

4063

**REMOVAL SITE EVALUATION ANALYTICAL
FACILITY ROOF REPLACEMENT JANUARY 1993**

02/01/93

DOE-FN/EPA

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RSE

4063

REMOVAL SITE EVALUATION
ANALYTICAL FACILITY ROOF REPLACEMENT

Fernald Site Office
U. S. Department of Energy

JANUARY 1993

REMOVAL SITE EVALUATION

ANALYTICAL FACILITY ROOF REPLACEMENT

INTRODUCTION

This project consists of the removal of built-up tar, gravel, and insulation on the existing concrete roof of the Analytical Facility also known as the Lab (Building 15). The built-up roof consists of layers made up of three (3) inches of tar and gravel, three (3) inches of sprayed-on insulation, tar, and a waterproof coating applied on a concrete roof deck. Demolition also includes the removal of the existing flashing and abandoned equipment concrete piers. After removal of the old roof decking a new built-up roof will be installed. The existing HVAC system ductwork will be temporarily raised for the new deck installation.

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 Substance Pollution Contingency Plan (NCP). This RSE addresses the construction and demolition activities related to products that are part of the Analytical Facility Roof Replacement. It has been completed to support the decision as to whether the present conditions warrant a removal action.

SOURCE TERM

Consistent with Section 40 CFR 300.410 (a) of the NCP, the removal site evaluation includes a removal preliminary assessment which may be based on readily available information as described in 40 CFR 300.410 (c).

The sampling requirements for the roof project were based on the process knowledge available for the facility. The facility is located in the uncontrolled area of FEMP, however, due to uranium and thorium analytical work the north, center and west halls were considered radiologically contaminated. (See Attachment 1). Chemical hoods in these halls vented directly to the roof area.

The samples were analyzed for TCLP metals, volatiles, semi-volatiles, total uranium and thorium. The TCLP analytical results were either non-detectable or well below the regulatory levels. The sampling results showed typical hydrocarbon content for roofing materials, e.g. cresol.

The sampling and analysis results of roof and paint samples are reported in the referenced RCRA determination (Attachment Number 2).

There were no reported releases/spills on the roof. It was suspected that vented nitric acid may have caused discoloration of the roof vents. Maintenance of a distillery on the roof may have released a chemical compound (Octadecylamine) used to prevent corrosion in the water lines.

Reference:

WEMCO:EM:RCRA(FME):92-043, J. P. Erfman to L. E. Williams, "RCRA Determination and Radiological Characterization for the Analytical Facility Roof Replacement", dated November 10, 1992.

The roofing, metal (galvanized flashing, galvanized metal equipment supports, metal ladders, piping and drains), concrete waste, fiberglass insulation, asbestos and wood are RCRA nonhazardous.

The lead waste (flashing) is RCRA hazardous waste. The lead waste may be disposed of as RCRA D008 waste.

The paper, cardboard, plastic and protective work clothes are RCRA nonhazardous if the conditions specified in the RCRA Determinations referenced above are met.

The waste will have to be monitored by the Radiological Safety Group for proper radiologically disposition.

EVALUATION OF THE MAGNITUDE OF THE POTENTIAL THREAT

The existing roof material is considered contaminated based on the quarterly radiological data obtained from Radiological Survey Report dated January 9, 1992 and March 20, 1992. (See Attachment 3). Due to the exposure of the roof to weather and water the radiological contamination is primarily considered fixed. With the exception of a pipe by the HVAC unit, the direct-frisk surveys and the smears in the work area show removable contamination less than minimum detectable allowed (<MDA). The fixed plus removable contamination had readings between <MDA and one spot at 50K DPM/100 cm², with the majority of the roof surface area readings <MDA. The roof flashing had fixed plus removable readings averaging <1K DPM/100 cm².

The potential threat to personnel and environment will be managed through implementation of existing site procedures requiring the use of appropriate personnel protective equipment, restricting access to work areas, and management of the construction waste. The roof material will be kept damp to prevent dusting, and bagged and sealed in place to prevent migration of contamination. Final disposition of the material will be in compliance with WEMCO Site Operating Procedure SSOP-0044, "Management of Soil, Debris and Waste From a Project," issued June 19, 1992.

Based on process knowledge the construction waste is not regulated by RCRA, except for the lead washers and flashings. A Material Evaluation Form (MEF) will be written for the lead. It will be appropriately containerized after removal and stored in the RCRA warehouse. If the lead is not radiologically contaminated attempts will be made to recycle the material.

The new material removed will be surveyed in accordance with SP-P-35-010 "Unrestricted Release of Materials from FMPC". If the material removed is found within free-release limits it can be removed from the site. Any material which cannot be free-released will be handled in accordance with WEMCO Site Operating Procedure SSOP-0044, "Management of Soil, Debris and Waste From a Project," issued June 19, 1992.

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 specifically to "The Analytical Facility Roof Replacement.

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

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

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)(vi)

Threat of fire or explosion.

These factors are considered appropriate as a result of the concentration of radiological contamination found in the removal of the existing roofing material. Construction activities have a potential to cause these concentrations to migrate or be carried to areas which are uncontaminated.

APPROPRIATENESS OF A RESPONSE

If it is determined that a response action is appropriate due to the levels of contamination present found in the roofing construction waste, a removal action may be required to address the existing situation.

If a planning period of less than six months exists prior to initiation of a response action, DOE will issue an Action Memorandum. The Action Memorandum will describe the selected response and provide supporting documentation for the decision.

If it is determined that there is a planning period greater than six months before a response is initiated, DOE will issue an Engineering Evaluation/Cost Analysis (EE/CA) Approval Memorandum. This memorandum is to be used to document the threat of public health and the environment and to evaluate viable alternative response actions. It will also serve as a decision document to be included in the Administration Record.

Based on the evaluation of all the above factors, it has been determined that existing controls for the planned action are adequate and a removal action is not required.

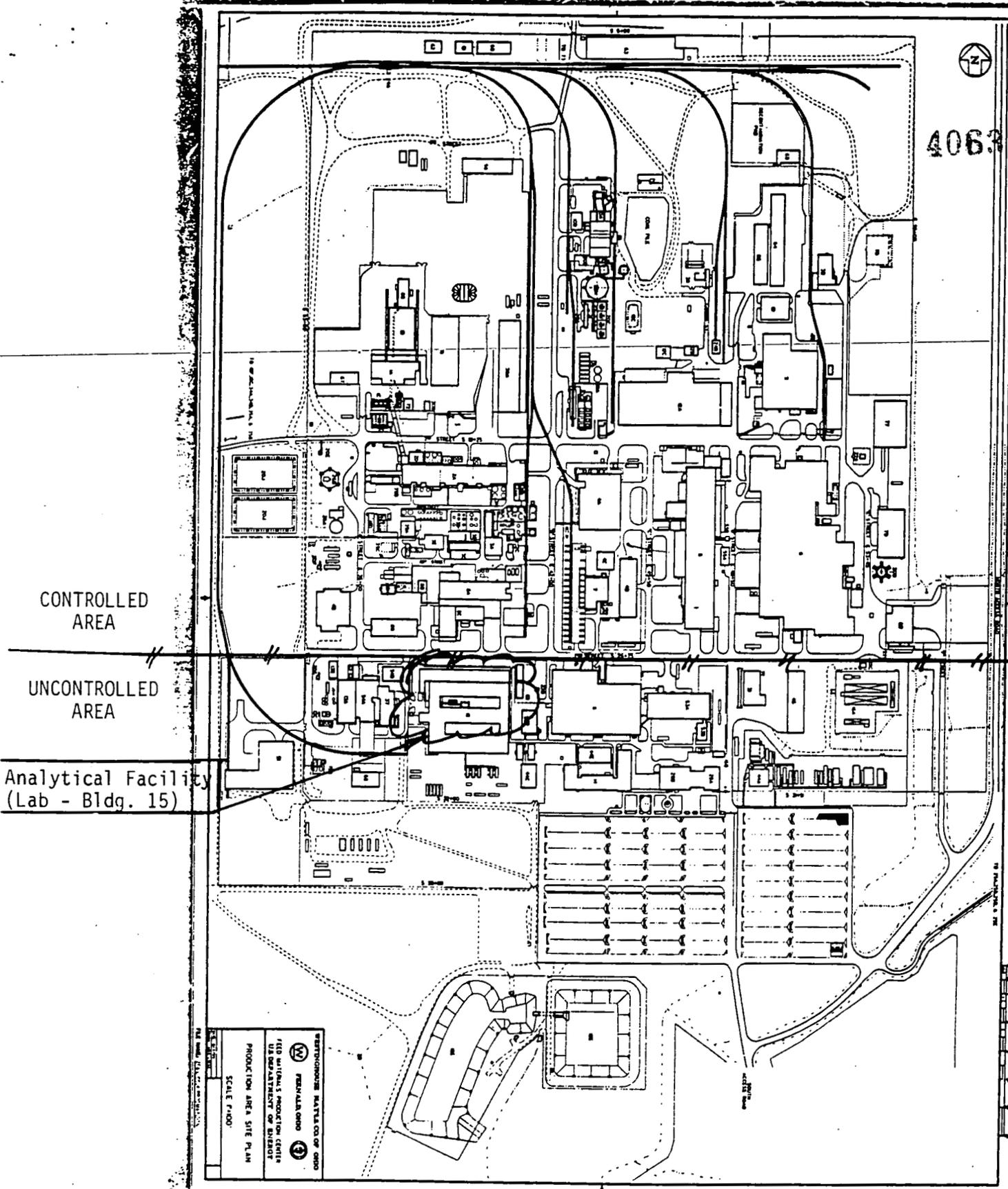
ATTACHMENT 1

4063



CONTROLLED AREA
UNCONTROLLED AREA

Analytical Facility
(Lab - Bldg. 15)



WESTINGHOUSE MATERIALS CO. OF OHIO
REYNOLDS DIVISION
FEDERAL BUREAU OF INVESTIGATION
U.S. DEPARTMENT OF JUSTICE
PRODUCTION AREA SITE PLAN
SCALE 1"=400'

1. THE PRODUCTION AREA IS LOCATED AT THE INTERSECTION OF ROUTE 10 AND ROUTE 100, IN THE CITY OF CLEVELAND, OHIO.
2. THE PRODUCTION AREA IS DIVIDED INTO TWO AREAS: A CONTROLLED AREA AND AN UNCONTROLLED AREA.
3. THE CONTROLLED AREA IS BOUND BY ROUTE 10 TO THE NORTH, ROUTE 100 TO THE EAST, AND A CURVED BOUNDARY TO THE SOUTH AND WEST.
4. THE UNCONTROLLED AREA IS BOUND BY ROUTE 100 TO THE EAST AND THE CURVED BOUNDARY TO THE SOUTH AND WEST.
5. THE ANALYTICAL FACILITY (LAB - BLDG. 15) IS LOCATED WITHIN THE CONTROLLED AREA.
6. THE PRODUCTION AREA IS OWNED BY WESTINGHOUSE MATERIALS CO. OF OHIO, REYNOLDS DIVISION.
7. THE PRODUCTION AREA IS USED FOR THE PRODUCTION OF STEEL PRODUCTS.
8. THE PRODUCTION AREA IS SURVEYED AND PLANNED BY THE FEDERAL BUREAU OF INVESTIGATION, U.S. DEPARTMENT OF JUSTICE.
9. THE PRODUCTION AREA SITE PLAN IS DRAWN AT A SCALE OF 1"=400'.
10. THE PRODUCTION AREA SITE PLAN IS DATED 10/15/60.

ATTACHMENT 2

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From: J. P. Erfman (6085)

WEMCO:EM:RCRA(FME):92-043

Date: November 10, 1992

Subject: **RCRA DETERMINATION AND RADIOLOGICAL CHARACTERIZATION FOR THE ANALYTICAL FACILITY ROOF REPLACEMENT**

To: L. E. Williams

- 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, dated July 21, 1992
 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
 6. WEMCO:EM:RCRA(FME):92-037, C. G. Rieman to D. R. McDonald, "RCRA Determination and Radiological Characterization for the Service Building and Water Treatment Roofing Projects," dated August 28, 1992
 7. WEMCO:EM(FME):92-141, C. G. Rieman to J. R. Blantania, "Re-Evaluation of RCRA Determination for the Plant Wide Roofing Project," dated April 5, 1992

This memo transmits the RCRA determination and radiological characterization for the Analytical Facility Roof Replacement construction project. The waste to be generated consists of 12 cubic feet of concrete, 183 cubic feet of metal (piping, galvanized and lead), 200 pounds of process equipment; 81 cubic feet of asbestos, 0.10 cubic feet of lead joints, 29 cubic feet of wood, 55,100 cubic feet of roofing, fiberglass insulation, plastic, paper, cardboard, and protective clothing.

PROCESS KNOWLEDGE

This construction project is located in the uncontrolled area of the FEMP south of the production area and east of the Pilot Plant. However, due to the uranium and thorium analytical work performed in the Laboratory, the north, center and west halls were considered to be radiologically contaminated areas. Numerous chemical hoods located in these halls were exhausted directly to the roof area.

Due to the release of uranium from these exhaust vents and the release of air borne materials from the production plants (Pilot Plant) the roof of the Laboratory is probably radiologically contaminated. Visual observations of the roof revealed a large, rust colored stain around the fume hood vent from Room C-15, the stack also had visible stains running down the side. This fume hood has not been used for several years, however, nitric acid may have caused the stain. The area around this vent stack was sampled for radiological and RCRA concerns.

The demolition scope of work includes the removal of the existing 3 inches built-up tar and gravel and 3 inches of sprayed-on insulation, tar and a waterproof coating to completely expose the-existing concrete roof slab. All flashing (galvanized metal and lead), gutters and downspouts will also be removed. The old penthouse, process equipment and ancillary piping, located on the northwest corner of the roof will be removed. The wood framing boards around the new penthouse and metal ladders leading to the roof will likewise be removed.

The old penthouse consists of transite siding walls inside and outside (asbestos), pipe insulation (asbestos), fiberglass insulation between the walls (non-asbestos), DurIon metal drain line with lead sealed joints, a still used for producing distilled water, water tank and water pipe.

There were no chemical compounds added to the water still on the Laboratory roof. The only problem was that a chemical compound (Octadecylamine) was added to the water at the Boiler House, this material would plate out in the still and was cleaned out periodically to maintain the operating capacity. Octadecylamine is used as a filming agent to prevent corrosion in the water lines, Attachment Number 4.

Concrete piers presently on the roof that were used as equipment supports, will be removed if they are not monolithically attached to the concrete roof. Heating and ventilation ductwork will be raised to allow for the new roof construction. If necessary, the galvanized metal equipment and supports will be cut and removed.

The Plant Wide Roofing, Water Treatment Plant Number 20B, and the Service Building Number 11 roof replacement construction project produced similar types of wastes (insulation and roofing materials). The roofing and insulation waste for these projects was determined to be RCRA non-hazardous (a.k.a. non-RCRA) based upon TCLP metals, volatiles and semi-volatiles analytical results well below the regulatory levels per Reference Numbers 6 and 7.

The metal flashing around the edge of the roof consists of two types of materials, lead and galvanized metal.

There were no reported releases/spills on the roof of the Laboratory Building per Reference Numbers 4 and 5.

SAMPLING AND ANALYSIS

Two samples of the roofing material were taken from the stained areas as shown in the sampling plan sketch (Attachment Number 1). These samples were analyzed for TCLP metals, volatiles, semi-volatiles, total uranium and thorium. The TCLP analytical results were either non-detect or well below the regulatory levels. These analytical results are in Table Number 1.

Two samples of paint was taken from the metal flashing, one from the south side of the Laboratory Building and one from the north side of the north court yard as shown in the sampling plan sketch (Attachment Number 2). These samples were analyzed for TCLP lead only. The analytical results are shown in Table Number 1 and were both above the regulatory limit. The result from the south side of the building, 3910.0 mg/L indicate that this flashing is lead, while the result from the north side of the north court yard indicate that this is painted galvanized metal. The painted galvanized metal is greater than 1/16-inch thick. The methodology for calculating metal wastes coated with lead based paints (Reference Number 5) will be used to determine the TCLP lead level for this waste.

RADIOLOGICAL CHARACTERIZATION

The radiological surveys taken of this construction area indicate that the roof area and the penthouse are radiologically contaminated. However, the Radiological Safety Group will have to monitor the roofing material and the other waste from this project for proper characterization and disposition per Reference Number 1 and 2.

RCRA DETERMINATION

The roofing waste to be generated from this project is RCRA non-hazardous (a.k.a. non-RCRA). This determination is based upon process knowledge that no hazardous materials were processed, stored, spilled or released in the construction area, and the TCLP analytical results that were non-detectable or well below the regulatory levels.

The galvanized metal flashing, galvanized metal equipment supports, metal ladders, piping and drains are RCRA non-hazardous (a.k.a. non-RCRA). This determination is based the TCLP lead analytical results and the methodology for calculating metal coated with lead based paint (calculation shown in Attachment Number 3) and upon process knowledge that no hazardous materials were processed, stored, spilled or released in the construction area.

The concrete waste to be generated from this project is RCRA non-hazardous (a.k.a. non-RCRA). This determination is based upon process knowledge of the material and that no hazardous materials were processed, stored, spilled or released in the construction area.

The process equipment waste (distilled water still) to be generated from this project is RCRA non-hazardous (a.k.a. non-RCRA). This determination is based upon process knowledge of the still operations and that no hazardous materials were processed, stored, spilled or released in the construction area.

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

The fiberglass insulation (non-asbestos) to be generated from this project is RCRA non-hazardous (a.k.a. non-RCRA). This determination is based upon knowledge of the material (Materials Safety Data Sheet), and process knowledge that no hazardous materials were processed, stored, spilled or released in the construction area.

The wood waste to be generated from this project is RCRA non-hazardous (a.k.a. non-RCRA). This determination is based upon process knowledge that no hazardous materials were processed, stored, spilled or released in the construction area.

The plastic waste (sheeting and bags) to be generated is RCRA non-hazardous (a.k.a. non-RCRA), if it meets the conditions specified in MEF Number 1539, dated February 11, 1992.

The paper and cardboard waste (packing materials and packing boxes) to be generated in RCRA non-hazardous (a.k.a. non-RCRA), if it meets the conditions specified in MEF Number 1673, dated April 10, 1992.

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 lead flashing from the south side of the building and the lead drain pipe seal waste to be generated from this project is RCRA hazardous (a.k.a. RCRA) D008.

No materials have been identified (except the lead waste) that would cause the waste to meet any of the hazardous waste listings under OAC 3745-51 (in lieu of 40 CFR 261, Subpart D) or exhibit any of the hazardous waste characteristics under OAC 3745-21 to 24, (in lieu of 40 CFR 261.21 to 24) or the revised Toxicity Characteristic under 40 CFR 261.24.

SUMMARY

The lead waste (flashing) to be generated is RCRA hazardous (a.k.a. RCRA) D008.

L. E. Williams

-5-

WEMCO:EM:RCRA(FME):92-043

The roofing, metal (galvanized flashing, piping, drains and ladders), asbestos, wood, process equipment and concrete wastes are RCRA non-hazardous (a.k.a. non RCRA).

The paper, cardboard, plastic and protective clothing are RCRA non-hazardous (a.k.a. non-RCRA) if they meet the conditions specified above and as specified in the MEFs.

The waste will have to be monitored by the Radiological Safety Group for proper radiologically disposition per Reference Numbers 1 and 2.

If any additional waste is generated from this project, an additional RCRA determination will be required for proper disposition.

If there are any questions, please call me at extension 6085 or C. S. Waugh at extension 6777.



J. P. Erfman
Facilities and Materials Evaluation
RCRA Programs

JPE:bbs

Attachments

c w/att.

J. E. Clements
M. L. Frost
C. L. Griffin
F. R. Hertweck
L. A. Hurst
D. L. Howe
H. J. Knue
L. M. March
B. S. Perkins
C. G. Rieman
S. G. Schneider
R. A. Thiel
J. L. Trujillo
T. J. Walsh
C. S. Waugh
K. N. Wintz

Central Files
FME Files
RCRA Operating Record

5-2003

ATTACHMENT NUMBER 1
SAMPLE POINTS - ROOFING MATERIALS

24

2.8

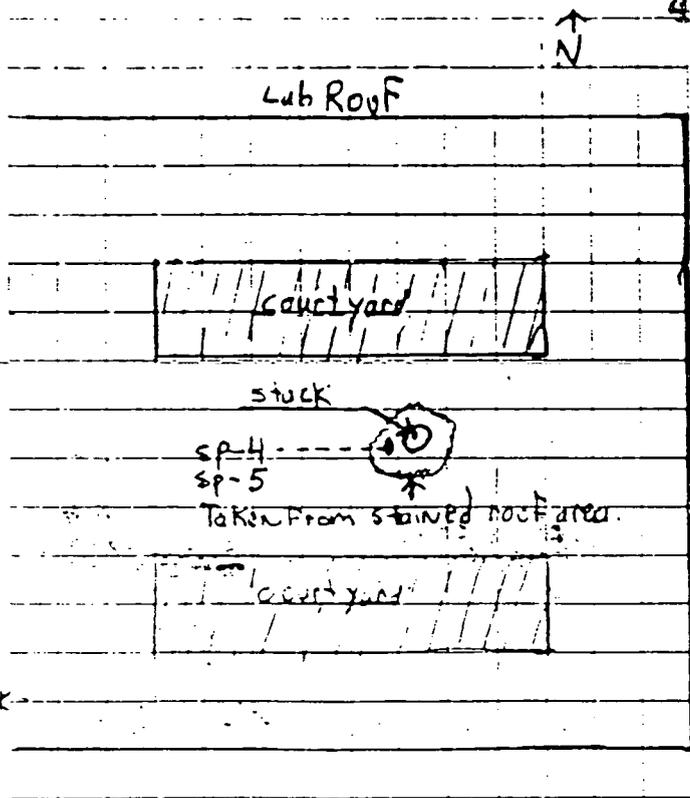
DATE: 5-1-92
TIME START: 1200
TIME FINISH: 1600
PAGE 1 OF 1

FEED MATERIAL PRODUCTION CENTER
P. O. BOX 398704
CINCINNATI, OHIO 45239-8704

PROJECT NAME: Analytical Facility Roof
PROJECT NO: 00-47502
LOCATION: Roof above room C-15 of Lab
WEATHER: Sunny
TEMPERATURE: 70°F

CONTACT EXT: KAREN WINTZ 406634

PURPOSE OF SAMPLING: RCRA
PROCESS PRODUCING WASTE: Exhaust stack
SAMPLE REQUEST NO: 154 ^{venting}
SAMPLE PLAN NO: 92-154 REV 0



| SAMPLE NUMBER | SAMPLE TYPE | COLLECTION METHOD | DEPTH | TIME | SAMPLE PRESERVATIVE | CONT TYPE | NUMBER VOLUME |
|------------------------|--------------------------|-------------------------|-----------------|-----------------|---------------------|------------------------|-----------------|
| 92-154-4221 | Roof Material | Scoop/brush | 1/4" | 1430 | Cool 4°C | | SF-1 |
| 92-154-4222 | Roof Material | Scoop/brush | 1/4" | 1430 | Cool 4°C | | SF-2 |
| 92-154-4223 | Top Blank | Pos | 1/4" | 1430 | Cool 4°C | 3-40ml/6lbs | SF-3 |
| 92-154-4224 | Roof Material | Scoop/brush | 1/4" | 1430 | Cool 4°C | | SF-4 |
| 92-154-4225 | Roof Material | Scoop/brush | 1/4" | 1430 | Cool 4°C | | SF-5 |
| 92-154-4226 | Top Blank | Pos | 1/4" | 1430 | Cool 4°C | 3-40ml/6lbs | 3-40ml |
| 92-154-4227 | Field Blank | Opened waste | 1/4" | 1435 | Cool 4°C | 1-4oz T&C | 1-4oz |
| 92-154-4228 | Roof Material | Opened waste | 1/4" | 1435 | Cool 4°C | | SF-6 |

AMR 5-1-92

Nothing Follows

FIELD MEASUREMENTS: Seemap
TRANSPORTATION METHOD: van to lab
SAMPLE TECHNICIANS: K Hubbard A.M. Russell
TECHNICIAN SIGNATURES: *[Signatures]*

FIELD OBSERVATIONS: The derived sample waste holding area was set up in the courtyard.
SP-4 and SP-5 are duplicates - The roofing material sampled included a top layer of vinyl type material which was about 1/4" thick and underneath that was a foam material. The top layer was cut away by knife and reduced in size by knife and hand. The foam layer was removed by a stainless steel paint scraper. Tools used were disposable. No rinsate was collected. Only stained areas of the top vinyl layer and foam were sampled. Due to lack of time the paint scraping samples were not collected on

Analytical Facility Roof Replacement

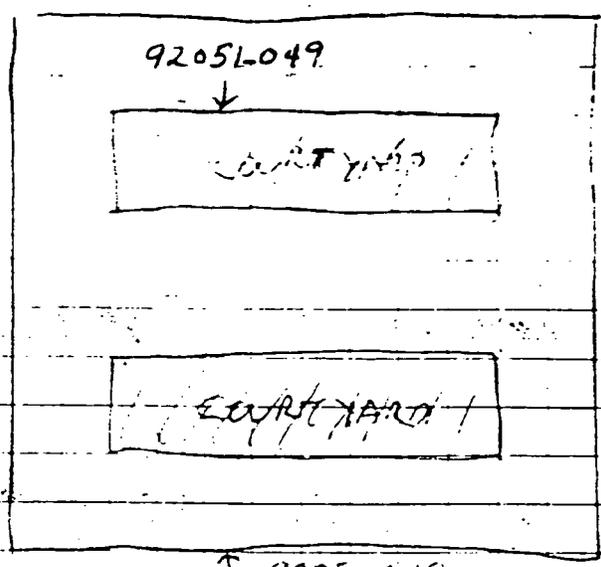
Analytical Results
June 23, 1992

| <u>TOTAL VOLATILES</u> | 920501-035 Field Blank (ug/l) |
|--------------------------|-------------------------------------|
| Acetone | ND |
| Benzene | ND |
| Carbon disulfide | ND |
| Carbon tetrachloride | ND |
| Chlorobenzene | ND |
| Cyclohexanone | ND |
| Ethyl benzene | ND |
| Ethyl acetate | ND |
| Ethyl ether | ND |
| Methyl ethyl ketone | 24.2 |
| Methyl isobutyl ketone | ND |
| Methylene chloride | ND |
| 2-Nitropropane | ND |
| Tetrachloroethylene | ND |
| Toluene | ND |
| 1,1,1-Trichloroethane | ND |
| 1,1,2-Trichloroethane | ND |
| Trichloroethylene | ND |
| Trichlorotrifluoroethane | ND |
| Trichlorofluoromethane | ND |
| Total Xylenes | ND |

ND = Not Detected

ATTACHMENT NUMBER 2
SAMPLE POINTS - METAL FLASHING

5/5/72



LOCATION: ...
 WEATHER: ...
 TEMPERATURE: ...
 CONTACT EXT: ...
 PURPOSE OF SAMPLING: ...
 PROCESS PRODUCING WASTE: ...
 SAMPLE REQUEST NO: 154
 SAMPLE PLAN NO: ...

92051-048
 SAMPLE TAKEN FROM ...

| SAMPLE NUMBER | SAMPLE TYPE | COLLECTION METHOD | DEPTH | TIME | SAMPLE PRESERVATIVE | CONT TYPE | NUMBER VOLUME |
|---------------|-------------|-------------------|-------|------|---------------------|-----------|---------------|
| 154 | ... | ... | ... | ... | ... | ... | ... |
| 155 | ... | ... | ... | ... | ... | ... | ... |
| 156 | ... | ... | ... | ... | ... | ... | ... |

NOTHING FOLLOWS

FIELD MEASUREMENTS: ...
 TRANSPORTATION METHOD: ...
 SAMPLE TECHNICIANS: Kevin Hubbard, Matt Annett, Bill Harrington
 TECHNICIAN SIGNATURES: [Signatures]
 FIELD OBSERVATIONS: ...

ATTACHMENT NUMBER 3

CALCULATIONS PER REFERENCE NUMBER 5

Pursuant to OAC 3745-51-20(C) and 40 CFR 261.20(c) states that the waste must be evaluated, the following calculations are employed to mathematically determine the TCLP lead content of the painted Metal.

PAINTED METAL

The analytical results for lead used in this calculation will be 50.1 mg/l and the paint thickness will be 0.01 inch, this is the average for the FEMP site per Reference number 5.

$$TC = [V-TCLP] * [(Qp * h) / ((H * Qs) + (h * Qp))] * S\%$$

Where:

| | | |
|-------|---|---|
| TC | = | Regulatory level for lead, 5.0 mg/l |
| VTCLP | = | Analytical value for lead, 6.755 mg/l |
| h | = | Paint thickness, inches 0.010 |
| H | = | Metal thickness, inches, 0.0625 |
| Qp | = | Paint Density, lb./cu. ft., 482 |
| Qs | = | Substrate Density, lb./cu. ft., 500 |
| S% | = | Percent of metal surface cover with paint, 100% |

Since the density of steel (500 lbs./cu. ft.) is approximately the same as the density of paint (482 lbs./cu. ft.), the above equation simplifies to the following:

$$TC = V \text{ TCLP} * [H / (H+h)] \text{ for 100\% painted surface}$$

$$6.755 * [0.010 / (0.0625 + 0.010)] = 0.93 \text{ mg/l}$$

Since the calculated value of 0.93 mg/l is less than the regulatory level of 5.0 mg/l, the waste can be disposed of as RCRA non-hazardous (a.k.a. non-RCRA).

ATTACHMENT NUMBER 4
MATERIALS SAFETY DATA SHEET

DATE: 03/07/91
PO NBR: M/A
ACCT: 87820201
INDEX: 0000000000
CAT NO: EK1194562
SHEET: R-0272.500

MATERIAL SAFETY DATA SHEET

EASTMAN KODAK COMPANY
343 State Street
Rochester, New York 14650

For Emergency Health, Safety, and Environmental Information, call 716 722-5151
For other purposes, call the Marketing and Distribution Center in your area.

Date of Preparation: 6/17/85 Form Approved by U.S. Department of Labor

SECTION I. IDENTIFICATION

Product Name: Octadecylamine (Pract.)
Size(s): CAT 119 4554 - bulk, CAT 119 4562 - 500 g
Formula: CH3(CH2)17NH2
Kodak Laboratory Chemicals Catalog Number(s): P7689
Kodak Accession Number: 907689
Kodak Hazard Rating Codes: R: 1 S: 2 F: 1 C: 0

13247

SECTION II. PRODUCT AND COMPONENT HAZARD DATA

A. COMPONENT(S): Weight Percent TLV(R) Accession No. CAS Reg. No.
Octadecylamine (Pract.) approx 100 --- 907689 124-30-1

B. PRECAUTIONARY LABEL STATEMENT(S):

WARNING:
CAUSES SKIN AND EYE IRRITATION
THIS MATERIAL, LIKE MOST ORGANIC MATERIALS IN POWDER FORM, IS
CAPABLE OF CREATING A DUST EXPLOSION. REFER TO NFPA PAMPHLET
NO. 654
Avoid contact with eyes, skin, and clothing.
Use with adequate ventilation.
First Aid: In case of eye contact, immediately flush with
plenty of water for at least 15 minutes. In case of skin
contact, immediately wash with soap and plenty of water. In
case of eye contact, get medical attention.

SECTION III. PHYSICAL DATA

Appearance and Odor: White crystals; mild odor
Melting Point: 49 C (120 F)
Boiling Point: 349 C (660 F) @ 760 mmHg
Vapor Pressure: Negligible
Evaporation Rate (n-butyl acetate = 1): Negligible
Vapor Density (Air = 1): Not Applicable
Volatiles Fraction (by Weight): Negligible
Specific Gravity (H2O = 1): 0.86
Solubility in Water (by Weight): Negligible

R-0272.500
82-0970

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 SECTION IV. FIRE AND EXPLOSION HAZARD DATA

- Combustible dust
 - Extinguishing Media: Water spray; Dry chemical; CO2
 - Special Fire Fighting Procedures:
 Wear self-contained breathing apparatus and protective clothing
 to prevent contact with skin and eyes.
 - Unusual Fire and Explosion Hazards:
 Fire or explosion heat may cause production of hazardous
 decomposition products.
 This material, like most organic materials in powder form, is
 capable of creating a dust explosion. Refer to NFPA Pamphlet
 No. 654, "Standard for the Prevention of Fire and Dust
 Explosions in the Chemical, Dye, Pharmaceutical and Plastics
 Industries," if this material is to be reduced to or collected
 as a powder.

=====
 SECTION V. REACTIVITY DATA

- Stability: Stable
 - Incompatibility: Strong oxidizers
 - Hazardous Decomposition Products:
 As with any other organic material, combustion will produce
 carbon dioxide and probably carbon monoxide.
 Oxides of nitrogen may also be present.
 - Hazardous Polymerization: Will not occur.

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 SECTION VI. TOXICITY AND HEALTH HAZARD DATA

A. EXPOSURE LIMITS: Not established
 B. EXPOSURE EFFECTS:
 Inhalation: Low hazard for usual industrial handling.
 Eyes: Dust causes irritation.
 SKIN: May cause irritation.
 C. FIRST AID:
 Eyes: Immediately flush eyes with plenty of water for at
 least 15 minutes and get medical attention.
 Skin: Immediately flush skin with plenty of water and get
 medical attention if symptoms are present after
 washing.

R-0272.500
 82-0970

D. TOXICITY DATA:

| Test | Species | Result | Classification(1) |
|----------------------|---|---|-------------------|
| Acute Oral LD50 | Rat | GT 3200 mg/kg(2) | Slightly toxic |
| Acute Oral LD50 | Mouse | GT 6400 mg/kg(2) | |
| Skin Absorption | Guinea Pig | No evidence of absorption at 1.0 g/kg by clinical signs or body weight changes. (2) | |
| Skin Irritation | Guinea Pig | Moderate skin irritant on 24 hour occlusion. | |
| Intraperitoneal LD50 | Rat | 200-400 mg/kg(2) | |
| Intraperitoneal LD50 | Mouse | 400-800 mg/kg(2) | |
| Skin Sensitization | Sensitized 1/5 guinea pigs with low activity(2) | | |

SECTION VII. VENTILATION AND PERSONAL PROTECTION

A. VENTILATION:

Good general ventilation should be sufficient.

B. SKIN AND EYE PROTECTION:

Safety glasses with side shields are recommended.
 ImperVIOUS gloves should be worn.
 An eye bath and washing facilities should be available.

SECTION VIII. SPECIAL STORAGE AND HANDLING PRECAUTIONS

Keep from contact with oxidizing materials.

SECTION IX. SPILL, LEAK, AND DISPOSAL PROCEDURES

Sweep material onto paper and place in fiber carton.
 Package appropriately for safe feed to an incinerator or
 dissolve in compatible waste solvents prior to incineration.
 Dispose in an approved incinerator equipped with afterburner
 and scrubber or contract with licensed chemical waste disposal
 service.
 Discharge, treatment, or disposal may be subject to federal,
 state, or local laws.

SECTION X. ENVIRONMENTAL EFFECTS DATA

This chemical has not been tested for environmental effects.

R-0272.500
 82-0970

SECTION XI. TRANSPORTATION

For transportation information regarding this product, please phone the Eastman Kodak Distribution Center nearest you: Rochester, NY (716) 254-1300; Oak Brook, IL (312) 654-5300; Chamblee, GA (404) 455-0123; Dallas, TX (214) 241-1611; Whittier, CA (213) 945-1255; Honolulu, HI (808) 833-1661.

SECTION XII. REFERENCES

1. Hodge, M.C. and Sterner, J.H., American Industrial Hygiene Association Quarterly, 10, 93 (1949).
2. Unpublished data, Health and Environment Laboratories, Eastman Kodak Company, Rochester, New York.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

R-0272-500
@119-4554*
@119-4562*
@P7689*
82-0970
EK1194562

TABLE NUMBER 1
TCLP ANALYTICAL RESULTS

Analytical Facility Roof Replacement Project

Analytical Results
June 23, 1992

| TCLP METALS | 920501-047 Field Bk (mg/l) | 920501-048 SP-1 Paint (mg/l) | 920501-049 SP-2 Paint (mg/l) | Regulatory Limits (mg/l) |
|-------------|----------------------------------|------------------------------------|------------------------------------|--------------------------------|
| Lead | <3.0 | 3910.0 | 6.755 | 5.0 |

| TCLP SEMI-VOLATILES | 920501-038 Field Blank (ug/l) | 920501-036 SP-4 Insulation (ug/l) | 920501-037 SP-5 Insulation (ug/l) | Regulatory Limits (ug/l) |
|---------------------------|-------------------------------------|---|---|--------------------------------|
| o-Cresol | ND | ND | ND | 200000 |
| m & p-Cresol | ND | ND | 54.7 | 200000 |
| 1,4-Dichlorobenzene | ND | ND | ND | 7500 |
| 2,4-Dinitrotoluene | ND | ND | ND | 130 |
| Hexachlorobenzene | ND | ND | ND | 130 |
| Hexachloro-1,3-butadiene | ND | ND | ND | 500 |
| hexachlorocyclopentadiene | ND | ND | ND | 3000 |
| Nitrobenzene | ND | ND | ND | 2000 |
| Pentachloroophenol | ND | ND | ND | 100000 |
| Pyridine | ND | ND | ND | 5000 |
| 2,4,5-Trichlorophenol | ND | ND | ND | 400000 |
| 2,4,6-Trichlorophenol | ND | ND | ND | 2000 |

ND = Not Detected

Analytical Facility Roof Replacement

Analytical Results
June 23, 1992

| <u>TCLP VOLATILES</u> | 920501-038 Field Blank (ug/l) | 920501-036 SP-4 Insulation (ug/l) | 920501-037 SP-5 Insulation (ug/l) | Regulatory Limits (ug/l) |
|-----------------------|-------------------------------------|---|---|--------------------------------|
| Benzene | ND | ND | ND | 500 |
| Carbon tetrachloride | ND | ND | ND | 500 |
| Chlorobenzene | ND | ND | 31.2 | 100000 |
| Chloroform | ND | ND | ND | 6000 |
| 1,2-Dichloroethane | ND | ND | ND | 500 |
| 1,1-Dichloroethylene | ND | ND | ND | 700 |
| Methyl ethyl ketone | ND | ND | ND | 200000 |
| Tetrachloroethylene | ND | ND | ND | 700 |
| Trichloroethylene | ND | ND | ND | 500 |
| Vinyl chloride | ND | ND | ND | 200 |
| <u>TCLP METALS</u> | 920501-038 Field Blank (ug/l) | 920501-036 SP-4 Insulation (ug/l) | 920501-037 SP-5 Insulation (ug/l) | Regulatory Limits (ug/l) |
| Arsenic | ND | ND | ND | 5000 |
| Barium | ND | 206 | ND | 100000 |
| Cadmium | ND | ND | ND | 1000 |
| Chromium | ND | ND | ND | 5000 |
| Lead | ND | ND | ND | 5000 |
| Selenium | ND | ND | ND | 1000 |
| Silver | ND | ND | ND | 5000 |
| Mercury | ND | 83.5 | 40.8 | 200 |

ND = Not Detected

ATTACHMENT 3

LAB ROOF
 Quarterly Survey
 1-9-92

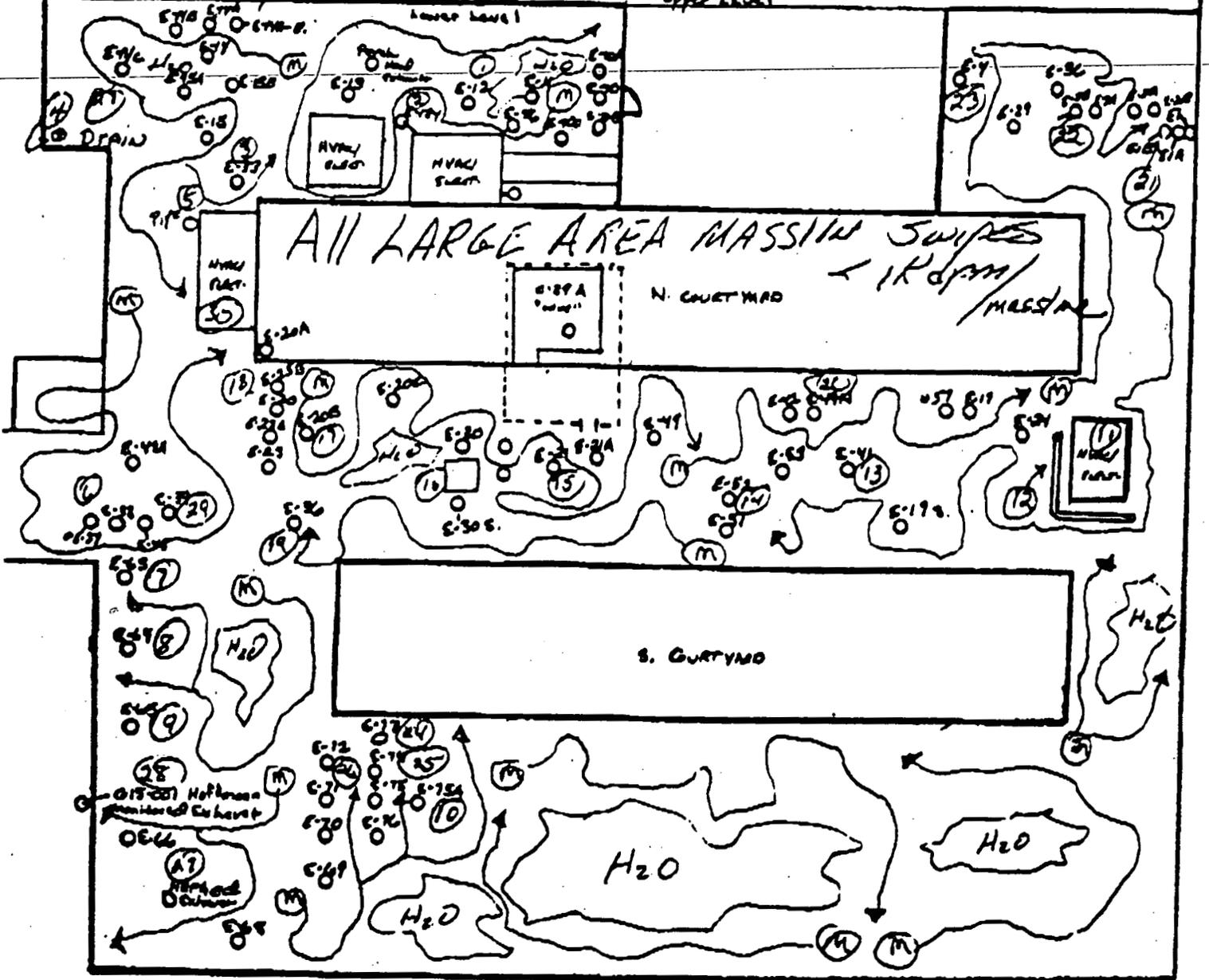
4063

Upper level not surveyed

Inst.

Tenneco #7
 Model 9 77196
 Model 5 77127

Technician: D. Thiel, R. Henze



Direct Fris K < 5 K dpm/Probe unless noted

- | | | | | | |
|---|-------|-----|---|----------|-----|
| ① | E-12 | 5K | ⑨ | E-65-16K | |
| ② | E-124 | 10K | ⑩ | E-75A | 8K |
| ③ | E-33 | 50K | ⑪ | E-41 | 30K |
| ④ | E-74C | 7K | ⑫ | E-3B | 5K |
| ⑤ | DRAIN | 20K | ⑬ | PIPE G | 10K |
| ⑥ | PIPE | 5K | ⑭ | HVAC | 10K |
| ⑦ | E-63 | 10K | | | |
| ⑧ | E-64 | 10K | | | |

Some All Smears < MDA unless noted

- | | | | | | | |
|---|------------|---|-----|------------|-------|--------------------------|
| ⑦ | E-63 | α | α | MDA | BY 28 | } dpm/100cm ² |
| ⑩ | E-75A | α | 27 | BY 37 | | |
| ⑭ | Piped HVAC | α | 101 | BY 112 | | |
| ⑳ | E-14C | α | α | MDA, BY 37 | | |

MDA = α 27, BY 38 dpm

RADIOLOGICAL SURVEY REPORT

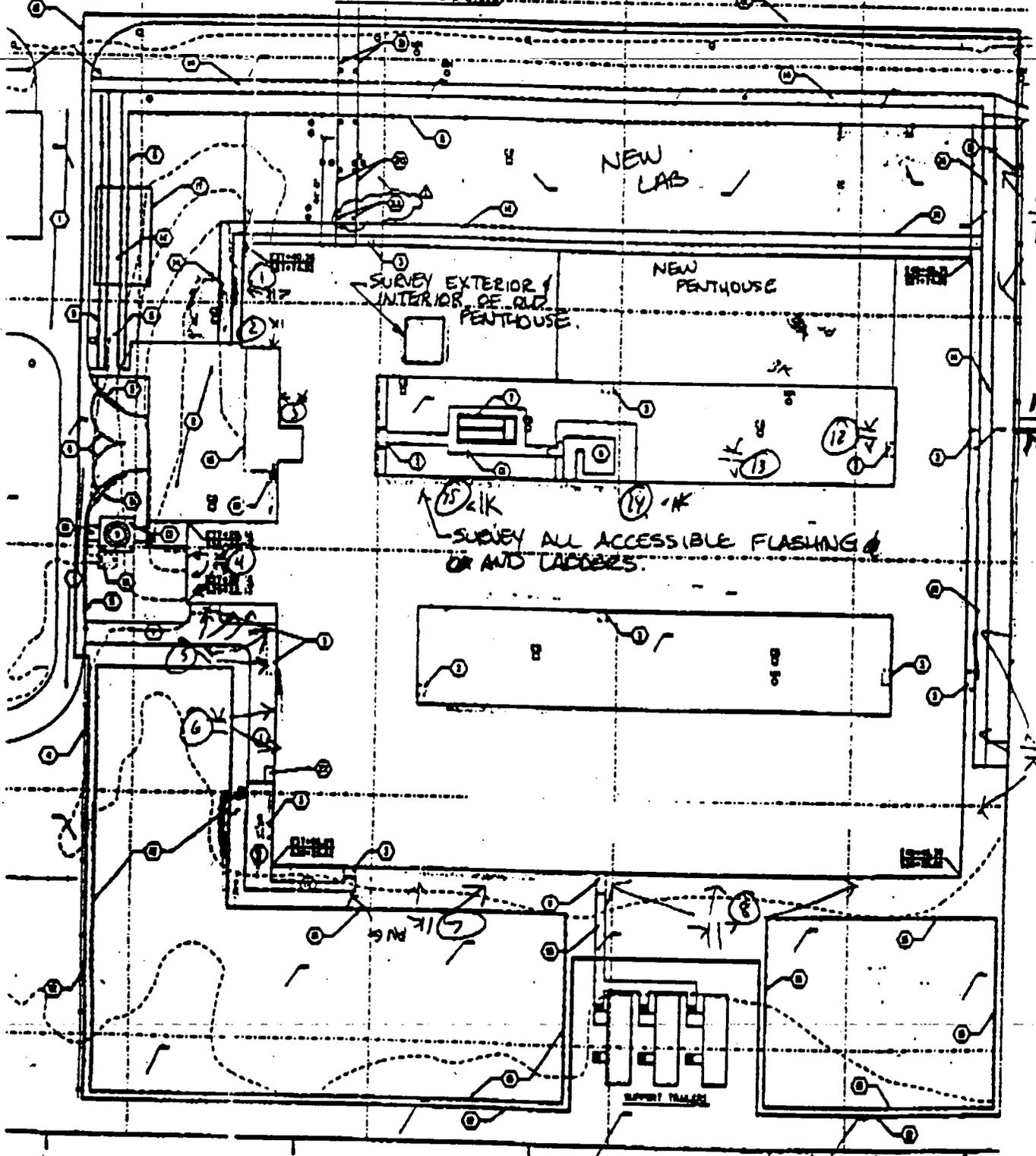
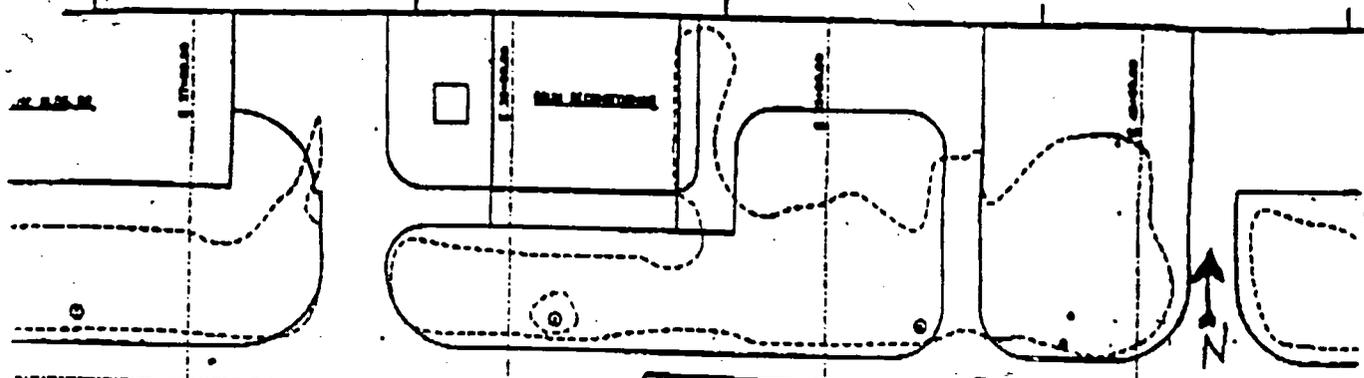
| | | | |
|---|-----------------|-----------------------|---------------------------------|
| DATE 1-9-92 | LOCATION LAB | PRINT NAME C. King | SIGNATURE <i>[Signature]</i> |
| TIME 17:00 | LEVEL | Roof | |
| REASON FOR SURVEY Quota update 5mms > MDA Listed Below Direct Fix > 5K Listed Below Large Area Masswipe Swipes used | | | |

| INSTRUMENTS | | | | | | | | |
|-------------|---------------|-------------------|----------------------|----------------|---------------|--------------|-----------------------------|----|
| MODEL | SERIAL NUMBER | TYPE (α, β, γ) | CALIBRATION DUE DATE | BKGD. (cpm) | EFF./CF | MDA (dpm) | INSP./PERFORMANCE TEST SAT? | |
| | | | | | | | YES | NO |
| 165100 | 7 | αβγ | 2-92 | 0.04 / 1.1 | 0.999 / 0.488 | 27 / 28 | ✓ | |
| 3 | 77090 | βγ | 3-92 | 50-100 | .25 / 3.9 | NA | ✓ | |
| 3 | 77187 | βγ | 4-92 | 50-100 | .264 / 3 | NA | ✓ | |

| ITEM NUMBER | LOCATION AND/OR DESCRIPTION | DPM/100cm ² ALPHA | | DPM/100cm ² BETA-GAMMA | | CORRECTED DOSE RATE (MREM/HR) | | | |
|----------------------|-----------------------------|------------------------------|----------------------|-----------------------------------|----------------------|-------------------------------|---------|-----------|-----------|
| | | REMOVABLE | FIXED PLUS REMOVABLE | REMOVABLE | FIXED PLUS REMOVABLE | γ | β/γ | γ | β/γ |
| | | | | | | CONTACT | CONTACT | AT FT. | AT FT. |
| 1 | E-12 | <MDA | NA | <MDA | 5K | | | | |
| 2 | E-12A | | | | 10K | | | | |
| 3 | E-33 | | | | 50K | | | | |
| 4 | E-14C | | | | 37 | | | | |
| 4 | Drain | | | | <MDA | | | | |
| 5 | Pipe | | | | 5K | | | | |
| 7 | E-63 | <MDA | | | 28 | | | | |
| 8 | E-64 | | | | <MDA | | | | |
| 9 | E-65 | | | | 16K | | | | |
| 10 | E-75A | 27 | | | 57 | | | | |
| 12 | Pipe by HVAC | 107 | | | 112 | | | | |
| 13 | E-41 | <MDA | | | <MDA | | | | |
| 22 | E-3B | | | | 5K | | | | |
| 1-30 | Not Listed Above | <MDA | | | <5K | | | | |
| LARGE AREA RAASWIPES | | | | | All < 1K | | | | |

| NO. | DISTRIBUTION OF COPIES |
|-----|--------------------------------|
| 1 | Radiological Safety Supervisor |
| 2 | Facility Supervisor |
| 3 | Operable Unit Manager |

| NOTIFICATION OF SURVEY RESULTS | | | | | |
|--------------------------------|------|------|-------------|-------------|------|
| SUPERVISOR NOTIFIED | TIME | DATE | NOTIFIED BY | REVIEWED BY | DATE |
| | | | | | |



11

10

9

FERRIS SITE
IRS&T - RADIOLOGICAL SAFETY
RADIOLOGICAL SURVEY REPORT

| | | | |
|--|------------------------|---------------------------------|-----------------------|
| DATE 3-20-92 | LOCATION Lab | PRINT NAME J. Wells | PAGE 1 of 5 |
| TIME 1600 | LEVEL Roof | SIGNATURE <i>[Signature]</i> | |
| REASON FOR SURVEY Contaminated surface of lab roof due to seal flashing failure in lab | | | |

INSTRUMENTS

| MODEL | SERIAL NUMBER | TYPE (α, β, γ) | CALIBRATION DUE DATE | BKGD. (cpm) | EFF./CF | MDA (dpm) | INSP./PERFORMANCE TEST SAT? | |
|-------|---------------|----------------|----------------------|--|---------|-----------|-----------------------------|----|
| | | | | | | | YES | NO |
| 3 | 77101 | β γ | 10/92 | 80 | .26/3.8 | 1K | ✓ | |
| 3 | 76388 | β γ | 5/92 | 80 | .22/4 | 1K | ✓ | |
| 3 | 77193 | β γ | 8/92 | 80 | .26/3.5 | 1K | ✓ | |
| 3 | 89787 | β γ | 7/92 | 80 ⁶⁰ <i>new</i> | .27/3.6 | 1K | ✓ | |

| ITEM NUMBER | LOCATION AND/OR DESCRIPTION | DPM/100cm² ALPHA | | DPM/100cm² BETA-GAMMA | | CORRECTED DOSE RATE (MREM/HR) | | | |
|-------------|-----------------------------|------------------|----------------------|-----------------------|----------------------|-------------------------------|---------|--------|--------|
| | | REMOVABLE | FIXED PLUS REMOVABLE | REMOVABLE | FIXED PLUS REMOVABLE | γ | β/γ | γ | β/γ |
| | | | | | | CONTACT | CONTACT | AT FT. | AT FT. |
| 1 | Roof Flashing | | | | <1K | | | | |
| 2 | | | | | 1K | | | | |
| 3 | | | | | 1K | | | | |
| 4 | | | | | 2K | | | | |
| 5 | | | | | 1K | | | | |
| 6 | | | | | 1K | | | | |
| 7 | | | | | <1K | | | | |
| 8 | | | | | <1K | | | | |
| 9 | | | | | <1K | | | | |
| 10 | | | | | <1K | | | | |
| 11 | | | | | <1K | | | | |
| 12 | | | | | <1K | | | | |
| 13 | | | | | <1K | | | | |
| 14 | | | | | <1K | | | | |
| 15 | | | | | <1K | | | | |
| 16 | Old Penthouse Floor | | | | 3K | | | | |
| 17 | Tank Frame | | | | 4K | | | | |
| 18 | Pipe | | | | 7K | | | | |

| NO. | DISTRIBUTION OF COPIES |
|-----|--------------------------------|
| 1 | Radiological Safety Supervisor |
| 2 | Facility Supervisor |
| 3 | Operable Unit Manager |

| NOTIFICATION OF SURVEY RESULTS | | | | | |
|--------------------------------|------|------|-------------|-------------|------|
| SUPERVISOR NOTIFIED | TIME | DATE | NOTIFIED BY | REVIEWED BY | DATE |
| | | | | | |



Department of Energy
 Fernald Environmental Management Project
 P.O. Box 398705
 Cincinnati, Ohio 45239-8705
 (513) 738-6357

4063

8949

DEC 17 1992
 DOE-0619-93

Mr. Kaufman, President
 Fernald Environmental Restoration
 Management Corporation
 P.O. Box 398704
 Cincinnati, Ohio 45239-8704

Dear Mr. Kaufman:

ANALYTICAL FACILITY ROOF REPLACEMENT

REMOVAL ACTION MEMORANDUM - ~~WILLIAMS MILL REMOVAL FROM PLANT 8~~

Reference: ~~Letter, DOE-930-90, R. J. Hansen to M. B. Boswell, "CERCLA Removal Actions," dated April 23, 1990~~
C: CR43-93:00-4, J. E. King to R. J. Janke, Same subject, dated January 20, 1993

Analytical Facility Roof Replacement

Building 15

The enclosed Removal Site Evaluation for the ~~Removal of the Williams Mill~~ located ~~in Plant 8~~ has been reviewed by my office. Based on this review, the Department of Energy has determined that ~~this project does not constitute a removal action.~~

~~The existing controls for the planned action are~~
 Construction rubble and debris associated with this work ~~can be removed and~~ *adequate and* dispositioned following the specific control measures noted within the Removal Site Evaluation (RSE) document and per the radiological guidelines specified in the Fernald Environmental Management Project (FEMP) Site Policy and Procedures and Removal Action Number 17. The Administrative Record for the Remedial Investigation/Feasibility Study (RI/FS) should include this document.

At the completion of this project, Fernald Environmental Restoration Management Corporation (FERMCO) should submit a final report describing the changed site conditions, detailing the volume of waste generated, the number and type of containers used, the locations of dispositioned material (including containers), and the results of any verification sampling. Furthermore, this final report should be submitted to the Administrative Record for the RI/FS.

If you or your staff have any questions, please contact Anand C. Shah at extension 6156.

Sincerely,

[Signature]
 James J. Fiore
 Acting Manager

[Signature]
 R. J. Janke

FN:Shah

Enclosure: As stated