Stoller

established 1959

Task Order LM00-712
Control Number 12-0840

August 2, 2012

Mr. Brian Nickel
Remedial Project Manager
Ohio Environmental Protection Agency
401 East Fifth Street
Dayton, OH 45402-2911

SUBJECT: Mound Building 27 Closeout Report

Dear Mr. Nickel:

Per your request at the July 25, 2012, Federal Facility Agreement meeting, enclosed is a hard copy of the Mound Building 27 Closeout Report.

This is being sent to you per guidance from Gwendolyn Hooten, DOE Mound Site Manager.

Sincerely,

William A. Hertel

William A. Hertel
Stoller Site Manager

WH:jp

Enclosure

cc: (electronic w/o enclosure)
Gwendolyn Hooten, DOE
Paul Lucas, DOE
Charles Friedman, Stoller
Greg Lupton, Stoller
Joyce Massie, Stoller
Robert Ransbottom, Stoller
rc-mound

The S.M. Stoller Corporation 10995 Hamilton-Cleves Highway Harrison, OH 45030 (513) 648-3894 Fax (513) 648-3252

DOE F 1325.8 (08-93) 8-25-93

United States Government **Department of Energy**

memorandum

DATE: 07/09/2012

REPLY TO ATTN OF: Gwendolyn Hooten, DOE-LM

SUBJECT: Miamisburg Closure Project, Working Draft of the Building 27 Closeout Report

TO: The Administrative File

A thorough review of the record was conducted by S.M. Stoller Corporation (Stoller) under contract to DOE Office of Legacy Management (LM) in June of 2012 for the purpose of locating a Final of the Miamisburg Closure Project Building 27 Closeout Report. A final report was not found.

The Building 27 Building Data Package was released to the regulators and the public for review on October 16, 2002. The public review period was from 16 October 2002 thru 15 November 2002. Miamisburg Mound Community Improvement Corp (MMCIC) provided comments on 7 November 2002. MMCIC's comments pertaining to the final disposition of the lead-210 debris from the roof gutters and the soil borings from location SCR114 were addressed in the Working Draft of the Building 27 Closeout Report submitted to DOE, by BWXT of Ohio, Inc., on 16 December 2002.

In consultation with Paul Lucas, DOE-EM (formerly MEMP), it was determined that the Working Draft of the Building 27 Closeout Report submitted on 16 December 2002 met the substantive requirements of the Final report and would be modified to reflect it as the Final Building 27 Closeout Report. These modifications include replacing "Working Draft" with "Final" on the cover page and deleting the wording "Working Draft" from the footers within the text. No other changes were made or warranted. These actions will be further documented in the July 2012 Core Team meeting and subsequent minutes. The Final Building 27 Closeout Report will be submitted to records and posted on the LM website.

Printed with soy ink on recycled paper

BWX Technologies, Inc.
a McDermott company

BWXT of Ohio, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, Ohio 45343-3030
(937) 865-4020

SM-153/02
December 16, 2002

Mr. Richard B. Provencher
Miamisburg Closure Project
U.S. Department of Energy
P.O. Box 66
Miamisburg, OH 45343-0066

ATTENTION: Mr. Frank Schmaltz

SUBJECT: Contract No. DE-AC24-97OH20044
PBI # 2, PERFORMANCE MEASURE # 5B

Dear Mr. Provencher:

Delivery of the attached Working Draft of the Building 27 Closeout Report to DOE completes the deferred fee measure (PBI# 2, PM# 5B), ahead of the revised 31 December 2002 due date. The Working Draft of the Building 42 Closeout Report was submitted to DOE on 18 September 2002. Buildings 27 and 42 were demolished to facilitate cleanup of the lower Test Fire Valley.

If there are any questions or additional copies are needed, please contact Bob Ransbottom at extension 4220.

Sincerely,

C.D. Thompson
SMPP/TFV Project Manager

CDT/VKD:jdg

cc: Roland Reed (w/o attachment)
Rob Rothman
DCC

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

MOUND

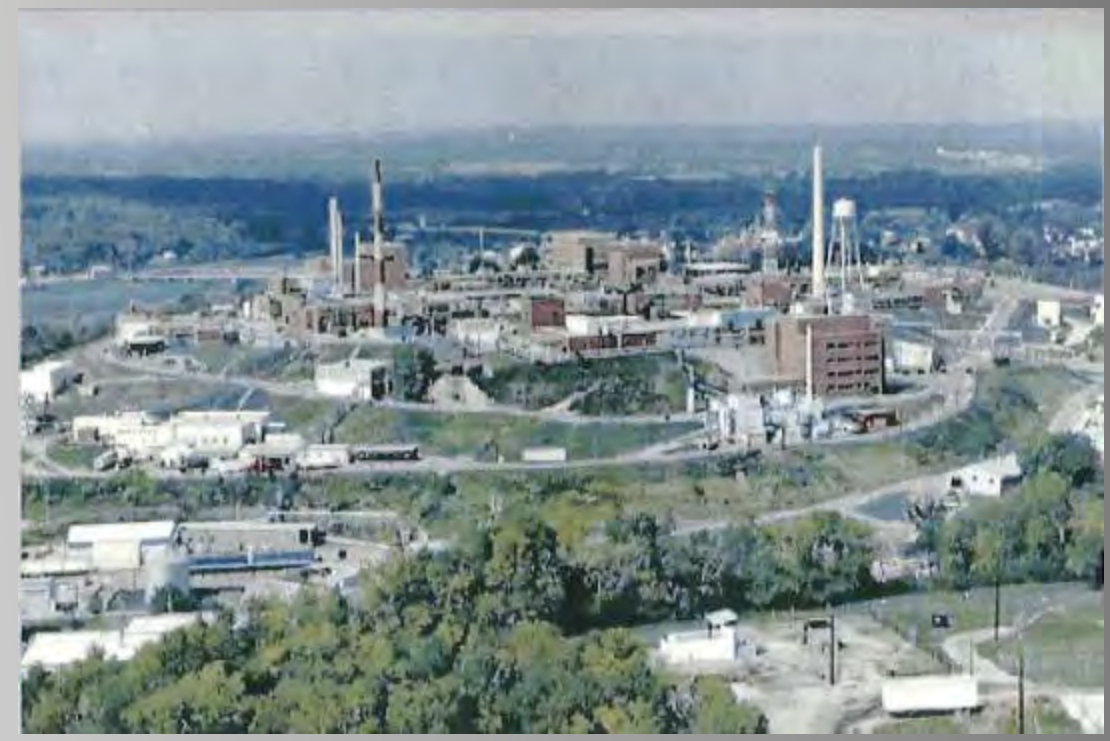
Environmental Restoration Program

MIAMISBURG CLOSURE REPORT

Closeout Report Building 27 and Solvent Shed

Final

December 2002



Closeout Report

Building 27 and Solvent Shed

Prepared for:

United States Department of Energy
Miamisburg Closure Project
P.O. Box 3020
Miamisburg, Ohio 45343-3020

Prepared by:

BWXT of Ohio, Inc.

TABLE OF CONTENTS

Section Page

1.0 Purpose 1
2.0 Background 1
2.1 Building 27 1
2.2 Solvent Shed 2
3.0 Actions Taken 2
4.0 Problems Encountered 4
5.0 Resources Committed 4

Tables

Table 1: Materials Disposition 3
Table 2: Personnel Organization for the Demolition 4
Table 3: Total Cost 5

Appendices

Appendix A Figures
Figure 1: Location of Building 27
Figure 1A: Location of Building 27 Flammable Solvent Shed
Figure 2: Building 27 and Vicinity
Figure 2A: Building 27 Solvent Shed and Vicinity
Figure 3: Building 27- Before, During, and After Demolition
Figure 3A: Building 27 Solvent Shed- Before and After Demolition

Appendix B Work Package

Appendix C Radiological Summary

Appendix D Post-Demolition Soil Sampling Analytical Results

1.0 PURPOSE

This is the final report documenting completion of the demolition of Building 27 and its Solvent Shed located at the DOE Miamisburg Closure Project (MCP) Site, as shown in the Figures provided in Appendix A. The building, its slab and footers, and the Solvent Shed were demolished per the Work Package for Building 27 Demolition (dated 10 October 2002), which is provided in Appendix B. The scope of work relating to this building and its associated shed is considered complete.

2.0 BACKGROUND

2.1 Building 27

Building 27 was constructed in 1966 in an area known as the lower valley or plant valley area (Figures 1 and 3), west of the former 'Test Fire' area. In 1969 a building addition was built including an attached enclosed solvent storage shed. After the addition, the two-story building totaled 5,285 square feet. The first floor included explosive production cells and support areas, and the second floor included a mechanical room, mezzanine, and restroom facilities. Exterior walls were 12-inch thick masonry block with expansion joints and blowout panels, and interior walls were reinforced concrete. The foundation and slab were six-inch thick reinforced concrete on three-foot deep footers. The building had a built-up membrane asphalt roof.

The floors in the cells sloped to aluminum-lined trenches that channeled to an outside trough. When operational, the trough discharged to a sump, which led to a leach pit. The sump was used to collect wastewater from Building 27, and to filter the wastewater to remove suspended particulates including explosive nitrate compounds. The sump was of concrete construction with two metal lids and measured approximately six feet long by three feet wide by four feet deep. The sump was located south of the building and discharged effluent to a leach pit via an underground pipeline. The unlined leach pit was located about 200 feet west of the sump and measured approximately 30 feet on each side and three feet deep. In 1985, this system was discontinued and liquid waste from Building 27 was collected in drums and removed from the site by Waste Management. Subsequently, the trough, sump, and leach pit underwent a Resource Conservation and Recovery Act (RCRA) Closure and in October 2000, the Core Team deemed the Potential Release Sites (PRSs) associated with these wastewater transfer structures (PRSs 26-30) to require No Further Assessment (NFA). The sump and troughs were filled with concrete to remove any question of whether any contamination could have been introduced after RCRA Closure. The leach pit was backfilled and graded. The concrete-filled structures remain in place and were not removed as part of the Building 27 demolition.

The building was serviced by sanitary and storm water service lines, a fire sprinkler water main, and electric service of 480 volts. The building used central steam for heating and chilled glycol for cooling.

2.2 Solvent Shed

Also included in the demolition activities was the Solvent Shed, where solvents were stored for use in Building 27 processes. Acetone and ethanol were stored in the shed and pumped through aboveground pipes mounted on stanchions to Building 27. The shed was a single-room prefabricated metal building with a flat roof located approximately 70 feet north of Building 27.

3.0 ACTIONS TAKEN

The Building 27 Building Data Package (BOP) was submitted for simultaneous Core Team and public review on 16 October 2002, and the 30-day public review period concluded on 15 November 2002. The demolition of the Solvent Shed did not require a BOP as it was considered personal property.

This Closeout Report documents the completion of the demolition and removal of Building 27, slab, and foundation to three-feet below grade, and the Solvent Shed and associated pipes and stanchions. All preparation and demolition activities were performed in accordance with the detailed Work Plan (Appendix B) to perform safe shutdown of utilities, maintain site access control, and perform demolition and debris removal. PRSs 33 and 67 (Underground Sanitary Sewer Line G14 East and the Plant Drainage Ditch) will be handled by the Environmental Restoration (ER) group, and closed out separately from this report. All other PRSs in the vicinity (PRSs 14, 26-30, and 358) were previously been binned No Further Assessment (NFA).

Based on analytical results from historical soil sampling in the vicinity (as discussed in Section 4.2.4.2 of the BOP), a radiological walkover survey of the surface soil within a 15-foot perimeter around the Building 27 footprint was to be conducted prior to demolition. This survey was performed on 2 October 2002, and no elevated levels of radiation were detected. Walkover survey results are provided in Appendix C.

A Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) study of Building 27 was performed prior to demolition. The study report provides details of the survey design and results and indicates that Building 27 met applicable surface release criteria. Radiological surveys of the Solvent Shed were performed prior to and after (debris piles and rolloffs) demolition, with no elevated readings identified. Post-demolition surveys of the slab and foundation also showed no elevated readings. Appendix C provides copies of the applicable radiological report and surveys.

Section 2.4 of the BOP provided a discussion of lead-210 found in Building 27's gutter sediment. Even though the measured amount of lead-210 in the gutter sediment was higher than the 10^{-6} Risk-Based Guideline Value (RBGV), it did not require remediation because (1) the lead-210 in the gutter sediment was the result of naturally occurring nuclides and not the result of Mound processes, and (2) gutter sediment would be expected to have a higher level of naturally occurring radionuclides because it collected and concentrated the lead-210 by filtering rainwater over time. Further, RBGVs were

developed to establish comparative soil levels that could affect human health if a person were to work with soil containing that level of nuclides for a period of five years; this scenario does not meet that criteria. To facilitate action in the field, the BOP indicated the gutters would be disposed of as low-level radiological waste. However, the Work Package (which governs field activities) was not revised in time. As a result, the gutters and downspouts were disposed of in a landfill along with the remaining building debris. Since lead-210 is naturally occurring, this deviation from the BOP is not expected to pose a risk to human health or the environment.

The demolition of Building 27 and its slab and foundation was completed on 7 December 2002, and site restoration was completed on 16 December 2002. Photographs taken before, during, and after demolition are provided in Figure 3.

The demolition of the Building 27 Solvent Shed was completed on 6 November 2002. Photographs taken before and after demolition are provided in Figure 3A.

In accordance with BOP Section 4.2.4.2, post-demolition biased surface soil samples were collected on 3 December 2002 and analyzed and confirmed the absence of contamination. Biased locations included five soil samples from within the building footprint, one of which (#004) was at the SCR114 location, and were collected and submitted for onsite gamma spec analysis. Analytical results and a graphic showing the sample locations are provided in Appendix D. All results were below applicable screening criteria. It should further be noted that the Building 27 slab showed no visible evidence of any previous boreholes having been drilled through it; this further supports the BOP assertion that the location of SCR114 has incorrect coordinates.

Table 1 - Materials Disposition*

Solvent Shed Material	Quantity	Method	Location
Construction Debris (metal and concrete)	60 cubic yards	Landfill	Stoney Hill

Building 27 Material	Quantity	Method	Location
Asbestos Abatement (Debris)	30 cubic yards	Landfill	Stoney Hill
Construction Debris (concrete and rebar)	1,770 cubic yards	Landfill	Stoney Hill
Clean Hard Fill Debris (concrete)	150 cubic yards	Reused Onsite	Spoils Area/ Concrete Crusher

4.0 PROBLEMS ENCOUNTERED

Building 27 and the Solvent Shed were successfully demolished per the Work Package, with no variances reported.

5.0 RESOURCES COMMITTED

Table 2 lists the personnel organization for the demolition. Table 3 provides a summary of the total cost.

Table 2 - Personnel Organization for the Demolition

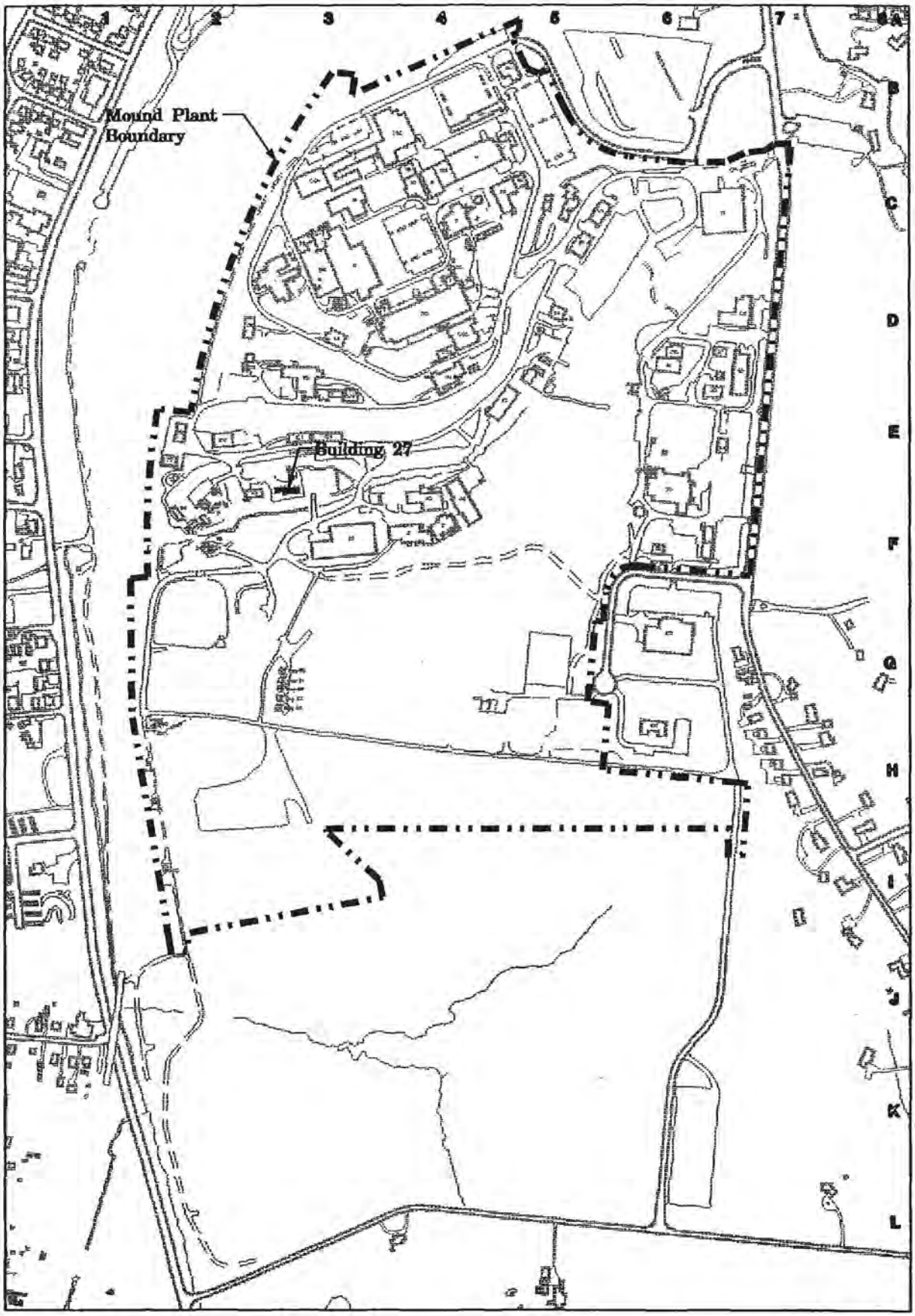
Agency or Party Involved	Contact	Description of Participation
US EPA HSRM-6J 77 W. Jackson Chicago, IL 60604 312-886-5787	Tim Fischer	Federal agency responsible for MCP oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for MCP oversight.
DOE/MCP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-3620	Frank Schmaltz	DOE/ MCP, Project Manager responsible for project oversight and success.
BWXT of Ohio, Inc. SMPP-TFV Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4071	Budd Thompson	Provided the DOE/ MCP, Project Manager with technical assistance, administrative support, sampling, decontamination, photo and site documentation, site safety, and report preparation.
BWXT of Ohio, Inc. General Superintendent and Equipment Manager P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4071	Budd Thompson	Provided the personnel and equipment necessary for the demolition.

Table 3- Total Cost

Summary Activity	Cost
Work Planning	$ 20,000
Safe Shutdown	56,650
Characterization	10,000
Decontamination and Demolition	50,000
Reroute Utilities	210
Hauling and Disposal	25,833
Total Cost	**$ 162,693**

Appendix A

Figures



Legend

Structure
Paved roadway
Unpaved roadway
Railroad
Water course
Fence
Mound Plant boundary
Contour line

0 100 200 400 600 800 1000
Scale In Feet

	04/06/02	ISSUE FOR GENERAL USE	SSP			

MOUND

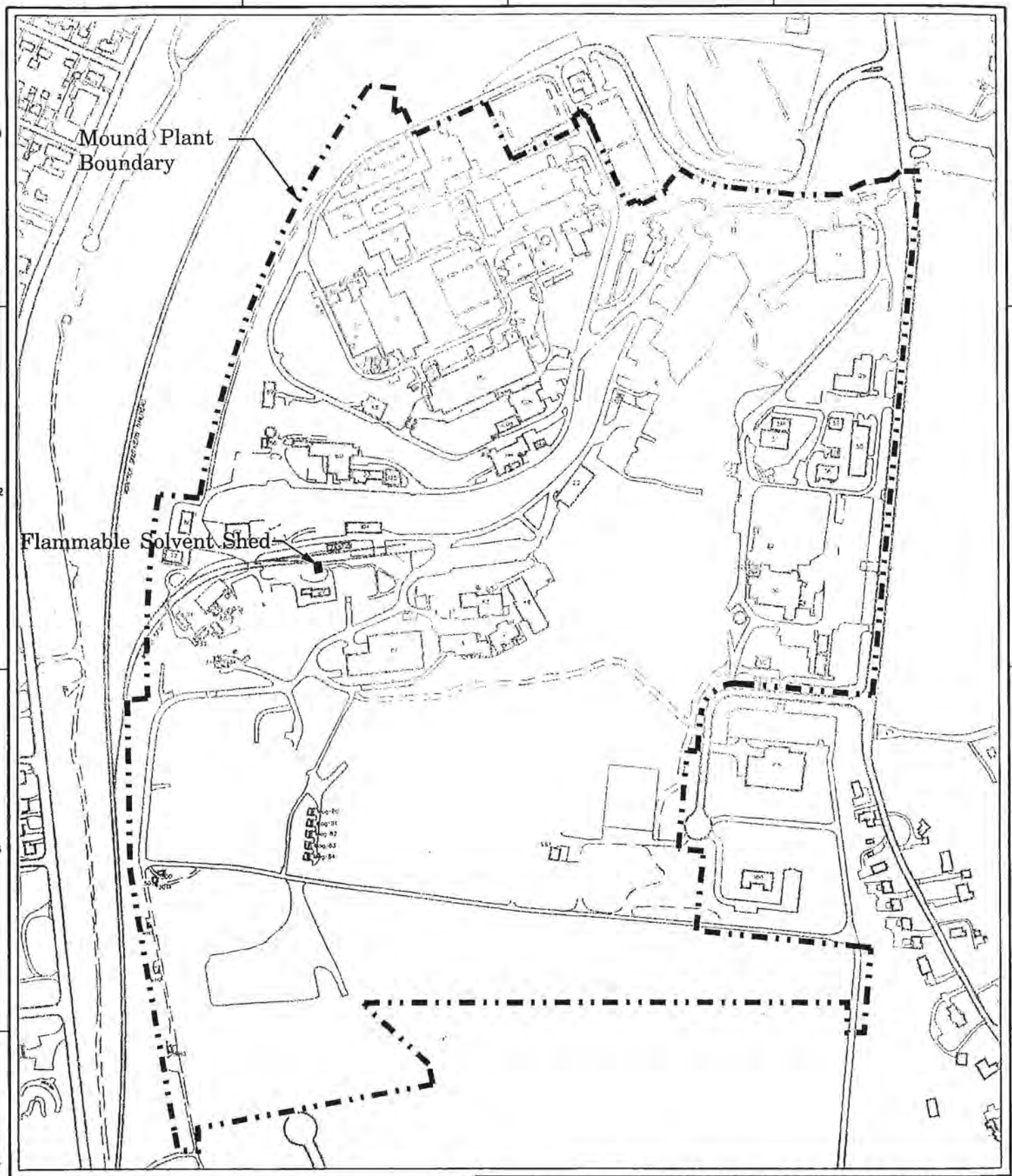
Environmental Restoration Geographic Information System

UNCLASSIFIED

D gen_site_plan.dgn

Figure 1
Location of Building 27

gen_site_plan.dgn



Legend

- Structures
- Paved roadway
- Unpaved roadway
- Mound Plant boundary
- Railroad

0 100 200 400 600 800 1000
Scale in Feet

ISS	DATE	REVISION	BY	CHKR	ENG	LPMCC	APVD	E
	09/10/02	*	SSF					

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					

PART CLASSIFICATION

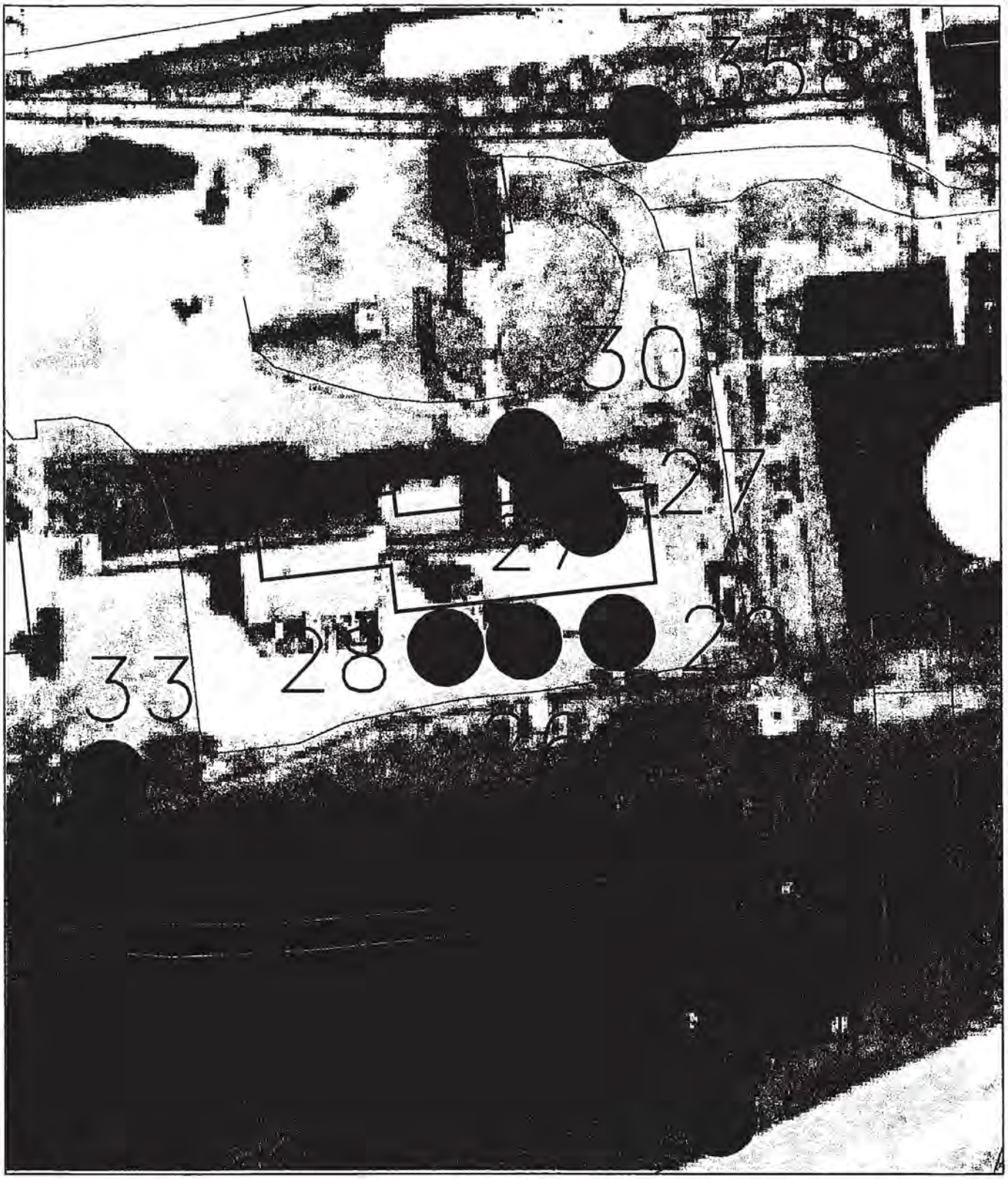
DRAWING CLASSIFICATION: UNCLASSIFIED

SIZE | DRAWING NUMBER: gen_site_plan.dgn | JOB NUMBER

DWG TYPE: STE | PROJ: ER-GIS | CADD | SCALE | SHEET 1 OF

STATUS: MD-REL-**/**/** | ORIGIN: MSTATION / J

Figure 1 A
Location of Building 27
Flammable Solvent Shed



PRS Point

PRS Area

PRS Line

MOUND

Environmental Restoration Geographic Information System

	04/08/02		SSR					
REV	DATE	REVISION	BY	CHKR	CKB	UNCC	APVD	B

SHEET 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

SHEET 1 2 3 4 5 6

PART CLASSIFICATION

DOCUMENT CLASSIFICATION UNCLASSIFIED

DGN TYPE STE PROJ ER-GIS

STATUS MD-REL.

Figure 2
Building 27 and Vicinity

SIZE DRAWING NUMBER vicinity.dgn JOB NUMBER

CASE SCALE SHEET 1 OF

ORIGIN MSTATION / J

PRS Point

PRS Area

PRS Line

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					

PART CLASSIFICATION

Figure 2A
Building 27 Solvent Shed and Vicinity

DOCUMENT CLASSIFICATION: UNCLASSIFIED

DWG TITLE: vicinity.dgn

JOB NUMBER

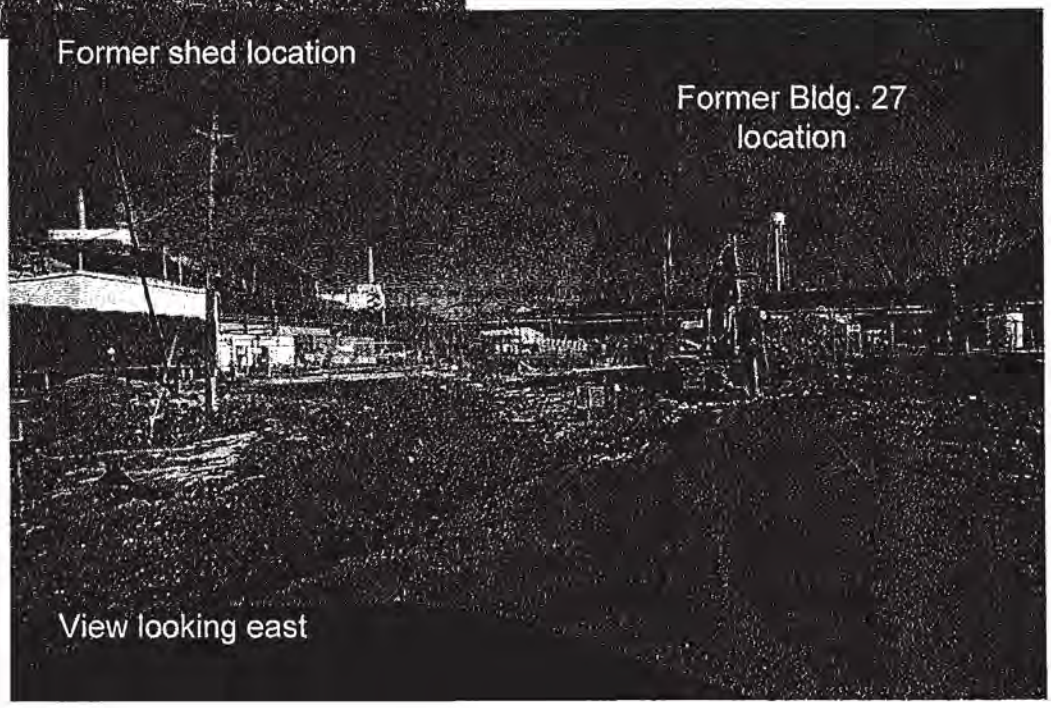
DWG TYPE: SITE | PROJ: ER-GIS | CADD: | SCALE: | SHEET 1 OF

STATUS: MD-REL-99/99/99 | ORIGIN: MSTATION / J

REV	DATE	REVISION	BY	CHKR	ENG	LPSEC	APVD	E
	09/10/02		SSF					

Figure 3:
Building 27

Before, During, and After Demolition



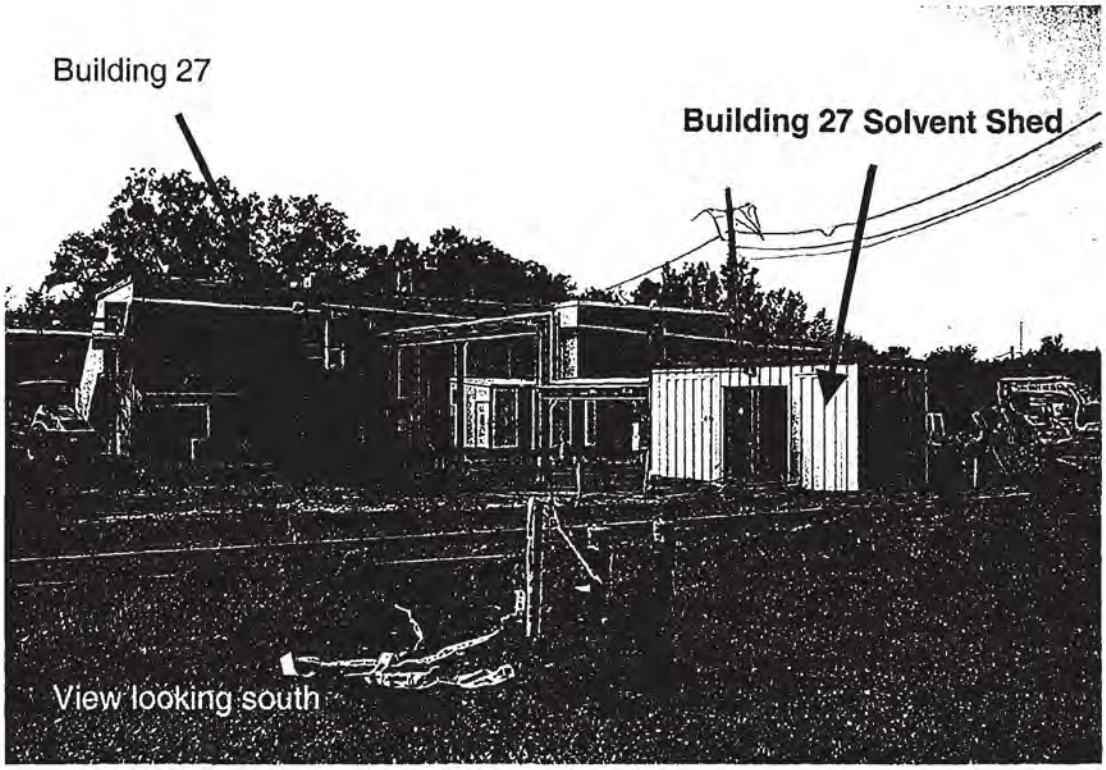
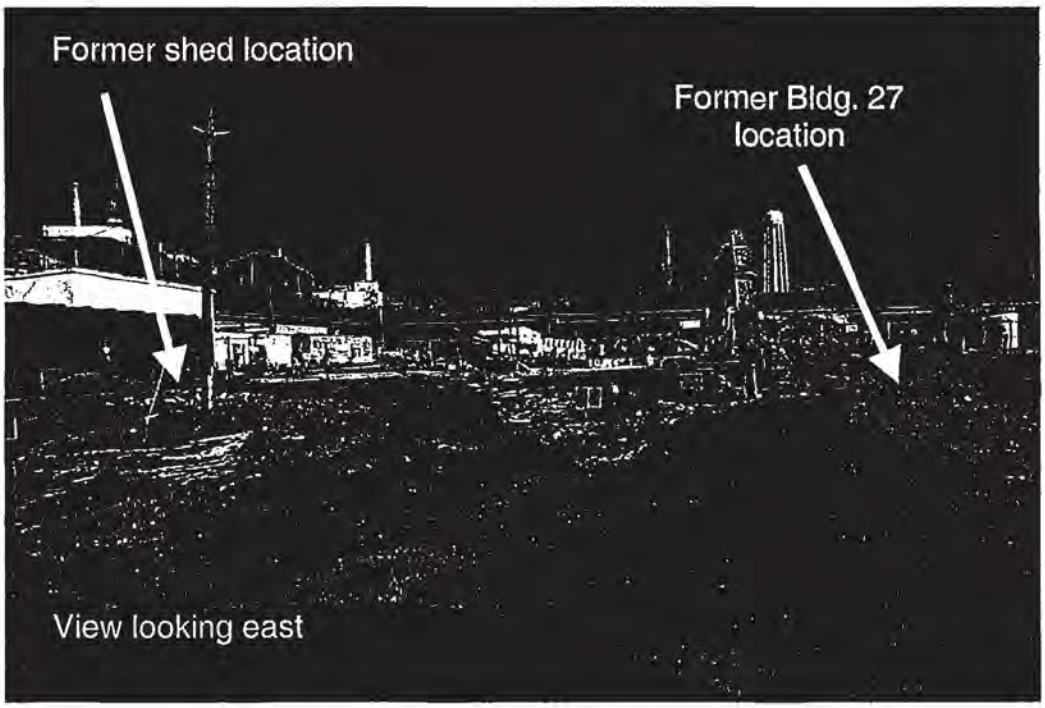


Figure 3A:
Building 27 Solvent Shed

Before and After Demolition



Appendix B

Work Package

WORK PACKAGE / PRELIMINARY HAZARD ANALYSIS

☐ ~ Office Master Copy (Original Approval Signatures) ☐ ~ Field Working Copy (Original Field Sign -Offs) ☐ ~ Review Copy ☒ ~ Other Copy [Note: Mark this section in color]

The Project Engineer is responsible for completing Sections 1 through 10. On subcontractor projects, the subcontractor shall complete sections 6, 9, and 10.

1. WORK PACKAGE TITLE: Building 27 Demolition

2. WORK PACKAGE NUMBER. *SMPP/TFV- 30029-00* | **REQUESTOR: L. Koehmstedt**

1. WORK PACKAGE SCOPE:

The purpose of this effort is to demolish Building 27, see Figure 1.0. Using heavy equipment to demolish the facility (including superstructure, pipe stanchions, flammable storage structure, slab and foundation), remove and dispose of the debris, provide site restoration grading and provide erosion/restoration protection with seeding and mulch. Asbestos abatement and safe shutdown activities will have already been completed prior to demolition.

4. WORK PACKAGE PHASES:

1. **Establish Work Zone.**
2. **Demolish structure.**
3. **Demolish slab and foundation.**
4. **Restore area for erosion protection and drainage.**

Insert the proper sequence of Work Package phases for the job. A phase is a separately definable portion of the project.

5. WORK LOCATION:

Building #: **27**

Room #: **N/A**

Other: **Spoils Area**

6. SPECIAL MATERIALS AND EQUIPMENT:

1. **Tracked excavator with shear, grapple, hoe ram, concrete cracker/pulverizer, or bucket attachment.**
2. **Rubber tired and tracked front-end loaders.**
3. **Rock crusher.**
4. **Transport equipment for debris as required.**

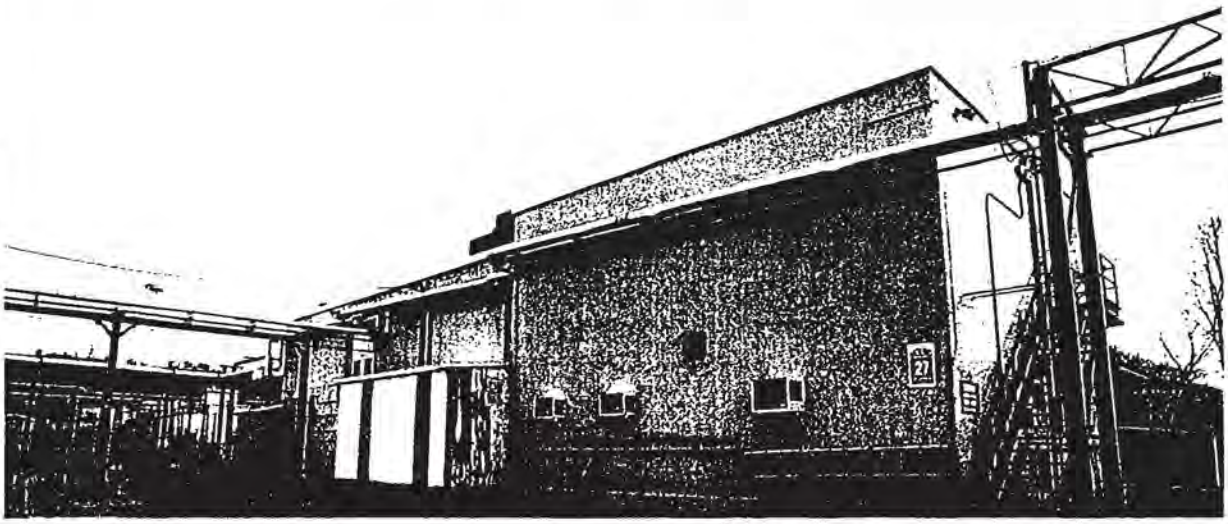


Figure 1.0 Building 27

7. DETAILED WORK STEPS: See the attached Job Specific Work Plan (JSWP)

Insert the activities to be performed during the job. Describe the specific methods of accomplishing these activities. Activities listed must be grouped under the Work Package phases listed in item 4.

8. *Note: Comments, to identify activities/hazards that are common to multiple phases of the project. Identification of these items will facilitate the option of addressing the items once in the pre-job briefing, as opposed to redundantly listing them in the JSHAs for different phases.*

COMMENTS:

Enter any review comment or issues in this section and/or information generated as a result of completing detailed work steps.

9. REVIEW SIGNATURES:

Written by: _____ Date: 9/18/02 Phone: 3659

Job Foreman: James Harvey Date: 10/09/02 Phone: 3880

Superintendent/Constr. Mgr: _____ Date: 9/18/02 Phone: 3866

Project Eng. Mgr: R.C. Ransbottom Date: 9/25/02 Phone: 4220

Industrial Safety & Hygiene: _____ Date: 9/20/02 9/24/02 Phone: 4090/3737

Rad. Controls: _____ Date: 9/25/02 Phone: 3178

ES&C: _____ Date: 9/24/02 Phone: x4080

Waste Mgmt: _____ Date: 9/23/02 Phone: x3822

Bldg. Mgr: Gary L. Weidenbach Date: 10/10/02 Phone: 3241

Craft Review: _____ Trade HD Date: 10/9/02 Phone:

Craft Review: _____ Trade H.D. Date: 10/9/02 Phone:

Craft Review: _____ Trade HD Date: 10/9/02 Phone:

Craft Review: _____ Trade _____ Date: / / Phone:

10. USQ SCREEN / DETERMINATION REQUIRED? ☐ YES ☒ NO

Brief Explaination Demolition of Building 27 has no Effect on a Nuclear or Radiological Facility

USQ Trained Person: Gary L. Weidenbach Date: 10/09/02 Phone: 3241

10. AUTHORIZATION SIGNATURE:

Project Manager: _____ Date: 10/10/02 Phone: x4071

11. WORK PACKAGE CLOSURE:

Job Supervisor: _____ Date: / / Phone:

Project Manager: _____ Date: / / Phone:

RETURN PHA TO IS&H AT JOB COMPLETION.

PRELIMINARY HAZARD ANALYSIS (PHA)
FOR WORK PACKAGE ACTIVITIES

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE INDUSTRIAL SAFETY AND HEALTH REPRESENTATIVE
Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Hazard Analyses. Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards, that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Blockage of exits or means of egress	NO	N/A	[EGRESS]
Blockages/obstructions (Identify)	NO	N/A	
Burning, welding, hot-work (Fire Watch)	YES	Demolition of slab and foundation	[BURN] Possible use of cutting torch during demolition. Administrative Controls, Permit required. Keep fire extinguisher near by during cutting.
Chemical compatibility of corrosives/flammables	NO	N/A	
Chemical process safety	NO	N/A	
Compressed gas cylinders	NO	N/A	
Confined space entry	NO	N/A	[CONFINE]
Crane operations, overhead or mobile	NO	N/A	
Critical lifts (heavy or high value loads)	NO	N/A	[CLIFT]
Electrical hazards	NO	N/A	[LIVEL] Electrical Isolation of facility was accomplished during safe shutdown activities.
Elevated work/fall protection	NO	N/A	[ELEV]
Emergency eyewash/shower available	NO	N/A	[EWASH]
Emergency alarms or evacuation plans required	YES	All	[EMERG] Plant Public Address system will be used to announce any plant emergency over the plant radio channel, cell phones will be used also, no specific added hazards exist in the demolition of this building.
Explosive/flammable atmosphere	NO	N/A	
Explosives	YES	Demolition	BWXT review of explosive conditions.
Fire protection system/equipment outage	YES	Structural Demolition	[FIRE/EFIRE] Fire Alarm System isolation prior to start of structural demolition.
Fire Hazards Analysis Required of Demolition	YES	Structural Demolition	[FHA/ADJA]
Flammable liquids/gases	YES	Structural Demolition	[FLAM] Possible use of cutting torch during demolition. Administrative Controls, Permit required. Keep fire extinguisher near by during cutting.
Forklifts, aerial lifts or material handling equipment	NO	N/A	
Grounding of electrical equipment	YES	Structural Demolition	Temp. power to portable equipment. All hand held electrical tools must be equipped with GFCI.
Hazards due to condition of facility or terrain (Identify)	NO	N/A	
Hoisting and rigging	NO	N/A	[HOIST]
Lighting/illumination/adequacy	NO	N/A	[MLITE]
Excavation and Soil disturbance	YES	Slab and Foundation Demolition	An excavation and soil disturbing permit is required.

SECTION A, INDUSTRIAL SAFETY - TO BE COMPLETED BY THE SAFETY AND HEALTH REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.). Including any notations for future Job Safety and Health Analysis(JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Lockout/tagout of hazardous sources:	NO	N/A	[LOTO/ISO] Electrical/Mechanical Isolation of facility was accomplished during safe shutdown activities.
• Electrical	NO	N/A	See Above
• Mechanical (steam, hydraulic, pneumatic)	NO	N/A	See Above
• Interlocks	NO	N/A	[ILOCK]
• Chemical	NO	N/A	
• Radiological	NO	N/A	
Machine guards	NO	N/A	
Modification to Fire Wall/Door	NO	N/A	[FIREWAL]
Obstruction of fire protection equipment (pull boxes, hydrants, fire department connections, control panels, fire extinguishers, etc.)	NO	N/A	
Off-shift work	NO	N/A	
Outages of the plant public announcement (PA) system or the emergency notification system	YES	Demolition	[OUTAGE] The plant radio system transmits public announcements, which will be use to monitor for emergencies.
Overhead or underground utilities (Identify)	NO	N/A	[UITL] Electrical/Mechanical Isolation of facility was accomplished during safe shutdown activities.
Penetrations into walls, floors, etc.	NO	N/A	[PENETR]
Plastic sheeting or wood framing/enclosures	NO	N/A	
Powder-actuated tools	NO	N/A	
Plant utilities (Identify)	NO	N/A	[WATER] Electrical/Mechanical Isolation of facility was accomplished during safe shutdown activities.
Repetitive work	NO	N/A	[ERGO]
Structural Modification	YES	Demolition	[STRUCT] Building is being demolished.
Special Fire Protection Equipment Required	NO	N/A	[FIREQU]
Trenching/Shoring	NO	N/A	[DIG]
Temporary heating facilities	NO	N/A	
Temporary/portable buildings or structures	NO	N/A	[FACIL]
Temporary service hook-ups (Identify)	YES	Structural Demolition	Temp. electrical and water service (for dust control).
Traffic control/flagman	NO	N/A	[TRAFIC]
Work in attics, ceilings, chases, or crawlspaces	NO	N/A	
Work impacting adjacent normally occupied areas	NO	N/A	[ADJAC/BMAPP/SIGNS/NOTIF]
Work Requiring Scaffolding, construction and inspection	NO	N/A	[SCAFF]
Other (Specify)	N/A	N/A	

SECTION B, INDUSTRIAL HYGIENE - TO BE COMPLETED BY INDUSTRIAL HYGIENE REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. lead compliance plans, confined space plans, hearing conservation programs, etc.), Including any notations for future Job Safety and Health Analysis (JSHA). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item	Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Abrasive blast (☐ MSDS available)*	NO	N/A	
Asbestos	YES	N/A	[ASBEST] Asphalt roof and floor title may contain asbestos don't conduct activities which disturb materials and involve close worker contact. Asbestos Abatement of regulated materials completed prior to demolition.
Beryllium	NO	N/A	
Blood-borne pathogens*	NO	N/A	
Cadmium	NO	N/A	
Carcinogens (☐ MSDS available)*	NO	N/A	[CARC]
Chemicals/solvents (☐ MSDS available)*	NO	N/A	[CHEM/MSDS]
Chlorofluorcarbon (CFC)	NO	N/A	[CFC]
Coal, tar or asphalt products	YES	Structural demolition	Roofing material contains tar and asphalt products; to be disposed of as construction debris.
Coating/painting (☐ MSDS available)*	NO	N/A	
Corrosives/acids/caustics (☐ MSDS available)*	NO	N/A	
Dusty operations	YES	demolition	[POWDER] Potential dust generation controlled via water misting.
Hazardous Waste Operations (HAZWOPER)*	NO	N/A	
High Pressure systems	NO	N/A	[HIPRES]
Insulation/man-made mineral fibers (☐ MSDS available)*	NO	N/A	
Lasers	NO	N/A	
Lead	YES	N/A	Paint may contain lead, do not torch cut painted surfaces.
Foam in Place Operations	NO	N/A	
Mercury	NO	demolition	
Noise in excess of 85 dBA	YES	demolition	[NOISE] Hearing protection will be used.
Polychlorinated biphenyls (PCBs)	NO	N/A	
Removal of ceiling tiles*	NO	N/A	
Spraying/generation of mists*	YES	demolition	Demolition dust control via water mist.
Temperature extremes (heat or cold stress)	Yes	ALL	[CRYRO/COLD/HEAT] Provide heating or cooling for personnel.
Ventilation or Air Monitoring requirements	Yes	demolition	[VENTIL/IH] Air monitoring for potential silica during demolition activities will be performed, as needed basis.
Welding, brazing, or thermal cutting operations	Yes	demolition	[BURN] Cutting of rebar and etc. will require a permit.
Other (specify)	N/A	N/A	

***NOTE:** Requires a description of the materials involved which present a hazard. Identify the physical location of the MSDS.

SECTION C, RADIOLOGICAL PROTECTION - TO BE COMPLETED BY RADIOLOGICAL CONTROLS REPRESENTATIVE

Identify engineering/administrative controls or PPE as required, keyed to the following checklist items. Insert any required and/or other special actions to be taken because of the particular hazard (i.e. RWP, ALARA Plan, etc.). Additionally, identify any activities which DOE prescribed Occupational Safety and Health standards that require protective measures be designed, inspected, or approved by a professional engineer or other competent person. (Use Section D if additional space is needed.)

Item		Exist	Work Package Phase	Comments, Controls, Methods of Compliance
Location:	Controlled Area	NO	N/A	
	Contamination Area	NO	N/A	[STP]
	High Contamination Area	NO	N/A	[STP]
	Radioactive Materials Storage Area	NO	N/A	
	Airborne Radioactivity Area (STP or OBT)	NO	N/A	
	Radiation Area	NO	N/A	
	High Radiation Area	NO	N/A	
	Very High Radiation Area	NO	N/A	
	Other (Specify)	YES	demolition	Possible soil contamination within the area.
Activities:	Criticality Safety Concerns	NO	N/A	
	Digging/Soil Removal	YES	Demolition/slab and foundation demolition	[DIG] Water mist to control potential dust. Air monitoring during demolition. Sample soil following slab removal.
	Surface destruction of radioactively contaminated materials or equipment?	NO	N/A	[SURFAC]
	Welding, burning, or grinding?	NO	demolition	[SURFAC]
	Hammering, chipping or scraping?	NO	N/A	[SURFAC]
	Abrasive blasting?	NO	N/A	[SURFAC]
	Dust-collecting equipment or systems?	NO	N/A	
	Decontamination and clean-up?	NO	N/A	
	Rad Waste Storage and Disposal Required	NO	N/A	[RWSTOR/WASTE/CHAR]
	Other (Specify)	N/A		
Sources:	X-Ray machine/generator	NO	N/A	[XRAY]
	Sealed radioactive sources	NO	N/A	
	Unsealed radioactive sources	NO	N/A	
Controls:	Radiological Work Permit	NO	N/A	[RWP/RWP=JS/RWP=N/R/RPGEN]
	ALARA Plan	NO	N/A	[ALARA]
	Air Flow Studies	NO	N/A	[AIRFLOW/CAM]
	Urinalysis program	NO	N/A	
	Preliminary or in-process characterization	NO	N/A	[SURVPS/SURVIP]
	Anti-contamination clothing	NO	N/A	
	Respiratory protection	NO	N/A	[RESP]
	Needs Analysis Evaluation	NO	N/A	
	Hazards Analysis	NO	N/A	
	Engineering Controls	YES	ALL	Dust control via misting.
	Administrative Controls	YES	N/A	Barricades of construction zone
	Supplemental dosimetry	NO	N/A	
	Shielding	NO	N/A	

Personnel monitoring (frisking)	NO	N/A	

SECTION D - OTHER CONDITIONS, CONCERNS, OR SUPPLEMENTAL INFORMATION FROM SECTIONS A THROUGH C

Identify Assembly Points: Assembly area is north of building 27 on the south side of the railroad track. ***Be aware of threatening weather and take shelter when life-threatening storms are imminent.*** Take shelter area is in building 19, -See Appendix E

Work Package Revision Form

Work Package Revision Form			
Work Package No.SMPP/TFV-30029-00		Revision No.	
Revision Description: (attach page revisions to form)			
	Name	Signature	Date
PREPARED BY:			
Revision Preparer:			
REVIEWED BY:			
Project Engr. Manager:			
Project Foreman:			
Project Superintendent/ Constr. Mgr.:			
Industrial Safety & Hygiene P o C:			
Radiological Point of Contact:			
Environmental Safeguards & Compliance P o C:			
Waste Management PoC:			
Building Manager:			
Other:			
Other:			
USQ Trained Person			
USQ SCREEN / DETERMINATION REQUIRED? ☐YES ☐NO Brief Explaination_____			
APPROVED BY:			
Project Manager:			

B 8 of 54

Work Package Revision History Form

WORK PACKAGE REVISION HISTORY FORM			
REV. NO.	REASON	SIGNATURE	DATE

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Job Specific Work Plan
Table of Contents

1. **WORK SCOPE** 1
   - 1.1. Introduction 1
   - 1.2. Work Package Scope 1
   - 1.3. Site Information 1
   - 1.4. Current Uses of Building 27 2
   - 1.5. Past Uses of Building 27 2
   - 1.6. Summary of Environmental Concerns and Findings – Building 27 2

2. **DRAWINGS AND REFERENCES** 3

3. **INITIAL CONDITIONS AND PREREQUISITES** 4
   - 3.1 Lessons Learned 4
   - 3.2 Industrial Safety and Health Requirements 4

4. **RADIATION PROTECTION REQUIREMENTS** 4

5. **ENVIRONMENTAL PROTECTION REQUIREMENTS** 5
   - 5.1 CERCLA 5
   - 5.1.1 General/Historical CERCLA Information 5
   - 5.1.2 Specific Record Sources for Building 27 6
   - 5.1.3 Specific Record Sources ..... **Error! Bookmark not defined.**
   - 5.1.3.3. Associated PRS Overview 6
   - 5.1.4. Sampling Data- 7
   - 5.2 Review of Building Prints 10
   - 5.3 National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 10
   - 5.4 Notification 10
   - 5.5 Restriction of emission of fugitive dust (OAC 3745-17-08) 10
   - 5.6 Clean Water Act & Storm Water Pollution Prevention 10
   - 5.7 National Historic Preservation Act (NHPA) 11
   - 5.8 Safe Drinking Water Act 11
   - 5.9 Emergency Spill Response 11

6. **CHEMICAL AND WASTE MANAGEMENT REQUIREMENTS** 11

7. **EMERGENCY PREPAREDNESS** 12
   - 7.1 Site Notification Procedures 12
   - 7.2 Evacuation Route/Assembly Areas 12
   - 7.3 Take Shelter Area 12

8. **PRE-DEMOLITION SEQUENCE OF WORK** 12
   - 8.1 Site Characterization 12
   - 8.2 Site Preparation 13
   - 8.3 Preliminary Activities 14

9. **BUILDING DEMOLITION SEQUENCE OF WORK** 14
   - 9.1. Establish Work Zone 14
   - 9.2. Structural Demolition 15

Job Specific Work Plan

1. WORK SCOPE

1.1. Introduction

This Job Specific Work Package (JSWP) follows the outline of PP-1059A, Integrated Work Control Program at the Mound Site, Miamisburg, Ohio. Included are a Preliminary Hazard Analysis (PHA) and a Job Safety & Hazard Analysis (JSHA). A Pre-Job Briefing Form (ML-9657) and the Project Manager's Authorization to Commence Work signature will be completed to document that the workers were briefed on the activities covered in this JSWP before work begins.

1.2. Work Package Scope

The purpose of this effort is to demolish the superstructure, pipe stanchions , flammable storage structure, slab, and foundation of Building 27, remove the debris, and to provide site restoration, grading, seeding and mulching of the area to prevent erosion. This will be accomplished by confirming that all utilities have been isolated during safe shutdown activities, establishing a safe work zone, and the demolition of the building using heavy-duty equipment, and removing of debris as directed by Waste Management.

1.3. Site Information

Building 27 was constructed in 1966 in an area known as the lower valley or plant valley area, west of the former test fire area. In 1969 a building addition was built including an enclosed solvent storage shed. After the addition, the two-story building totaled 5,285 square-feet. The first floor includes explosive cells and support areas and the second floor includes a mechanical room, mezzanine, and restroom facilities. Exterior walls are 12-inch thick masonry block walls with expansion joints and blowout panels, and interior walls are reinforced concrete. The solvent storage shed has corrugated metal walls. The foundation and slab are six-inch reinforced concrete on three-foot footers. The building has a built-up membrane asphalt roof.

The floors in the cells slope to aluminum-lined trenches that channel to an outside trough. When operational, the trough discharged to a sump, which lead to a leach pit. The sump was used to collect wastewater from Building 27, and to filter the wastewater to remove suspended particulates including explosive nitrate compounds. The sump was a partially covered pit near the south side of the building and measured approximately six feet long by three feet wide by four feet deep. The sump then discharged effluent to the leach pit via an underground pipeline. The open-topped leach pit was located about 200 feet west of the sump and measured approximately 30 feet on each side and three feet deep. In 1985, this system was discontinued and liquid waste from Building 27 was then collected in drums and removed from the site by Waste Management. Subsequently, the trough, sump, and leach pit were closed via a RCRA closure and in October of 2000, the Core Team deemed the PRSs to require No Further Assessment (NFA). The sump and leach pit were filled with concrete to remove any question of whether any contamination could

have been introduced after closure. The concrete-filled structures will remain in place and will not be removed as part of the building demolition.

1.4. Current Uses of Building 27

Building 27 was built for and has recently been used for explosives processing. The building was leased from DOE to MMCIC to a private enterprise; the tenant vacated the property in August of 2002, after which Safe Shutdown activities commenced. All required equipment will be removed from the building, and any remaining equipment will be left in place and demolished/disposed of with the building.

1.5. Past Uses of Building 27

Building 27 was constructed and used to for the development and production of energetic materials. Processes conducted include: energetic material recrystalization, energetic material microcoating/drilling, and high explosive development/testing. Safe Shutdown was initiated in 1996; however, the building has been subsequently used for the same purpose.

1.6. Summary of Environmental Concerns and Findings – Building 27

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Lead-Based Paint	No lead surveys or sampling data was found pertaining to the paint coatings in and on Building 27. Paint coatings were observed to be intact. Based on the age of the building (1966), it is assumed that the paint contains lead.	Lead-based paint will not impact the demolition or disposal of the facility. Close worker disturbance of paint coatings (sanding, grinding, scraping, torching) will be avoided during demolition. If close disturbance is necessary, point of contact will be tested for lead and appropriate controls and personal protective equipment (PPE) used for disturbance as required.
Chemicals	A list of chemicals known to have been in the building is provided in Appendix K in the Building Data Package (BDP).	Chemicals will be removed prior to demolition.
Fluorescent Lamps and PCBs	Fluorescent lamps were used in the building. Ballasts may contain polychlorinated biphenyls (PCBs).	Will be removed prior to demolition.
Air Emissions	There are fume hoods in the building that could be a potential source for uncontrolled air emission releases. However, none of the operations conducted in the fume hoods required an air permit	Will be demolished with the building.

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
	by the Ohio EPA.	
Asbestos	A complete asbestos survey was performed. The survey identified asbestos materials.	ACM will be removed prior to building demolition.
Drainage Sumps	The Concrete Flume (PRS 26) and Settling Sump (PRS 27) were determined to require No Further Assessment (Appendix N in the BDP).	No further action required.
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	Within acceptable limits.	N/A
Septic System	N/A	N/A
Wastewater	Handled by Mound wastewater facility.	N/A
Stains & Corrosion/HVAC	N/A	N/A
Storage Tanks	N/A	N/A
Solid Waste Disposal	N/A	N/A
Migratory Hazards	N/A	N/A
Radon	Within acceptable limits.	N/A
HVAC	HVAC refrigerant will be drained and disposed of during Safe Shutdown.	No further action required.
Energetic Material	The exhaust ductwork and structural cracks may contain trace amounts of loose energetic materials. Energetics present in the building may have included PETN, TATB, HMX, RDX, and HNS*.	Heavy-duty equipment will be used for demolition, and debris handling. If close disturbance is necessary, demolition debris will be wet down, and personnel will be bonded to reduce static electricity, as required.

N/A: Not applicable

* PETN pentaerythritol; TATB triamino-trinitrobenzene; HMX cyclotetramethylenetetranitramine RDX cyclotrimethylenetrinitramine; HNS hexanitrostibene

2. DRAWINGS AND REFERENCES

PP-1059A, Issue 8, "Integrated Work Control Program"
MD-50000, Issue 11, "Maintenance Work Order and Material Processing"

B13 of 54

3. INITIAL CONDITIONS AND PREREQUISITES

3.1 Lessons Learned

A search of the Lessons Learned Database found the following relevant item:

- Removal of Pier Breaks Underground Water Line

See Appendix F for the full report. The result of the Lessons Learned is that when removing similar piers, or piers of an unknown configuration especially when they are known to be near underground utilities, greater effort in planning the job should be exercised and consideration should be given to excavating the pier rather than simply pulling it out of the ground.

3.2 Industrial Safety and Health Requirements

3.2.1 A Job Specific Hazards Analysis (JSHA) is required. The construction zone, as defined in Appendix E, identifies construction boundaries, evacuation routes, the take shelter area, and the assembly area. Debris will be cleared from the immediate construction zone as required to promote safe equipment activity.

3.2.2 Underground electrical utilities will be identified and field located by scanning the area prior to beginning any field activities. Lock-out-tag-out procedures will be followed and electrical energy detection will be performed prior to any electrical demolition activities.

3.2.3 An excavation/soil disturbance permit will be required prior to FOUNDATION demolition activities.

3.2.4 Monitoring for fugitive dust will be performed periodically as determined by previous monitoring results and site Safety and Health. Site Safety and Health will be notified before the demolition of concrete begins.

3.2.5 Whole body vibration will be administratively controlled and by reviewing topic at pre-job meeting.

3.2.6 A Hot Work Permit will be required if a torch is used for cutting. Coordinate with site Safety and Health.

3.2.7 Monitoring of noise levels will be performed as determined by previous monitoring results and site Safety and Health. Earplugs (or other hearing protection) will be worn, as appropriate.

4. RADIATION PROTECTION REQUIREMENTS

A radiological assessment of Building 27 was performed by reviewing operational history and radiological survey information. Operational history indicates that the building was

constructed for and used only as an energetic material processing facility. No radiological process systems were ever a part of the facility and no radioactive material was used or stored there. Surveys were performed throughout the building in accordance with the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). A review of all of the radiological survey data supports the conclusion that Building 27 was not impacted by site operations. The review team concluded that the building meets radiological surface release criteria established by DOE Order 5400.5 (See Table 1), and no further radiological surveys are required.

Table 1: Radiological Summary

TYPE	RSDS (Radiological Survey Data Sheet)	Location	SURVEY RESULTS (dpm/100 cm^2) (Note 1)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 2)
Highest Alpha Smearable Activity	02-TF-1456	Building Surfaces	4.37	20
Highest Alpha Fixed Activity	02-TF-1143	Building Surfaces	74	100
Highest Beta Smearable Activity	02-TF-1456	Building Surfaces	14.76	1,000
Highest Beta Fixed Activity	02-TF-1456	Building Surfaces	1,166	5,000
Highest Tritium Smearable Activity	02-TF-1456	Building Surfaces	10.76	10,000

Note 1: Residual radiological activity may be present and not be a concern (within applicable limits). This may result from or be a function of counting statistics, instrument variances, the randomness of decay, radon presence, and/or natural fluctuations in background levels.

Note 2: Guideline values per DOE Order 5400.5, Radiation Protection of the Public and the Environment.

During slab and foundation removal radiological control personnel will perform radiological screening of soil and concrete surfaces that are in contact with the soil.

5. ENVIRONMENTAL PROTECTION REQUIREMENTS

5.1 CERCLA

5.1.1 General/Historical CERCLA Information

In compliance with permit requirements under Resource Conservation and Recovery Act (RCRA), the Clean Water Act (CWA), the Safe Drinking Water Act (SDWA), and the Clean Air Act (CAA), Mound Plant has applied for or has received permits for its surface water discharges, air emissions, and hazardous waste program. Mound Plant is currently operating a hazardous waste storage facility under a RCRA Part B permit dated October 18, 1996. Mound Plant also maintains a National Pollutant Discharge Elimination System (NPDES) surface water discharge permit with Facility I.D. number OH 0009857. Operations that produce particulate or vaporous emissions are either permitted or registered with RAPCA and the Ohio Environmental Protection Agency (OEPA). Mound

Plant also submits annual Emergency and Hazardous Chemical Inventory forms to OEPA, pursuant to the Superfund Amendment and Reauthorization Act (SARA), Title III, the Emergency Planning and Community Right-to-Know Act. The March 2002 version of this report indicated that no reportable chemicals are stored in Building 27. The Mound Plant was identified as a contaminated site on the National Priorities List under CERCLA (Superfund) in 1989. The Mound Plant site was originally listed due to volatile organic compound (VOC) contamination in the western end of the lower valley area. The cleanup of the Mound site was originally to be accomplished under the CERCLA mandated procedures for regulating Superfund Sites using the operable unit (OU) system to define and characterize cleanup areas. As the cleanup effort went forward, it became apparent that the Mound site did not fit the profile for a cleanup strategy based on the operable units. The DOE, the United States Environmental Protection Agency (USEPA), and OEPA designed a new decision making process for the cleanup of the Mound site. The new process is known formally as a "removal site evaluation process" and informally as the "Mound 2000 Process." The Mound 2000 Process system divided the Mound site into geographical parcels containing over 400 PRSs with approximately equal numbers of PRSs concerned with potentially contaminated soil and with potential contamination in or associated primarily with building operations. . A PRS is an area where knowledge of historic or current use indicates that the site may have had releases of radioactive and/or hazardous materials. For a more detailed description, refer to the *Work Plan for Environmental Restoration of the DOE Mound Site, the Mound 2000 Approach.*

5.1.2 Specific Record Sources for Building 27

5.1.2.1 Occurrence Reports

A search of the occurrence reporting system revealed five reports, all of which were minor and without environmental impact:

- limited operation due to change in the analytical basis of the facility
- precautionary evacuations (3) (fire alarm false alarm), and
- unplanned outage of fire protection system.

5.1.2.2. Spills and Releases

- None

5.1.3.3. Associated PRS Overview

As a result of the investigations and documentation accomplished to comply with the CERCLA cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and BWXTO have tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these 440 PRSs, nine are at or near Building 27. PRSs in the vicinity of Building 27 are identified in Table 2.

Table 2: PRSs in Proximity to Building 27

PRS	CERCLA or Bldg. Related	Binning Status	Comments
14	CERCLA	No Further Assessment (NFA)	**Area C, Waste Storage Area.**
26	CERCLA	NFA	**Building 27, Concrete Flume (Tank 217).**
27	CERCLA	NFA	**Building 27, Settling Sump (Tank 218).**
28	CERCLA	NFA	**Building 27, Solvent/Drum Storage Area.**
29	CERCLA	NFA	**Building 27, Filtration System.**
30	CERCLA	NFA	**Building 27, Diesel Fuel Storage Tank (Tank 213) (AKA Bldg. 27 Propane Tank).**
33	Buildings	Unbinned	**Underground Sanitary Sewer Line.**
67	CERCLA	Further Assessment (FA)	**Plant Drainage Ditch.**
358	CERCLA	NFA	**Elevated Soil Gas Location.**

PRSs 26 and 27 previously underwent RCRA closure and were subsequently filled with concrete to prevent any possible recontamination. These PRSs require No Further Assessment and will be left in place.

PRSs 33 and 67 will be handled separately from this building data package.

5.1.4. Sampling Data-

5.1.4.1.1. Radiological Surveys

Radiological survey data of Building 27 indicates all readings meet surface release criteria.

5.1.4.2. Soil Sampling Data

Appendix E contains a graphic and table presenting results of all soil sampling data within a 15-foot perimeter of Building 27. Maximum exceedances to screening levels (10^{-6} guideline values plus background, or Core Team approved) are listed in Table 4. All other results are below applicable levels.

B17 of 54

Table 3: Maximum Results Exceeding Screening Levels (pCi/g)

Analyte	Maximum Result	Background	RBGV (10^{-6})	Screening Level Comparison
Plutonium-238	**119 at 3' to 5' bgs**	**0.13**	**6.1**	**55***
Thorium-232+D	**19.6 at surface**	**1.4**	**0.07**	**1.47**

RBGV: most stringent of construction and office worker scenarios per Risk-Based Guideline Values, March 1997, Final, as performed using April 2001 HEAST slope factors.

Bgs: below ground surface

Screening Level for plutonium-238 is per Core Team decision.

Both analytes listed above are from borehole SCR114. On the graphic provided in Appendix E, the location of borehole SCR114 is shown as though it was within the building footprint. However, it is not possible that a boring was installed within the building, as verified by building occupants.

Appendix E provides a graphic showing the four sample locations that are within a 15-foot perimeter of Building 27. Data for three of the four locations showed detections of analytes; however, only one location (SCR114) had analytical data that exceeded the screening level comparison values.

Both the location and the data for borehole SCR114 are significantly suspect. The location is shown as being within the building footprint. However, according to the former building occupant and Mound personnel involved with Building 27, there have never been any boreholes drilled inside of this building. Further, because the building has always been used for explosives production, drilling of boreholes inside the building would have been prohibited due to the significant safety risk. Another factor indicating that the location is not within the building footprint is that it would be impossible to get a drill rig capable of installing a 14-foot boring through the door of the building. There are a number of possible ways that the location error could have been introduced into the system: a data entry error (increased chances since the data was entered in bulk two or three years after it was collected because the MEIMS database was not available at the time the sample was collected); or a coordinate recording error (since a global positioning system [GPS] was not used at the time that the samples were collected).

In addition to the location being in question, the borehole data is also significantly suspect. A review of the data for SCR114 shows that samples were collected from the same borehole on seven different days from December 4, 1990 through January 15, 1991. When a borehole is drilled, the core of soil is removed, and the resulting hole is generally backfilled with an inert substance (usually bentonite). Therefore, an individual borehole would not be resampled. Further, the data shows multiple samples on the same day at the same depths with different results.

The data is also questionable in that if elevated thorium-232 were actually at the soil surface near the building, there would have likely been evidence of it on the radiological surveys that were conducted inside the building (i.e. transported via foot traffic).

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Analytical results for samples collected within a 30-foot radius of the building perimeter were also reviewed, and showed no additional samples that exceed the screening criteria. Accordingly, it is believed that this sample is not representative of the area.

Even though the data and location are questionable, because the results indicate the possibility of elevated surface thorium-232 in the vicinity, additional precautions will be taken during and after demolition. The additional measures include:

- prior to commencement of demolition activities, a radiological walkover survey of the pavement and/or soil in within a 15-foot perimeter of the building footprint will be performed,
- workers will be advised of the elevated surface thorium-232 sample at the pre-job meeting,
- Radiological Controls will monitor the project to ensure worker safety, and
- confirm the absence of contamination by collecting biased surface soil samples from within and around the building footprint, including the SCR114 location, and submitting them for onsite gamma spec analysis.

  Note: As part of our standard precautions during building demolitions, the foundation will be radiologically surveyed on both sides of the concrete slab.

5.1.4.3.Chemical History

Various chemicals and energetic materials have been used in Building 27's operations.

5.1.4.4.Lead-Based Paint

No lead surveys or sampling data was found pertaining to the paint coatings in and on Building 27. Paint coatings were observed to be intact. Based on the age of the building (1969), it is assumed that the paint contains lead. Lead-based paint will not impact the demolition or disposal of the facility. Close worker disturbance of paint coatings (sanding, grinding, scraping, torching) will be avoided during demolition. If close disturbance is necessary, point of contact will be tested for lead and appropriate controls and personal protective equipment (PPE) used for disturbance as required.

5.1.4.5.Asbestos

Asbestos-containing material (ACM) will be removed from Building 27 in preparation for building demolition. ACM includes fire doors, tank and vessel insulation, roofing,sinks soundproofing, pipe insulation, light gasket insulation, floor tile, penetration packing, outdoor duct insulation and mastic. All work was performed in accordance with current state and federal regulations.

B19 of 54

5.1.4.6.Radon

The results of a 1989-90 Mound Indoor Radon study indicated an average radon concentration of 0.4 picoCuries/liter (pCi/L) in Building 27 The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

5.2 Review of Building Prints

Building prints were reviewed and no significant items were identified. These structures have been examined by a Energetic Material Subject Manner Expert (SME) and has been determined to be safe for demolition.

5.3 National Emissions Standards for Hazardous Air Pollutants (NESHAPs)

Per Environmental Practice 2.2, if buildings to be demolished have a surface area less than 72 million square feet, direct readings below MDA, and wipe results below applicable action levels, additional dose calculations are not necessary. Since Building 27's surface area is significantly less then 72 million square feet, additional calculations are not necessary.

5.4 Notification

A Notification of Demolition and Renovation form must be filed with the Regional Air Pollution Control Agency (RAPCA) at least 10 business days before planned building demolition.

5.5 Restriction of emission of fugitive dust (OAC 3745-17-08)

Reasonably available control measures must be employed to prevent fugitive dust from becoming airborne. Visual particulate emissions from any fugitive dust source shall not exceed 20% opacity as a three-minute average. Appropriate activities would include:

5.5.1 Water misting, or other suitable dust suppression, will be used to minimize fugitive dust resulting from demolition activities.

5.5.2 Periodic application of water, or other suitable dust suppression, to adjacent roadways and parking lots will be used to prevent dust from becoming airborne.

5.5.3 Trucks hauling debris to the onsite spoils area should be covered while in transit.

5.6 Clean Water Act & Storm Water Pollution Prevention

5.6.1 All inlets to the sanitary and storm systems will be plugged to prevent accidental discharges to the wastewater treatment plant or the environment.

5.6.2 The site's National Pollutant Discharge Elimination System (NPDES) Permit No. 1IO00005*HD requires the use of control measures to ensure the quality of storm

water leaving the site. These control measures and practices are outlined in the site's Storm Water Pollution Prevention Plan OPA980099. Appropriate activities would include, Redirect flow patterns around the project site to prevent stormwater run-on. Provide inlet protection to the storm sewer system by covering catch basins immediately adjacent to the project site and plugging roof drains at ground level until which time the underground pipes can be appropriately abandoned. Exercise good housekeeping techniques by segregating materials in a timely manner, including the prompt disposal of wastes, and sweeping debris from the streets to prevent stormwater pollution. Water that has collected in an open excavation or in sumps, must be monitored prior to discharging to the sanitary or storm sewer systems. Contact Environmental Monitoring at extension 4188 for monitoring and review of these non-routine discharges.

5.7 National Historic Preservation Act (NHPA)

Building 27 is not listed as a historic structure with the Ohio Historic Preservation Office (OHPO). No mitigative documentation package is required. However, if any items or artifacts are discovered as this project progresses, the Cultural Resource Representative will be notified at extension 3691. Work will be temporarily suspended until which time the items or artifacts have been recovered.

5.8 Safe Drinking Water Act

The potable water supply to Building 27 was turned off and capped to protect the integrity of the water supply to that portion of the plant site.

5.9 Emergency Spill Response

Building 27 has been disconnected from all utility services and the lines drained. There should be no regulated component that will be encountered. In the event of a major spill of any regulated substances, or the rupture of a non-isolated utility line (fire, domestic water, ethylene glycol) call 911 if using an onsite phone or 937-865-4040 if using a cell or other outside phone to report it, also see Emergency Preparedness section. All spills must be contained onsite and should be prevented from entering the storm drains if possible. If spills enter the storm drains, all effluent must be retained onsite at the overflow pond.

6. CHEMICAL AND WASTE MANAGEMENT REQUIREMENTS

All waste will be managed in accordance with the Waste Management Plan for the Mound Exit Project, MD-10499. The Waste Coordinator will ensure that this is accomplished and summarize in a Job Specific Waste Management Plan.

Fluorescent tubes and non-PCB containing ballasts will be left in place, and will be demolished with the building. PCB containing ballasts had been in the building; they have been removed during Safe Shutdown activities. Note: The fluorescent tubes have been removed.

7. EMERGENCY PREPAREDNESS

7.1 Site Notification Procedures

7.1.1 Use **911** for all emergency services onsite. This is the first response for any emergency, spill, or release. If using a cell phone, dial **865-4040**. This number will ring into the plant 911 system.

7.1.2 Any injury, no matter how minor, shall be reported immediately to the Medical Department for evaluation and treatment. The injured employee shall report any injury to the supervisor in charge or designee.

7.1.3 Employees will be notified of emergency or abnormal conditions by the plant paging system or project two-way radios. Additionally, unique sheltering and evacuation signals are available should site-wide protective actions be necessary.

7.2 Evacuation Route/Assembly Areas

Assemble area is north of building 27 on the south side of the railroad track. See map per Appendix E.

7.3 Take Shelter Area

CAUTION

Be aware of threatening weather and take shelter when life-threatening storms are imminent.

The take shelter area is in Building 19. See map per Appendix E.

8. PRE-DEMOLITION SEQUENCE OF WORK

8.1 Site Characterization

8.1.1 Physical Characterization

A structural engineering survey was performed and documented for Building 27 to meet the requirements of OSHA 29 CFR 1926.850(a). A walkdown of the structure was used to identify potential hazards as listed in 29 CFR 1926.850(e) through (i). It has been determined the building does not meet the criteria that cause the structure to be historically significant.

8.1.2 Radiological Characterization

An assessment of Building 27 was performed reviewing operational history and radiological survey information. Radiological surveys of the building(s) and equipment indicate no elevated radioactivity levels. Additionally, the building has no known history of having handled or stored radioactive materials. Several prior

B22-6 54

assessments have concluded that the building was non-impacted from site radiological operations.

8.1.3 Chemical and Metals Characterization

Various chemicals and energetic materials have been used in Building 27's operations. Chemicals that have been or are used in the building include: acetonitrile, acetone, ethanol, toluene, methylene chloride, dimethylformamide, dimethylsulfoxide, isopropanol, sodium sulfate, dioxane, tetrahydrothiophene, and ethyl acetate. Energetics that have been or are used in the building include: PETN (pentaerythritol), TATB (triamino-trinitrobenzene), HNS (hexanitrostibene), or HMX (cyclotetramethylenetetranitramine). The remaining chemicals of concern will be cleaned up during safe shutdown activities.

8.1.4 Asbestos Characterization

An asbestos survey was completed. Asbestos was prevalent in Building 27. Asbestos-containing materials (ACM) of non-friable nature were used in floor tiles and mastic, roofing material, condensation tape, penetration packing, roofing, sink, sound proofing,. . Friable ACM included pipe joint insulation, condensation tape, pipe wrap, duct insolation fire doors linings and thermal insulation for tanks and vessels, light fixtures gaskets. An asbestos abatement program will be performed; no further action is required.

8.2 Site Preparation

8.2.1 Site Access Control

The demolition area will be identified utilizing the construction fencing around the building, or at the discretion of the project construction manager/foreman, marked off with barricade tape/fencing.

8.2.2 Clearing and Grubbing

The area around the building will be mowed and insecticide will be sprayed if appropriate. Coordinate with site Safety and Health and Environmental Compliance.

HAZARD	MITIGATION
Insect bites	Mow area around building. Wear long pants and long sleeve shirt. Tape arm and leg openings, if desired .
Exposure to insecticide	Follow requirements of MD-10286 D2. Use licensed personnel. Follow label directions and MSDS.

8.2.3 Temporary Utilities

The only temporary utility that may be required is water. Coordinate with site Safety and Health. Water will be used to control dust emissions.

8.2.4 Temporary Facilities

This project will use the existing SMPP/TFV project new trailer complex to be located in the existing Mound "C" parking lot.

8.2.5 Temporary Communications

Temporary communications are required (cell phone, radios) due to the difficulty of hearing plant announcements and emergency notifications. At the job site, plant announcements and emergency notifications can be heard on the Plant radio channel.

8.2.6 Staging Areas

The project site is of sufficient size to also be used as a staging area.

8.3 Preliminary Activities

8.3.1 Domestic water, firewater, electrical, fire alarm system and communications lines have been disconnected under separate safe shutdown MSR. 30028. An excavation/soil disturbance permit for slab and footing removal will be required prior to excavation activities.

8.3.2 Verify all mercury-containing switches have been removed. If found, dispose through Waste Management.

8.3.3 Confirm all Freon has been previously removed and recycled from HVAC units inside and outside of the building.

8.3.4 Fluorescent tubes, ballasts, and explosion proof lights will remain in place; asbestos abatement has been completed. If PCB-containing ballasts are encountered, remove and dispose through Waste Management. Note: Contact site Safety and Health with any concerns about fluorescent tubes, ballast, or explosion proof fixture seals.

HAZARD	MITIGATION
Fall hazard	Follow requirements of MD-10286 M-14

9. BUILDING DEMOLITION SEQUENCE OF WORK

9.1. Establish Work Zone

Establish work zone boundary using the existing fence and/or with barricade tape as directed by the Project Foreman. Proper signage will be placed at all access points to the site. This zone is not to be entered by anyone not directly involved with the demolition

unless they have contacted the Project Manager/Foreman first. Do not begin any demolition activities until the following items are completed.

All new workers assigned to this project have received a pre-job briefing prior to performing work and a walkdown of the project area. The following must be completed prior to starting work.

Review of the *Preliminary Hazard Analysis* for work package activities must be complete.

9.1.1. The *Pre-Job Briefing Record* must be completed and signed.

9.1.2. The *Job Specific Hazards Analysis (JSHA) must be reviewed.*

NOTE: All workers have Stop Work Authority. Situations where stop work authority is to be exercised are:

- **To stop unsafe work.**
- **To stop unauthorized work, for example, work outside the scope of this work package.**

9.1.3 Verify Safe Shutdown activities have isolated all the connections to Building 27, including the following systems: electric/communication/fire alarm systems, steam and glycol, sewage and potable water systems.

9.1.4. Verify that all pre-demolition notifications have been made and permits are in place.

9.1.5. Install sediment/storm water control fence around designated construction area as necessary.

9.1.6. Prepare water distribution system for the control of dust.

9.2. Structural Demolition

9.2.1 Structure Demolition

Demolish the Upper Section of the structure's block, concrete walls, steel, pipe stanchions and flammable storage structure using heavy equipment. Use heavy equipment to reach the higher penthouse mechanical section and weaken structure to allow upper section to collapse into lower level for demolition. Use the existing slab for load out surface for loading debris and placing into appropriate hauling containers or trucks. **Note: The progression of the building demolition will ultimately be determined in the field.**

HAZARD	MITIGATION
Contact overhead power lines with heavy-duty equipment.	If an part of heavy-duty equipment has the potential to come within 10' of overhead powers, perform LOTO.
Struck by flying debris Struck by moving equipment Noise Hazard	Establish construction boundary. Wear hard hat safety glasses, safety shoes, and reflective vest inside construction area. Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Wear hearing protection while running heavy-duty equipment. *Follow the requirements of* MD-10286 D9.
Burns from torch cutting	Obtain and follow Hot Work permit per MD-10286 O2
Heat/Cold Stress	Follow the requirements of MD-10286 D13/D16

Exact sequence of demolition will be left up to the skill of the craft.

9.2.2 Slab and Foundation Demolition

Using heavy equipment, break apart the concrete slab, foundation, and footers to 3' below grade, torch cut the rebar if required (Hot Work Permit is required if used) to support demolition and downsizing. During the concrete demolition, use heavy equipment to assist radiological control personnel to perform radiological screening of all concrete surfaces. Based on radiological screening results, transport to Mound's spoils area, offsite disposal, or rail spur as directed by Waste Management.

Note: The progressions of the building demolition will ultimately be determined in the field.

HAZARD	MITIGATION
Burns/fire	Burn permit, fire protection, and PPE.
Strike underground utilities	Obtain Excavation permit and follow its requirements per MD-10286 O5

9.2.3 Organize area for future soil remediation

The last step will be to restore the area by grading to drain and seeding. Remove any unnecessary remaining sediment/storm water control fences. Scan equipment for radiological contamination and decontaminate prior to leaving area. Remove dust control water distribution system, temporary power, fencing and any traffic control.

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Appendix A
JSHA/HASP

B27 of 54

Project/Activity: Building 27 Demolition
Name: Lee Koehmstedt

JSHA CRITERIA CHECKLIST	YES	NO	N/A
1. Work performed with a 6 ft. or greater fall hazard, excluding portable ladders. See Item 14 for further requirements.		X	
2. Roof work requiring the use of fall protection (within 6 ft of an unprotected edge) or special fall protection procedures.		X	
3. Potential hazardous chemical exposure above action levels or permissible exposure limits (PELs), or ACGIH Threshold Limit Values (TLVs).		X	
4. Work activity in an immediately dangerous to life or health (IDLH) breathing hazard environment.		X	
5. Fire or explosion hazards. Are fire hazards beyond a Hot Work Permit? (Reference O2, MD-10286)		X	
6. Work within close proximity of live electrical greater than 50 volts, conductors, and/or work that requires multiple locks, multiple hazard sources, or complicated lockout/tagout circumstances. (Reference MD-10444, *Lockout/Tagout Procedure Manual*, for multiple energy lockout/tagout.)	X		
7. Any maintenance or repair of equipment under pressure where the pressure cannot be shut off and de-energized.		X	
8. Work with high or extreme exposure to ionizing or nonionizing radiation (reference MD-80036, Op 10002), noise, or heat or cold stress (reference D9, D13 & D16, MD-10286).	X		
9. Determined by an appropriate core team, building manager, member of general or executive management, or the IS&H manager to require a JSHA.	X		
10. Any onsite construction or service project directed to have JSHAs based on this procedure and/or instruction from project personnel or IS&H staff.	X		
11. Near-miss event with the potential for loss of life or limb or disabling injury/illness if repeated.		X	
12. Excessive trauma/motion/vibration work situations or manual lifting involving heavy, large, and/or awkward-to-handle objects (reference MD-10407, *Ergonomics Program.*		X	
13. Unguarded, unmarked close clearance, pinch point, exposed moving machinery parts.		X	
14. Known potential falling object hazards (e.g., employees working above other employees, potential for dropping tools, falling equipment or material) or working in areas with the potential for flying objects (flying chips, sandblasting, etc.), exposure to sharp or protruding objects (e.g., working inside plenums, air mover ducts, etc.).	X		

MANDATORY JSHA REQUIRED TO ADDRESS ANY/ALL (YES) RESPONSES

JOB SAFETY & HEALTH ANALYSIS

JSHA MASTER DOCUMENT CONTROL NO:
SMPP/TFV – 30029-0

SIGNATURES

ORIGINATOR: Lee Koelmel
REVIEW/REV: Jared Willis/Chris Ahlquist
REVIEW/REV: Bill Wahler/ Jim Harvey
REVIEW/REV: Gary Weidenbach
APPROVED: C.D. Thompson

DATE: 9/23/2002	_X_ NEW __ REV	**BUILDING:** 27	**JOB:** Demolish Building 27
DEPARTMENT/COMPANY: SMPP/TFV			**SECTION:** N/A

OCCUPATIONS: : Heavy Duty Operators, Demo Tech's, Constr. Crafts, Pipefitter/Welders, Electricians, Fab. Mechanics.
Supported by Project Personnel e.g.. Supervision, Engineering, RAD Control, Ind. Hygiene, and Safety

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:
Hard Hat, Safety Glasses with side shields, safety shoes, safety vest

MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:
Insecticide

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
Break the job down into basic steps that tell what is done first, what is done next, and so on. Record the job steps in their normal order of occurrence. Describe what is done, not the details of how it is done. Usually, three or four words are sufficient to describe each job step. For example, the job of "replacing a light bulb" may break down into basic steps as follows: 1. Bring and set up ladder 2. Ascend ladder 3. Remove light globe & bulb 4. Replace light bulb 5. Replace light globe 6. Descend ladder 7. Remove and store ladder	Ask yourself for each job what accidents/illnesses could occur to the employee doing the job. Record potential accidents/illnesses by combining one of the abbreviations below with the agent of contact. For example, "struck by a crane hook" is recorded "SB-crane hook." Number each potential accident. SB - Struck by CB - Contacted by SA - Struck against CW - Contact with CI - Caught in CO - Caught on IB - Caught between F - Fall SO - Strain-overexertion* E - Exposure (occ. illness) *Show ergonomic stresses as SO (repetitive trauma, single event strain, or awkward position)	For each potential accident/illness, ask yourself exactly what the employee should do or not do to avoid the accident/illness. Describe specific precautions in detail. Give each precaution the same number given in the potential accident (center column) to which it applies. Avoid generalities such as "Be alert," "Be careful," and "Take caution." Use simple do or don't statements; e.g., "Lock out main power switch," "Stand clear of lift before signaling," or "Check wrench grip before exerting full force." If necessary, explain how, as well as what, to do. Amount of detail is a matter of judgment. Describe ergonomic solutions (job redesign, new tools, worker lift assistance, etc.)
1) Establish work zone	**General Safety Note** A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	1) Be cognizant of your own safe work practices as well as those of your co-workers 2) Review any related safety procedures of which you are unsure 3) Utilize STOP WORK Authority as necessary
1a) Pre-job meeting with involved personnel to discuss the work plan and safety requirements.	NA	This project engages in Enhanced Work Planning(EWP), a ISM process that evaluates and improves the approach by which work is identified, planned, approved, controlled, and executed.
1b) Area preparation	Standard construction hazards.	A) Demolition preparation is defined by 29CFR1926.850; workers, unfamiliar with construction standards must notify the project supervision and/or project health and safety personnel. B) Once the work area is defined, only authorized personnel are permitted in the construction perimeter. C) Unescorted, Non-project and Non-emergency personnel, must have acceptance of the SMPP/TFV Project Manager for entry.
1c) Utility protection	Running into PIV's, etc. or grates over field drains.	A) Mark PIV's and other utility equipment with visible stakes and/or colored flags. B) Cover field grates with steel sheeting to protect.
1d) Emergency egress/access	Blocked access	A) Emergency access to the work zone will be maintained to the extent possible.

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
1e) Utility isolation	Electrical shock or electrocution	A) All utilities to the building including electrical have been disconnected by project electricians at a point away from the building. B) Identify sources outside the building that may require LOTO to prevent incidental contact by Heavy Duty Equipment.
2/3) Demolition of building and slab	Personnel in proximity with heavy duty equipment	Heavy duty equipment will be used to provide an additional margin of safety vs. putting workers in harms way. – stay clear of operating equipment.
Operation of heavy equipment near electric overhead lines	Electrocution	LOTO all electrical overhead lines.
Demolish building, pipe stanchions , flammable storage structure and slab using excavator mounted shear, hoe ram, grapple, loader, and bobcat	Struck by flying debris Struck by moving equipment Noise Hazard	Establish construction boundary. Wear hard hat safety glasses, safety shoes, and reflective vest inside construction area. Make eye contact with operator when working around equipment. Use hand signals to communicate intent. Maintain the following distances from operating equipment: Shear – 75 feet Hoe Ram – 50 feet Other heavy duty equipment – 30 feet Bobcat – 15 feet Make sure equipment is in safe working order. Use spotter vision is obstructed. Install traffic control. Wear hearing protection while running heavy duty equipment Follow the requirements of MD-10286 D9
Torch cut rebar or to weaken structural members	Burns, fire Potential lead paint	Obtain and follow Hot Work permit per MD-10286 O2. Wear proper PPE, have fire extinguishers in the construction zone. Test for lead paint; do not torch cut lead paint.
Working in excessive heat/cold	Heat Stress/Cold Stress	Follow the requirements of MD-10286 D13/D16
Working outside.	Adverse weather conditions	Be aware of adverse weather conditions, assembly and take shelter areas.
Slab removal	Strike underground utilities Silica exposure	Obtain Excavation permit and follow its requirements per MD-10286 O5 Monitor for silica, keep area wet for fugitive dust suppression.
4) Restore area	**General Safety Note** A wide variety of incidents occur on a regular basis that potentially could result in injury or illness	1) Be cognizant of your own safe work practices as well as those of your co-workers 2) Review any related safety procedures of which you are unsure

		3) Utilize STOP WORK Authority as necessary
4a) Rough grading	Equipment/ personnel mixture	Stay clear
4b) Covering ground	Slip – Trip – Fall Lifting /twisting strain	Uneven walking and/or working surfaces –use extra caution. Follow accepted practices
4c) Protecting / filtering field drains	Lifting /twisting strain	2 man rule follow standard practice lifting grates.
4d) Dismantling fence	Slip trips and falls Cuts and abrasions Lifting /twisting strain	1) Be cognizant of your own safe work practices as well as those of your co-workers 2) Review any related safety procedures of which you are unsure 3) Utilize STOP WORK Authority as necessary

SIGN-OFF SHEET

I have read and understand the attached Job Specific Work Plan and JSHA:

SIGNATURE	**Date**	**Department**

Appendix B

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Appendix C
PRE-JOB BRIEFING

JOB SPECIFIC WORK PLAN
PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A.	Time, Date and Location of PJB:
B.	Applicable Procedure Number:
C.	Job Description:
D.	Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

JOB SUPERVISOR – This is a reminder checklist for the update. The supervisor need only discuss and note changes from the previous day's briefing or update. (Use NC for No Change).

1.	Any changes/revisions to safety envelope for work: a. New/added assignments and responsibilities of any individual b. Changes in facility conditions, tagouts, valve lineups c. New or changed precautions/hazards d. Valid RWP or other required work permits still in effect
2.	Adequate supply of PPE
3.	New training, any training coming up on expiration
4.	New changes to relevant Category "A" or Category "B" procedures.
5.	Equipment and tools calibrations in effect
6.	Relevant lessons learned, critique reports
7.	RWP revisions: a. Changes to radiological conditions of the workplace, particularly with respect to postings. b. Change in scope, especially if it is a reduction in scope or Stop Work Levels.
8.	Changes to radiological and/or health monitoring.
9.	Open the floor to questions.

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to maximize continued safe conduct of the job, and all personnel have been through a previous Pre-Job Brief.

Job Supervisor/Foreman _____ Date _____

NOTE: Completed pre-job update sheet must be retained with the work package or maintained in your record file.

JOB SPECIFIC WORK PLAN

Daily Toolbox Safety Meeting

Project:	**Date:**
Safety Topic of Meeting:	
Work Description of Meeting:	

Review the following to determine if conditions have changed since the last Pre-Job Meeting
If this is the 1st meeting with a subcontractor, has Safe Work Authorization been done?
Check off each item that applies or mark N/A if it doesn't apply.

Hot Work Permit (torch cutting, spark producing grinding, open flame heaters, welding)		Signage and Barricades (construction area, hazard notification, rad postings, etc).	
Penetration Permit (penetrating walls, ceilings, or floors in a building)		Air Monitoring (as required by Environmental Compliance and/or Industrial Hygiene)	
Excavation Permit (digging in soil)		Dust Suppression (misting, etc.)	
Trench Plan (shoring, soil layback, etc. if over 4 feet below grade)		Water Runoff Prevention (silt fence, straw bales, collection pond, etc.)	
Confined Space Entry Permit (manhole, tank, or other confined space entry)		Radiation Work Permit (as required by Rad Controls)	
Fall Protection (person's feet over 6 feet above ground)		TLDs (as required by RWP and rad postings)	
Lockout/Tagout (all energy sources to equipment being worked on)		Waste Containers (rolloffs, sealands, dumpsters, LSA boxes, drums, etc.)	
PPE (respirators, Tyveks, safety shoes, safety glasses, hard hats, gloves, reflective vests, etc.)		Utility review especially for asbestos abatement contractor (label live utilities e.g. FAS, phone, electric)	
Personnel Training up-to-date for assigned work (Radworker II, Asbestos, Lead, etc.)		Hoisting and Rigging Review	

B3606 54

JOB SPECIFIC WORK PLAN
PRE-JOB UPDATE

Continuation Sheet for _____/_____/_____

HP#	SIGNATURE	HP#	SIGNATURE

JOB SPECIFIC WORK PLAN

PRE-JOB UPDATE

MSR/PROCEDURE (if applicable):	JOB SUPERVISOR

A.	Time, Date and Location of PJB:
B.	Applicable Procedure Number:
C.	Job Description:
D.	Personnel Attending:

HP#	SIGNATURE	HP#	SIGNATURE

JOB SUPERVISOR – This is a reminder checklist for the update. The supervisor need only discuss and note changes from the previous day's briefing or update. (Use NC for No Change).

2. Any changes/revisions to safety envelop for work: e. New/added assignments and responsibilities of any individual f. Changes in facility conditions, tagouts, valve lineups g. New or changed precautions/hazards h. Valid RWP or other required work permits still in effect
2. Adequate supply of PPE
3. New training, any training coming up on expiration
4. New changes to relevant Category "A" or Category "B" procedures.
5. Equipment and tools calibrations in effect
6. Relevant lessons learned, critique reports
8. RWP revisions: c. Changes to radiological conditions of the workplace, particularly with respect to postings. d. Change in scope, especially if it is a reduction in scope or Stop Work Levels.
8. Changes to radiological and/or health monitoring.
9. Open the floor to questions.

The above minimum requirements have been met; this PJB has been conducted in sufficient detail to maximize continued safe conduct of the job, and all personnel have been through a previous Pre-Job Brief.

_____

Job Supervisor/Foreman Date

B3806 54

Appendix D

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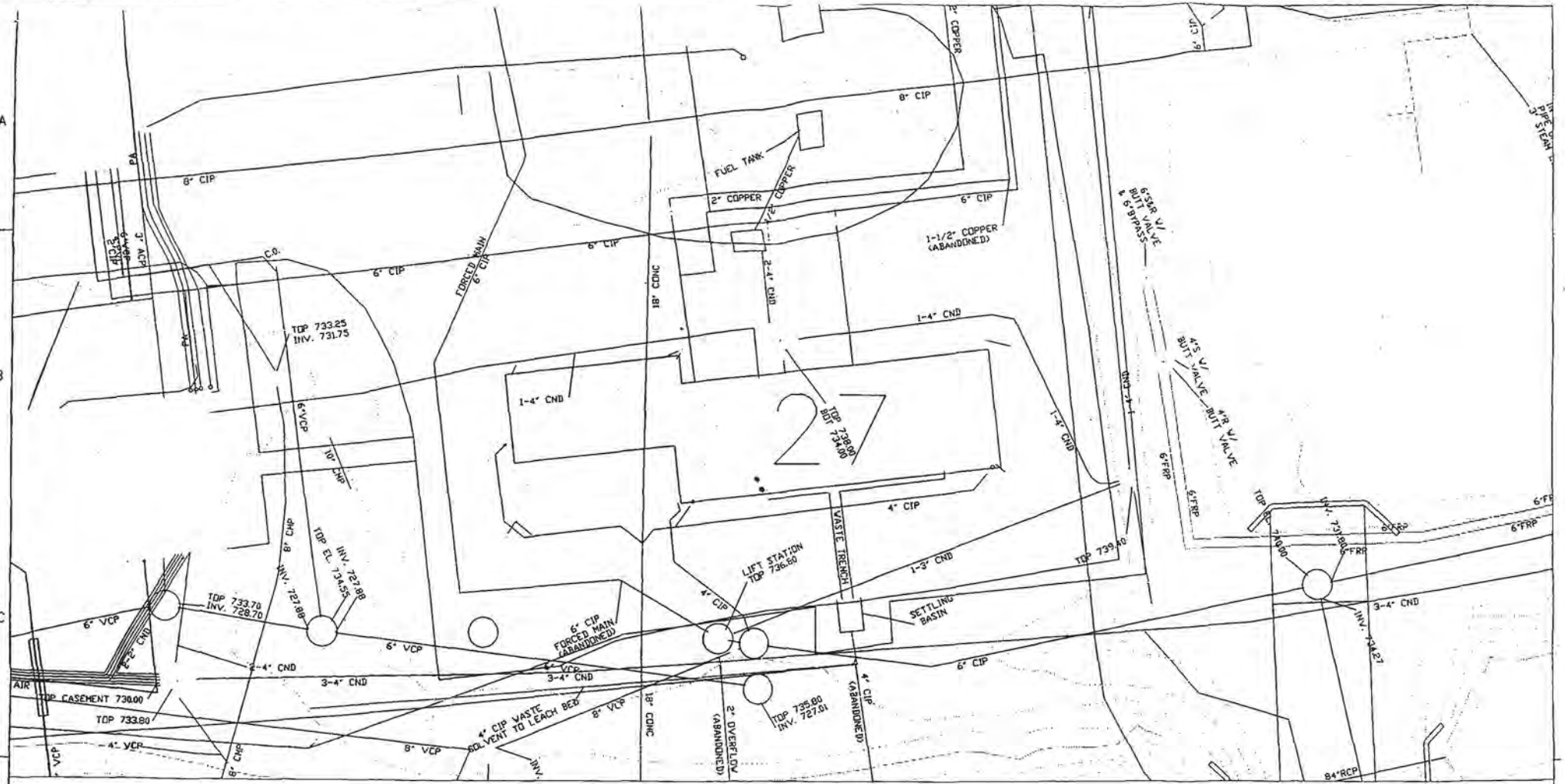
Appendix E
DRAWINGS/SKETCHES



GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

LEGEND

SIGNAL	—SIG—	COMPRESSED AIR	—CA—
SANITARY	—SAN—	RAD WASTE	—RWS—
DOMESTIC WATER	—DW—	TELEPHONE LINE	—T—
FIRE WATER	—F—	ELECTRICAL LINE	—E—
STORM SEWER	—SS—	COMMUNICATION LINE	—ADT—
BRINE SUPPLY	—BS—	DASHED LINE	— — — —
BRINE RETURN	—BR—	INDICATES – LINE IS ABANDONED	

ISS	DATE	REVISION	BY	CHKR	ENG	LP&EC	APVD	M

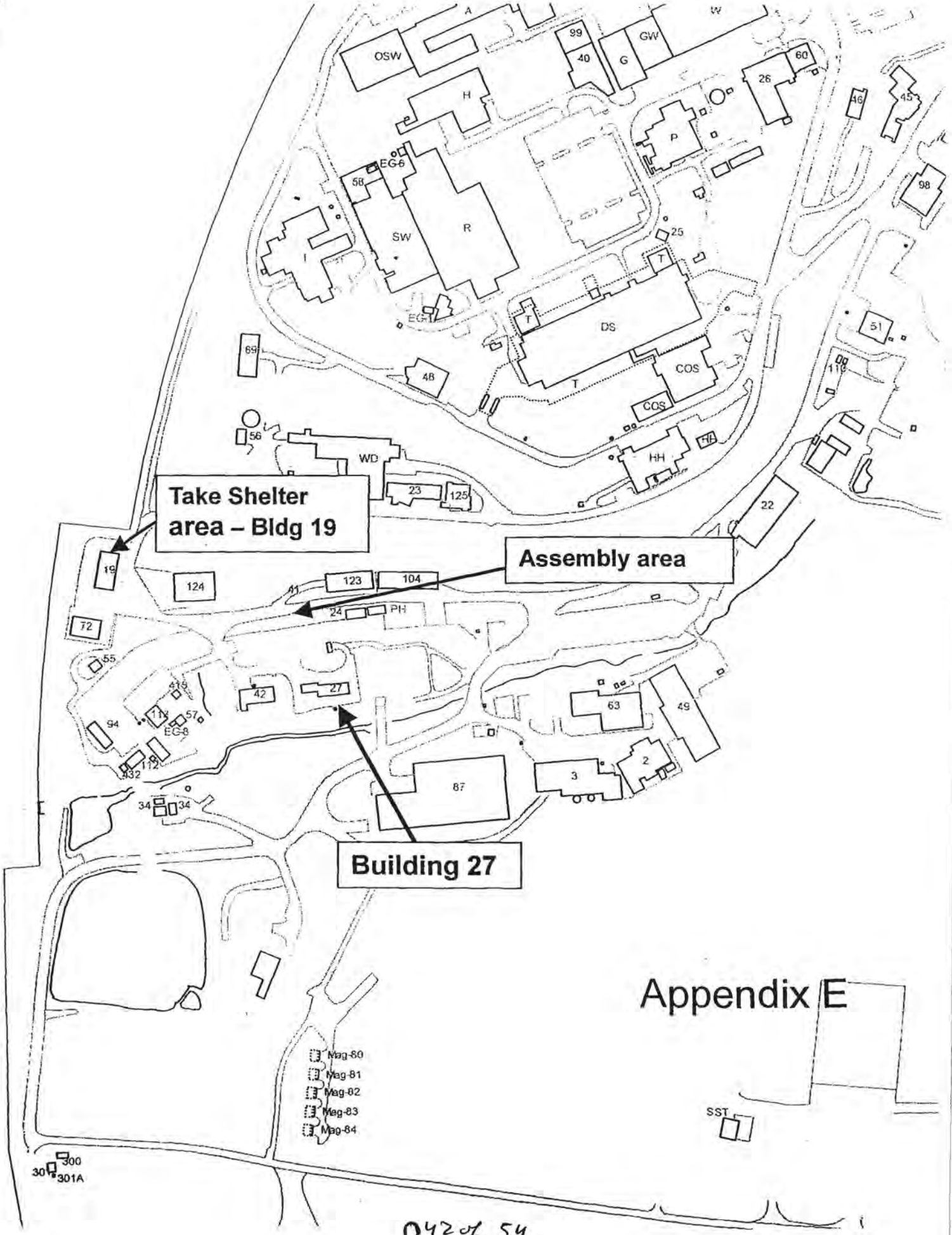
MOUND
Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27						
ISSUE																											
SHEET	1	2	3	4	5	6																					
ISSUE	*																										

Figure
Building 27
Underground Utilities

PART CLASSIFICATION
DRAWING CLASSIFICATION: UNCLASSIFIED
SIZE | DRAWING NUMBER: bldg 27 ug utilities | JOB NUMBER: *
DWG TYPE STE | PRMG ER-GIS | CAGEC | SCALE | SHEET 1 OF
STATUS MD-REL-**/**/** | ORIGIN AUTOCAD

1 2 3 4


Take Shelter area – Bldg 19
Assembly area
Building 27
OSW
H
SW
R
EG-6
EG-7
DS
T
COS
HH
WD
PH
EG-8
Mag-80
Mag-81
Mag-82
Mag-83
Mag-84
SST

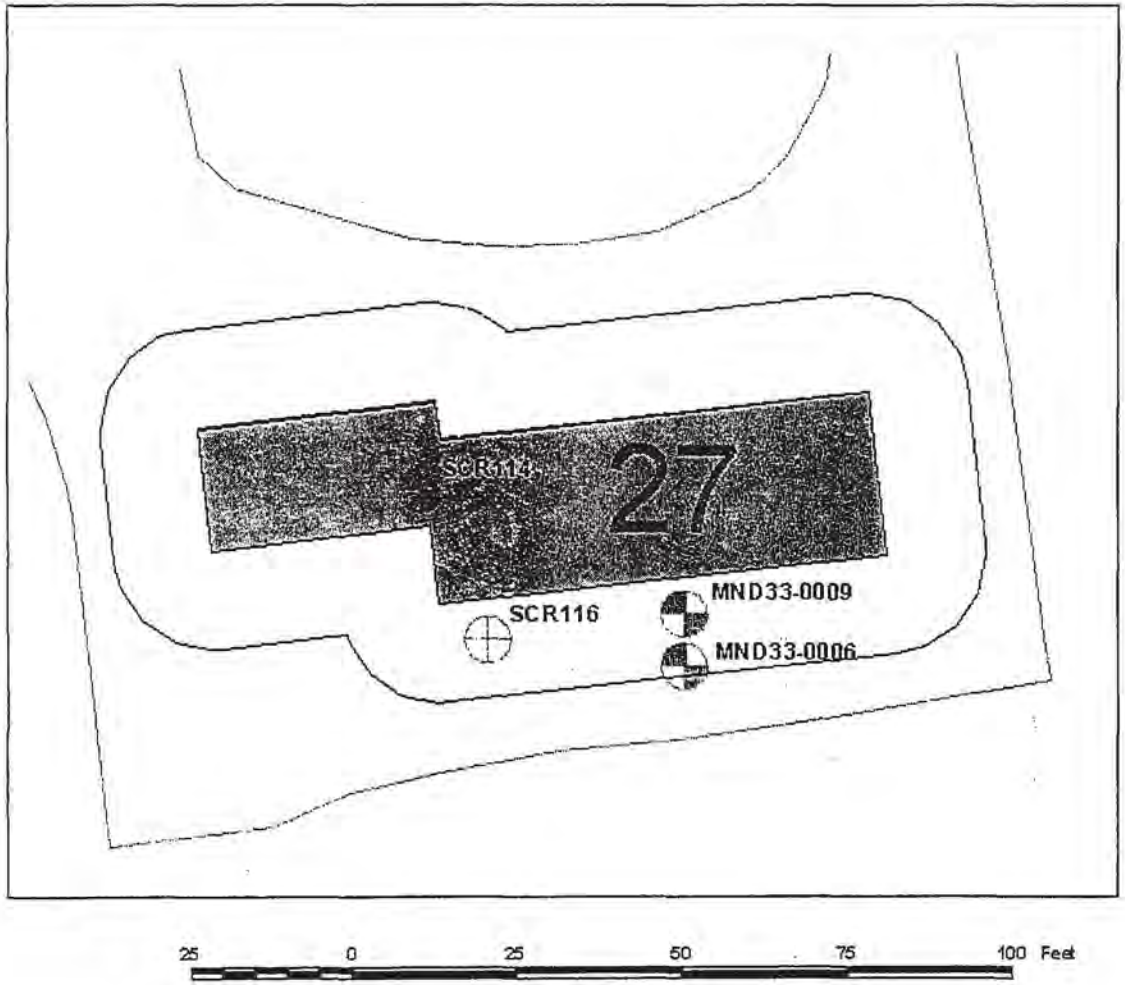
Appendix E

Building 27 Soil Sampling Results Above Screening Level

Location_nam	Sample_id	Collection_d	Value_name	Measured_va	Value_u	Detection_l	Chem_cl	Start	End_	Lab	Da	Project_	Media	Comments
SCR114	9012053-C	19901204	Plutonium-238	119.0000	PCI/G		RAD	3.0	5.0			SCRDA	Soil	1 2 3
SCR114	90121116	19901211	Thorium-232	19.6000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	9012118	19901211	Thorium-232	17.2000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	9012115	19901211	Thorium-232	16.6000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	9012116	19901211	Thorium-232	4.9000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
SCR114	9012114	19901211	Thorium-232	4.3000	PCI/G		RAD	0.0	1.0			SCRDA	Soil	1 2 3
SCR114	90121010	19901207	Thorium-232	4.3000	PCI/G		RAD	0.0	2.0			SCRDA	Soil	1 2 3
SCR114	90121211	19901211	Thorium-232	4.0000	PCI/G		RAD	0.0	0.0			SCRDA	Soil	1 2 3
*Comments														
1	Exceeds the 10-6 Risk-Based Guide Value				**Screening Level**									
2	Exceeds the OU9 Soil Background Value			**Pu-238**		55								
3	Exceeds screening level			**Th-232**		1.47								
4	Exceeds MCL													
5	Exceeds the Guide Value based on the hazard index													

B43 of 54

Bldg. 27 Sample Locations within 15 feet



Sample Detect
Sample Detect Outline
Sample Nondetect Outline
Building Label
Text Bldg ID
Building Outline
Building Outline
Building
Color Fill
Roads
Paved Drives/Parking
Trail/Footpath
Unpaved Drives/Parking

N
W
E
S

The location of sample SCR114 is shown as being located under the building; however, no samples were taken from under the building. Please refer to Section 5.1.4.2.

04/08/02

Bldg 27 SH

Appendix F
REFERENCES/ LESSONS LEARNED

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Removal of Pier Breaks Underground Water Line

(Lessons Learned L01-113)

Lessons Learned Statement:

When piers of unknown configuration are to be removed from the ground near buried utilities, they should be dug out of the ground, not pulled out.

Background:

Concrete piers that were part of a now abandoned security system were to be removed as part of a demolition and they were known to be overtop of 6" concrete domestic water line. It was known that the bottom of the pier was close to the water line, but it was assumed to be a couple of feet away from the line and that the piers could be pulled out of the ground without impacting the water line.

A backhoe was hooked up to the pier and the pier was pulled out of the ground after a surprising amount of effort. The magnitude of the pier was not known because there were no as-built drawings. Instead of being a straight, square pier one or two feet deep, it turned out to be four feet deep and had an "L" shaped leg at the bottom to provide concrete encasement for the conduit of the security system.

Because of the "L" shape, when the pier was pulled out, it rotated downwards and crushed the concrete water main. Domestic water was isolated and the broken pipe was repaired.

Recommended Actions:

When removing similar piers, or piers of an unknown configuration especially when they are known to be near underground utilities, greater effort in planning the job should be exercised and consideration should be given to excavating the pier rather than simply pulling it out of the ground.

Back to Lessons Learned

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Appendix G
MISCELLANEOUS
(USQ, RWP, Permits, etc.)

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SMPP/TFV PROJECT
Waste Disposition Plan
Building 27 Demolition

The purpose of this Project Operations plan is to identify waste streams that will be generated during the demolition of building 27. Characterization of waste streams will be summarized and disposal options specified.

The plan will outline types of waste/waste quantities expected. Information will be provided on the schedule for waste generation, RCRA characterization, radiological characterization, packaging requirements/mode of disposal, and any specific waste acceptance criteria that must be met for disposal.

Waste types and estimates are based on a physical examination of the Bld. conducted on September 23, 2002 and review of the processes that were performed in the building. These areas are not considered to be contamination areas. The majority of the waste that will be generated in the demolition process of the building will be disposed of as demolition debris/solid waste. The waste will include all associated removable piping located inside/outside Bld. 27.
Sealed pressure vessels will need to be at < 1.5 atmospheres. Wastes are listed in expected order of generation.

Waste Type	Demolition debris/solid waste: Concrete, Steel and Copper Piping, Metal Roofing, PVC, Elect. Wiring, FG Installation, Wood
Quantity expected	37,671 Solid Cu. Ft.
Asbestos	Asbestos will need to be segregated and disposed of under asbestos waste stream. IH documentation that determines if asbestos is present will need to be provided before disposal. (Contracted)
Schedule for waste generation	October, 2002 - November, 2002
RCRA characterization	Non-hazardous
Radiological characterization	Radiological surveys of the building /equipment indicates no elevated radioactivity levels. Building was non-impacted from site Radiological Operations. Approved Marssim Completed 9/10/02
Packaging requirements	30 Cu Yd. Roll-Off/ End Dumps
Mode of disposal	Offsite disposal via Waste Management Operations/Journey LTD
* NOTE: All Energetic Material (EM) has been removed and Bld. 27 Work Package must be reviewed and signed off by a Mound Site EM Technically Responsible Person	

Any unusual or unexpected items not addressed in this plan should be set aside for examination and evaluation by the project engineer and waste coordinator.

Prepared by Willis Daniel
Date: 09/23/02

INTER OFFICE MEMO BWXT OF OHIO

Date: August 28, 2002 cc. L. Koehmstedt

From: W. L. Johanan – OSW-430

Subject: Structural Survey of Building 27, RE: 29 CFR 1926.850 (a)

To: Bud Thompson-Project Manager

Please be advised that we have performed a structural review and walk down And found them to be satisfactory based on the demolition process and work plan.

Please call me if you have any further questions.

W. L. Johanan P.E.
Site Structural Engineer

STATE OF OHIO
REGISTERED PROFESSIONAL ENGINEER NO E-044663
WILLIAM L. JOHANAN

B49 of 54

No USQs or RWPs are required at this time. An excavation permit will be required for the slab removal and a burn permit will be required for torch cutting rebar.

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Appendix H
POST-JOB CONFERENCE

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Title:	
Work Package No. **(JSWP or MSR)**	

POST JOB CONFERENCE

What went well?

What could be improved?

Other Comments:

Title:	
Work Package No. (JSWP or MSR)	

Items Requiring Further Action:

POST-JOB CONFERENCE ATTENDEES

NAME	HP	NAME	HP

Title:	
Work Package No. (JSWP or MSR)	

LESSONS LEARNED INPUT FORM

What Happened? (Describe in as little or as much detail as necessary the situation and what occurred. Do not mention any names, only job functions and activities)

What did you learned? (Describe how the job could have been done better, how a hazard could have been eliminated, etc.)

Submitted by: _____ **Date:** _____

OPTIONAL

Mail to: Lessons Learned Program Manager, W-219 or appropriate Project or Functional Manager

Appendix C

Radiological Summary

Building 27 - RSDSs Prior to Demolition

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Radiological Walkover Survey

In Section 4.2.4.2, Soil Sampling Data, of the Building Data Package, there is discussion of a specific soil sample location where there was the possibility of elevated level of surface thorium in the vicinity of Building 27. Because of that possibility, additional precautions were taken during and after demolition. One of the additional measures included that a radiological walkover survey of the pavement and/or soil within a 15-foot perimeter of the building footprint be performed prior to commencement of demolition activities.

On October 2, 2002, Mr. Dan Harvey performed the radiological walkover survey using a Bicron Fidler to check for indications of elevated radiation (specifically thorium) on the surface soil outside of Building 27, within a 15-foot perimeter of the building. No elevated levels of radiation were detected.

10-2-02

Steve Collas,RadCon Manager date

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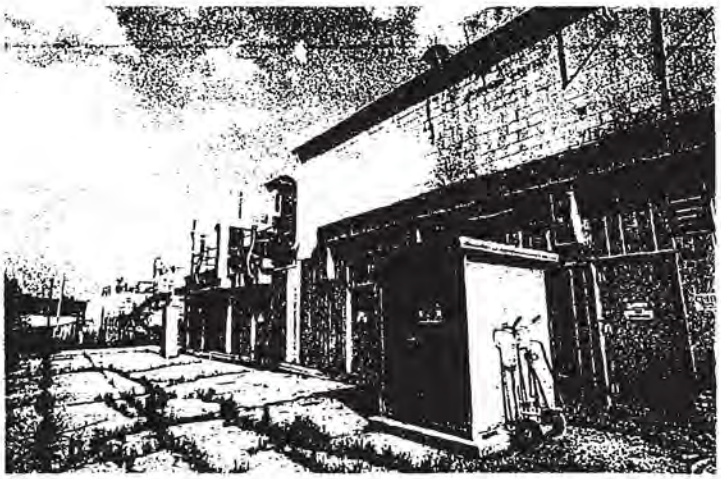
Final Status Report

For

Building 27



Prepared by:	Roderick C. Case /	Date:	September 10, 2002
Reviewed by:	Galen Tomlinson /	Date:	September 10, 2002
Approved by:	Steve Collas /	Date:	September 10, 2002

C5 of 115 G1 of 74

1.0 Historical Review

Building 27, named the Explosive Processing Facility, was constructed in the mid-1960s with 12 rooms, including a corridor, a penthouse utility room, vestibule, change room/rest room, and two storage rooms. A 1968 era addition to Building 27 was designated as the "Explosive Process Development Addition." Building 27 square footage is 5,285 $ft^{2.}$.

Building 27, based upon its construction drawings, Building 27 is located in the area to the west of the former "Test Fire Area". The area in which Building 27 is located was essentially a small complex of five structures including Building 42 a production building, Building 67 an office structure, as well as explosives storage magazines 52 and 64. Of the buildings and explosives magazines that made up the complex of buildings around Building 27, all but Building 27 have been demolished under the Mound Exit Plan.

The exterior walls of the building are constructed of approximately 12" (11-5/8")-thick masonry block outside walls, with expansion joints on the outside walls, as well as having blowout panels. Interior walls appear to be of reinforced concrete. The explosives processing cells include viewing windows and sliding doors.

The foundation and slab consists of a 6" thick slab of reinforced concrete set on 3' deep footers. The footers underlie the exterior walls and also underlie the southern wall of the interior corridor.

The addition included explosive processing cells, micro room, instrument room storage rooms, corridor, offices, rest rooms, janitors closet, and a vestibule. The construction of the addition resembles the original building, with block outer walls, concrete walls in the cells, blowout panels. The cells, as with the original building, were equipped with a trench that drained to the outside trench on the southern side of the building.

In mid-1996, Building 27 underwent safe shutdown and was leased to the Miamisburg Mound Community Improvement Corporation (MMCIC). The Perkin-Elmer Corporation occupied Building 27 from July 1996 until August 2002. Energetic materials continued to be processed in the building until that time. The building was vacated and the process equipment and energetic material inventory removed. Building 27 is scheduled to be demolished in accordance with the Mound Exit plan. A complete history can be found in Reference 1.

2.0 Data Quality Objectives

The Data Quality Objectives (DQO) process is a series of planning steps that have been defined by the EPA (USEPA, 1998) to ensure that the type, quantity, and quality of environmental data used in decision making are appropriate for the intended application. The DQO's for this survey plan are derived from and consistent with the Mound 2000 Approach for building disposition.

2.1 Problem Statement

Building 27 is classified as non-impacted based on its history and use in accordance with Reference 2. An assessment of Building 27 history and use

indicate that there is no reasonable potential for residual contamination to be present on any building surfaces. The building has not been used for any purpose other than as energetic materials processing facility. No radiological process systems were ever a part of the facility and no radioactive material was used or stored there. An unconfirmed report indicates that a small exempt quantity sealed source may have been used for equipment calibration at one time. This does not affect the non-impacted classification of this building. An assessment of any residual contamination of Building 27 structural surfaces was performed to verify this classification.

2.2 Survey Objectives

The objectives for the survey were to measure the fixed and removable contamination on the building surfaces and analyze any sediment found in building drains or sumps for the presence of any radionuclides. The survey results are compared directly to the Derived Concentration Guideline Level ($DCGL_w$). If all results are less than 50% of the $DCGL_w$, the non-impacted classification is accepted and no further surveys are required. Any result that is greater than 50% of the $DCGL_w$ is investigated to determine if the measured activity is a result of variances in measurement equipment, natural fluctuations in background radiation, or the result of plant operations. If the elevated activity proves to be a result of plant operations, the survey unit is reclassified in accordance with Reference 2 and additional survey data may be required. This survey does not evaluate the subsurface soils, slabs, and foundations of this building. The specific survey objectives are outlined on Survey Plan Form SPF 27-01.

2.3 Survey Design

A scoping survey was designed to evaluate the various production and support areas of the building and the external surfaces of the building. The building interior surfaces are predominantly concrete block and poured concrete and the variability between these surfaces was expected to be small. The interior surfaces are designated as Survey Unit 1. Floors have the greatest potential for residual contamination. Major walkways throughout the survey unit were scanned for alpha activity with a floor type monitor. Fifty (50) data points were bias located on the floors and walls throughout the survey unit and fixed and removable alpha and beta contamination surveys were performed at each location. The exterior surfaces are designated as Survey Unit 2. Nineteen (19) data points were located on external surfaces (roof and exterior walls) and were surveyed as a unit.

Ten (10) additional judgmental data points were surveyed in Survey Unit 1 to increase the probability of locating areas of elevated activity. Sediment and water samples were taken of accessible drains and sumps. Sediment was collected at low points near the roof drains. If no sediment was available in these areas, smears were obtained for isotopic analysis.

Replicate surveys were performed in accordance with Reference 3.

The instruments selected for this survey were the Ludlum 2350-1 data logger with a 43-20 hand-held gas flow proportional (GFP) detector and a 43-37 GFP large area floor probe for alpha measurements. A NE Electra with a dual scintillation

probe was selected for beta measurements. Laboratory instruments used were appropriate for the analysis requested. Instrument calibration and source check data is documented in accordance with Mound procedures.

2.4 Survey Data

The survey data was collected and sorted for each survey unit. A total of 60 data points were located and surveyed in Survey Unit 1 (interior surfaces) and 19 data points were located and surveyed in Survey Unit 2 (exterior surfaces).

The gross alpha and beta measurements of the interior areas of the first floor and the second floor were compared directly to the $DCGL_w$. Direct measurements taken in these areas were all less than 50% of the $DCGL_w$ for surface activity. The highest alpha activity observed by scanning Survey Unit 1 floors was 19 dpm/100cm^2.

The gross alpha and beta measurements of the exterior surfaces of the building were compared directly to the $DCGL_w$. Direct measurements taken in these areas were all less than the $DCGL_w$ for surface activity. The highest alpha measurement was 74dpm/100cm2 at two roof locations. This elevated activity, while greater than 50% of the $DCGL_w$, is consistent with survey results of similar external surfaces which exhibit elevated activity due to naturally occurring radioisotopes. Since the average activity of the survey unit is well below the $DCGL_w$, the classification of Survey Unit 2 is not changed.

The following table shows the results of the average total (fixed and removable) alpha and beta activity for each Survey Unit. A graphical representation is shown in Attachment 1.

Total Activity Results

Location	Average Alpha		Average Beta	
	dpm/100cm^2	$\pm\sigma$	dpm/100cm^2	$\pm\sigma$
Survey Unit 1	12.80	7.84	430.8	287.9
Survey Unit 2	23	24.3	517.4	260.5

The removable surface activity results are shown below. The highest removable tritium activity was 10.76 dpm/100cm2. The average removable tritium was 2.03 dpm/100cm2 (σ = 2.80).

Removable Activity Results

Location	Average Alpha		Average Beta	
	100cm2	$\pm\sigma$	100cm2	$\pm\sigma$
Survey Unit 1	1.13	1.48	2.78	2.45
Survey Unit 2	.27	.64	.55	1.24

2.5 Sediment Sample Data

Sediment samples were obtained from all accessible floor drains, traps, and sumps. If no sediment was present then a smear sample was obtained for analysis. Fourteen (14) smears were taken in various drains throughout the building. The highest gross alpha activity was 1.8 dpm and the highest gross beta activity was 11.1 dpm. These results are within the typical background range for alpha and beta contamination and no additional analysis was performed.

Five (5) water samples were obtained from various sink traps and analyzed for gross alpha activity and tritium. The highest gross alpha activity was 0.24 dpm/ml and the highest tritium was 1.94nCi/L. These results are below the levels of concern as specified in References 4 and 6.

A composite sample of roof sediment was obtained from the roof gutters and analyzed by gamma spectroscopy. The activity of all measured isotopes was less than the Mound Screening levels for soils except Pb-210, which was measured at 42.64 pCi/g. Pb-210 is a particulate daughter of naturally occurring Radon and has a half-life of 22.3 years. It is transported via the rain cycle and tends to concentrate in the sediments of water shed areas (Reference 5). This activity is part of the background matrix and no further investigation is necessary. See RSDS # 02-TF-1251. See additional information in Section 2.4 of the Building Data Package. (VKD)

2.6 Quality Control

Quality control measurements were taken to ensure the quality of the data. Nine (9) data points were selected at random from Survey Unit 1 for replicate analysis. A single data point in Survey Unit 2 was resurveyed for consistency.

The replicate locations in Survey Unit 1 were reviewed to ensure the data points represented the range of activity observed and broadly representative of the various surfaces throughout the survey unit. Replicate measurements were taken at these locations using the same instruments as the original survey. The acceptance criterion for fixed-point measurements is that the variance in the measurements of the original sample population is within a factor of two of the variance in the replicate samples (at 95% confidence level). All replicate beta results were in agreement with the original data set.

The variance of the first replicate set of alpha results was not within the requisite factor of two. A Replicate Investigation was conducted to determine the cause and nature of the discrepancy. The survey data was reviewed to ensure that the data was properly downloaded and that the correct data was reported. The replicate data was compared to the statistical variation of the original data. All data was found to be within ±2 standard deviations of the original data. No specific cause could be determined for the discrepancy and the data points were re-surveyed using the same instrument and detector. The results from the re-survey were in agreement and consistent with the original data set. The results of the replicate surveys are shown in Attachment 2.

Replicate analysis were not performed on smears since the analysis for tritium is a destructive process. Quality control procedures, blanks, and spikes are a part of

the laboratory quality control program at Mound. Participation in the DOE/EML inter-laboratory quality assurance program provides verification of nuclide identification reliability and ensures a high quality of sample results. Since a relatively small number of samples were taken for this survey, additional replicate analysis is not required for this survey.

Chain of custody was maintained for all sediment samples and is documented on the Field Sample Data Collection Sheet.

3.0 Conclusion

A review of all of the radiological survey data supports the conclusion that Building 27 has not been impacted by site operations and meets the release criteria established by DOE Order 5400.5. The following table shows the maximum surface activity found in this building:

TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 cm^2) (Note 2)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 1)	COMMENTS
Highest Alpha Smearable Activity	02-TF-1456	Building Surfaces	4.37	20	N/A
Highest Alpha Fixed Activity	02-TF-1143	Building Roof Surfaces	74	100	N/A
Highest Beta Smearable Activity	02-TF-1456	Building Surfaces	14.76	1,000	N/A
Highest Beta Fixed Activity	02-TF-1456	Building Surfaces	1,166	5,000	N/A
Highest Tritium Smearable Activity	02-TF-1456	Building Surfaces	10.76	10,000	N/A

Note 1: DOE Order 5400.5 (DCGLw)
Note 2: Corrected for background

Sub-surface concrete areas (under side of concrete slab, footers, etc.) and soils will require evaluation when these areas are exposed in demolition. No further surveys are required for building surfaces.

3.0 Attachments and Enclosures

Attachment 1 – Building 27 Average Alpha & Beta Surface Activity

Attachment 2 – Survey Data Analysis Worksheets

Enclosures – SPF 27-01

4.0 References

1. BWXTO, EC&AS Department, White Paper: *Building 27 Structural History and Process History Summary Background Document*, February 2002
2. NUREG 1575, Rev 1, Aug 2000, *Multi-Agency Radiation Survey and Site Investigation Manual*, (MARSSIM)

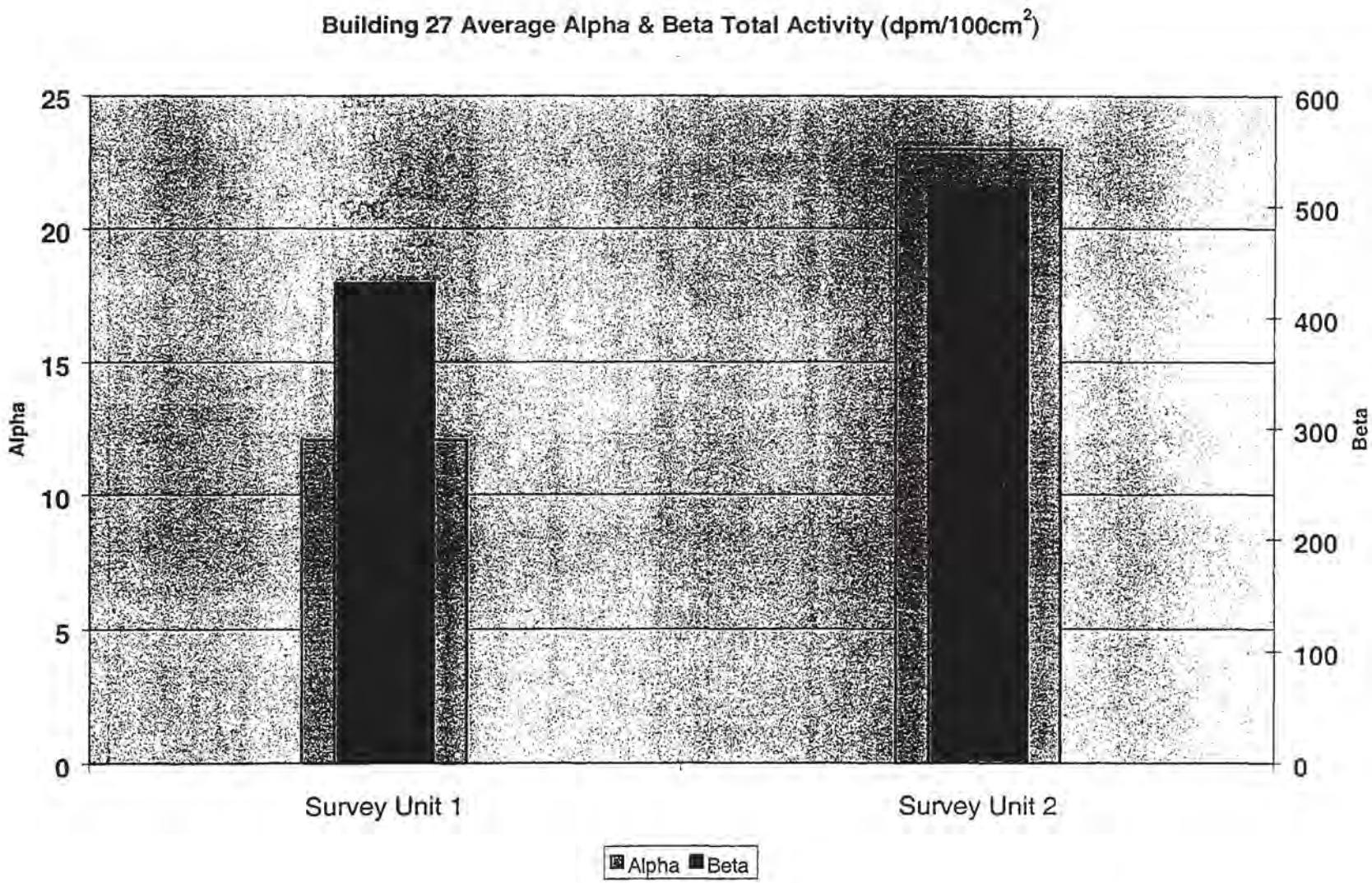
3. MARSSIM Implementing Procedures, *Field Quality Control for Building Contamination Surveys*, MD-80046, Op. No. 402

4. DOE Order 5400.5, *Radiation Protection of the Public and the Environment*

5. *Vertical Transport of Tropospheric Aerosols*, Koch, D.M., D.J. Jacob, and W.C. Graustein. J. Geophys. Res., 101, 18651-18666, 1996

6. *Mound Environmental Practices*, OPA980014

Attachment 1



Survey Data Building 27

		REMOVABLE			FIXED		
Loc	Smear #	DPM α	DPM β	H3	Loc #	dpm α	Net β
1st flr	1	0.00	2.74	5.38	1F1	13	283
	2	4.36	14.76	6.06	1F2	10	215
	3	2.18	2.58	0.00	1F3	6	454
	4	0.00	0.00	0.00	1F4	15	293
	5	0.00	5.48	10.76	1F5	8	0
	6	0.00	2.74	3.63	1F6	5	307
	7	0.00	5.48	3.29	1F7	16	376
	8	2.18	2.58	0.49	1F8	15	317
	9	2.19	0.00	0.00	1F9	15	0
	10	0.00	4.11	2.55	1F10	3	717
	11	0.00	1.37	3.63	1F11	21	302
	12	0.00	2.74	0.00	1F12	26	527
	13	2.18	2.58	4.04	1F13	15	424
	14	2.18	2.58	1.55	1F14	2	346
	15	4.37	2.43	0.00	1F15	5	298
	16	4.37	3.80	0.00	1F16	10	117
	17	2.18	2.58	0.00	1F17	8	180
	18	0.00	1.37	0.00	1F18	6	0
	19	0.00	5.48	0.00	1F19	13	434
	20	2.18	2.58	0.00	1F20	13	146
Jgmntl	1	0.00	2.74	4.35	J1	19	756
	2	0.00	0.00	4.36	J2	19	278
	3	0.00	5.48	0.00	J3	19	712
	4	0.00	1.37	0.00	J4	13	0
	5	0.00	1.37	1.47	J5	6	410
	6	0.00	4.11	0.46	J6	6	683
	7	0.00	4.11	0.00	J7	32	663
	8	0.00	0.00	5.82	J8	19	771
	9	0.00	0.00	5.16	J9	13	68
	10	0.00	0.00	7.60	J10	6	1166
2flrwls	1	2.19	1.20	0.00	2W1	19	1005
	2	0.00	0.00	4.34	2W2	13	1000
	3	0.00	1.37	3.45	2W3	39	937
	4	2.19	1.21	0.00	2W4	13	854
	5	2.18	2.58	4.31	2W5	26	727
	6	4.37	6.54	0.00	2W6	19	215
	7	0.00	0.00	1.42	2W7	13	668
	8	2.18	2.58	0.00	2W8	6	224
	9	0.00	1.37	4.93	2W9	0	171
	10	4.37	2.43	5.28	2W10	6	0
2nd flrflr	1	0.00	1.37	0.00	2F1	3	595
	2	0.00	0.00	0.00	2F2	3	1000

Building 27 Survey Data Analysis Worksheets

Attachment 2

Loc	Smear #	DPM α	DPM β	H3	Loc #	dpm α	Net β
	3	4.36	7.91	0.89	2F3	19	527
	4	2.18	2.58	0.00	2F4	13	468
	5	2.18	2.58	0.00	2F5	18	507
	6	0.00	2.74	Note	2F6	13	429
	7	0.00	0.00	1.53	2F7	15	493
	8	2.18	2.58	0.00	2F8	10	624
	9	0.00	2.74	0.58	2F9	8	488
	10	0.00	2.74	0.00	2F10	15	434
1stflrwls	1	2.18	5.32	0.49	1W1	13	478
	2	2.19	1.21	9.19	1W2	13	0
	3	0.00	4.11	0.00	1W3	0	268
	4	0.00	2.74	0.50	1W4	6	317
	5	2.18	5.32	0.00	1W5	0	351
	6	0.00	2.74	0.00	1W6	0	98
	7	0.00	5.48	0.00	1W7	0	288
	8	0.00	5.48	9.93	1W8	19	824
	9	2.19	1.21	0.00	1W9	13	332
	10	2.19	1.21	2.44	1W10	13	283
Roof	1	0.00	0.00		RO1	46	476
	2	0.00	0.00		RO2	29	378
	3	0.00	0.23		RO3	74	287
	4	0.00	0.00		RO4	74	584
	5	0.00	5.05		RO5	46	565
	6	0.00	0.00		RO6	23	589
	7	0.00	0.00		RO7	46	622
Walls	8	0.00	0.00		WO8	0	919
	9	0.00	0.04		WO9	23	808
	10	1.82	0.57		WO10	17	782
	11	0	0		WO11	29	760
	12	1.66	0		WO12	11	571
	13	0	0.6		WO13	0	211
	14	0	2.37		WO14	0	182
	15	1.65	0.66		WO15	0	161
	16	0	0		WO16	0	158
	17	0	0		WO17	6	173
	18	0	1.01		WO18	11	761
	19	0	0		WO19	0	843
QC	R05				R05	34	569
	F1				F1	3	605
	F3				F3	13	376
	W5				W5	19	834
	W8				W8	6	585
	4J				4J	6	-34
	W8				W8	13	785
	W4				W4	6	263
	F6				F6	8	483
	F11				F11	15	566

= Maximum

Note - Smear was destroyed in α/β counting equipment

Building 27 Survey Data Analysis Worksheets

Attachment 2

Survey Data Parameters
Survey Unit 1

	SMEARS α	SMEARS β	H3		FIXED α	FIXED β
N	60	60	59	N	60	60
Mean	1.13	2.78	2.03	Mean	12.08	430.80
SD	1.48	2.45	2.80	SD	7.84	287.86
Median	0.00	2.58	0.49	Median	13	393
Mode	0	2.58	0	Mode	13	0
Var	2.18	5.98	7.85	Var	61.40	82864.91
Max	4.37	14.76	10.76	Max	39.00	1166

Survey Data Parameters
Survey Unit 2

	SMEARS α	SMEARS β		FIXED α	FIXED β
N	19	19	N	19	19
Mean	0.27	0.55	Mean	22.89	517.37
SD	0.64	1.24	SD	24.32	260.45
Median	0.00	0.00	Median	17	571
Var	0.41	1.53	Var	591.54	67833.47
Max	1.82	5.05	Max	74.00	919

Sample Data	α dpm	β dpm	H^3 dpm	Gamma Spec pCi/g Co-60	Cs-137	Pb-210	Ra-226	Ac-227
13-SM-01	0	6.7	0					
12-SM-02	0	0	0					
5-SM-03	1.7	11.1	11.01					
3-SM-04	1.8	0	0					
1-SM-05	0	0	0					
25-SM-06	0	1.1	0					
25-SM-07	0	0	0					
25-SM-08	0	2.6	0					
22-SM-09	0	0.7	0.00					
20-SM-10	0	0.1	0.00					
4-SM-11	1.45	0	1.30					
2-SM-12	1.58	0.26	4.33					
8-SM-13	1.68	0.29	0					
21-SM-14	0	1.52	0					
1-W-15	<.18dpm/ml		1.94nCi/l					
22-W-16	<.18dpm/ml		<.6nCi/L					
12-W-17	<.2dpm/ml		<.6nCi/L					
14-W-18	0.24dpm/ml		<.6nCi/L					
20-W-19	0.21dpm/ml		<.6nCi/L					
R-D-20				0.05	0.56	42.64	1.37	0.32

SM = Smear
W = Water
D = Debris

Building 27 Survey Data Analysis Worksheets

Attachment 2

Alpha Scanning Data

Location	dpm/100cm^2 α
1	6
2	19
3	13
4	16
5	13
6	10
7	13
8	19
9	10
10	19
11	3
12	19
13	16
14	6
15	13
16	10
17	13
18	13
19	16
20	16
21	10
22	6
23	3
24	10
25	10
26	16
27	3
28	13
29	16
30	13
31	6
32	10

Total #	32
Average	11.84
Median	13
Mode	13
S/D	4.80
Variance	23.04
Max	19

Building 27 Survey Data Analysis Worksheets

Attachment 2

Replicate Fixed Point QC Results

	alpha (dpm/100cm^2)				beta (dpm/100cm^2)			
Location #	initial	2σ	replicate 1	rep 2	initial	2σ	replicate	
R05	46	13.56	34	N/A	565	47.54	569	
2F1	3	3.46	3	11	595	48.79	605	
2F3	19	8.72	13	21	527	45.91	376	
2W5	26	10.20	19	13	727	53.93	834	
2W8	6	4.90	6	0	224	29.93	585	
4J	13	7.21	6	6	-39	12.49	-34	*
1W8	15	7.75	13	13	824	57.41	785	
1W4	6	4.90	6	0	317	35.61	263	
1F6	5	4.47	8	18	307	35.04	483	
1F11	21	9.17	15	11	302	34.76	566	
Variance (S^2) =	66.8		28.1	52.5	67193.7		64115.1	
Ratio			2.4	1.3			1.0	
Agreement			NO	YES			YES	

* Note: Negative results can occur when measured value is less than background

Graph Data

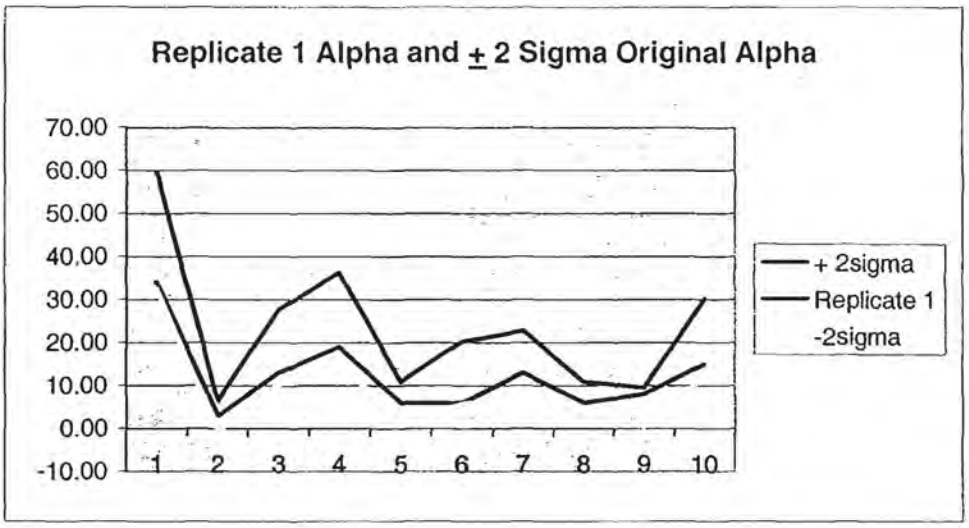
	Alpha	Beta
Survey Unit 1	12.08	430.80
Survey Unit 2	23	517.37

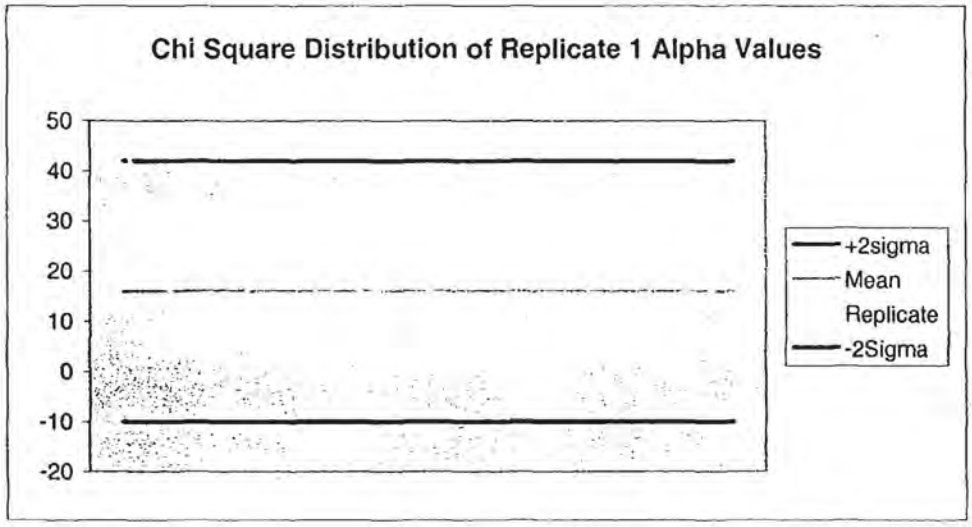
	Survey Uni	Survey Unit 2
Alpha	12.08	23
Beta	430.8	517.4

Replicate 2 Survey Data

Loc	dpm/100cm2 alpha
2F1	11
2F3	21
2W5	13
2W8	0
4J	6
1W8	13
1W4	0
1F6	18
1F11	11

Replicate Investigation Data





SURVEY PLAN FORM

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002
TYPE OF SP	☐ FSS ☐ CHARACTERIZATION ☐ REFERENCE ☒ SCOPING		
AREA/LOCATION	Building 27		
PURPOSE	Obtain scoping survey data to support building classification.		
SURVEY UNIT #	1 – Interior surfaces	GRID #	N/A
SURVEY UNIT #	2 – External surfaces	GRID #	N/A
SURVEY UNIT #	N/A	GRID #	N/A

SAMPLE TYPE

☐ **SURFACE SOIL SAMPLE:**

☐ **SUB-SURFACE SOIL SAMPLE:**

☒ **SEDIMENT SAMPLE:** See page 2 for specific instructions

☐ **CORE SAMPLE:**

☐ **WATER SAMPLE:**

☒ **Loose Surface Contamination:** See page 2 for specific instructions

☐ **OTHER:**

SURVEY TYPE

SURFACE SCAN	☐ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	Ludlum 43-37	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan at 1 inch per second within ¼ inch of surface. See page 2 for specific survey instructions.
		PROBE TYPE	GFP Floor Probe		
SURFACE SCAN	☐ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	Ludlum 2350 (or equivalent)	SCAN RATE & DETECTOR DISTANCE FROM SURFACE	Scan at 1 inch per second within ¼ inch of surface. See page 2 for specific survey instructions.
		PROBE TYPE	43-20 Alpha		
STATIC MEASURE-MENT	☐ BETA ☐ GAMMA ☒ ALPHA	INST. TYPE	Ludlum 2350 (or equivalent)	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 1 minute integrated static surface measurements. See page 2 for specific survey instructions.
		PROBE TYPE	43-20 Alpha		
STATIC MEASURE-MENT	☒ BETA ☐ GAMMA ☐ ALPHA	INST. TYPE	NE Electra	COUNT TIME & DETECTOR DISTANCE FROM SURFACE	Perform 1 minute integrated static surface measurements. See page 2 for specific survey instructions.
		PROBE TYPE	Dual Probe		

OTHER SURVEY TYPES OR COMMENTS

Laboratory analysis equipment shall be appropriate for the requested analysis and operated in accordance with Mound Procedures.

Record Sample Plan Form number (27-01) on each RSDS used.

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002

SPECIFIC SAMPLING/SURVEY INSTRUCTIONS OR COMMENTS

Safety Considerations

Obtain assistance from the responsible building custodian for access to upper walls, ceilings, roof, etc. Exercise caution when performing surveys from ladders or scaffolds. Follow appropriate site safety procedures when accessing areas requiring fall protection measures.

Sediment Samples

1. Collect approximately 250ml of debris from all accessible floor drains, sumps, sink traps, and roof gutters (or downspouts).
2. If insufficient material is present at these sample locations, obtain a representative smear or swab.
3. Label sample container with sample number, date, time, and location in accordance with Mound procedures.
4. Document sample information and description of material on Attachment 1.
5. Show sample location on the RSDS map.
6. Submit sample to laboratory for gamma spectroscopy analysis. Counting system MDA's should be capable of detecting activity below the Mound Screening Values for Soil and Sediment.

Floor Scan Measurements using a Ludlum 43-37 Floor Monitor (or equivalent)

1. Perform a floor scan at 1" per second on the centerline of all hallways and major walkways in the survey unit.
2. If two (2) or more counts are heard using the audible output of the instrument during a five (5) second scanning period, perform a thirty (30) second integrated count at that location.
3. Record location scanned on the RSDS map and indicate any integrated counts.

Static Measurements Using L 2350 With a 43-20 alpha probe and NE Electra (β)(or equivalent)

1. Perform a 1 minute integrated alpha and beta count at 20 data points on the floor surfaces of the First Floor and 10 data points on the floor surfaces of the Second Floor of the building. Data points are selected by the surveyor throughout the survey unit and should be broadly representative of the various surface types within the survey unit (concrete, carpet, vinyl, etc.). A minimum of one data point should be located in each room.
2. Perform a 1 minute integrated alpha and beta count at 10 data points on the walls (up to 6 feet) of each level of the building. Data points are selected by the surveyor throughout the survey unit and should be broadly representative of the various surface types within the survey unit.
3. Perform a 1 minute integrated alpha and beta count at 2 data points on the first floor roof and 5 data points on the second floor roof of the building. Data points are randomly selected by the surveyor throughout the survey unit and should be broadly representative of the various surface types within the survey unit.
4. Perform a 1 minute integrated alpha and beta count at 12 data points on the exterior walls of the building. Select 4 data points on each long (east-west) dimension of the building and 2 on each short (north-south) dimension.
5. Perform a minimum of ten 1 minute integrated alpha and beta measurements on any additional surface where, in the judgement of the surveyor, a potential exists for residual contamination (e.g. stairways, overheads, etc). Scan a 1-ft^2 area and document the highest reading in that area.
6. Record location, surface material type, and results on RSDS map in accordance with Mound Rad Con procedures.
7. Document gross activity for each location (No "<" values).

Loose Surface Contamination

1. Obtain a $100cm^2$ coin smear for each survey point identified above.
2. Obtain a $100cm^2$ coin smear at all accessible ventilation openings.
3. Count each smear for alpha, beta, and H^3 (H^3 can be excluded from exterior surveys).
4. Record location and results on RSDS map in accordance with Mound Rad Con procedures.

(Continued on next page)

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002

SPECIFIC SAMPLING / SURVEY INSTRUCTIONS OR COMMENTS

Quality Control (QC) Measurements

1. QC measurements will be performed by randomly re-surveying 5% of survey points, as determined by the MARSSIM Engineer. Obtain an alpha and beta measurement at each location.
2. Any smear with measured activity above the MDA shall be resubmitted for replicate analysis. Ensure alpha and beta smear results are obtained before performing H^3 analysis.
3. The MARSSIM engineer will determine replicate analysis of sediment samples.
4. Record location, material, and results on RSDS in accordance with Mound Rad Con procedures.
5. Identify results with a "QC" designator.

NOTE: Rad Con shall document all discrepancies from the above sampling and surveying instructions on the Survey Plan.

APPROVAL SIGNATURES			
MARSSIM Engineer	Roderick C. Case	DATE	July 2, 2002
Concurrence	Galen Tomlinson	DATE	July 2, 2002
Rad Con Manager	Steve Collas	DATE	July 2, 2002
SP CLOSE-OUT SIGNATURES			
MARSSIM Engineer	R. CASE	DATE	9-9-02
QA/QC Review	N/A	DATE	
Rad Con Manager		DATE	9-10-02

COMMENTS

C21 of 115

G17 of 74

SURVEY PLAN - SAMPLE ANALYSIS SHEET

SP NUMBER	27-01	DATE OF REQUEST	July 2, 2002

REQUESTED SAMPLE ANALYSIS

SAMPLE TYPE	RADIONUCLIDE	TYPE OF ANALYSIS REQUESTED	REQUIRED COUNTING SYSTEM MDA	COMMENTS
Sediment	All Radionuclides	Gamma Scan	See Comments	Sediment samples will be gamma scanned for isotopic content. The best possible MDA will be used based on Mound Screening values. Additional analysis may be necessary based on initial results.
Smears	All Radionuclides	Gamma Scan	See Comments	Smears taken in lieu of sediment samples will be analyzed individually for gross beta/gamma and alpha using appropriate laboratory counting instrumentation. Additional analysis may be requested by the MARSSIM Engineer.

Off-Site Analysis Approval

MARSSIM Engineer	N/A	DATE	
Rad Con Manager	N/A	DATE	

C22 of 115

G18 of 74

Attachment 1

Field Sample Data Collection Sheet

Sheet 1 of 2

Note: Attach to SP Form when complete

Sample Number (SP#-Rm-Code-Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
27-01-13-SM-01	7-25-02	0900	N/A	SMEAR IN FLOOR TRENCH ROOM #13	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-12-SM-02	7-25-02	0903	N/A	SMEAR IN FLOOR TRENCH ROOM #12	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-5-SM-03	7-25-02	0905	N/A	SMEAR IN FLOOR TRENCH ROOM #5	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-3-SM-04	7-25-02	0908	N/A	SMEAR IN FLOOR TRENCH ROOM #3	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-1-SM-05	7-25-02	0912	N/A	SMEAR IN FLOOR TRENCH ROOM #1	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-25-SM-06	7-25-02	0920	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-25-SM-07	7-25-02	0923	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-25-SM-08	7-25-02	0925	N/A	SMEAR IN FLOO DRAIN	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-22-SM-09	7-25-02	0930	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-20-SM-10	7-25-02	0935	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DJH	[illegible]
27-01-4-SM-11	8-22-02	1300	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-2-SM-12	8-22-02	1303	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DJH	[illegible]

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

C23 of 15

G19 of 74

02-TF-12

DJH

4 of 12

Attachment 1

Field Sample Data Collection Sheet

Sheet 2 of 2

Note: Attach to SP Form when complete

Sample Number (SPF# -Rm-Code-Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab: Date	Time	Initials	Recd By
27-01-8-SM-13	8-22-02	1307	N/A	SMEAR IN FLOOR DRAIN	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-21-SM-14	8-22-02	1315	N/A	SMEAR IN JANITOR CLOSET FLOOR DRAIN	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-1-W-1.5	7-25-02	0940		SAMPLE TAKEN FROM (WATER) COLLECTION DRUM	HARVEY	7-25-02	1450	DJH	BJ
27-01-22-W-16	7-25-02	0950		SAMPLE TAKEN FROM (WATER) SINK TRAP	HARVEY	7-25-02	1450	DJH	BJ
27-01-12-W-17	8-22-02	0830		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-14-W-18	8-22-02	0840		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-20-W-19	8-22-02	0850		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-ROOF-D-20	8-22-02	1400	406g	DIRT AND DEBRIS FROM ROOF GUTTER	HARVEY	8-26-02	0830	DJH	[illegible]
27-01-									
27-01-									
27-01-									
27-01-									

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

C2408 115

C2008 74

5 of 12
DJH
02-TF-125

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 / ALL	SURVEY NO. 02-TF-1456
PURPOSE: SCOPING SURVEY IN ACCORDANCE W/ SURVEY PLAN 27-01	RWP NO. N/A
	DATE: 8-22-02
	TIME: 1530

MAP/DRAWING

SMEAR #'s	LOCATION
1 THRU 10	1ST FLR - WALL DATA PTS. - 1-10
11 THRU 30	1ST FLR - FLOOR DATA PTS - 1-20
31 THRU 40	JUDGEMENTAL PTS (1ST & 2ND FLR.) 1-10
41 THRU 50	2ND FLR - WALL DATA PTS - 1-10
51 THRU 60	2ND FLR - FLOOR DATA PTS - 1-10

ENTRY CODE	SURFACE TYPE
CNCRT	CONCRETE
CTILE	CERAMIC TILE
METAL	METAL
PCBLK	PAINTED CINDERBLOCK
PCNCRT	PAINTED CONCRETE
SSCNT	STAINLESS STEEL COUNTER
TILE	FLOOR TILE
WOOD	WOOD

COPY

LEGEND: # = mrem/hr (γ) whole body
= mrem/hr (β+γ) extremity on contact
△# = mrem/hr neutron
= air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-9-03
LUD 2350	5673/5676/5143	8-13-03
	N/A	

Completed by: (Signature)	[redacted]	Date: 8-22-02
Completed by: (Print Name) PG RADLEY / DJ. HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature)	HP # [redacted]	Date: 8-26-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-0620 (2-98) C25 of 115 G21 of 74

Survey No. 02-TF-1456

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		1ST FLR-WALL DATA
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8				
9				
10				↓
11				1ST FLR DATA PTS
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				↓
30				JUDGEMENTAL-1ST & 2ND
31				↓
32				
33				
34				
35	↓	↓	↓	↓

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTACHED		JUDGEMENTAL-1ST
37	↓	↓	↓	↓
38				
39				
40				↓
41				2ND FLR WALL DA
42				↓
43				
44				
45				
46				
47				
48				
49				
50				↓
51				2ND FLR-DATA PT
52				↓
53				
54				
55				
56				
57				
58				
59				
60	↓	↓	↓	↓
		N	A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

02-TF-1456

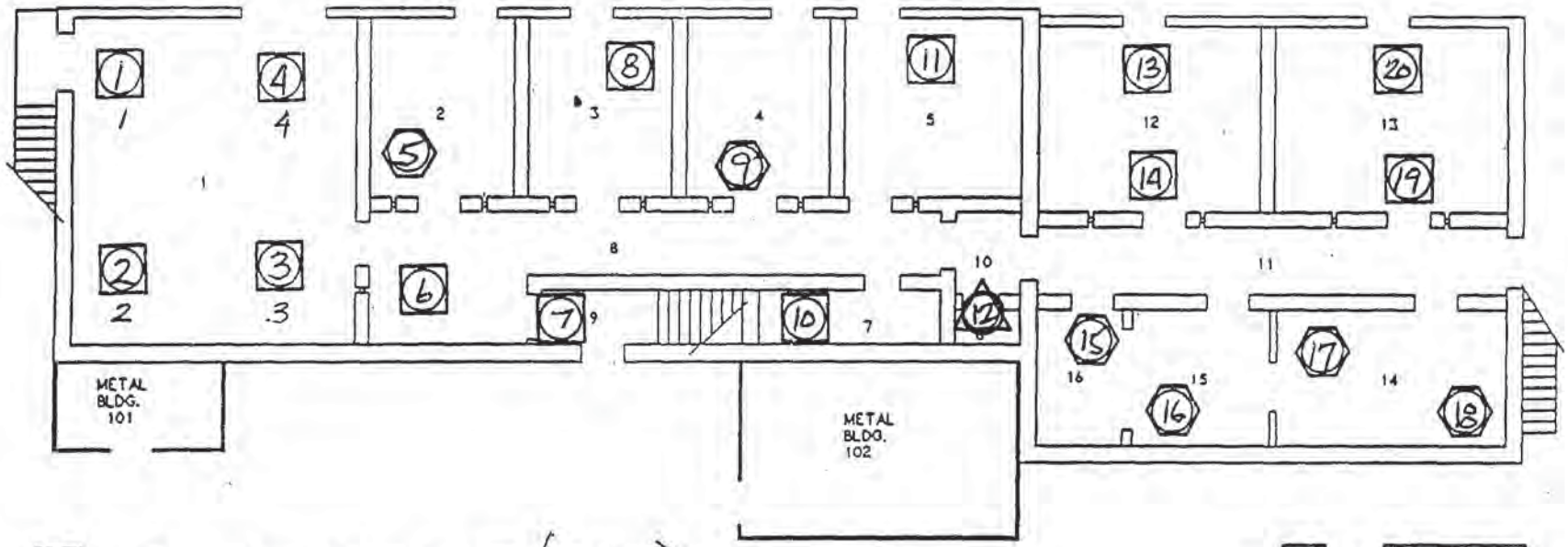
Pg. 3 of 21

REV	DATE	REVISION	BY	CHKR	DWR	UPNC	APVD	R
0	12/12/91	ASBUILT ISSUE	DCB				DVD	

Dg A

C276 115

G23 of 74



= PAINTED CONCRETE (PCNCRT)

= TILE (TILE)

= CONCRETE (CNCRT)

DOES NOT CONTAIN UCNI
DC/RO: J. NESHEIM /EMCBC
DATE: 9/6/12

BLDG #27
FIRST FLOOR
BLDG CODE:3027

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

SHEET	1	2	3	4	5	6
ISSUE	0	0				

TITLE (U) TITLE CLASSIFICATION
BLDG #27
FLOOR PLANS

FINAL CLASSIFICATION

DRAWING CLASSIFICATION: UCNI

SIZE C | DRAWING NUMBER FSC911239 | JOB NUMBER 12335

DWG TYPE SFP | PROJ BLDG #27 | CODE 14845 | SCALE AS NOTED | SHEET 1 OF 2

STATUS MD-REL-12/12/91 | ORIGIN MD-BR3-V3.0

27 -BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: [illegible] RCT: DGA

Pg. 4 of 24

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	[redacted]	5676	3		8/20/02	13:18	20	300	6	
SRCCHECK	5673	[redacted]	5676	3		8/20/02	13:21	2074	60	3350	
SRCCHECK	5673	[redacted]	5676	3		8/20/02	13:23	2188	60	3535	
SRCCHECK	5673	[redacted]	5676	3		8/20/02	13:24	2269	60	3665	
SRCCHECK	5673	[redacted]	5676	3		8/20/02	13:26	2137	60	3452	
SRCCHECK	5673	[redacted]	5676	3		8/20/02	13:28	1961	60	3168	
SRCCHECK	5673	[redacted]	5676	3		8/20/02	13:29	2194	60	3544	
SRCBKG	5673	[redacted]	5143	2		8/20/02	13:36	3	300	4	
SRCCHECK	5673	[redacted]	5143	2		8/20/02	13:42	1968	60	12643	
SRCCHECK	5673	[redacted]	5143	2		8/20/02	13:43	2169	60	13934	
SRCCHECK	5673	[redacted]	5143	2		8/20/02	13:45	2050	60	13170	
SRCCHECK	5673	[redacted]	5143	2		8/20/02	13:46	1998	60	12836	
UNIT1 01	5673	[redacted]	5676	3	1	8/20/02	15:06	8	60	13	
UNIT1 02	5673	[redacted]	5676	3	2	8/20/02	15:07	6	60	10	
UNIT1 03	5673	[redacted]	5676	3	3	8/20/02	15:09	4	60	6	
UNIT1 04	5673	[redacted]	5676	3	4	8/20/02	15:11	9	60	15	
UNIT1 05	5673	[redacted]	5676	3	5	8/20/02	15:13	5	60	8	
UNIT1 06	5673	[redacted]	5676	3	6	8/20/02	15:15	3	60	5	
UNIT1 07	5673	[redacted]	5676	3	7	8/20/02	15:18	10	60	16	
UNIT1 08	5673	[redacted]	5676	3	8	8/20/02	15:19	9	60	15	
UNIT1 09	5673	[redacted]	5676	3	9	8/20/02	15:22	9	60	15	
UNIT1 10	5673	[redacted]	5676	3	10	8/20/02	15:24	2	60	3	
UNIT1 11	5673	[redacted]	5676	3	11	8/20/02	15:26	13	60	21	
UNIT1 12	5673	[redacted]	5676	3	12	8/20/02	15:27	16	60	26	
UNIT1 13	5673	[redacted]	5676	3	13	8/20/02	15:29	9	60	15	
UNIT1 14	5673	[redacted]	5676	3	14	8/20/02	15:31	1	60	2	
UNIT1 15	5673	[redacted]	5676	3	15	8/20/02	15:33	3	60	5	
UNIT1 16	5673	[redacted]	5676	3	16	8/20/02	15:34	6	60	10	
UNIT1 17	5673	[redacted]	5676	3	17	8/20/02	15:36	5	60	8	
UNIT1 18	5673	[redacted]	5676	3	18	8/20/02	15:37	4	60	6	
UNIT1 19	5673	[redacted]	5676	3	19	8/20/02	15:39	8	60	13	
UNIT1 20	5673	[redacted]	5676	3	20	8/20/02	15:40	8	60	13	

27 -BLDG SCOPING SURVEY BETA

RSDS# 02-TF-1456 RCT: PMR RCT: DGH

Pg. 5 of 24

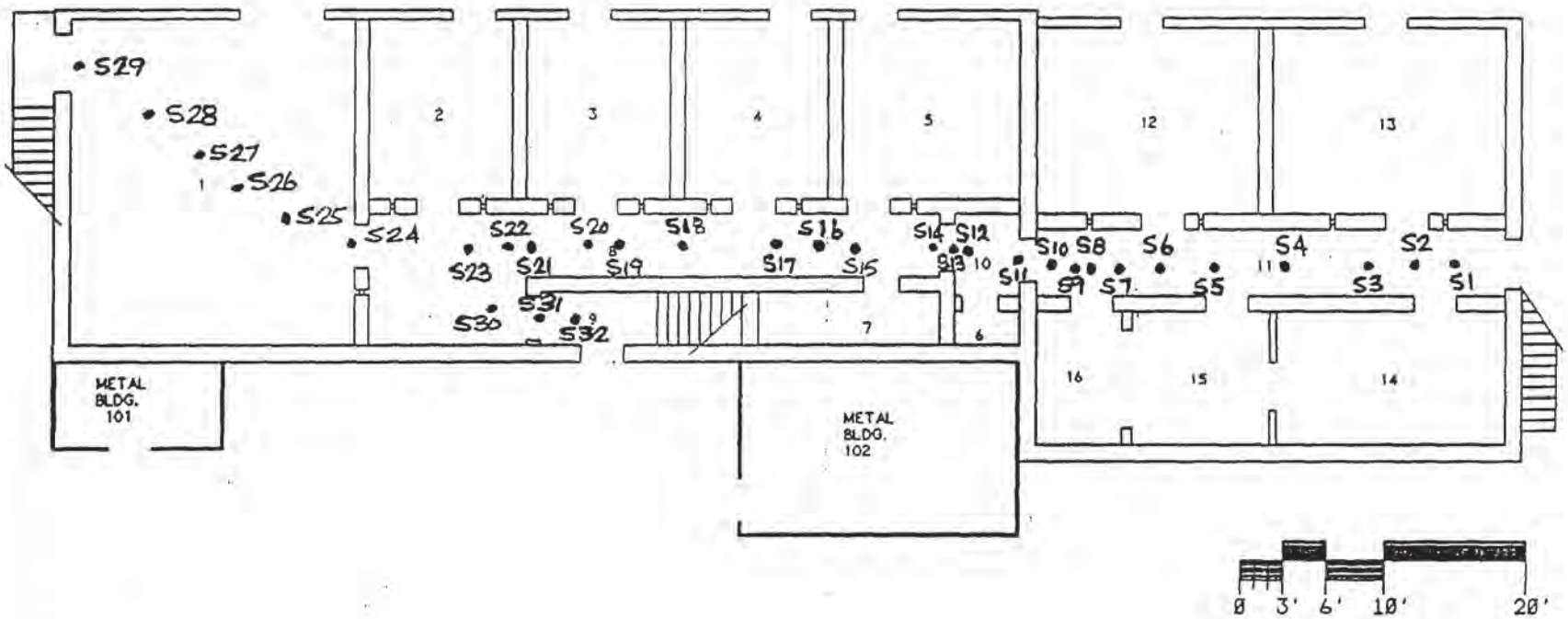
LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2
UNIT1 01	5607	[redacted]	5608	1	8/20/02	60	283
UNIT1 02	5607	[redacted]	5608	2	8/20/02	60	215
UNIT1 03	5607	[redacted]	5608	3	8/20/02	60	454
UNIT1 04	5607	[redacted]	5608	4	8/20/02	60	293
UNIT1 05	5607	[redacted]	5608	5	8/20/02	60	-117
UNIT1 06	5607	[redacted]	5608	6	8/20/02	60	307
UNIT1 07	5607	[redacted]	5608	7	8/20/02	60	376
UNIT1 08	5607	[redacted]	5608	8	8/20/02	60	317
UNIT1 09	5607	[redacted]	5608	9	8/20/02	60	-29
UNIT1 10	5607	[redacted]	5608	10	8/20/02	60	717
UNIT1 11	5607	[redacted]	5608	11	8/20/02	60	302
UNIT1 12	5607	[redacted]	5608	12	8/20/02	60	527
UNIT1 13	5607	[redacted]	5608	13	8/20/02	60	424
UNIT1 14	5607	[redacted]	5608	14	8/20/02	60	346
UNIT1 15	5607	[redacted]	5608	15	8/20/02	60	298
UNIT1 16	5607	[redacted]	5608	16	8/20/02	60	117
UNIT1 17	5607	[redacted]	5608	17	8/20/02	60	180
UNIT1 18	5607	[redacted]	5608	18	8/20/02	60	-15
UNIT1 19	5607	[redacted]	5608	19	8/20/02	60	434
UNIT1 20	5607	[redacted]	5608	20	8/20/02	60	146
BETA BACKGROUND FOR 8-19-2002 WAS 1195dpm/100cm2							

02-TF-1456

SCAN

Pg. 6 of 24

INS	DATE	REVISION	BY	CHKR	ENG	UNCL	APVD	R
B	12/12/91	ASBUILT ISSUE	DCB				DVO	



C3006 115

G2608 74

DOES NOT CONTAIN UCNI
DC/RO: J. NESHEIM /EMCBC
DATE: 9/6/12

BLDG #27
FIRST FLOOR
BLDG CODE:3027

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

SHEET	1	2	3	4	5	6
ISSUE	B	B				

TITLE (U) TITLE CLASSIFICATION
BLDG #27
FLOOR PLANS

PART CLASSIFICATION

DRAWING CLASSIFICATION: UCNI

SIZE: C | DRAWING NUMBER: FSC911239 | JOB NUMBER: 12335

DWG TYPE: SFP | PROJ: BLDG #27 | CHKR: 14865 | SCALE AS NOTED | SHEET 1 OF 2

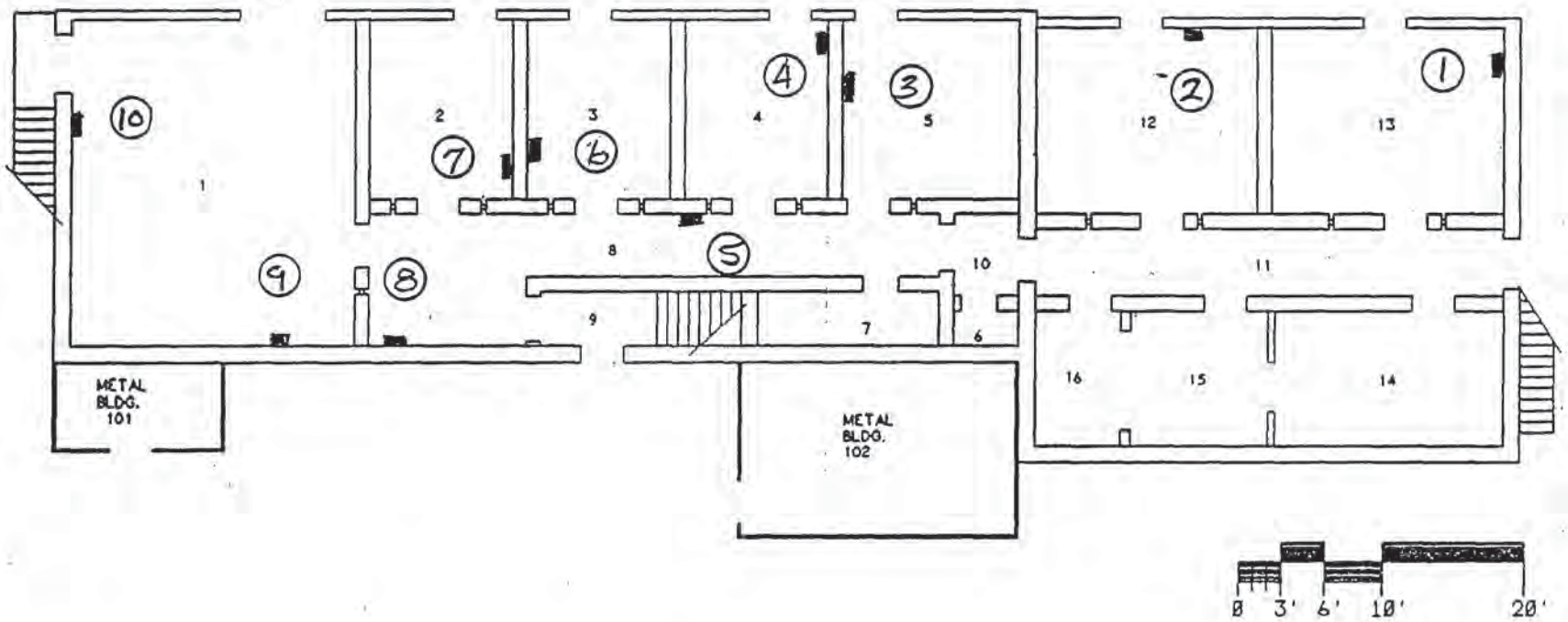
STATUS: MD-REL-12/12/91 | ORIGIN: MD-BR3-V3.B

APPROVALS | DATE
SAFETY CONSTRUE REMARKS
NONE INUCNI TCNI CNUCI
TECH. REP.
SR. MB.
INUCNI
TCNI
CNUCI

02-TF-1456 WALL-DATA KTS Pg. 7 of 24

REV	DATE	REVISION	BY	CHKR	DWG	UPDC	APVD	R
0	12/12/91	ASBUILT ISSUE	DCW				DVD	

D9 *



C31 of 115 G27 of 74

DOES NOT CONTAIN UCNI
DC/RO: J. NESHEIM /EMCBC
DATE: 9/6/12

BLDG #27
FIRST FLOOR
BLDG CODE:3027

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

SHEET	1 2 3 4 5 6
TOTAL	0 0
FAST CLASSIFICATION	
DRAWING CLASSIFICATION	UCNI
CHG TYPE	SFP
STATUS	MD-REL-12/12/91
TITLE	BLDG #27 FLOOR PLANS
(U) TITLE CLASSIFICATION	
SIZE	C
DRAWING NUMBER	FSC911239
JOB NUMBER	12335
CHKR	14865
SCALE AS NOTED	
SHEET	1 of 2
ORIGIN	MD-BR3-V3.0

27-BLDG SCOPING SURVEY SCANNING-WALLS

RSDS# 02-TF-1456 RCT: PBR RCT: DGH

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	[redacted]	5676	3		8/21/02	8:56	26	300	8	
SRCCHECK	5673	[redacted]	5676	3		8/21/02	8:57	2067	60	3339	
SRCCHECK	5673	[redacted]	5676	3		8/21/02	8:59	2184	60	3528	
SRCCHECK	5673	[redacted]	5676	3		8/21/02	9:01	2253	60	3640	
SRCCHECK	5673	[redacted]	5676	3		8/21/02	9:02	2119	60	3423	
SRCCHECK	5673	[redacted]	5676	3		8/21/02	9:04	2142	60	3460	
SRCCHECK	5673	[redacted]	5676	3		8/21/02	9:05	2195	60	3546	
SRCBKG	5673	[redacted]	5143	2		8/21/02	9:11	14	300	18	
SRCCHECK	5673	[redacted]	5143	2		8/21/02	9:13	2128	60	13671	
SRCCHECK	5673	[redacted]	5143	2		8/21/02	9:14	2147	60	13793	
SRCCHECK	5673	[redacted]	5143	2		8/21/02	9:15	1980	60	12720	
SRCCHECK	5673	[redacted]	5143	2		8/21/02	9:17	2077	60	13343	
SCAN 01	5673	[redacted]	5676	3	1	8/21/02	10:10	2	30	6	
SCAN 02	5673	[redacted]	5676	3	2	8/21/02	10:12	6	30	19	
SCAN 03	5673	[redacted]	5676	3	3	8/21/02	10:14	4	30	13	
SCAN 04	5673	[redacted]	5676	3	4	8/21/02	10:16	5	30	16	
SCAN 05	5673	[redacted]	5676	3	5	8/21/02	10:18	4	30	13	
SCAN 06	5673	[redacted]	5676	3	6	8/21/02	10:20	3	30	10	
SCAN 07	5673	[redacted]	5676	3	7	8/21/02	10:22	4	30	13	
SCAN 08	5673	[redacted]	5676	3	8	8/21/02	10:23	6	30	19	
SCAN 09	5673	[redacted]	5676	3	9	8/21/02	10:24	3	30	10	
SCAN 10	5673	[redacted]	5676	3	10	8/21/02	10:25	6	30	19	
SCAN 11	5673	[redacted]	5676	3	11	8/21/02	10:27	1	30	3	
SCAN 12	5673	[redacted]	5676	3	12	8/21/02	10:29	6	30	19	
SCAN 13	5673	[redacted]	5676	3	13	8/21/02	10:30	5	30	16	
SCAN 14	5673	[redacted]	5676	3	14	8/21/02	10:31	2	30	6	
SCAN 15	5673	[redacted]	5676	3	15	8/21/02	10:32	4	30	13	
SCAN 16	5673	[redacted]	5676	3	16	8/21/02	10:33	3	30	10	
SCAN 17	5673	[redacted]	5676	3	17	8/21/02	10:34	4	30	13	
SCAN 18	5673	[redacted]	5676	3	18	8/21/02	10:36	4	30	13	
SCAN 19	5673	[redacted]	5676	3	19	8/21/02	10:37	5	30	16	
SCAN 20	5673	[redacted]	5676	3	20	8/21/02	10:39	5	30	16	
SCAN 21	5673	[redacted]	5676	3	21	8/21/02	10:40	3	30	10	
SCAN 22	5673	[redacted]	5676	3	22	8/21/02	10:41	2	30	6	
SCAN 23	5673	[redacted]	5676	3	23	8/21/02	10:42	1	30	3	

27 -BLDG SCOPING SURVEY SCANNING-WALLS

RSDS# 02-TF-1456 RCT: MJK RCT: DJH

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
SCAN 24	5673	[redacted]	5676	3	24	8/21/02	12:27	3	30	10
SCAN 25	5673	[redacted]	5676	3	25	8/21/02	12:29	3	30	10
SCAN 26	5673	[redacted]	5676	3	26	8/21/02	12:31	5	30	16
SCAN 27	5673	[redacted]	5676	3	27	8/21/02	12:33	1	30	3
SCAN 28	5673	[redacted]	5676	3	28	8/21/02	12:34	4	30	13
SCAN 29	5673	[redacted]	5676	3	29	8/21/02	12:36	5	30	16
SCAN 30	5673	[redacted]	5676	3	30	8/21/02	12:38	4	30	13
SCAN 31	5673	[redacted]	5676	3	31	8/21/02	12:40	2	30	6
SCAN 32	5673	[redacted]	5676	3	32	8/21/02	12:42	3	30	10
WALL 01	5673	[redacted]	5143	2	1	8/21/02	13:01	2	60	13
WALL 02	5673	[redacted]	5143	2	2	8/21/02	13:03	2	60	13
WALL 03	5673	[redacted]	5143	2	3	8/21/02	13:07	0	60	0
WALL 04	5673	[redacted]	5143	2	4	8/21/02	13:10	1	60	6
WALL 05	5673	[redacted]	5143	2	5	8/21/02	13:12	0	60	0
WALL 06	5673	[redacted]	5143	2	6	8/21/02	13:13	0	60	0
WALL 07	5673	[redacted]	5143	2	7	8/21/02	13:16	0	60	0
WALL 08	5673	[redacted]	5143	2	8	8/21/02	13:17	3	60	19
WALL 09	5673	[redacted]	5143	2	9	8/21/02	13:19	2	60	13
WALL 10	5673	[redacted]	5143	2	10	8/21/02	13:21	2	60	13

27 -BLDG SCOPING SURVEY BETA

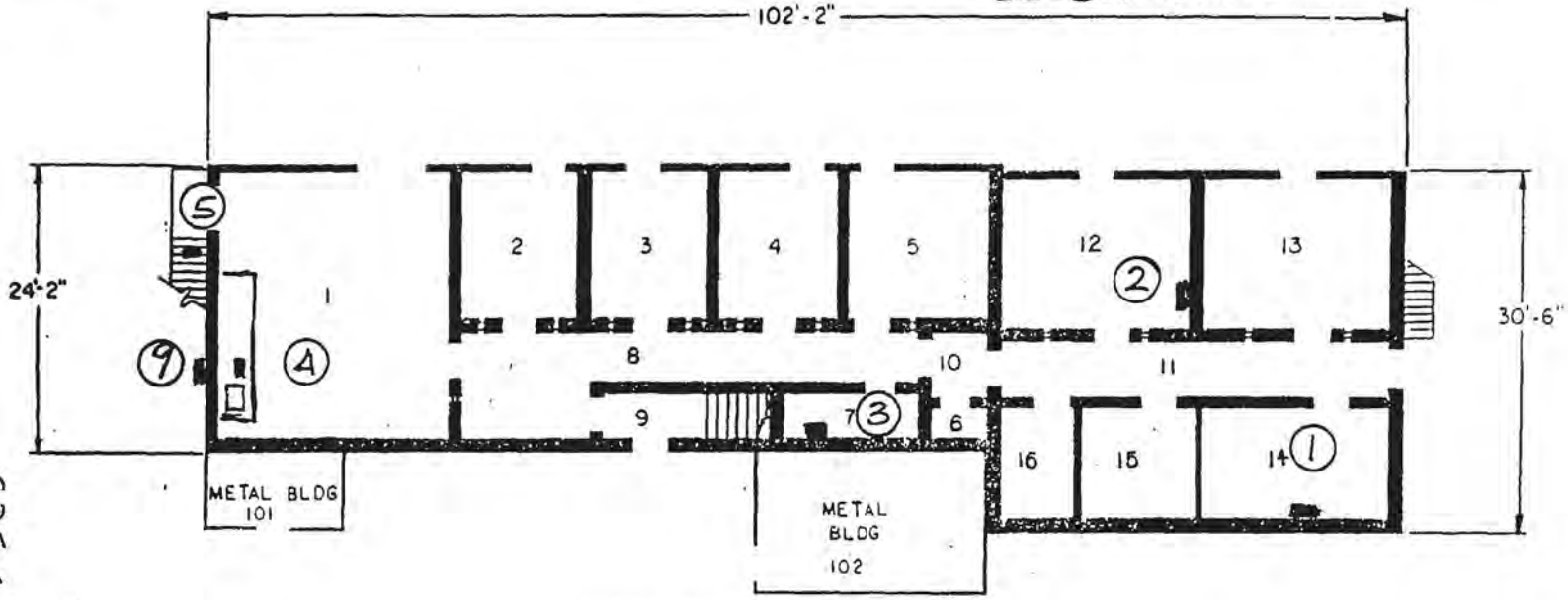
RSDS# 02-TF-1456 RCT: MJK RCT: DJH

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2	SURFACE TYPE
WALL 01	5607	[redacted]	5608	1	8/21/02	60	478	PCNCRT
WALL 02	5607	[redacted]	5608	2	8/21/02	60	-20	METAL
WALL 03	5607	[redacted]	5608	3	8/21/02	60	268	PCNCRT
WALL 04	5607	[redacted]	5608	4	8/21/02	60	317	PCNCRT
WALL 05	5607	[redacted]	5608	5	8/21/02	60	351	PCNCRT
WALL 06	5607	[redacted]	5608	6	8/21/02	60	98	PCNCRT
WALL 07	5607	[redacted]	5608	7	8/21/02	60	288	PCNCRT
WALL 08	5607	[redacted]	5608	8	8/21/02	60	824	PCBLK
WALL 09	5607	[redacted]	5608	9	8/21/02	60	332	PCNCRT
WALL 10	5607	[redacted]	5608	10	8/21/02	60	283	PCNCRT
BETA BACKGROUND FOR 8-21-2002 WAS 873 dpm/100cm2								

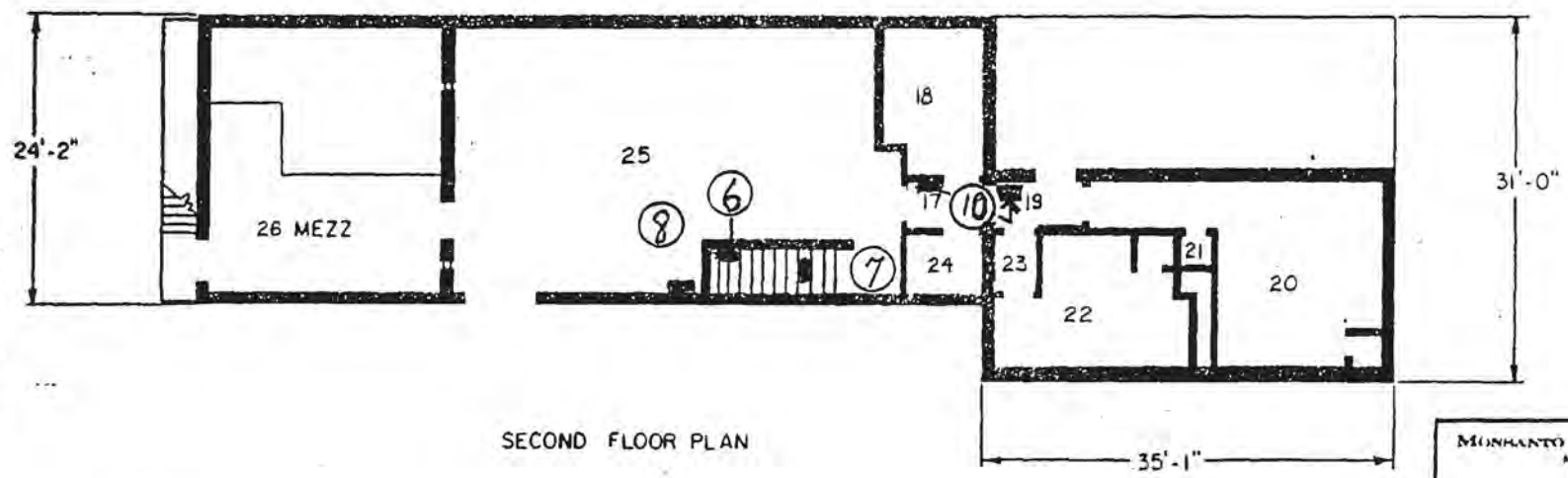
C34 of 115

G-30 of 74

JUDGEMENTAL



FIRST FLOOR PLAN



SECOND FLOOR PLAN

N

5 0 5 10 15 20
FT.

CLASSIFICATION	NO	DATE	REVISION	BY	CHK'D	APPROV'D
Unclassified 9-16-62 PRP	D	3-76	REVISED	G.B.		

MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

BLDG. 27
EXPLOSIVE PROCESSING FACILITY

DRAWN FGM	DATE 9 26 68		APPROVALS
CHECKED	DATE		1
APPROVED	DATE		2
JOB NO 768			3
SCALE			4

DWG. No. 3-

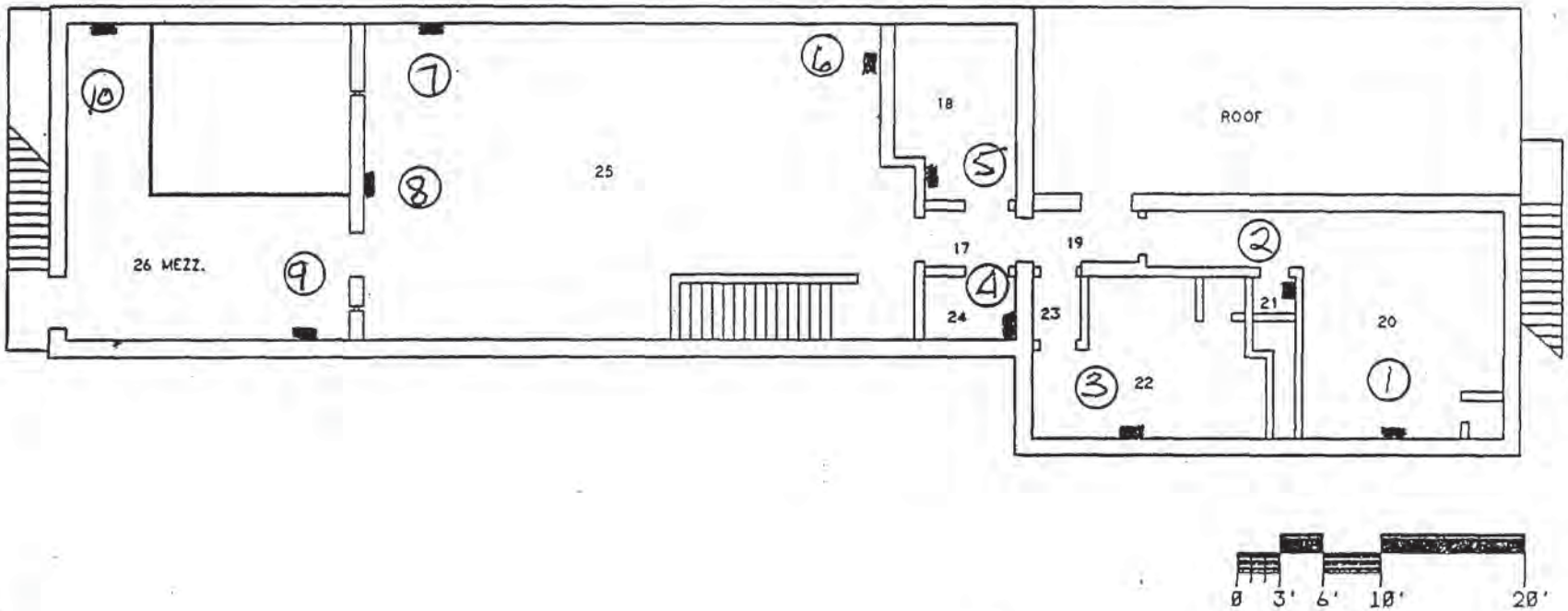
C35 pg 115

G31 pg 74

02-14-1956

Pg. 1 of 1

WALL- DATA PTS.



DOES NOT CONTAIN UCNI
DC/RO: J. NESHEIM /EMCBC
DATE: 9/6/12

BLDG #27
SECOND FLOOR
BLDG CODE:3027

NOT FOR PUBLIC DISSEMINATION

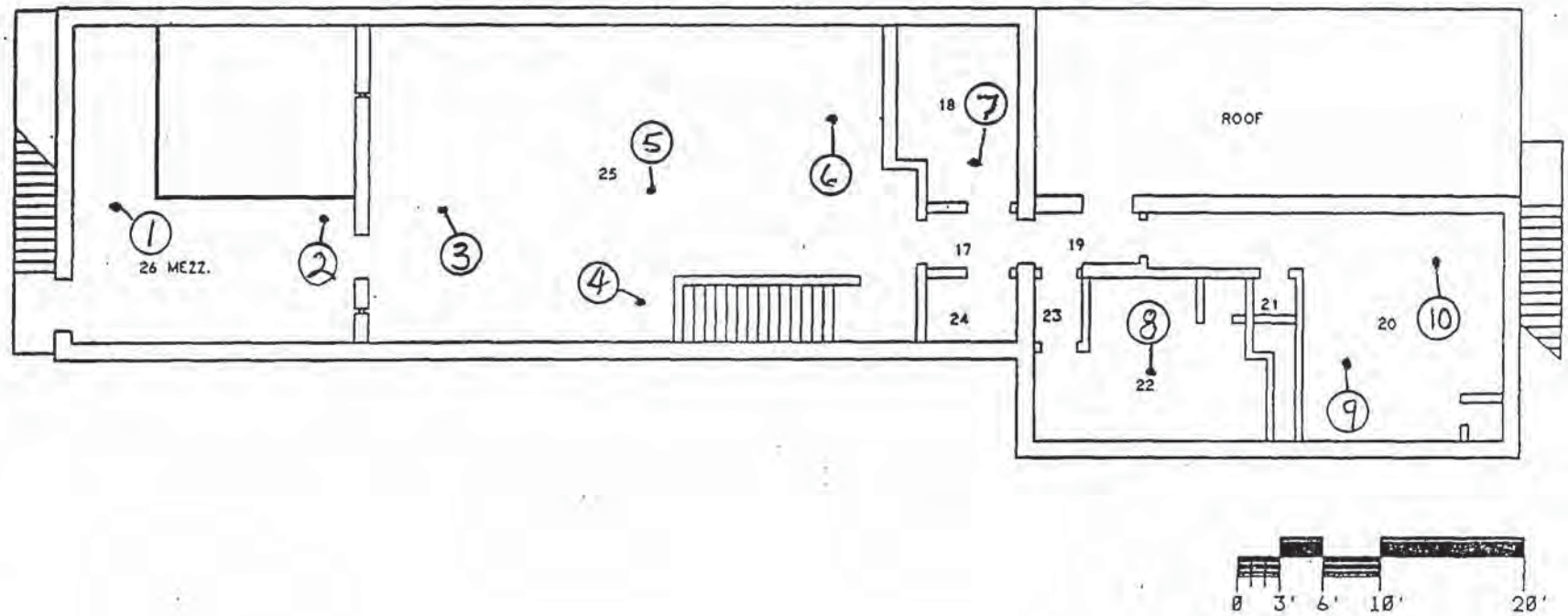
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DRAWING NUMBER	FSC911239
JOB NUMBER	12335
DRAWING CLASSIFICATION	UCNI
SIZE	C
CHECK	14065
SCALE	AS NOTED
ISSUE	0
SHEET	2
STATUS	MO-REL-12/12/91

C3698 15

F3269 74

FLOOR



DOES NOT CONTAIN UCNI
DC/RO: J. NESHEIM /EMCBC
DATE: 9/6/12

BLDG #27
SECOND FLOOR
BLDG CODE:3027

~~NOT FOR PUBLIC DISSEMINATION~~
~~MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.~~

DRAWING NUMBER FSC911239		JOB NUMBER 12335
DRAWING CLASSIFICATION ~~UCNI~~		
SIZE C	CADD 14065	SCALE AS NOTED
	ISSUE B	SHEET 2
STATUS MO-REL-12/12/91		

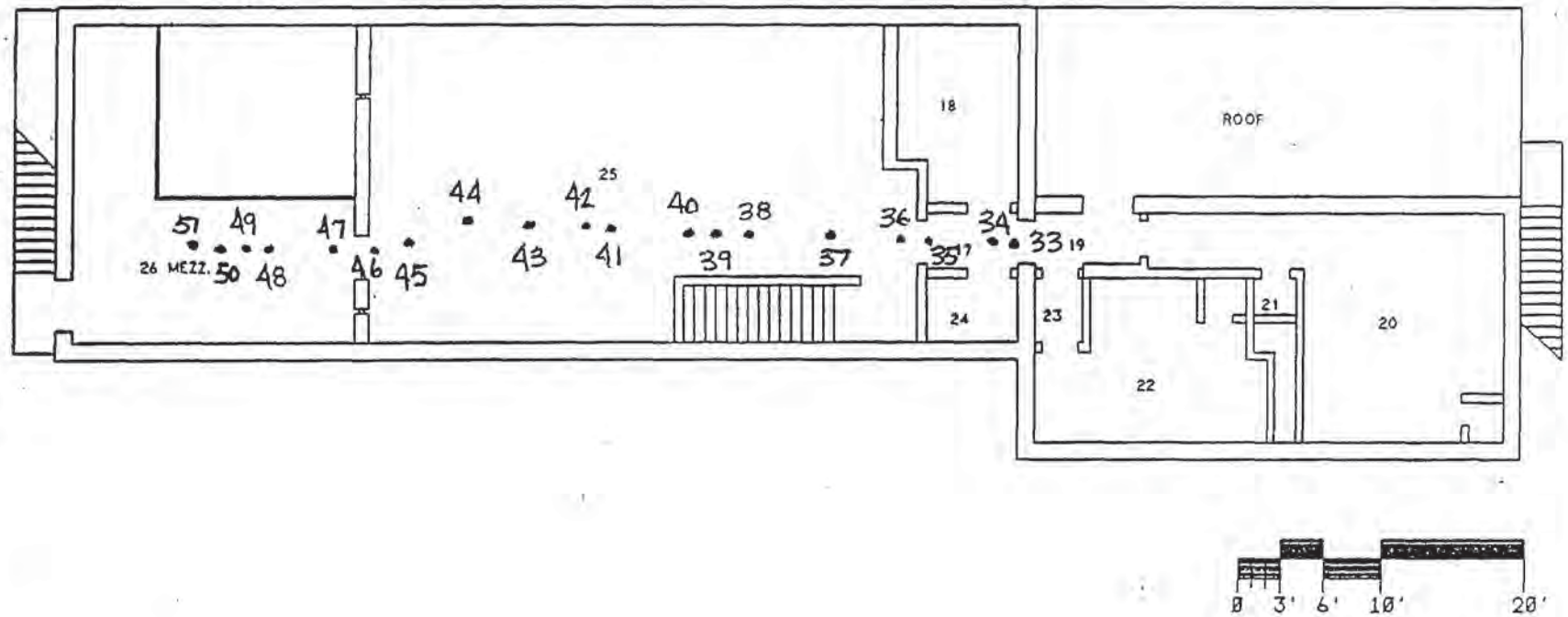
G3508 115

G3508 74

02-TF-1456

Bldg #62

SCAN 2ND FLR.



DOES NOT CONTAIN UCNI
DC/RO: J. NESHEIM /EMCBC
DATE: 9/6/12

BLDG #27
SECOND FLOOR
BLDG CODE:3027

NOT FOR PUBLIC DISSEMINATION

MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

DRAWING NUMBER FSC911239		JOB NUMBER 12335
DRAWING CLASSIFICATION ~~UCNI~~		
SIZE C	CHECK 14865	SCALE AS NOTED
	ISSUE 0	SHEET 2
STATUS MD-REL-12/12/91		

C38 of 115

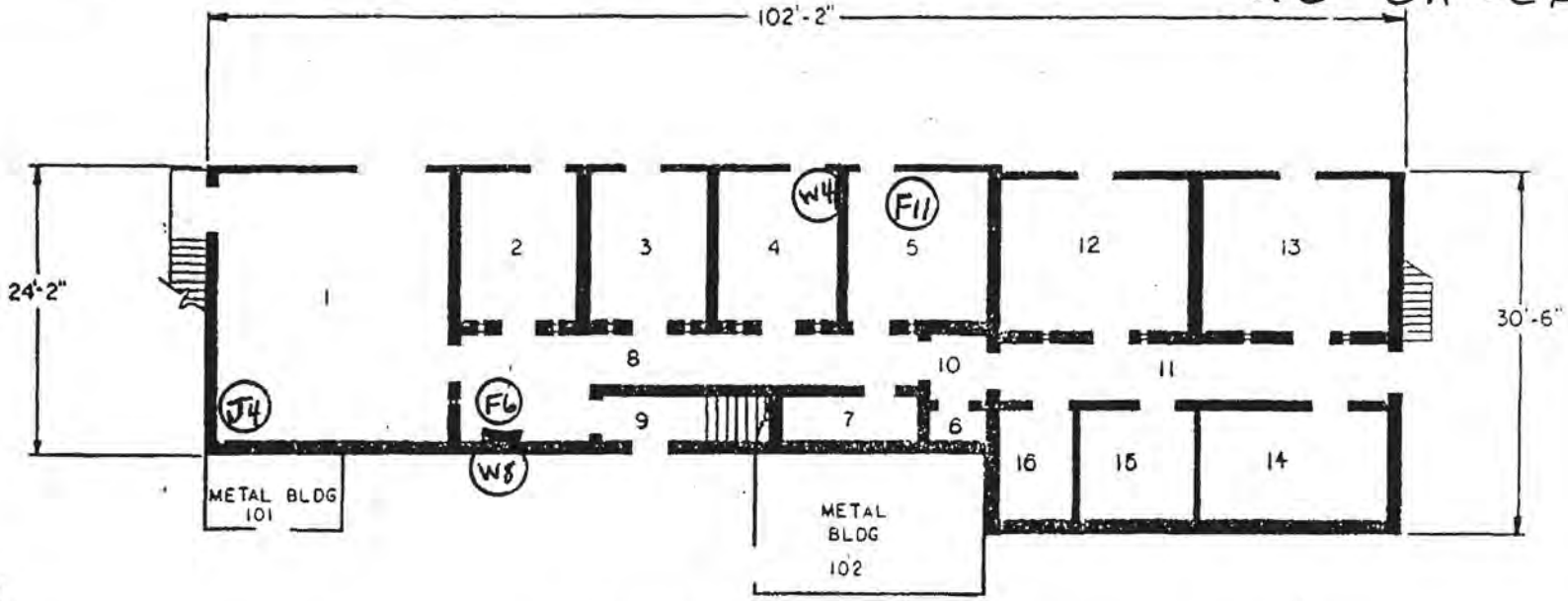
G34 of 74

OT-11-1X

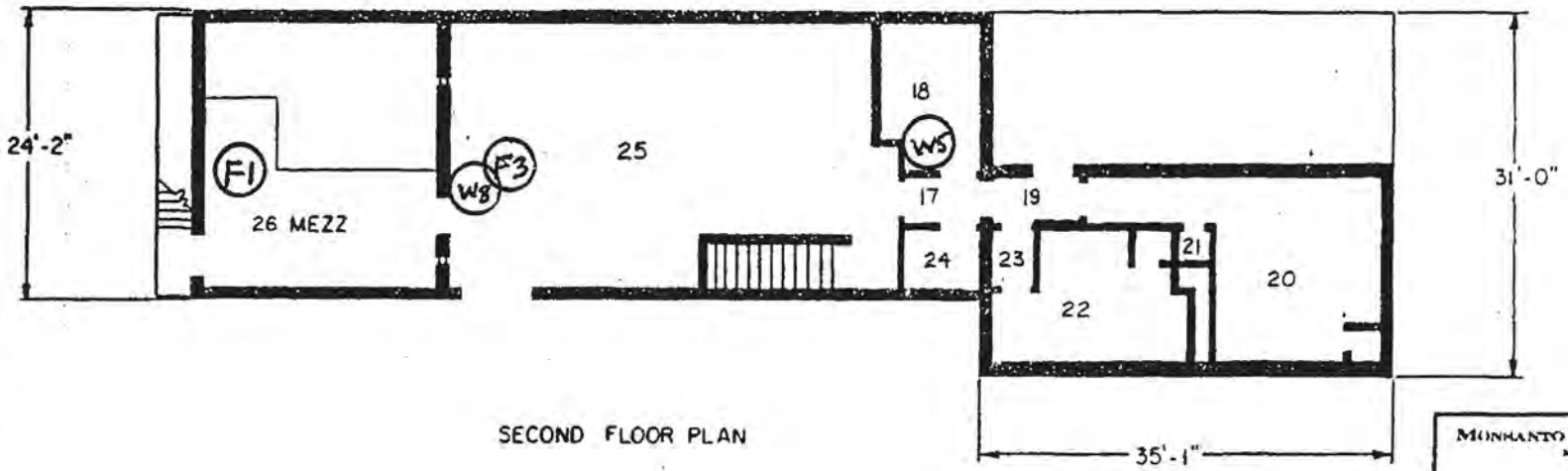
1/1/97

Feb 14 '94

QC CHECKS



FIRST FLOOR PLAN



SECOND FLOOR PLAN

N

5 0 5 10 15 20
FT.

C39 of 115

G-35 of 74

MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

BLDG. 27
EXPLOSIVE PROCESSING FACILITY

DRAWN FGM	DATE 9 26 68	APPROVALS	
CHECKED	DATE	1	
APPROVED	DATE	2	
JOB NO 768		3	
SCALE		4	

DWG. No. 3-

NO	DATE	REVISION	BY	CHK'D	APPROV'D
D	3-76	REVISED	G.B.		

CLASSIFICATION
INIT. Kock
DATE 9-26-68 INIT. RJP

U-7-1958

ADM

FEB. 13 1974

27-BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: [illegible] RCT: [illegible]

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	[redacted]	5676	3		8/22/02	7:56	18	300	6	
SRCCHECK	5673	[redacted]	5676	3		8/22/02	8:16	2256	60	3644	
SRCCHECK	5673	[redacted]	5676	3		8/22/02	8:18	2153	60	3478	
SRCCHECK	5673	[redacted]	5676	3		8/22/02	8:27	2269	60	3665	
SRCCHECK	5673	[redacted]	5676	3		8/22/02	8:29	2196	60	3547	
SRCCHECK	5673	[redacted]	5676	3		8/22/02	8:31	2098	60	3389	
SRCCHECK	5673	[redacted]	5676	3		8/22/02	8:33	2260	60	3651	
SRCBKG	5673	[redacted]	5143	2		8/22/02	8:39	10	300	13	
SRCCHECK	5673	[redacted]	5143	2		8/22/02	8:41	2121	60	13626	
SRCCHECK	5673	[redacted]	5143	2		8/22/02	8:42	2260	60	14519	
SRCCHECK	5673	[redacted]	5143	2		8/22/02	8:44	2185	60	14037	
SRCCHECK	5673	[redacted]	5143	2		8/22/02	8:45	2073	60	13317	
		[redacted]									
JUDGE 01	5673	[redacted]	5143	2	1	8/22/02	9:30	3	60	19	
JUDGE 02	5673	[redacted]	5143	2	2	8/22/02	9:33	3	60	19	
JUDGE 03	5673	[redacted]	5143	2	3	8/22/02	9:36	3	60	19	
JUDGE 04	5673	[redacted]	5143	2	4	8/22/02	9:37	2	60	13	
JUDGE 05	5673	[redacted]	5143	2	5	8/22/02	9:39	1	60	6	
JUDGE 06	5673	[redacted]	5143	2	6	8/22/02	9:41	1	60	6	
JUDGE 07	5673	[redacted]	5143	2	7	8/22/02	9:44	5	60	32	
JUDGE 08	5673	[redacted]	5143	2	8	8/22/02	9:46	3	60	19	
JUDGE 09	5673	[redacted]	5143	2	9	8/22/02	9:48	2	60	13	
JUDGE 10	5673	[redacted]	5143	2	10	8/22/02	9:50	1	60	6	
		[redacted]									
2WALL 01	5673	[redacted]	5143	2	1	8/22/02	10:04	3	60	19	
2WALL 02	5673	[redacted]	5143	2	2	8/22/02	10:06	2	60	13	
2WALL 03	5673	[redacted]	5143	2	3	8/22/02	10:07	6	60	39	
2WALL 04	5673	[redacted]	5143	2	4	8/22/02	10:10	2	60	13	
2WALL 05	5673	[redacted]	5143	2	5	8/22/02	10:12	4	60	26	
2WALL 06	5673	[redacted]	5143	2	6	8/22/02	10:13	3	60	19	
2WALL 07	5673	[redacted]	5143	2	7	8/22/02	10:16	2	60	13	
2WALL 08	5673	[redacted]	5143	2	8	8/22/02	10:17	1	60	6	
2WALL 09	5673	[redacted]	5143	2	9	8/22/02	10:20	0	60	0	
2WALL 10	5673	[redacted]	5143	2	10	8/22/02	10:22	1	60	6	
		[redacted]									

27-BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: MJK RCT: DJH

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
FLOOR 01	5673	[redacted]	5676	3	1	8/22/02	12:31	2	60	3
FLOOR 02	5673	[redacted]	5676	3	2	8/22/02	12:32	2	60	3
FLOOR 03	5673	[redacted]	5676	3	3	8/22/02	12:33	12	60	19
FLOOR 04	5673	[redacted]	5676	3	4	8/22/02	12:35	8	60	13
FLOOR 05	5673	[redacted]	5676	3	5	8/22/02	12:36	11	60	18
FLOOR 06	5673	[redacted]	5676	3	6	8/22/02	12:38	8	60	13
FLOOR 07	5673	[redacted]	5676	3	7	8/22/02	12:40	9	60	15
FLOOR 08	5673	[redacted]	5676	3	8	8/22/02	12:42	6	60	10
FLOOR 09	5673	[redacted]	5676	3	9	8/22/02	12:43	5	60	8
FLOOR 10	5673	[redacted]	5676	3	10	8/22/02	12:45	9	60	15
SCAN 33	5673	[redacted]	5676	3	33	8/22/02	12:48	1	30	3
SCAN 34	5673	[redacted]	5676	3	34	8/22/02	12:50	2	30	6
SCAN 35	5673	[redacted]	5676	3	35	8/22/02	12:52	1	30	3
SCAN 36	5673	[redacted]	5676	3	36	8/22/02	12:53	8	30	26
SCAN 37	5673	[redacted]	5676	3	37	8/22/02	12:56	4	30	13
SCAN 38	5673	[redacted]	5676	3	38	8/22/02	12:57	4	30	13
SCAN 39	5673	[redacted]	5676	3	39	8/22/02	12:59	5	30	16
SCAN 40	5673	[redacted]	5676	3	40	8/22/02	13:00	4	30	13
SCAN 41	5673	[redacted]	5676	3	41	8/22/02	13:02	4	30	13
SCAN 42	5673	[redacted]	5676	3	42	8/22/02	13:03	5	30	16
SCAN 43	5673	[redacted]	5676	3	43	8/22/02	13:05	4	30	13
SCAN 44	5673	[redacted]	5676	3	44	8/22/02	13:06	5	30	16
SCAN 45	5673	[redacted]	5676	3	45	8/22/02	13:08	3	30	10
SCAN 46	5673	[redacted]	5676	3	46	8/22/02	13:09	9	30	29
SCAN 47	5673	[redacted]	5676	3	47	8/22/02	13:11	2	30	6
SCAN 48	5673	[redacted]	5676	3	48	8/22/02	13:14	3	30	10
SCAN 49	5673	[redacted]	5676	3	49	8/22/02	13:15	1	30	3
SCAN 50	5673	[redacted]	5676	3	50	8/22/02	13:17	3	30	10
SCAN 51	5673	[redacted]	5676	3	51	8/22/02	13:20	1	30	3
QC F1	5673	[redacted]	5676	3	1	8/22/02	14:46	2	60	3
QC F3	5673	[redacted]	5676	3	2	8/22/02	14:48	8	60	13
QC W5	5673	[redacted]	5143	2	3	8/22/02	14:51	3	60	19
QC W8	5673	[redacted]	5143	2	4	8/22/02	14:53	1	60	6
QC 4-J	5673	[redacted]	5143	2	5	8/22/02	14:56	1	60	6
QC W8	5673	[redacted]	5143	2	6	8/22/02	14:58	2	60	13
QC W4	5673	[redacted]	5143	2	7	8/22/02	15:01	1	60	6
QC F6	5673	[redacted]	5676	3	8	8/22/02	15:03	5	60	8

C41of 115

G-37of 74

27-BLDG SCOPING SURVEY

RSDS# 02-TF-1456 RCT: HJR RCT: DJH

LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2
QC F11	5673	[redacted]	5676	3	9	8/22/02	15:05	9	60	15

C4206 115

27-BLDG SCOPING BETA SURVEY

RSDS# 02-TF-1456 RCT: PMR RCT: DAH

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2	surface type
JUDGE 01	5607	[redacted]	5608	1	8/22/02	60	756	PCBLK
JUDGE 02	5607	[redacted]	5608	2	8/22/02	60	278	PCNCRT
JUDGE 03	5607	[redacted]	5608	3	8/22/02	60	712	PCBLK
JUDGE 04	5607	[redacted]	5608	4	8/22/02	60	-39	SSCNT
JUDGE 05	5607	[redacted]	5608	5	8/22/02	60	410	STAIR
JUDGE 06	5607	[redacted]	5608	6	8/22/02	60	683	PCBLK
JUDGE 07	5607	[redacted]	5608	7	8/22/02	60	663	STAIR
JUDGE 08	5607	[redacted]	5608	8	8/22/02	60	771	PCBLK
JUDGE 09	5607	[redacted]	5608	9	8/22/02	60	68	PCNCRT
JUDGE 10	5607	[redacted]	5608	10	8/22/02	60	1166	PCBLK
2WALL 01	5607	[redacted]	5608	1	8/22/02	60	1005	PCBLK
2WALL 02	5607	[redacted]	5608	2	8/22/02	60	1000	PCBLK
2WALL 03	5607	[redacted]	5608	3	8/22/02	60	937	PCBLK
2WALL 04	5607	[redacted]	5608	4	8/22/02	60	854	PCBLK
2WALL 05	5607	[redacted]	5608	5	8/22/02	60	727	PCBLK
2WALL 06	5607	[redacted]	5608	6	8/22/02	60	215	WOOD
2WALL 07	5607	[redacted]	5608	7	8/22/02	60	668	CTILE
2WALL 08	5607	[redacted]	5608	8	8/22/02	60	224	PCNCRT
2WALL 09	5607	[redacted]	5608	9	8/22/02	60	171	PCNCRT
2WALL 10	5607	[redacted]	5608	10	8/22/02	60	-127	METAL
FLOOR 01	5607	[redacted]	5608	1	8/22/02	60	595	PCNCRT
FLOOR 02	5607	[redacted]	5608	2	8/22/02	60	1000	PCNCRT
FLOOR 03	5607	[redacted]	5608	3	8/22/02	60	527	CNCRT
FLOOR 04	5607	[redacted]	5608	4	8/22/02	60	468	CNCRT
FLOOR 05	5607	[redacted]	5608	5	8/22/02	60	507	CNCRT
FLOOR 06	5607	[redacted]	5608	6	8/22/02	60	429	CNCRT
FLOOR 07	5607	[redacted]	5608	7	8/22/02	60	493	TILE
FLOOR 08	5607	[redacted]	5608	8	8/22/02	60	624	TILE
FLOOR 09	5607	[redacted]	5608	9	8/22/02	60	488	TILE
FLOOR 10	5607	[redacted]	5608	10	8/22/02	60	434	TILE
QC F1	5607	[redacted]	5608	1	8/22/02	60	605	PCNCRT
QC F3	5607	[redacted]	5608	2	8/22/02	60	376	CNCRT
QC W5	5607	[redacted]	5608	3	8/22/02	60	834	PCBLK
QC W8	5607	[redacted]	5608	4	8/22/02	60	585	PCNCRT
QC 4-J	5607	[redacted]	5608	5	8/22/02	60	-34	SSCNT
QC W8	5607	[redacted]	5608	6	8/22/02	60	785	PCBLK

27-BLDG SCOPING BETA SURVEY

RSDS# 02-TF-1456 RCT: RJK RCT: NA

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2	surface type
QC W4	5607	[redacted]	5608	7	8/22/02	60	263	PCNCRT
QC F6	5607	[redacted]	5608	8	8/22/02	60	483	PCNCRT
QC F11	5607	[redacted]	5608	9	8/22/02	60	566	PCNCRT
BETA BACKGROUNG FOR 8-22-2002 WAS 1034 dpm/100cm2								

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200208221414	Count Date:	8/22/2002
Group:	I	Count Minutes:	1.5
Serial Number:	78218.1	Count Mode:	Simultaneous
Batch ID:	02-TF-1456 RADLEY(60) BSB	Operating Volts:	1410
Selected Geometry:	Swipe/Smear	Cal Due Dates:	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	60	2.18	1.92	5.32	2.90
2	25	2.19	1.92	1.21	1.45
3	7	0.00	0.00	4.11	2.50
4	50	0.00	0.00	2.74	2.04
5	43	2.18	1.92	5.32	2.90
6	35	0.00	0.00	2.74	2.04
7	91	0.00	0.00	5.48	2.89
8	55	0.00	0.00	5.48	2.89
9	89	2.19	1.92	1.21	1.45
10	11	2.19	1.92	1.21	1.45
11	48	0.00	0.00	2.74	2.04
12	84	4.36	2.72	14.76	4.80
13	45	2.18	1.92	2.58	2.05
14	83	0.00	0.00	0.00	0.00
15	52	0.00	0.00	5.48	2.89
16	52	0.00	0.00	2.74	2.04
17	8	0.00	0.00	5.48	2.89
18	79	2.18	1.92	2.58	2.05
19	17	2.19	1.92	0.00	0.16
20	69	0.00	0.00	4.11	2.50
21	21	0.00	0.00	1.37	1.45
22	65	0.00	0.00	2.74	2.04
23	58	2.18	1.92	2.58	2.05
24	47	2.18	1.92	2.58	2.05
25	53	4.37	2.72	2.43	2.06
26	71	4.37	2.72	3.80	2.51
27	38	2.18	1.92	2.58	2.05
28	24	0.00	0.00	1.37	1.45
29	4	0.00	0.00	5.48	2.89
30	39	2.18	1.92	2.58	2.05
31	92	0.00	0.00	2.74	2.04
32	34	0.00	0.00	0.00	0.00
33	33	0.00	0.00	5.48	2.89
34	51	0.00	0.00	1.37	1.45
35	20	0.00	0.00	1.37	1.45
36	74	0.00	0.00	4.11	2.50
37	65	0.00	0.00	4.11	2.50

BSBrown

C4506 115

Pg. 21 of 24 G-41 of

02-TF-1456

Alpha/Beta Analysis

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
38	55	0.00	0.00	0.00	0.00
39	62	0.00	0.00	0.00	0.00
40	67	0.00	0.00	0.00	0.00
41	87	2.19	1.92	1.21	1.45
42	65	0.00	0.00	0.00	0.00
43	12	0.00	0.00	1.37	1.45
44	81	2.19	1.92	1.21	1.45
45	6	2.18	1.92	2.58	2.05
46	66	4.37	2.72	6.54	3.24
47	37	0.00	0.00	0.00	0.00
48	94	2.18	1.92	2.58	2.05
49	24	0.00	0.00	1.37	1.45
50	5	4.37	2.72	2.43	2.06
51	17	0.00	0.00	1.37	1.45
52	71	0.00	0.00	0.00	0.00
53	60	4.36	2.72	7.91	3.55
54	85	2.18	1.92	2.58	2.05
55	3	2.18	1.92	2.58	2.05
56	29	0.00	0.00	2.74	2.04
57	21	0.00	0.00	0.00	0.00
58	76	2.18	1.92	2.58	2.05
59	36	0.00	0.00	2.74	2.04
60	16	0.00	0.00	2.74	2.04

2 pc

2 pc

DJH DJH

Batch ID: 02-TF-1456 RADLEY(60) BSB

26 Aug 2002 07:55 ALPHA/BETA - 1.09 Page #1
Protocol #: 1 PW H3 #403727 User : 526E

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5	18.6	0	0.0	7.74
Region B:	2.0	18.6	0	0.0	7.59
Region C:	40.0	2000	0	0.0	11.70

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-1456 RADLEY(60) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT1.DAT
Count Data Filename: C:\DATA\SDATA1.DAT

BSBrown

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.74	7.59	11.70	591.69	0	B		0.00
0	2.00	486.36	468.75	0.00	532.75	0		1007.32	98.43
1	2.00	0.26	0.41	1.80	671.51	0		0.49	8.24
2	2.00	4.76	3.91	1.80	629.29	0		9.19	10.26
3	2.00	0.00	0.00	0.80	684.77	0		0.00	0.00
4	2.00	0.26	0.41	0.00	624.96	0		0.50	8.47
5	2.00	0.00	0.00	7.30	671.82	0		0.00	0.00
6	2.00	0.00	0.00	0.00	667.71	0		0.00	0.00
7	2.00	0.00	0.00	0.00	651.15	0		0.00	0.00
8	2.00	5.26	4.62	0.00	667.94	0		9.93	10.22
9	2.00	0.00	0.00	0.30	642.73	0		0.00	0.00
10	2.00	1.26	1.41	0.00	624.05	0		2.44	8.91
11	2.00	2.76	2.11	2.80	616.61	0		5.38	9.58
12	2.00	3.07	3.23	0.00	597.81	0		6.06	9.83
13	2.00	0.00	0.00	0.00	616.47	0		0.00	0.00
14	2.00	0.00	0.00	0.00	603.10	0		0.00	0.00
15	2.00	5.76	5.91	0.00	689.78	0		10.76	10.28
16	2.00	1.76	1.91	0.00	538.31	0		3.63	9.70
17	2.00	1.76	1.48	0.00	686.45	0		3.29	8.80
18	2.00	0.26	0.02	0.00	666.25	0		0.49	8.26
19	2.00	0.00	0.00	3.24	643.31	0		0.00	0.00
20	2.00	1.33	1.49	0.80	642.87	0		2.55	8.82
21	2.00	1.76	1.75	2.13	535.91	0		3.63	9.72
22	2.00	0.00	0.00	2.80	624.60	0		0.00	0.00
23	2.00	2.13	1.90	0.30	660.39	0		4.04	9.07
24	2.00	0.76	0.91	0.00	547.81	0		1.55	9.18
25	2.00	0.00	0.00	3.30	644.51	0		0.00	0.00
26	2.00	0.00	0.00	0.00	602.19	0		0.00	0.00
27	2.00	0.00	0.00	0.00	607.17	0		0.00	0.00
28	2.00	0.00	0.00	1.48	595.48	0		0.00	0.00
29	2.00	0.00	0.00	1.30	535.43	0		0.00	0.00
30	2.00	0.00	0.00	0.30	490.64	0		0.00	0.00
31	2.00	2.26	2.08	0.30	633.38	0		4.35	9.26
32	2.00	2.31	2.06	0.00	669.56	0		4.36	9.10
33	2.00	0.00	0.00	0.00	671.35	0		0.00	0.00
34	2.00	0.00	0.00	0.00	609.22	0		0.00	0.00
35	2.00	0.76	0.91	0.30	623.51	0		1.47	8.70

PDR

C4706 115

Pg. 23 of 24

G43 of 74

02-TF-1456

26 Aug 2002 09:49 ALPHA/BETA - 1.09 Page #2
Protocol #: 1 PW H3 #403727 User : 5268

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
36	2.00	0.24	0.40	3.32	682.38	0	0.46	8.19
37	2.00	0.00	0.00	0.00	601.78	0	0.00	0.00
38	2.00	3.11	3.27	0.00	689.04	0	5.82	9.32
39	2.00	2.76	2.91	0.00	687.09	0	5.16	9.19
40	2.00	3.99	4.14	0.00	652.17	0	7.60	9.83
41	2.00	0.00	0.00	0.00	634.21	0	0.00	0.00
42	2.00	2.26	2.08	0.00	635.14	0	4.34	9.25
43	2.00	1.76	1.91	3.80	606.49	0	3.45	9.23
44	2.00	0.00	0.00	0.00	586.43	0	0.00	0.00
45	2.00	2.26	2.41	0.00	650.07	0	4.31	9.17
46	2.00	0.00	0.00	0.00	645.41	0	0.00	0.00
47	2.00	0.76	0.91	0.80	689.61	0	1.42	8.38
48	2.00	0.00	0.00	0.00	595.71	0	0.00	0.00
49	2.00	2.26	2.26	0.30	489.22	0	4.93	10.50
50	2.00	2.76	2.56	2.30	642.50	0	5.28	9.40
51	2.00	0.00	0.00	0.00	514.62	0	0.00	0.00
52	2.00	0.00	0.00	0.80	495.59	0	0.00	0.00
53	2.00	0.45	0.00	0.00	587.94	0	0.89	8.78
54	2.00	0.00	0.00	0.30	361.46	0	0.00	0.00
55	2.00	0.00	0.00	1.80	468.29	0	0.00	0.00
1 MISSING TUBE(S)								
57	2.00	0.76	0.25	0.00	571.10	0	1.53	9.03
58	2.00	0.00	0.00	1.30	418.32	0	0.00	0.00
59	2.00	0.26	0.33	0.00	472.28	0	0.58	9.75
60	2.00	0.00	0.00	0.00	599.27	0	0.00	0.00

DJH

RADIOLOGICAL SURVEY DATA SHEET

1061L

LOCATION: (BLDG./AREA/ROOM) BUILDING 27 / ALL	SURVEY NO. 02-TF-1251
PURPOSE: SCOPING SURVEY IN ACCORDANCE WITH SURVEY PLAN 27-01	RWP NO. N/A
	DATE: 7-25-02 & 8-22-02
	TIME: 1000 & 1400

MAP/DRAWING

SAMPLES TAKEN IN SUPPORT OF SURVEY PLAN 27-01

SEE ATTACHED

COPY

LEGEND: # = mrem/hr (γ) whole body

[illegible] = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5599/5600	7-25-03
	N	
	A	

Completed by: (Signature)	HP [redacted]	Date: 8-26-02
Completed by: (Print Name) DANIEL HARVEY / PAT RADLEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 8-26-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

G45 of 74

C49 of 115

02-TF-1251

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	Room #13
2	↓	↓	↓	Room #12
3	↓	↓	↓	Room #5
4	↓	↓	↓	Room #3
5	↓	↓	↓	Room #1
6	↓	↓	↓	Room #25
7	↓	↓	↓	Room #25
8	↓	↓	↓	Room #25
9	↓	↓	↓	Room #22
10	↓	↓	↓	Room #20
11	↓	↓	↓	Room #4
12	↓	↓	↓	Room #2
13	↓	↓	↓	Room #8
14	↓	↓	↓	Room #21
		N	A	

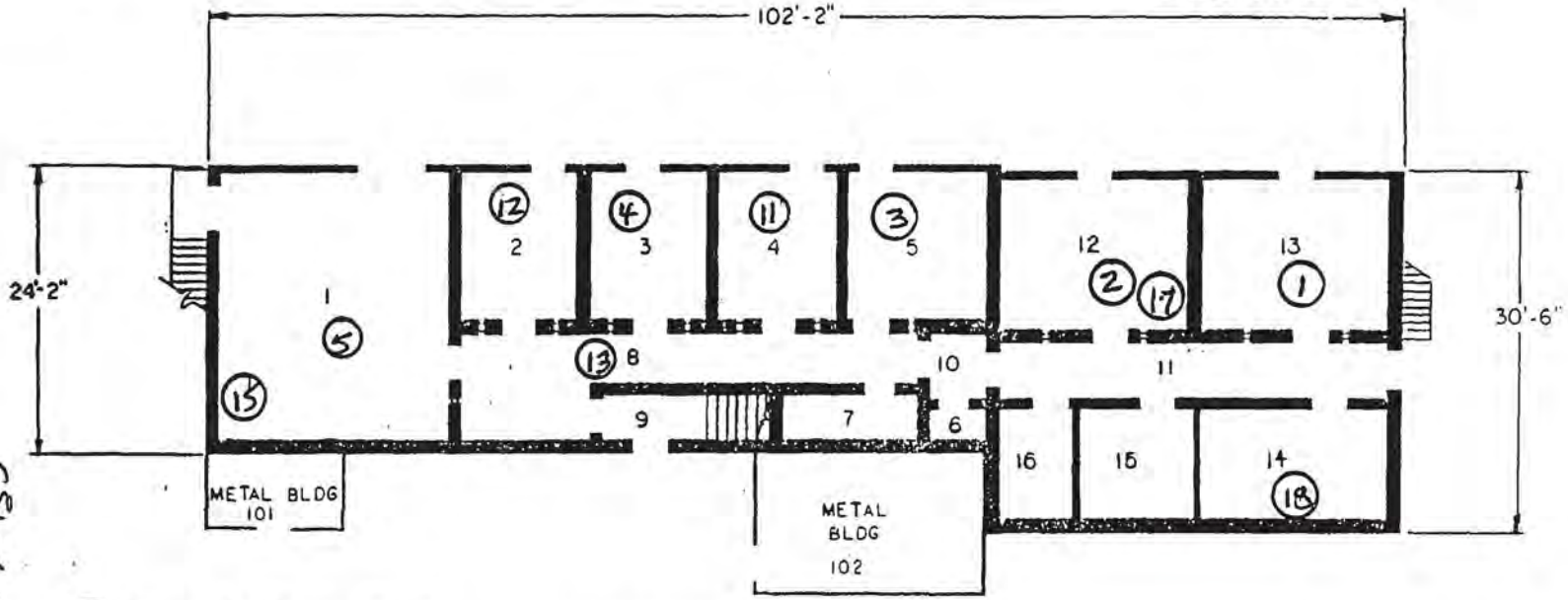
Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

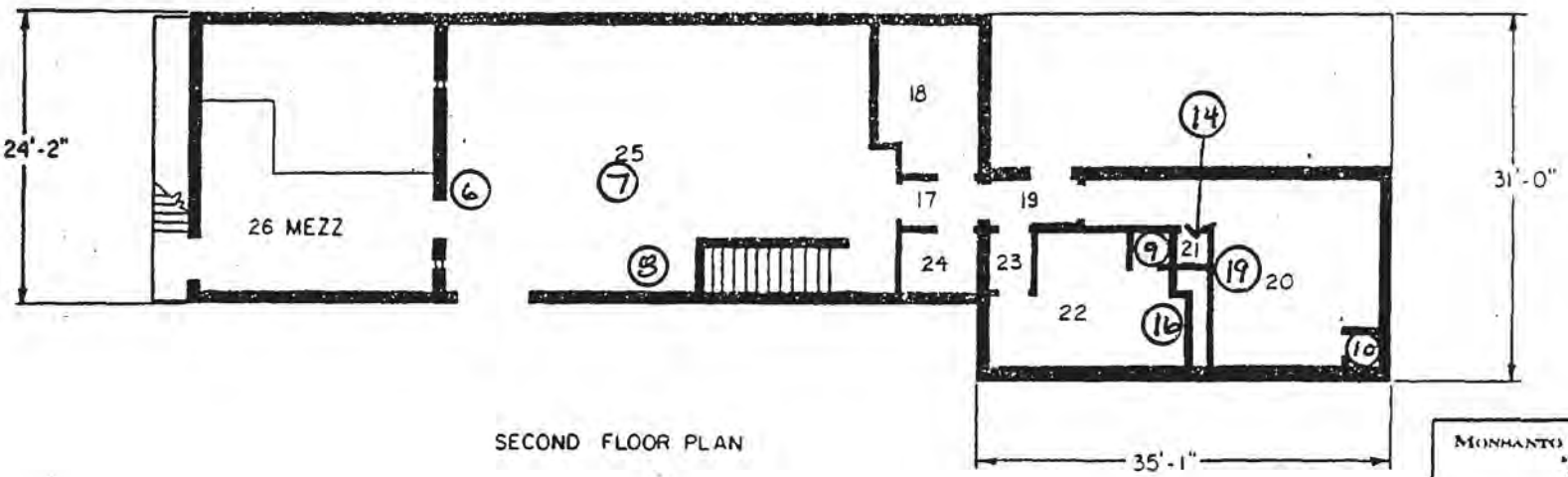
ML-9620A (4-98)

SAMPLES



(20) TAKEN FROM THE ROOF GUTTER

FIRST FLOOR PLAN



SECOND FLOOR PLAN

N

5 0 5 10 15 20
FT.

CLASSIFICATION	NO	DATE	REVISION	BY	CHK'D	APPRD
LEVEL Uncl. DATE 9-26-68 INIT. PER	D	3-76	REVISED	G.B.		

MONSANTO RESEARCH CORPORATION
MOUND LABORATORY
MIAMISBURG, OHIO

BLDG. 27
EXPLOSIVE PROCESSING FACILITY

DRAWN FGM	DATE 9 26 68		APPROVALS
CHECKED	DATE		1
APPROVED	DATE		2
JOB NO 768			3
SCALE			4

DWG. No. 3-

C51 of 115

G47 of 74

02-11-1251

Page 30 of 12

Attachment 1

Field Sample Data Collection Sheet

Sheet 1 of 2

Note: Attach to SP Form when complete

Sample Number (SPF# Rm Code Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
27-01-13-SM-01	7-25-02	0900	N/A	SMEAR IN FLOOR TRENCH ROOM #13	HARVEY	7-29-02	0830	DJH	DJH
27-01-12-SM-02	7-25-02	0903	N/A	SMEAR IN FLOOR TRENCH ROOM #12	HARVEY	7-29-02	0830	DJH	DJH
27-01-5-SM-03	7-25-02	0905	N/A	SMEAR IN FLOOR TRENCH ROOM #5	HARVEY	7-29-02	0830	DJH	DJH
27-01-3-SM-04	7-25-02	0908	N/A	SMEAR IN FLOOR TRENCH ROOM #3	HARVEY	7-29-02	0830	DJH	DJH
27-01-1-SM-05	7-25-02	0912	N/A	SMEAR IN FLOOR TRENCH ROOM #1	HARVEY	7-29-02	0830	DJH	DJH
27-01-25-SM-06	7-25-02	0920	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-25-SM-07	7-25-02	0923	N/A	SMEAR IN FLOOR DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-25-SM-08	7-25-02	0925	N/A	SMEAR IN FLOO DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-22-SM-09	7-25-02	0930	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-20-SM-10	7-25-02	0935	N/A	SMEAR IN SHOWER DRAIN	HARVEY	7-29-02	0830	DJH	DJH
27-01-4-SM-11	8-22-02	1300	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-2-SM-12	8-22-02	1303	N/A	SMEAR IN FLOOR TRENCH	HARVEY	8-22-02	1300	DJH	[illegible]

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

511 9025

G48 of 74

02-TF-125

DJH

4 of 4

Attachment 1

Field Sample Data Collection Sheet

Sheet 1 of 2

Note: Attach to SP Form when complete

Sample Number (SPF#-Rm-Code-Seq#)	Sample Date	Sample Time	Sample Volume /Weight	Sample Description	Sampled By	Chain of Custody Relinquished to Lab			
						Date	Time	Initials	Rec'd By
27-01-8-SM-13	8-22-02	1307	N/A	SMEAR IN FLOOR DRAIN	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-21-SM-14	8-22-02	1315	N/A	SMEAR IN JANITOR CLOSET FLOOR DRAIN	HARVEY	8-22-02	1300	DJH	[illegible]
27-01-1-W-15	7-25-02	0940		SAMPLE TAKEN FROM (WATER) COLLECTION DRUM	HARVEY	7-25-02	1450	DJH	BJ
27-01-22-W-16	7-25-02	0950		SAMPLE TAKEN FROM (WATER) SINK TRAP	HARVEY	7-25-02	1450	DJH	BJ
27-01-12-W-17	8-22-02	0830		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-14-W-18	8-22-02	0840		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-20-W-19	8-22-02	0850		SAMPLE TAKEN FROM (WATER) SINK TRAP	RADLEY	8-22-02	1450	DJH	BJ
27-01-ROOF-D-20	8-22-02	1400	406g	DIRT AND DEBRIS FROM ROOF GUTTER	HARVEY	8-26-02	0830	DJH	[illegible]
27-01-									
27-01-									
27-01-									
27-01-									

N/A

Code: CF= Concrete Floor; CW = Concrete Wall; WF = Water Floor; WS = Water Sump; WP = Water Pipe; SF = Sediment Floor; SS = Sediment Sump; SP = Sediment Pipe

Page 115 of 74

5 of 12
DJH
02-TF-125

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR020
Batch Ended: 7/29/02 9:22

~~Crosstalk correction performed.~~

Batch ID: HARVEY 02-TF-1251 (10) CYR

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
B3	1	0.0	2.0		6.7	3.3	
B4	2	0.0	1.9		0.0	1.3	
C1	3	1.7	2.2		11.1	4.0	
C2	4	1.8	2.0		0.0	1.4	
C3	5	0.0	1.9		0.0	1.2	
C4	6	0.0	1.9		1.1	1.7	
D1	7	0.0	2.3		0.0	1.4	
D2	8	0.0	2.2		2.6	2.7	
D3	9	0.0	2.0		0.7	1.8	
D4	10	0.0	2.0		0.1	1.9	

DJH DJH

Brenda Hislope 7-29-02

~~Page 1 of 1~~

DJH 6/8/12

C54 of 115

G50 of 74

T-417

29 Jul 2002 11:12 ALPHA/BETA - 1.09 Page #1
Protocol #: 6 PW H3 403728 User : 5737

Time: 2.00
Data Mode: DPM Nuclide: SMGL2 Quench Set: SM_GLASS
Background Subtract: 1st Vial

	LL	UL	LCR	2SI	BKG
Region A:	0.5 -	18.6	0	0.0	6.59
Region B:	2.0 -	18.6	0	0.0	5.88
Region C:	40.0 -	2000	0	0.0	4.64

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
HARVEY SUR 802-TF-1251 (E1-E10)/BH
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\prot1.dat
Count Data Filename: c:\data\SDATA6.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.59	0	B	666.17		0.00	4.64
0	2.00	867.21	0		538.07	1839.19	141.60	1.86
1	2.00	0.00	0		467.20	0.00	0.00	7.36
2	2.00	0.00	0		492.50	0.00	0.00	1.75
3	2.00	3.41	5		460.26	7.88	11.01	22.86
4	2.00	0.00	0		595.38	0.00	0.00	0.00
5	2.00	0.00	0		579.68	0.00	0.00	0.00
6	2.00	0.00	0		541.06	0.00	0.00	0.00
7	2.00	0.00	0		471.40	0.00	0.00	0.00
8	2.00	0.00	0		483.14	0.00	0.00	0.00
9	2.00	0.00	11		600.85	0.00	0.00	0.00
10	2.00	0.00	0		403.93	0.00	0.00	0.00

Brenda Hislope 7-29-02 BH

7 of 12

C 55 of 115 G 51 of 74

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMBAR004
Batch Ended: 8/22/02 14:43
Cal. Due Date: 4/25/03
Serial Number: 26966-3

Batch ID: 02-TF-1251 HARVEY(4) BSB

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1 11	1.45	2.05		0.00	1.28	
A2	2 12	1.58	1.95		0.26	1.70	
A3	3 13	1.68	2.14		0.29	1.75	
A4	4 14	0.00	2.02		1.52	2.05	

LB Brown

LB Brown

CS 6 of 115

CS 2 of 74

8 of 12

22 Aug 2002 15:25 ALPHA/BETA - 1.09 Page #1
Protocol #: 3 PW 3 403727 User : 526E

Time: 2.00
Data Mode: DPM Nuclide: SM6LS02 Quench Set: SM6LS02
Background Subtract: 1st Vial

	LL	UL	LCR	2SZ	BKG
Region A:	0.5 -	18.6	0	0.0	8.50
Region B:	2.0 -	18.6	0	0.0	8.37
Region C:	40.0 -	2000	0	0.0	12.83

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-1251 HARVEY(4) BSB
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT3.dat
Count Data Filename: C:\DATA\SDATA3.DAT

LBSBrown

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	8.50	8.37	12.83	489.65	2	B		0.00
0	2.00	263.08	254.32	0.00	485.58	0		576.99	66.43
1	2.00	0.67	0.80	1.50	618.84	0		1.30	9.07
2	2.00	2.00	1.63	14.17	495.66	0		4.33	10.70
3	2.00	0.00	0.00	7.67	598.70	0		0.00	0.00
4	2.00	0.00	0.01	0.00	512.37	0		0.00	0.00

Bg H Bg H

9 of 12

CS 7 of 115 G-53 of 74

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
7-25-02	WATER	DJ HARVEY	2
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
SMPP/TFV	3163		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	7/25/02		

ANALYSES REQUESTED (check):

- ☐ ^3H
- ☐ Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- ☐ Gross Alpha
- ☐ Air Filter – Isotopic Analysis
- ☑ Characterization per MD-80036, Operation #10015
- ☐ Isotopic Analysis: Pu____ U_____ Th____ Am____ Other_____
- ☐ Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS	
0208981	Bldg 27	16	<0.60 nCi/L 3H	<0.18 dpm/mL
0208982		15 Dpt 8-22-02	1.94 nCi/L 3H	<0.18 dpm/mL
			Screening level 2,000 nCi/L ^3H	

COMMENTS:

02-TF-1251 10 of 12 DJH

ANALYZED BY: [signature]

DATE: 8/5/02

ML-5222 (1-01)

C58 of 115 G54 of 74

BWXT of Ohio, Inc.

ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE SUBMITTED:	SAMPLE TYPE:	COLLECTED BY:	NUMBER OF SAMPLES
8-22-02	WATER	HARVEY	3
PROJECT/FUNCTION:	**PRIMARY CONTACT/PHONE NO.:**		**MAIL STOP:**
SMPP/TFV	HARVEY 3163		
CHARGE NUMBER:	**DATE(S) COLLECTED:**	**RSDS# (if applicable):**	**ATTACHMENTS (list):**
	8-22-02	02-TF-1251	

ANALYSES REQUESTED (check):

- [x] ^3H
- [ ] Characterize/Approve for Sanitary or Storm Discharge. Estimate of Total Volume for Release_____ Approved_____
- [x] Gross Alpha
- [ ] Air Filter – Isotopic Analysis
- [ ] Characterization per MD-80036, Operation #10015
- [ ] Isotopic Analysis: Pu____ U____ Th____ Am____ Other____
- [ ] Other _____

ADDITIONAL INFORMATION:

NOTE: Attach additional information (e.g. RSDS, screening results, collection data, and gamma spec. results) if applicable

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE NUMBER	RESULTS		
0210116	BLD 27 Room 12	17	<0.60 nCi/L	3H	<0.20 dpm/mL α
117	BLD 27 Room 200	19	<0.60 nCi/L	3H	<0.21 dpm/mL α
118	BLD 27 Room 14	18	<0.60 nCi/L	3H	0.24 dpm/mL α

NOTE: ALL SAMPLES TAKEN FROM SINK TRAPS

Screening level
2,000 nCi/L 3H

COMMENTS:

02-TF-1251 11 of 12
DJH

ANALYZED BY: [signature] CS9 of 115

DATE: 8/23/02 G-55 of 74

ML-5222 (1-01)

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: ML14741
File ID: MG101790.s0
Priority: Yes

Description\Location
Dirt From Gutter Bldg. #27 Roof
#20

Collector: 6178
Date Received: 8/26/02
Date Collected: 8/22/02

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60		0.05	0.01	45,000
Cs-137		0.56	0.06	45,000
Pb-210		42.64	1.33	45,000
Ra-226		1.37	0.83	800
Ac-227 (D)		0.32	0.2	40
Th-230	*	0	7.3	800
Th-232 (D)	*	0.22	0.26	130
Pu-238	*	0	19.98	500
Am-241	*	0.04	0.08	500

Other Nuclides

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)

Σ_{DOT} 0.07 nCi/g $\Sigma_{Respirator}$ 0.07

$\Sigma_{Respirator}$ <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4

Σ_{DOT} 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.
Sample is Assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation

Instrument type: High Purity Germanium

12 of 12

Comments:

02-TF-1257 Dy #

Date: 8/26/02 Counted By: 5801 Analyzed By: 5801 Initials Gm

C60 of 115

G-56 of 74

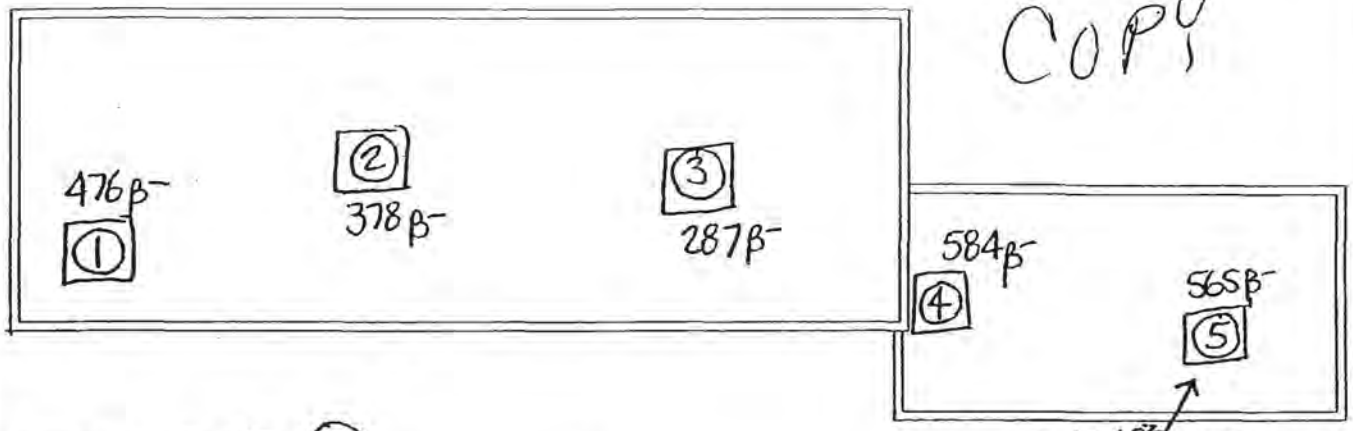
RADIOLOGICAL SURVEY DATA SHEET

1 of 8

LOCATION: (BLDG./AREA/ROOM) BLD 27 ROOF	SURVEY NO. 02-TF-1143
PURPOSE: SCOPING SURVEY I.A.W. SURVEY PLAN 27-01	RWP NO. NA
	DATE: 071102
	TIME: 0730

MAP/DRAWING

COPY



NOTE: SWIPE (#)
DIRECT α W/ L2350 ☐
DIRECT β⁻ W/ ELECTRA (# β⁻)
TAKEN @ EACH LOCATION
BETA READINGS ARE BKD CORRECTED
BETA BKD = 718 DPM

ASH 7-11-02
20 24 569β⁻
QC 05

EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 27
ROOF

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
☐# = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
L2350		
NE ELECTRA	5435/5495	5/8/03
	NA	

Completed by: (Signature)	[redacted]	Date: 071102
Completed by: (Print Name) HARVEY / FILEPPI		
Counted by: (Signature) SEE ATTACHED	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

ML-9620 (2-98) C61 of 115 G57 of 74

Survey No. 02-TF-1143

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1-5	See Attached			Roof
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: N/A

NOTES:

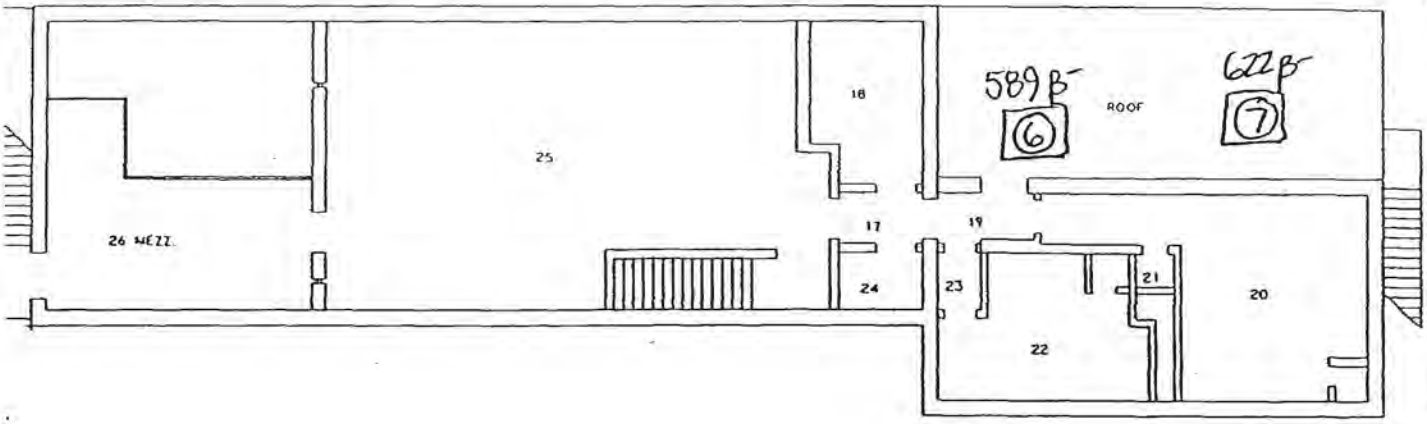
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BLD 27 ROOF	SURVEY NO. 02-TF-1143
PURPOSE: SEE PAGE 1	RWP NO. NA
	DATE: 071102
	TIME: 0730

MAP/DRAWING



EG&G
MOUND APPLIED TECHNOLOGIES
SHALL SCALE FLOOR PLANS

BLDG. 27
SECOND FLOOR

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
SEE PAGE 1		
	N	
	A	

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature) N	HP #	Date:
Counted by: (Print Name) A		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

ML-9620 (2-98) C63 of 115 G59 of 74

Survey No. 02-TF-1143

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
6-7	See Attached			Roof
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

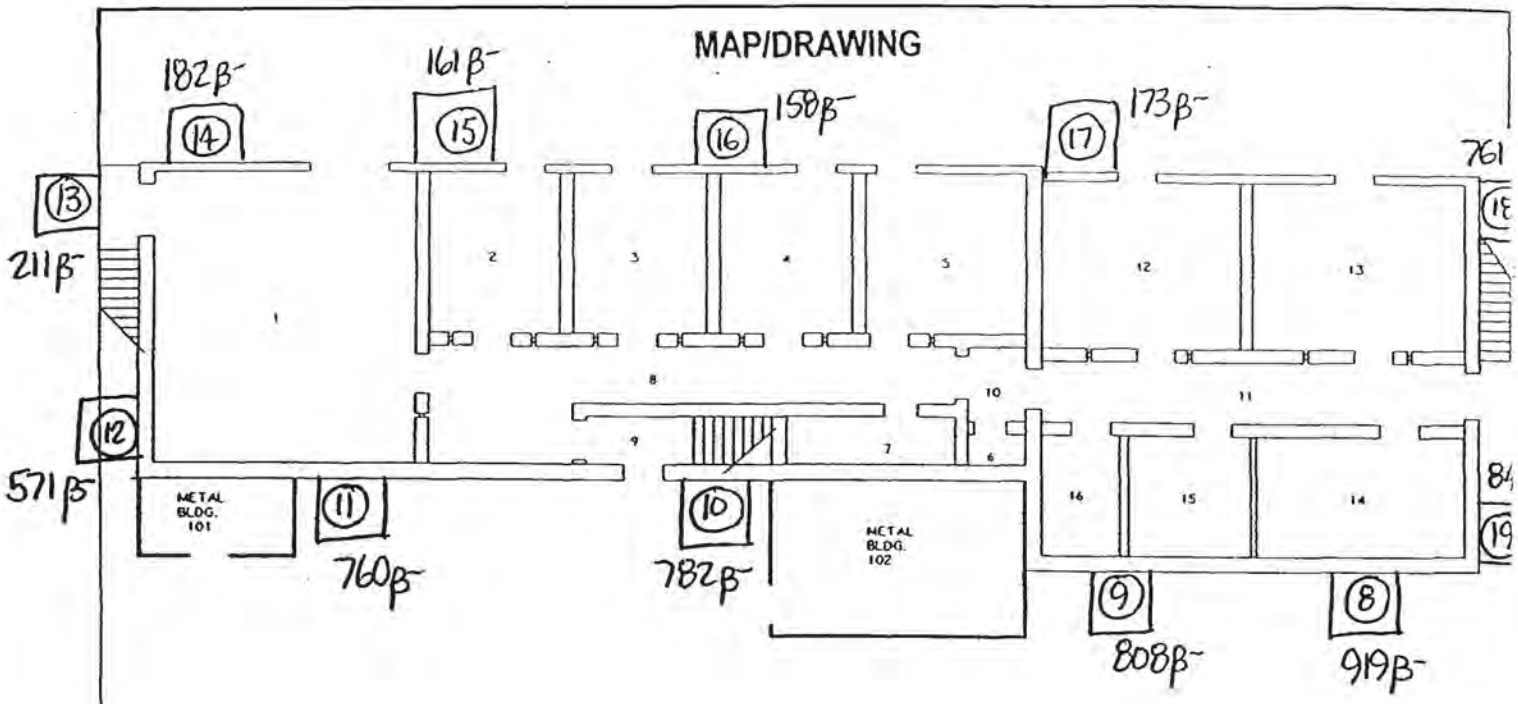
ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

VJ 5 of 8

LOCATION: (BLDG./AREA/ROOM) BLD 27 O/S WALLS	SURVEY NO. 02-TF-1143
PURPOSE: SEE PAGE 1	RWP NO. NA
	DATE: 071102
	TIME: 0730

MAP/DRAWING



EG&G
MOUND APPLIED TECHNOLOGIES
SMALL SCALE FLOOR PLANS
BLDG. 27
FIRST FLOOR

LEGEND:
= mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date

N A

Completed by: (Signature)	HP #	Date:
Completed by: (Print Name)		
Counted by: (Signature)	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	HP #	Date:
Reviewed/Approved by: (Print Name)		

N A

ML-9620 (2-98) C 65 of 115 G 61 of 74

Survey No. 02-TF-1143

Page ____ of ____

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
8-19	See Attached			O/S BLDG
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
			N/A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

27-BLDG ROOF AND EXTERIOR

RSDS# 02-TF-1143 RCT: [illegible] RCT: [illegible]

43-20 BKG:	0	EFF:	0.193	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	3
43-37 BKG:	0	EFF:	0.183	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	4
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5671	[redacted]	5148	3		7/11/02	6:57	1	300	1	
SRCCHECK	5671	[redacted]	5148	3		7/11/02	7:03	2005	60	11479	
SRCCHECK	5671	[redacted]	5148	3		7/11/02	7:05	1983	60	11353	
SRCCHECK	5671	[redacted]	5148	3		7/11/02	7:07	1890	60	10821	
SRCCHECK	5671	[redacted]	5148	3		7/11/02	7:09	1864	60	10672	
R00F 01	5671	[redacted]	5148	3	1	7/11/02	7:39	8	60	46	
R00F 02	5671	[redacted]	5148	3	2	7/11/02	7:41	5	60	29	
R00F 03	5671	[redacted]	5148	3	3	7/11/02	7:43	13	60	74	
R00F 04	5671	[redacted]	5148	3	4	7/11/02	7:46	13	60	74	
R00F 05	5671	[redacted]	5148	3	5	7/11/02	7:48	8	60	46	
R00F 06	5671	[redacted]	5148	3	6	7/11/02	7:53	4	60	23	
R00F 07	5671	[redacted]	5148	3	7	7/11/02	7:56	8	60	46	
PCBLK 08	5671	[redacted]	5148	3	8	7/11/02	8:03	0	60	0	
PCBLK 09	5671	[redacted]	5148	3	9	7/11/02	8:06	4	60	23	
PCBLK 10	5671	[redacted]	5148	3	10	7/11/02	8:12	3	60	17	
PCNCT 11	5671	[redacted]	5148	3	11	7/11/02	8:17	5	60	29	
PCNCT 12	5671	[redacted]	5148	3	12	7/11/02	8:24	2	60	11	
PPLSC 13	5671	[redacted]	5148	3	13	7/11/02	8:27	0	60	0	
PPLSC 14	5671	[redacted]	5148	3	14	7/11/02	8:32	0	60	0	
PPLSC 15	5671	[redacted]	5148	3	15	7/11/02	8:37	0	60	0	
PPLSC 16	5671	[redacted]	5148	3	16	7/11/02	8:39	0	60	0	
PPLSC 17	5671	[redacted]	5148	3	17	7/11/02	8:43	1	60	6	
PCNCT 18	5671	[redacted]	5148	3	18	7/11/02	8:46	2	60	11	
PCBLK 19	5671	[redacted]	5148	3	19	7/11/02	8:49	0	60	0	
QC 05	5671	[redacted]	5148	3	20	7/11/02	12:37	6	60	34	

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Aqua
Data file name: SMEAR001
Batch Ended: 7/11/02 9:57

Crosstalk correction performed.

Recalibration Date: 4/3/03
Serial Number: 26966-1

Batch ID: FILEPPI 02-TF-1143 (19) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.08		0.00	1.36	
A2	2	0.00	2.12		0.00	1.42	
A3	3	0.00	1.96		0.23	1.87	
A4	4	0.00	1.96		0.00	2.33	
B1	5	0.00	2.12		5.05	3.01	
B2	6	0.00	2.14		0.00	1.44	
B3	7	0.00	1.83		0.00	1.41	
B4	8	0.00	1.91		0.00	1.23	
C1	9	0.00	2.13		0.04	1.54	
C2	10	1.82	2.04		0.57	2.10	
C3	11	0.00	2.03		0.00	1.37	
C4	12	1.66	2.30		0.00	1.98	
D1	13	0.00	2.18		0.60	1.98	
D2	14	0.00	2.10		2.37	2.33	
D3	15	1.65	1.97		0.66	2.35	
D4	16	0.00	2.01		0.00	1.45	
A1	17	0.00	2.08		0.00	1.36	
A2	18	0.00	2.13		1.01	1.92	
A3	19	0.00	1.95		0.00	1.42	

Carol Y. Robinson

C6826 115

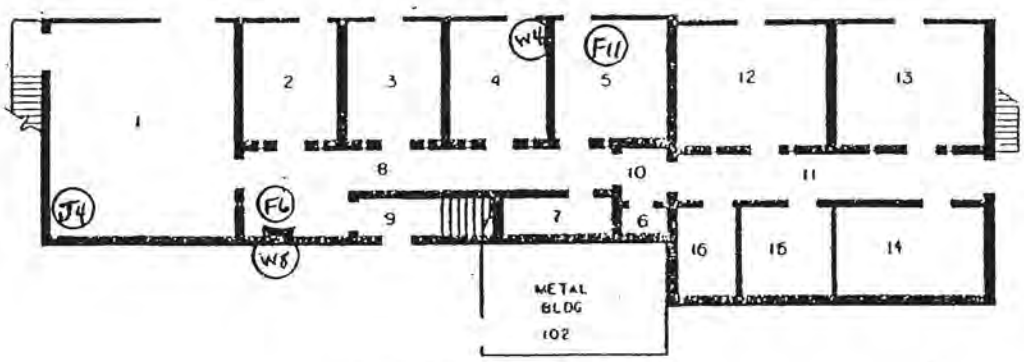
C6426 74

RADIOLOGICAL SURVEY DATA SHEET

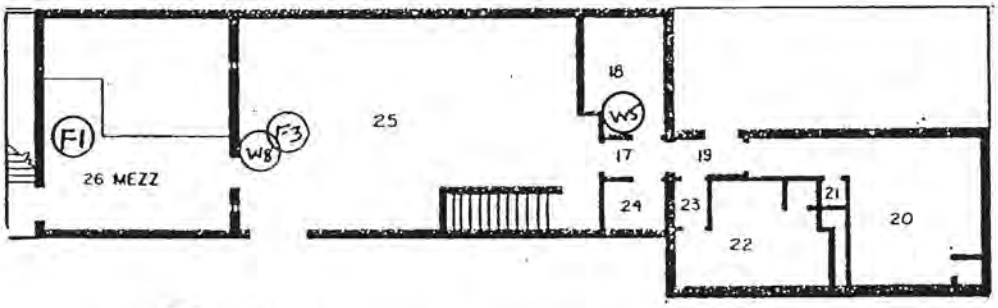
1 of 4

LOCATION: (BLDG./AREA/ROOM) 27 / ALL	SURVEY NO. 02-TF-1460
PURPOSE: SCOPING SURVEY IAW SURVEY PLAN 27-01	RWP NO. N/A
	DATE: 8-29-02
	TIME: 0915

MAP/DRAWING



FIRST FLOOR PLAN



COPY

LEGEND: # = mrem/hr (γ) whole body

= mrem/hr (γ) extremity or contact

= mrem/hr neutron

= air sample number

= swipe number

#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607 / 5608	5-9-03
LUD 2350	5673 / 5676 / 5145	8-13-03
	N/A	

Completed by: (Signature)	HP [redacted]	Date: 9-10-02
Completed by: (Print Name) DANIEL S. HAKUBY / PAT BADLEY		
Counted by: (Signature) N/A	HP #	Date:
Counted by: (Print Name)		
Reviewed/Approved by: (Signature)	H [redacted]	Date: 9-10-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98) C69 of 115 G6 5 of 74

2 of 4

Survey No. 02-TF-1460

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments

N/A

COMMENTS:

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

27-BLDG SCOPING SURVEY QC-CHECK

RSDS# 02-TF-1460 RCT: DgA RCT: [illegible]

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	[redacted]	5676	3		8/29/02	8:10	39	300	13	
SRCCHECK	5673	[redacted]	5676	3		8/29/02	8:12	2113	60	3413	
SRCCHECK	5673	[redacted]	5676	3		8/29/02	8:14	2175	60	3514	
SRCCHECK	5673	[redacted]	5676	3		8/29/02	8:15	2255	60	3643	
SRCCHECK	5673	[redacted]	5676	3		8/29/02	8:17	2156	60	3483	
SRCCHECK	5673	[redacted]	5676	3		8/29/02	8:19	2238	60	3615	
SRCCHECK	5673	[redacted]	5676	3		8/29/02	8:20	2170	60	3505	
SRCBKG	5673	[redacted]	5143	2		8/29/02	8:27	2	300	3	
SRCCHECK	5673	[redacted]	5143	2		8/29/02	8:30	2169	60	13934	
SRCCHECK	5673	[redacted]	5143	2		8/29/02	8:31	2207	60	14178	
SRCCHECK	5673	[redacted]	5143	2		8/29/02	8:33	2149	60	13806	
SRCCHECK	5673	[redacted]	5143	2		8/29/02	8:34	2157	60	13857	
		[redacted]									
QC W4	5673	[redacted]	5143	2	1	8/29/02	8:53	0	60	0	
QC W8	5673	[redacted]	5143	2	2	8/29/02	8:55	2	60	13	
QC J4	5673	[redacted]	5143	2	3	8/29/02	8:57	1	60	6	
QC F6	5673	[redacted]	5676	3	4	8/29/02	9:00	11	60	18	
QC F11	5673	[redacted]	5676	3	5	8/29/02	9:02	7	60	11	
QC F01	5673	[redacted]	5676	3	6	8/29/02	9:06	7	60	11	
QC F03	5673	[redacted]	5676	3	7	8/29/02	9:08	13	60	21	
QC W08	5673	[redacted]	5143	2	8	8/29/02	9:11	0	60	0	
QC W05	5673	[redacted]	5143	2	9	8/29/02	9:13	2	60	13	

C7106 115

G670674

27-BLDG MARSSIM BETA SURVEY QC-CHECK

RSDS# 02-TF-0839 RCT: DJA RCT: [illegible]

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2
QC W4	5607	[redacted]	5608	1	8/29/02	60	347
QC W8	5607	[redacted]	5608	2	8/29/02	60	855
QC J4	5607	[redacted]	5608	3	8/29/02	60	40
QC F6	5607	[redacted]	5608	4	8/29/02	60	791
QC F11	5607	[redacted]	5608	5	8/29/02	60	586
QC F01	5607	[redacted]	5608	6	8/29/02	60	889
QC F03	5607	[redacted]	5608	7	8/29/02	60	821
QC W08	5607	[redacted]	5608	8	8/29/02	60	-133
QC W05	5607	[redacted]	5608	9	8/29/02	60	840
BETA BACKGROUND FOR 8-29-2002 WAS 901 dpm/ 100cm2							

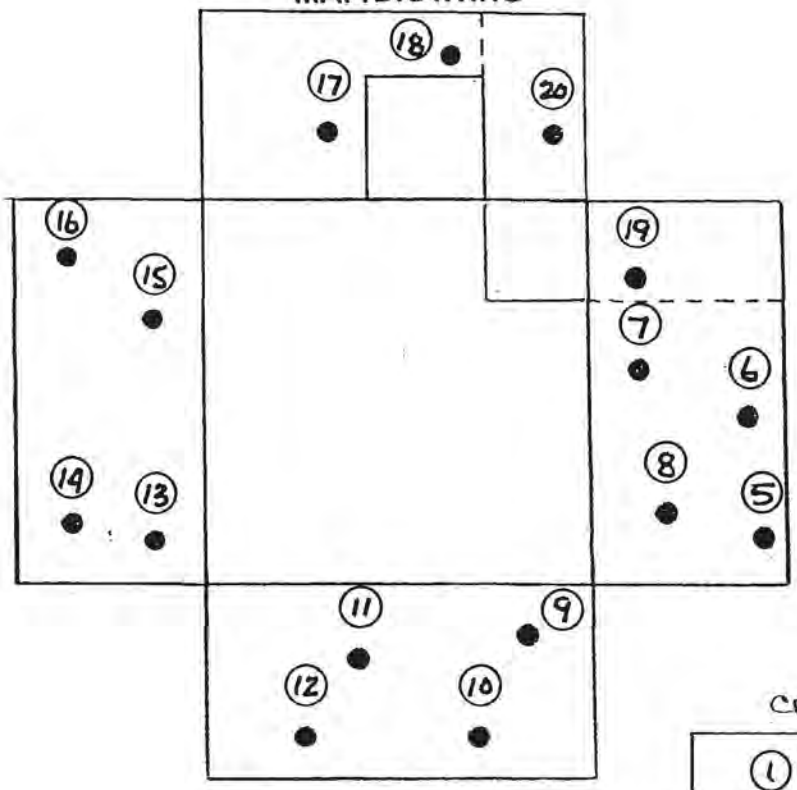
RADIOLOGICAL SURVEY DATA SHEET

pg. 1 of 6

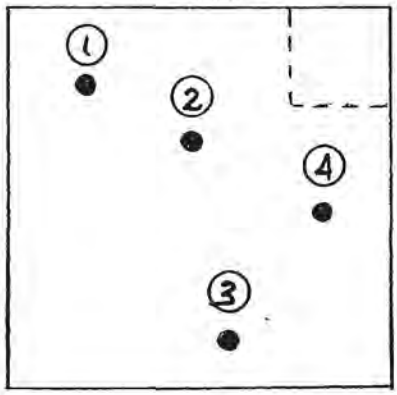
1457

LOCATION: (BLDG./AREA/ROOM) 94 / 3	SURVEY NO. 02-TF-1458 7
PURPOSE: CHARACTERIZATION	RWP NO. N/A PGR 9-5-02
	DATE: 8/29/02
	TIME: 1400

MAP/DRAWING



CEILING



NOTE: ALL LOCATIONS, READINGS, & SMEARS PERFORMED IAW SURVEY PLAN 94-01

LEGEND: # = mrem/hr (γ) whole body
[illegible] = mrem/hr (γ+n) extremity or contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-9-03
LWD 2350	5673/5143	8-13-03
	N	
	A	

Completed by: (Signature)	H [redacted]	Date: 8-29-02
Completed by: (Print Name) PG RADLEY / DJ HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature)	HP # [redacted]	Date: 9-5-02
Reviewed/Approved by: (Print Name) RNCoblentz		

ML-9620 (2-98) C73 of 115 G 69 of 74

Survey No. 02-TF-1459

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			CEILING
2	↓	↓	↓	↓
3				
4				
5				WALL
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

94-BLDG CHARACTERIZATION SURVEY

RSDS# 02-TF-1457 RCT: [illegible] RCT: [illegible]

43-20 BKG:	0	EFF:	0.172	PROBE AREA:	181	cm2	Surface Eff:		0.5	Detector # :	2
43-37 BKG:	0	EFF:	0.212	PROBE AREA:	584	cm2	Surface Eff:		0.5	Detector # :	3
LOCATION	2350#	RCT ID	PROBE	DET #	ITEM #	DATE	TIME	CNTS	CT TIME	dpm/100cm2	
SRCBKG	5673	[redacted]	5143	2		8/27/02	8:27	2	300	3	
SRCCHECK	5673	[redacted]	5143	2		8/27/02	8:30	2192	60	14082	
SRCCHECK	5673	[redacted]	5143	2		8/27/02	8:31	2101	60	13497	
SRCCHECK	5673	[redacted]	5143	2		8/27/02	8:32	2005	60	12881	
SRCCHECK	5673	[redacted]	5143	2		8/27/02	8:34	2159	60	13870	
RM3WC 01	5673	[redacted]	5143	2	1	8/27/02	8:40	1	60	6	
RM3WC 02	5673	[redacted]	5143	2	2	8/27/02	8:46	6	60	39	
RM3WC 03	5673	[redacted]	5143	2	3	8/27/02	8:52	2	60	13	
RM3WC 04	5673	[redacted]	5143	2	4	8/27/02	8:56	3	60	19	
RM3WC 05	5673	[redacted]	5143	2	5	8/27/02	9:04	0	60	0	
RM3WC 06	5673	[redacted]	5143	2	6	8/27/02	9:06	4	60	26	
RM3WC 07	5673	[redacted]	5143	2	7	8/27/02	9:10	3	60	19	
RM3WC 08	5673	[redacted]	5143	2	8	8/27/02	9:12	7	60	45	
RM3WC 09	5673	[redacted]	5143	2	9	8/27/02	9:14	2	60	13	
RM3WC 10	5673	[redacted]	5143	2	10	8/27/02	9:17	1	60	6	
RM3WC 11	5673	[redacted]	5143	2	11	8/27/02	9:20	2	60	13	
RM3WC 12	5673	[redacted]	5143	2	12	8/27/02	9:22	2	60	13	
RM3WC 13	5673	[redacted]	5143	2	13	8/27/02	9:24	3	60	19	
RM3WC 14	5673	[redacted]	5143	2	14	8/27/02	9:26	1	60	6	
RM3WC 15	5673	[redacted]	5143	2	15	8/27/02	9:29	5	60	32	
RM3WC 16	5673	[redacted]	5143	2	16	8/27/02	9:31	0	60	0	
RM3WC 17	5673	[redacted]	5143	2	17	8/27/02	9:34	1	60	6	
RM3WC 18	5673	[redacted]	5143	2	18	8/27/02	9:36	2	60	13	
RM3WC 19	5673	[redacted]	5143	2	19	8/27/02	9:40	5	60	32	
RM3WC 20	5673	[redacted]	5143	2	20	8/27/02	9:42	5	60	32	
QC 15	5673	[redacted]	5143	2	1	8/29/02	8:39	1	60	6	
QC 03	5673	[redacted]	5143	2	2	8/29/02	8:41	1	60	6	

C75 of 115

G71 of 74

94-BLDG CHARACTERIZATION BETA SURVEY

RSDS# 02-TF-1457 RCT: [illegible] RCT: DJH

LOCATION	electra	RCT ID	PROBE	ITEM #	DATE	CT TIME	dpm/100cm2
RM3WC 01	5607	[redacted]	5608	1	8/27/02	60	264.0
RM3WC 02	5607	[redacted]	5608	2	8/27/02	60	250.0
RM3WC 03	5607	[redacted]	5608	3	8/27/02	60	177.0
RM3WC 04	5607	[redacted]	5608	4	8/27/02	60	240.0
RM3WC 05	5607	[redacted]	5608	5	8/27/02	60	-1.6
RM3WC 06	5607	[redacted]	5608	6	8/27/02	60	133.0
RM3WC 07	5607	[redacted]	5608	7	8/27/02	60	5.9
RM3WC 08	5607	[redacted]	5608	8	8/27/02	60	49.8
RM3WC 09	5607	[redacted]	5608	9	8/27/02	60	108.0
RM3WC 10	5607	[redacted]	5608	10	8/27/02	60	-42.9
RM3WC 11	5607	[redacted]	5608	11	8/27/02	60	30.2
RM3WC 12	5607	[redacted]	5608	12	8/27/02	60	108.0
RM3WC 13	5607	[redacted]	5608	13	8/27/02	60	59.5
RM3WC 14	5607	[redacted]	5608	14	8/27/02	60	1.0
RM3WC 15	5607	[redacted]	5608	15	8/27/02	60	1.0
RM3WC 16	5607	[redacted]	5608	16	8/27/02	60	30.2
RM3WC 17	5607	[redacted]	5608	17	8/27/02	60	-33.2
RM3WC 18	5607	[redacted]	5608	18	8/27/02	60	-3.9
RM3WC 19	5607	[redacted]	5608	19	8/27/02	60	44.9
RM3WC 20	5607	[redacted]	5608	20	8/27/02	60	377.0
QC 15	5607	[redacted]	5608	1	8/29/02	60	-8.8
QC 03	5607	[redacted]	5608	2	8/29/02	60	133.0
BETA BACKGROUND FOR 8-27-2002 WAS 872 dpm/ 100cm2							
BETA BACKGROUND FOR 8-29-2002 WAS 901 dpm/ 100cm2							

C7606 115

G-72 of 74

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200208291255	Count Date:	8/29/2002
Group:	I	Count Minutes:	1.5
Serial Number:	78218-1	Count Mode:	Simultaneous
Batch ID:	02-TF-1457 HARVEY(20) BSB	Operating Volts:	1410
Selected Geometry:	Swipe/Smear	Cal Due Dates:	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	Alpha to Beta:	11.39	±	0.00
Beta:	46.13	±	0.13	Beta to Alpha:	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	52	2.18	1.92	2.58	2.05
2	69	0.00	0.00	0.00	0.00
3	17	2.19	1.92	1.21	1.45
4	61	0.00	0.00	0.00	0.00
5	21	0.00	0.00	1.37	1.45
6	64	0.00	0.00	2.74	2.04
7	41	0.00	0.00	4.11	2.50
8	4	0.00	0.00	5.48	2.89
9	78	0.00	0.00	0.00	0.00
10	3	0.00	0.00	4.11	2.50
11	63	0.00	0.00	0.00	0.00
12	43	0.00	0.00	2.74	2.04
13	15	0.00	0.00	1.37	1.45
14	9	0.00	0.00	1.37	1.45
15	64	0.00	0.00	1.37	1.45
16	28	0.00	0.00	0.00	0.00
17	38	0.00	0.00	2.74	2.04
18	13	0.00	0.00	2.74	2.04
19	50	0.00	0.00	2.74	2.04
20	34	0.00	0.00	0.00	0.00

✓PGR ✓PGR

B S Brown

Batch ID: 02-TF-1457 HARVEY(20) BSB

29 Aug 2002 15:06 ALPHA/BETA - 1.09 Page #1
Protocol #: 4 PW H3 #403727 User : 5268

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	4.36
Region B:	2.0	- 18.6	0	0.0	4.29
Region C:	40.0	- 2000	0	0.0	10.86

Quench Indicator: tSIE/AEC
~~Ext Std Terminator: Count~~
02-TF-1457 HARVEY(20) BSB
~~Luminescence Correction On~~
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT4.dat
Count Data Filename: C:\DATA\SDATA4.DAT

BJBrown

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	4.36	4.29	10.86	536.32	0	B		0.00
0	2.00	314.50	308.27	1.64	486.91	0		688.58	74.87
1	2.00	4.07	3.86	0.00	604.89	0		8.01	8.50
2	2.00	3.10	3.17	1.64	636.09	0		5.97	7.86
3	2.00	5.14	5.21	2.14	650.64	0		9.80	8.71
4	2.00	2.64	2.71	0.00	585.64	0		5.27	7.91
5	2.00	3.14	3.21	0.00	610.96	0		6.15	8.02
6	2.00	1.64	1.21	0.00	640.23	0		3.15	7.11
7	2.00	5.14	4.86	0.00	641.32	0		9.85	8.75
8	2.00	0.00	0.00	0.00	655.37	0		0.00	0.00
9	2.00	5.99	6.05	0.64	678.32	0		11.26	8.94
10	2.00	1.17	1.23	0.00	610.48	0		2.29	7.00
11	2.00	0.00	0.00	3.64	627.73	0		0.00	0.00
12	2.00	1.64	1.71	0.00	667.67	0		3.11	7.01
13	2.00	3.64	3.29	5.14	677.64	0		6.85	7.93
14	2.00	0.79	0.85	0.00	676.48	0		1.48	6.52
15	2.00	5.12	5.18	1.64	696.00	0		9.53	8.50
16	2.00	2.64	2.25	1.14	699.10	0		4.92	7.39
17	2.00	4.55	4.12	0.00	633.24	0		8.77	8.55
18	2.00	1.85	1.91	3.13	703.71	0		3.43	6.98
19	2.00	1.64	1.32	0.00	662.22	0		3.11	7.03
20	2.00	2.90	2.47	0.00	683.29	0		5.44	7.57

✓ PGR

Flammable Solvent Shed - RSDSs Prior to Demolition

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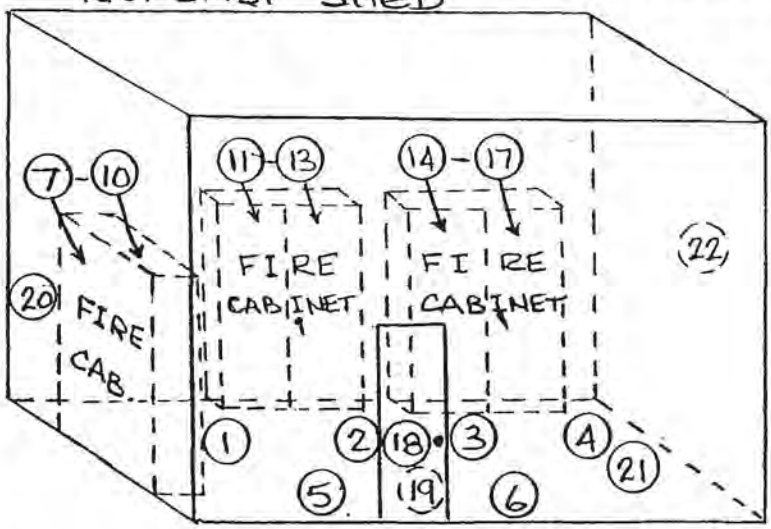
RADIOLOGICAL SURVEY DATA SHEET

Pg 1 of 6

LOCATION: (BLDG./AREA/ROOM) 27 / O/S SHEDS	SURVEY NO. 02-TF-1470
PURPOSE: INVESTIGATIONAL	RWP NO. N/A
	DATE: 9-13-02
	TIME: 0900

MAP/DRAWING

NO. EAST SHED

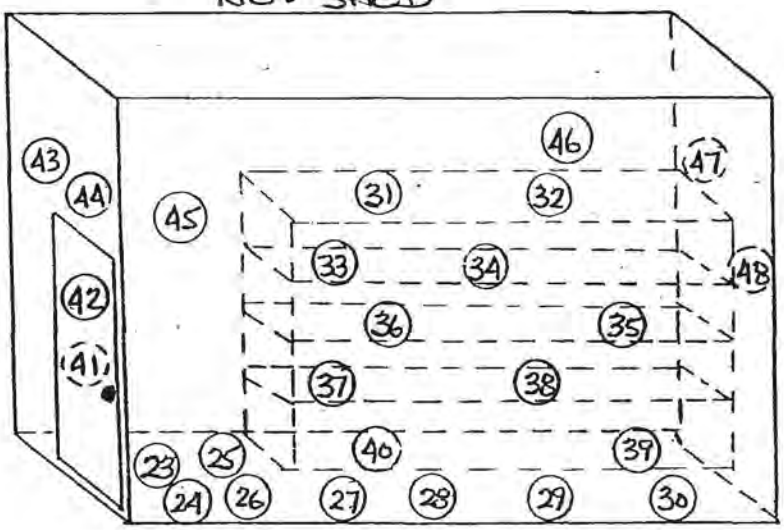


NOTE: INTEGRATED COUNT PERFORMED IF ALPHA AUDIBLE DETECTED. ALL DIRECT READINGS INDICATE:

<100 α <5K β

COPY

NO. SHED



LEGEND: # = mrem/hr (γ) whole body

[illegible] γ/β extending on contact

= mrem/hr neutron

= air sample number

= swipe number

α/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
ELECTRA	5607/5608	5-9-03
	N	
	A	

Completed by: (Signature)	H[redacted]	Date: 9-17-01
Completed by: (Print Name) PG KADLEY / DJ HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 9-23-02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

C81 of 115

Survey No. 02-TF-1470

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	FLOOR
2	↓	↓	↓	↓
3				
4				
5				
6				↓
7				CABINET SHELVES
8				↓
9				
10				
11				
12				
13				
14				
15				
16				
17				↓
18				I/S DOOR
19				O/S ↓
20				O/S SHED
21				↓
22				↓
23				FLOOR
24				↓
25				
26				
27				
28				
29				
30				↓
31				CABINET SHELVES
32				↓
33				
34				
35	↓	↓	↓	↓

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Commen
36	SEE	ATTACHED		CABINET SHE
37	↓	↓	↓	↓
38				
39				↓
40				CABINET SHE
41				I/S DOO
42				O/S DOO
43				O/S SHE
44				↓
45				
46				
47				
48	↓	↓	↓	↓
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of resu are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

02-TF-1470

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR008
Batch Ended: 9/13/02 9:02

Crosstalk correction performed.

Batch ID: RADLEY 02-TF-1470 (48) CYR

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	1.7	2.1		0.0	1.4	
A2	2	1.9	2.2		0.5	2.0	
A3	3	3.7	2.8		0.0	1.4	
A4	4	1.7	1.9		0.0	1.4	
B1	5	0.0	2.1		7.5	3.9	
B2	6	1.6	2.0		1.2	2.4	
B3	7	3.4	2.7		0.0	1.7	
B4	8	0.0	1.9		2.8	2.4	
C1	9	1.8	2.1		1.6	2.2	
C2	10	1.8	2.0		0.0	1.4	
C3	11	1.7	1.9		0.9	1.7	
C4	12	0.0	1.9		1.1	1.7	
D1	13	4.3	3.2		1.7	2.3	
D2	14	0.0	2.1		0.0	2.0	
D3	15	0.0	2.0		2.0	2.2	
D4	16	0.0	2.1		1.4	2.2	
A1	17	0.0	2.1		0.8	2.0	
A2	18	0.0	2.2		0.0	1.5	
A3	19	0.0	2.0		2.0	2.2	
A4	20	0.0	2.0		3.9	2.8	
B1	21	9.2	4.4		9.2	4.3	
B2	22	1.6	2.0		0.0	1.6	
B3	23	9.0	4.3		10.6	4.0	
B4	24	5.3	3.3		3.5	2.7	
C1	25	0.0	2.1		1.8	2.2	
C2	26	0.0	2.1		3.7	2.6	
C3	27	1.7	1.9		0.0	1.2	
C4	28	0.0	2.0		3.4	2.4	
D1	29	0.0	2.3		0.7	1.9	
D2	30	0.0	2.1		0.0	1.5	
D3	31	3.7	2.8		1.7	2.2	

PGR PGR

C83 of 115

1-42

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR008
Batch Ended: 9/13/02 9:02

Crosstalk correction performed.

Batch ID: RADLEY 02-TF-1470 (48) CYR

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
D4	32	0.0	2.1		2.6	2.5	
A1	33	0.0	2.2		4.8	3.0	
A2	34	4.0	3.1		1.7	2.4	
A3	35	0.0	2.0		0.0	1.4	
A4	36	0.0	1.9		0.0	1.4	
B1	37	0.0	2.1		10.0	4.3	
B2	38	1.6	2.0		0.0	1.6	
B3	39	0.0	1.9		0.0	1.3	
B4	40	0.0	1.9		2.8	2.4	
C1	41	0.0	2.0		0.6	1.8	
C2	42	1.8	2.0		0.0	1.4	
C3	43	0.0	1.9		1.1	1.7	
C4	44	0.0	1.9		1.1	1.7	
D1	45	0.0	2.3		0.0	1.4	
D2	46	0.0	2.2		1.3	2.3	
D3	47	0.0	2.0		4.4	2.8	
D4	48	0.0	2.0		0.0	1.4	

PGR PGR

C8468 115

Protocol #: 1 Name:Pw H3 #401393 13-Sep-2002 09:48
Region A: LL-UL= 0.5-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region B: LL-UL= 2.0-18.6 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Region C: LL-UL=40.0-2000 Lcr= 0 Bkg= 0.00 %2 Sigma=0.00
Time = 2.00 QIP = tSIE/AEC ES Terminator = Count
RADLEY 02-TF-1470 (C1-C48) CYR
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	A:2S%
-1	10.00	12	B	3.28	3.61	5.29	702.		34.94
0	2.00	1		617.05	593.42	1.71	534.	1502.88	5.75
1	2.00	0		0.41	0.00	3.21	627.	0.90	718.1
2	2.00	4		11.69	10.44	1.21	580.	26.99	49.41
3	2.00	22		0.66	0.21	1.21	578.	1.53	554.8
4	2.00	0		0.72	0.22	0.00	543.	1.74	421.6
5	2.00	27		0.00	0.00	0.71	580.	0.00	0.00
6	2.00	22		0.00	0.00	0.00	542.	0.00	0.00
7	2.00	0		1.22	0.16	0.00	584.	2.81	262.4
8	2.00	4		8.54	6.58	2.71	636.	18.61	60.90
9	2.00	0		2.22	1.63	3.61	519.	5.52	157.8
10	2.00	0		4.22	3.89	4.71	604.	9.50	95.62
11	2.00	14		0.19	0.16	0.21	571.	0.45	1677.
12	2.00	0		2.72	2.02	0.00	555.	6.47	134.0
13	2.00	13		0.36	0.00	0.71	428.	1.01	921.5
14	2.00	11		1.19	0.94	0.00	583.	2.74	295.0
15	2.00	0		0.00	0.00	1.71	540.	0.00	0.00
16	2.00	0		5.72	4.89	4.21	577.	13.26	76.77
17	2.00	10		1.69	1.40	0.00	626.	3.72	216.0
18	2.00	9		2.50	2.25	0.00	572.	5.81	155.0
19	2.00	0		1.72	1.39	0.00	538.	4.18	195.1
20	2.00	14		3.16	3.21	2.21	584.	7.27	135.8
21	2.00	0		5.38	5.05	11.21	562.	12.67	80.20
22	2.00	0		2.22	1.39	2.71	602.	5.01	157.8
23	2.00	0		4.72	4.16	10.54	584.	10.86	88.08
24	2.00	12		0.69	0.18	7.71	593.	1.58	487.1
25	2.00	7		3.69	2.91	0.00	609.	8.27	112.9
26	2.00	0		2.06	1.40	0.00	541.	4.98	167.9
27	2.00	24		0.00	0.00	0.21	490.	0.00	0.00
28	2.00	0		1.22	0.78	1.21	509.	3.08	262.4
29	2.00	0		3.72	3.21	0.71	552.	8.88	105.1
30	2.00	0		0.72	0.39	0.00	510.	1.82	421.6
31	2.00	20		1.16	1.21	2.71	565.	2.72	327.5
32	2.00	0		0.00	0.00	5.21	582.	0.00	0.00
33	2.00	12		0.69	0.15	2.21	566.	1.62	487.3
34	2.00	14		0.19	0.03	3.71	467.	0.51	1689.
35	2.00	9		2.12	2.07	0.21	547.	5.08	177.9
36	2.00	0		2.72	2.37	0.71	453.	7.42	134.0
37	2.00	12		0.69	0.66	0.00	573.	1.61	487.3
38	2.00	0		1.72	0.75	0.21	572.	4.02	195.1
39	2.00	0		0.00	0.00	0.00	540.	0.00	0.00
40	2.00	0		2.22	1.89	1.21	586.	5.10	157.8
41	2.00	0		0.00	0.00	1.21	453.	0.00	0.00
42	2.00	9		2.19	2.03	0.00	463.	5.88	173.1
43	2.00	0		0.22	0.00	0.21	535.	0.54	1288.

→ PGR

C85 of 115

Pg. 5 of 6

02-TF-1470

SAMP	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	A:2S%
44	2.00	0		0.00	0.00	0.00	499.	0.00	0.00
45	2.00	12		0.90	0.83	0.21	532.	2.19	383.0
46	2.00	12		0.69	0.00	0.00	501.	1.76	488.0
47	2.00	14		0.08	0.00	0.00	477.	0.21	3911.
48	2.00	0		1.22	0.53	0.00	550.	2.92	262.4

→ P6R

Pg. 6 of 6

C86 6 115

RADIOLOGICAL SURVEY DATA SHEET

1 of 4

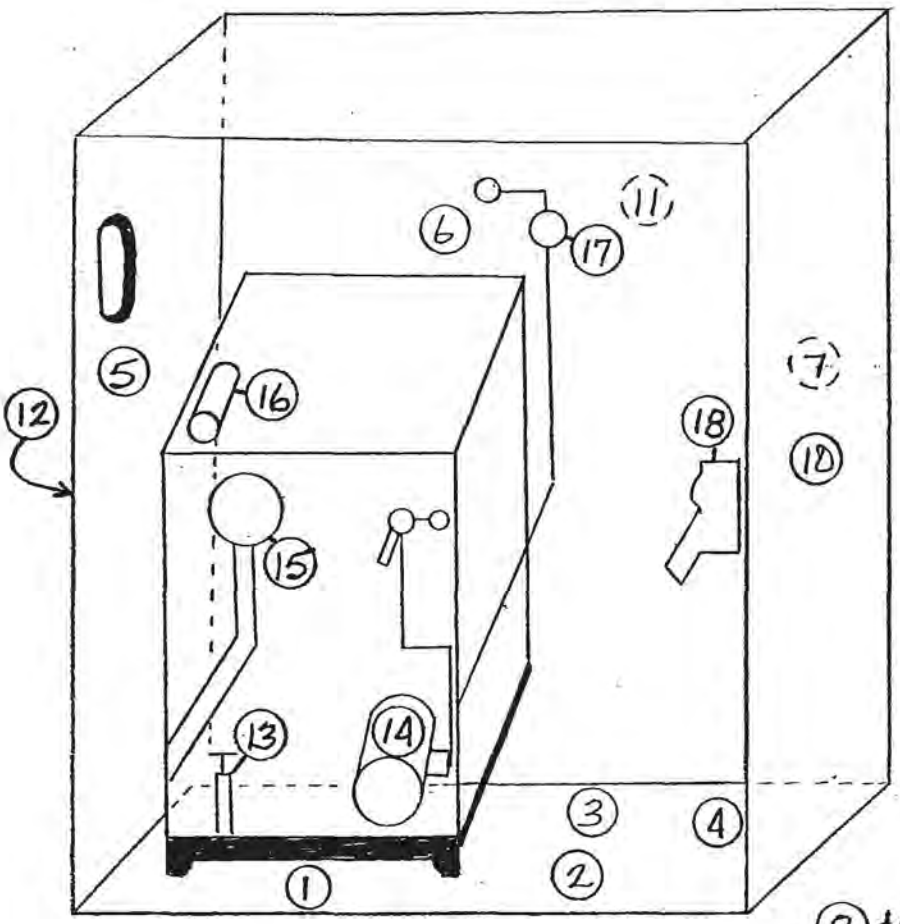
LOCATION: (BLDG./AREA/ROOM) 271 O/S E. SHED	SURVEY NO. 02-TF-1486
PURPOSE: CHARACTERIZATION	RWP NO. N/A
	DATE: 10-3-02
	TIME: 1400

MAP/DRAWING

NOTE: INTEGRATED COUNT PERFORMED IF ALPHA AUDIBLE DETECTED.

ALL DIRECT FRISK READINGS INDICATE:

<100 α <5K β



COPY

(8) & (9) I/S - O/S DOOR - RESP.

LEGEND: # = mrem/hr (γ) whole body

[illegible] γ/α Contacts

= mrem/hr neutron

= air sample number

= swipe number

#/α or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5711/5811	9-30-03
	N	
	A	

Completed by: (Signature) PG Kadley / D. Harvey	H[redacted]	Date: 10-8-02
Completed by: (Print Name) PG KADLEY / D.J. HARVEY		
Counted by: (Signature) SEE	HP #:	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RM Coblentz	[redacted]	Date: 10-11-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No. 02-TF-1486

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			E. SHED
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
		N/A	N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A	N/A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

C88 86:15

Alpha/Beta Analysis

Batch ID:	Smear Unit 1 - 200210031435	**Count Date:**	10/3/2002
Group:	J	**Count Minutes:**	1.5
Serial Number:	78218-1	**Count Mode:**	Simultaneous
Batch ID:	02-TF-1486 RADLEY(18) BSB	**Operating Volts:**	1410
Selected Geometry:	Swipe/Smear	**Cal Due Dates:**	6/19/2004

Efficiency (%)				Spillover (%)			
Alpha:	34.73	±	0.13	**Alpha to Beta:**	11.39	±	0.00
Beta:	46.13	±	0.13	**Beta to Alpha:**	0.07	±	0.00

Sample ID	Carrier ID	Alpha (dpm)	σ	Beta (dpm)	σ
1	94	0.00	0.00	4.11	2.50
2	61	0.00	0.00	2.74	2.04
3	73	0.00	0.00	2.74	2.04
4	47	0.00	0.00	0.00	0.00
5	73	2.18	1.92	2.58	2.05
6	72	0.00	0.00	4.11	2.50
7	8	0.00	0.00	2.74	2.04
8	4	8.74	3.84	2.12	2.07
9	57	2.19	1.92	0.00	0.16
10	32	2.19	1.92	0.00	0.16
11	37	2.19	1.92	1.21	1.45
12	31	4.37	2.72	1.06	1.46
13	55	0.00	0.00	4.11	2.50
14	10	2.19	1.92	1.21	1.45
15	33	2.18	1.92	5.32	2.90
16	44	0.00	0.00	2.74	2.04
17	27	0.00	0.00	2.74	2.04
18	62	2.17	1.92	20.40	5.60
~~19~~	~~62~~	4.35	2.72	17.50	5.22

Delete Duplicate 10/7/02 [illegible]

PGR PGR

BJBrown

02-TF-1486

07 Oct 2002 06:28 ALPHA/BETA - 1.08 Page #1
Protocol #: 1 PW H3 #403727 User : 526

Time: 2.00
Data Mode: DPM Nuclide: SMGLS02 Quench Set: SMGLS02
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	6.69
Region B:	2.0	18.6	0	0.0	6.63
Region C:	40.0	2000	0	0.0	12.00

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
02-TF-1486 RADLEY~~(10)~~ BSB (48) 10/7/02
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT1.DAT
Count Data Filename: C:\DATA\SDATA1.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.69	6.63	12.00	597.87	0	B		0.00
0	2.00	487.03	471.38	4.00	531.52	0		1009.64	98.57
1	2.00	0.00	0.00	2.00	419.01	0		0.00	0.00
2	2.00	0.00	0.00	0.00	382.35	0		0.00	0.00
3	2.00	1.97	2.02	3.00	494.32	0		4.27	9.70
4	2.00	0.00	0.00	0.00	447.93	0		0.00	0.00
5	2.00	2.31	1.94	0.00	567.46	0		4.67	9.19
6	2.00	1.90	0.96	0.00	584.62	0		3.79	8.89
7	2.00	0.00	0.00	2.22	535.04	0		0.00	0.00
8	2.00	0.00	0.00	5.50	230.52	0		0.00	0.00
9	2.00	3.81	3.52	2.00	640.91	0		7.31	9.34
10	2.00	2.81	2.37	0.00	671.67	0		5.30	8.79
11	2.00	0.81	0.87	0.50	595.67	0		1.61	8.32
12	2.00	2.31	2.37	0.00	601.70	0		4.55	8.96
13	2.00	2.79	2.84	0.00	429.27	0		6.59	10.99
14	2.00	0.00	0.00	0.00	266.92	0		0.00	0.00
15	2.00	0.81	0.87	3.00	468.94	0		1.82	9.42
16	2.00	1.11	1.06	0.00	507.61	0		2.38	9.12
17	2.00	3.81	3.56	0.00	617.32	0		7.43	9.49
18	2.00	6.81	6.37	0.00	529.36	0		14.16	11.37

PGR

RSDSs After Demolition

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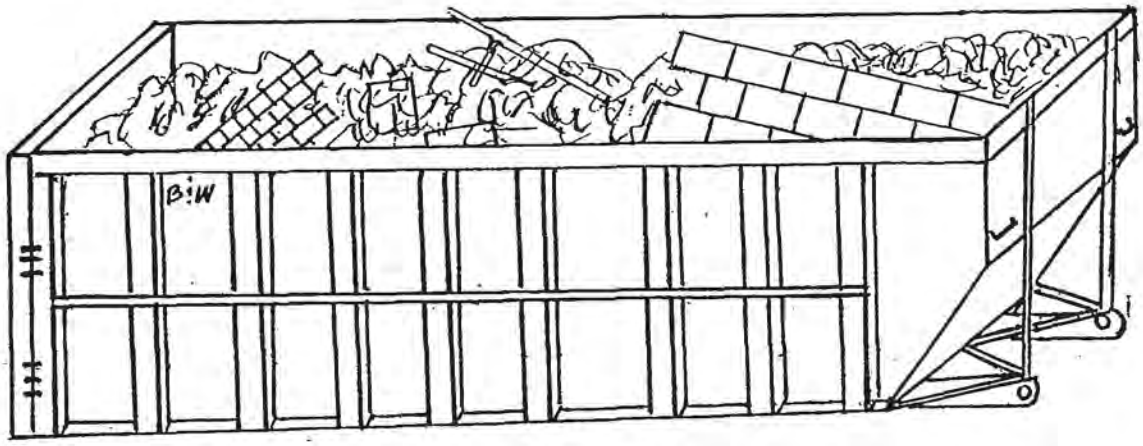
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 / O/S	SURVEY NO. 02-TF-1801
PURPOSE: ROLL OFFS - B&W #4 & #11	RWP NO. N/A
RELEASE TO WASTE MGMT.	DATE: 10-24-02
	TIME: 1300

MAP/DRAWING

SMEARS # (1) THRU (10) TAKEN ON ROLL-OFF B&W #4 (INSIDE)

SMEARS # (11) THRU (20) TAKEN ON ROLL-OFF B&W #11 (INSIDE)



COPY

NOTE: INTEGRATED COUNT PERFORMED IF ALPHA AUDIBLE DETECTED.

DIRECT FRISK RESULTS INDICATE: <100 α <5K β

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5711/5811	9-30-03
	N	
	A	

Completed by: (Signature) PGKadley DJHarvey	HP [redacted]	Date: 10-24-01
Completed by: (Print Name) PG KADLEY / DJ HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 10-28-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620 (2-98)

Survey No.
02-TF-1801

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			I/S B&W #4
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				I/S B&W #11
12				
13				
14				
15				
16				
17				
18				
19				
20				
		N/A	N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A	N/A	

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

C94-6 115

Alpha/Beta Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR003
Batch Ended: 10/24/2002 8:43
Recalibration Date: 7/8/2004
Serial Number: 64575

Batch ID: HARVEY 02-TF-1801 [20] JC

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	2.0		1.3	1.9	
A2	2	0.0	2.0		4.8	2.9	
A3	3	0.0	1.8		0.0	1.3	
A4	4	0.0	1.9		0.9	1.7	
B1	5	0.0	2.1		0.0	1.4	
B2	6	0.0	2.2		2.7	2.5	
B3	7	1.7	2.0		2.3	2.5	
B4	8	3.6	2.8		0.5	1.8	
C1	9	0.0	2.1		4.3	2.8	
C2	10	0.0	2.0		0.7	1.8	
C3	11	0.0	1.8		2.1	2.0	
C4	12	0.0	1.8		0.0	1.3	
D1	13	1.9	2.1		0.8	1.9	
D2	14	0.0	2.1		0.1	1.4	
D3	15	0.0	2.0		0.0	1.3	
D4	16	0.0	2.0		0.0	1.3	
A1	17	0.0	2.0		0.0	1.4	
A2	18	0.0	2.0		0.9	1.9	
A3	19	0.0	1.9		3.0	2.5	
A4	20	0.0	1.9		0.0	1.3	

→ PGR → PGR

J. Collins
10-24-02

C9502 115

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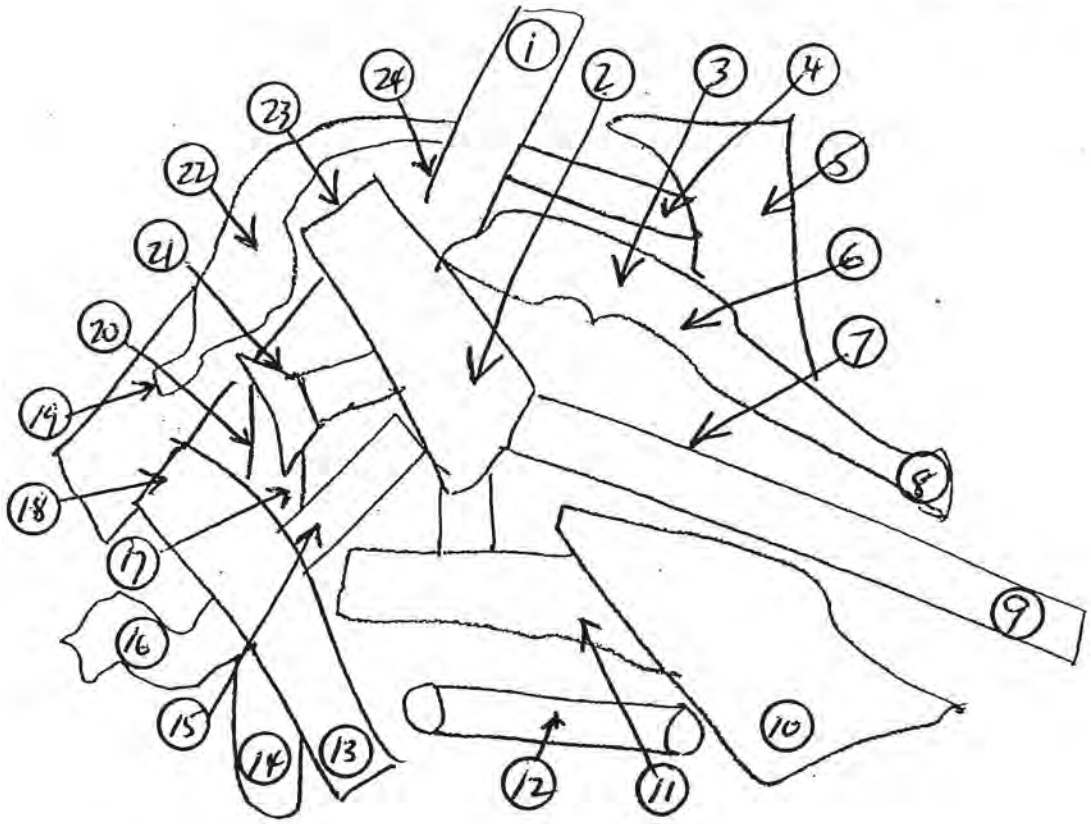
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 OUTSIDE SHED	SURVEY NO. 02-TF-1802
PURPOSE: RELEASE TO WASTEMANAGEMENT	RWP NO. N/A
	DATE: 10-31-02
	TIME: 1500

MAP/DRAWING

METAL DEBRIS PILE

COPY



INTEGRATED COUNT PERFORMED IF AUDIBLE RESPONSE DETECTED

ALL OTHER RESULTS <100/α <5K/β

LEGEND: # = mrem/hr (γ) whole body
#Σ = mrem/hr (β+γ+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or/β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5711/5811	9-30-03
	N/A	

Completed by: (Signature) [signature]	[redacted]	Date: 11-4-02
Completed by: (Print Name) DANIEL J. HARVEY		
Counted by: (Signature) SEE	HP #	Date:
Counted by: (Print Name) ATTACHED		
Reviewed/Approved by: (Signature) RMCoblentz	HP # [redacted]	Date: 11/4/02
Reviewed/Approved by: (Print Name) RMCoblentz		

ML-9620 (2-98)

2 of 3

Survey No. 02-TF-1489

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)			N/A	
Sample #	β/γ	Alpha	~~Tritium~~	Comments
1-24	SEE	ATTACHED		MISC METAL
			N	A

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-80036-10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

C98-06-115

Alpha/Beta Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR024
Batch Ended: 10/31/2002 15:31
Recalibration Date: 7/8/2004
Serial Number: 64575

Batch ID: 02-TF-1802 RADLEY (24) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	2.0		1.3	1.9	
A2	2	0.0	2.0		0.9	1.9	
A3	3	0.0	1.8		0.0	1.3	
A4	4	0.0	2.0		6.7	3.1	
B1	5	0.0	2.2		9.1	3.8	
B2	6	0.0	2.2		1.3	2.0	
B3	7	0.0	1.9		0.0	1.4	
B4	8	0.0	2.0		3.4	2.5	
C1	9	0.0	2.0		1.8	2.2	
C2	10	0.0	2.0		0.0	1.3	
C3	11	0.0	1.8		0.9	1.7	
C4	12	0.0	1.8		2.8	2.3	
D1	13	8.1	4.2		3.0	2.6	
D2	14	1.9	2.1		1.2	1.9	
D3	15	0.0	2.0		1.2	1.7	
D4	16	0.0	2.0		1.1	1.8	
A1	17	0.0	2.0		1.3	1.9	
A2	18	0.0	2.0		0.9	1.9	
A3	19	0.0	1.8		0.0	1.3	
A4	20	0.0	1.9		2.0	2.1	
B1	21	0.0	2.1		2.5	2.3	
B2	22	0.0	2.2		1.3	2.0	
B3	23	0.0	1.9		0.1	1.8	
B4	24	0.0	2.0		0.0	1.3	

Dq H Dq H

C96 p 115

3 of 3

~~Page 1 of 1~~

B J Brown

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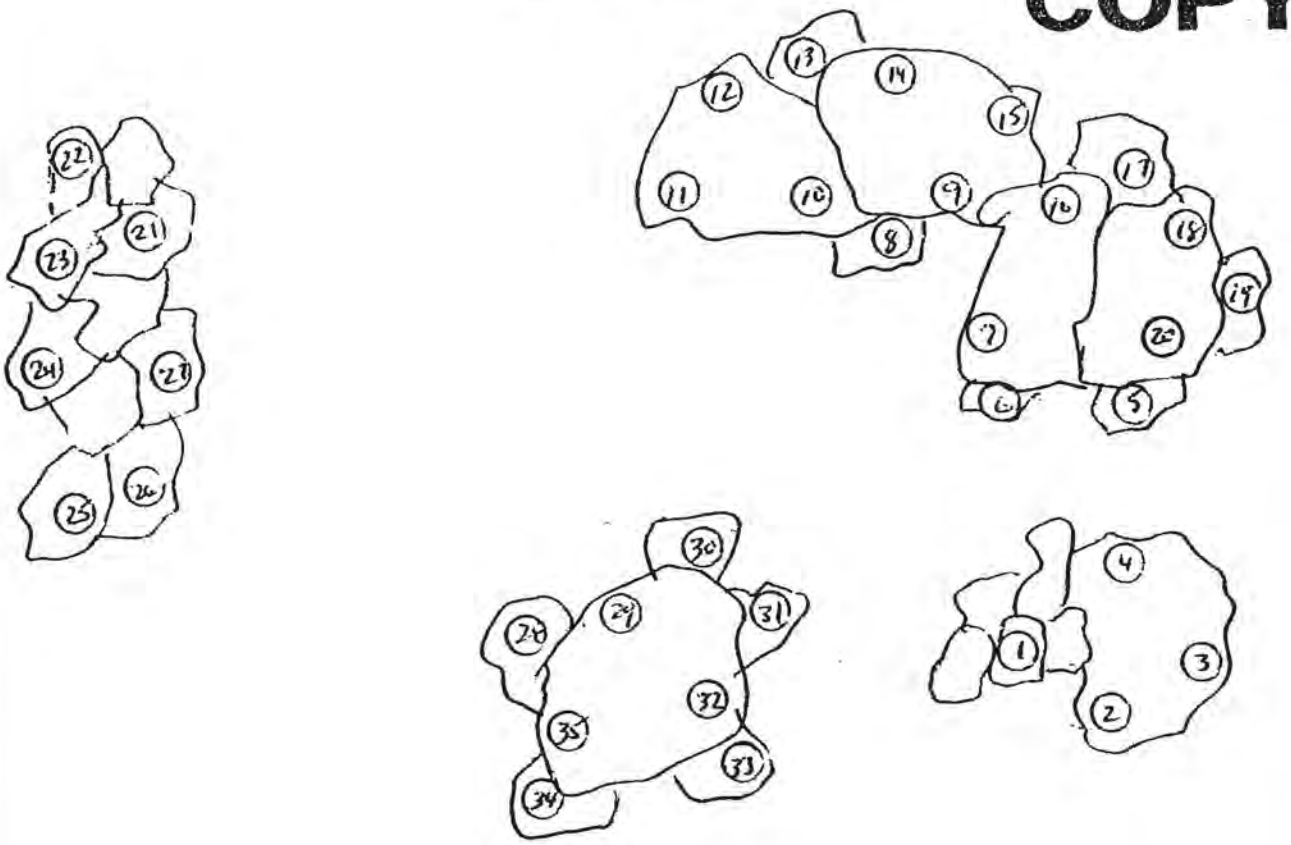
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 CONRETE SLAB	SURVEY NO 02-TF-1813
PURPOSE: RELEASE CONCRETE TO WASTEMANAGEMENT	RWP NO. N/A
	DATE: 12-2-2002
	TIME 1530

MAP / DRAWING

COPY



- NOTE: BICRON FIDLER USED FOR INDICATION ONLY. RESULTS WERE NON-DETECTABLE.
- INTEGRATED READING TAKEN IF AUDIBLE ALPHA DETECTED ALL RESULTS: <100 dpm/100cm2 ALPHA AND <5K dpm/100cm2 BETA NO AUDIBLE DETECTED

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

— · — · · = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5755/5723	8-8-2003
BICRON	3815/3846	1-7-2003
	N/A	

Completed by: (Signature) K. Abercrombie	[redacted]	Date: 12-3-2002
Completed by: (Print Name) DANIEL HARVEY/KEITH ABERCROMBIE		
Counted by: (Signature) RECORD ON FILE	HP# NA	Date: NA
Counted by: (Print Name) NA		
Reviewed/Approved by: (Signature) RMCoblentz	[redacted]	Date: 12-4-02
Reviewed/Approved by: (Print Name) RMCoblentz		

C101 & 115

Survey No. 02-TF-1813

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE		N/A	CONCRETE
2	ATTACHED			
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

C102 of 115

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR001
Batch Ended: 12/3/02 8:27

Crosstalk correction performed.

Batch ID: HARVEY SUR #02-TE-1813 (35)/BH

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	3.8	3.0		0.0	1.4	
A2	2	0.0	2.2		0.0	1.5	
A3	3	0.0	2.0		0.8	1.8	
A4	4	0.0	1.9		0.0	1.4	
B1	5	0.0	2.0		0.0	2.3	
B2	6	0.0	2.0		1.4	2.4	
B3	7	0.0	1.9		0.0	1.3	
B4	8	0.0	1.9		0.0	1.3	
C1	9	0.0	2.0		0.0	1.3	
C2	10	0.0	2.1		4.9	2.9	
C3	11	1.7	1.9		0.9	1.7	
C4	12	0.0	1.9		0.0	1.2	
D1	13	0.0	2.3		4.5	2.9	
D2	14	0.0	2.1		0.0	2.0	
D3	15	1.7	2.0		3.1	2.5	
D4	16	0.0	2.1		2.6	2.5	
A1	17	0.0	2.1		0.0	1.4	
A2	18	1.9	2.2		0.5	2.0	
A3	19	0.0	2.0		0.8	1.8	
A4	20	0.0	1.9		0.0	1.4	
B1	21	0.0	2.0		1.1	2.7	
B2	22	0.0	2.0		0.1	2.0	
B3	23	0.0	1.9		0.0	1.3	
B4	24	1.6	1.9		0.0	1.3	
C1	25	0.0	2.0		0.0	1.3	
C2	26	0.0	2.0		1.1	1.9	
C3	27	0.0	1.9		3.4	2.4	
C4	28	0.0	1.9		1.1	1.7	
D1	29	0.0	2.3		0.0	1.4	
D2	30	0.0	2.1		0.0	1.5	
D3	31	0.0	2.0		0.7	1.8	

DJH 3 of 4 DJH

C103 of 115

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Red
Data file name: SMEAR001
Batch Ended: 12/3/02 8:27

Crosstalk correction performed.

Batch ID: HARVEY SUR #02-TF-1813 (35)/BH

Recalibration Date: 6/7/04
Serial Number: 26966-2

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
D4	32	0.0	2.1		1.4	2.2	
A1	33	0.0	2.1		0.0	1.4	
A2	34	0.0	2.2		2.0	2.4	
A3	35	0.0	2.0		2.0	2.2	

DJH DJH Carol G. Robinson

C10408 115

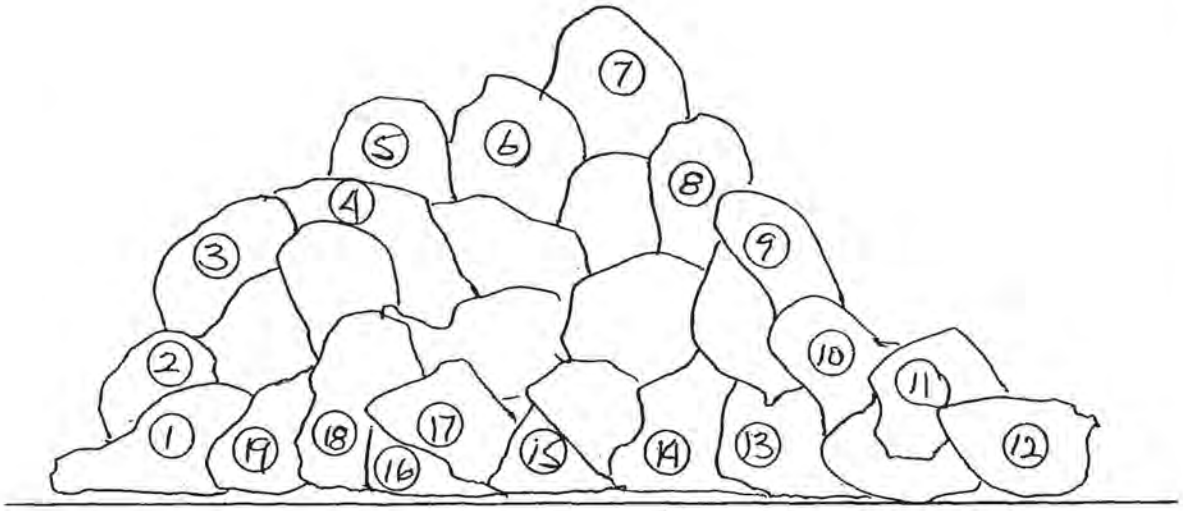
4 of 4

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 CONRETE SLAB	SURVEY NO 02-TF-1817
PURPOSE: RELEASE CONCRETE TO WASTEMANAGEMENT	RWP NO. N/A
	DATE: 12-4-2002
	TIME 1530

MAP / DRAWING

COPY



- NOTE: BICRON FIDLER USED FOR INDICATION ONLY. RESULTS WERE NON-DETECTABLE.
- INTEGRATED READING TAKEN IF AUDIBLE ALPHA DETECTED ALL RESULTS: <100 dpm/100cm2 ALPHA AND <5K dpm/100cm2 BETA NO AUDIBLE DETECTED

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5755/5723	8-8-2003
BICRON	3815/3846	1-7-2003
N/A	N/A	N/A
N/A	N/A	N/A

Completed by: (Signature) RMCoblentz for DAN Harvey / PB Radley	[redacted]	Date: 12-4-2002
Completed by: (Print Name) DANIEL HARVEY/PAT RADLEY		
Counted by: (Signature) RECORD ON FILE	HP# NA	Date: NA
Counted by: (Print Name) NA		
Reviewed/Approved by: (Signature) RMCoblentz	[redacted]	Date: 12-9-02
Reviewed/Approved by: (Print Name) RMCoblentz		

Survey No. 02-TF-1817

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	DEBRIS PILE
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19	↓	↓	↓	↓
			N/A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N/A		

COMMENTS: N/A

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR001
Batch Ended: 12/4/02 9:36
Cal. Due Date: 4/25/03
Serial Number: 26966-3
817 D9 H
Batch ID: 02-TF-1813 HARVEY (19) BSB

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	0.00	2.08		2.76	2.56	
A2	2	5.43	3.38		3.55	2.69	
A3	3	5.91	3.72		4.97	3.05	
A4	4	3.45	2.88		8.32	3.56	
B1	5	0.00	2.03		0.29	1.77	
B2	6	1.31	2.01		0.13	1.69	
B3	7	0.00	2.09		0.00	1.29	
B4	8	5.42	3.46		0.00	1.64	
C1	9	0.00	2.08		0.00	1.25	
C2	10	0.00	1.86		0.53	1.64	
C3	11	0.00	2.10		0.67	1.76	
C4	12	2.91	2.82		0.00	1.47	
D1	13	1.39	2.02		6.37	3.28	
D2	14	3.64	2.97		1.25	2.10	
D3	15	3.74	3.05		3.88	2.87	
D4	16	1.48	2.15		4.98	2.93	
A1	17	0.00	2.16		11.70	4.27	
A2	18	0.00	2.01		6.41	3.19	
A3	19	0.00	2.17		4.15	2.78	

PGR PGR

C1026 115

3 of 3

Page ~~1 of 1~~
PGR
12-6-02

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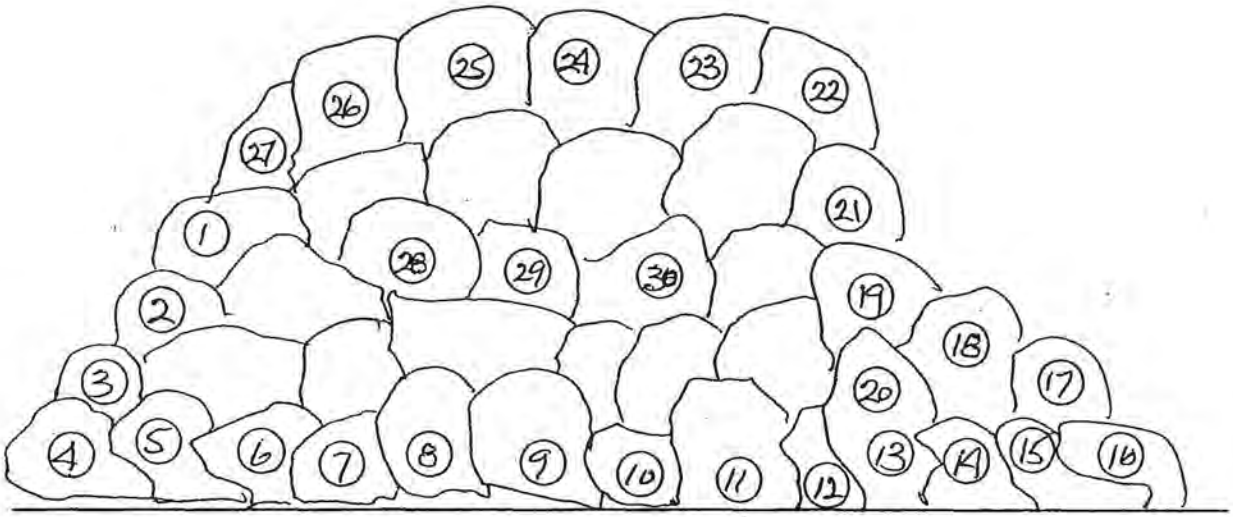
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 CONRETE SLAB	SURVEY NO 02-TF-1818
PURPOSE: RELEASE CONCRETE TO WASTEMANAGEMENT	RWP NO. N/A
	DATE: 12-6-2002
	TIME 1530

MAP / DRAWING

COPY



- NOTE: BICRON FIDLER USED FOR INDICATION ONLY. RESULTS WERE NON-DETECTABLE.
- INTEGRATED READING TAKEN IF AUDIBLE ALPHA DETECTED ALL RESULTS: <100 dpm/100cm2 ALPHA AND <5K dpm/100cm2 BETA NO AUDIBLE DETECTED

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact
K = factor of 1000
— · — · — = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5755/5723	8-8-2003
BICRON	3815/3846	1-7-2003
	N/A	

Completed by: (Signature) RMCoblentz for PAR / PARadley [redacted]		Date: 12-6-2002
Completed by: (Print Name) DANIEL HARVEY/PAT RADLEY		
Counted by: (Signature) RECORD ON FILE	HP# NA	Date: NA
Counted by: (Print Name) NA		
Reviewed/Approved by: (Signature) RMCoblentz [redacted]		Date: 12-9-02
Reviewed/Approved by: (Print Name) RMCoblentz		

Survey No. 02-TF-1818

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTA	CHED	DEBRIS PILE
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: N/A

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Alpha/Beta Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR001
Batch Ended: 12/6/2002 15:24
Recalibration Date: 7/8/2004
Serial Number: 64575

Batch ID: 02-TF-1818 RADLEY (30) BSB

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	2.0		2.6	2.3	
A2	2	1.8	2.0		0.8	1.9	
A3	3	0.0	1.9		1.8	2.1	
A4	4	0.0	1.9		0.9	1.7	
B1	5	0.0	2.1		7.7	3.5	
B2	6	0.0	2.2		0.0	1.5	
B3	7	0.0	1.9		0.0	1.4	
B4	8	1.7	2.0		0.7	1.8	
C1	9	0.0	2.0		0.0	1.4	
C2	10	0.0	2.0		0.7	1.8	
C3	11	0.0	1.8		3.2	2.3	
C4	12	0.0	1.8		0.0	1.3	
D1	13	0.0	2.1		0.0	1.4	
D2	14	1.9	2.1		0.0	1.4	
D3	15	0.0	2.0		0.0	1.3	
D4	16	0.0	2.0		3.5	2.4	
A1	17	0.0	2.0		0.0	1.4	
A2	18	0.0	2.0		0.9	1.9	
A3	19	0.0	1.9		1.8	2.1	
A4	20	0.0	1.9		0.0	1.3	
B1	21	2.0	2.1		0.0	1.4	
B2	22	2.0	2.2		0.0	1.5	
B3	23	0.0	2.0		6.1	3.3	
B4	24	3.6	2.8		8.0	3.5	
C1	25	0.0	2.0		0.0	1.4	
C2	26	1.8	2.1		6.6	3.3	
C3	27	0.0	1.8		2.1	2.0	
C4	28	0.0	1.8		0.0	1.3	
D1	29	0.0	2.1		0.0	1.4	
D2	30	4.0	3.0		3.6	2.6	

✓PBR ✓PBR

B S Brown

C11 of 115

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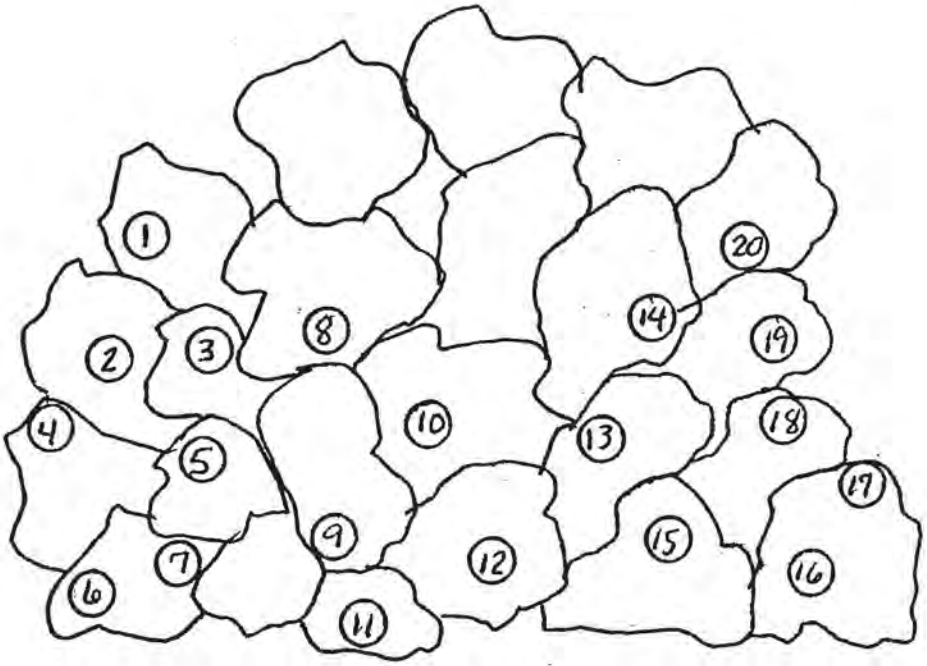
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 27 CONRETE SLAB	SURVEY NO 02-TF-1819
PURPOSE: RELEASE CONCRETE TO WASTEMANAGEMENT	RWP NO. N/A
	DATE: 12-7-2002
	TIME 1530

MAP / DRAWING

COPY



- NOTE: BICRON FIDLER USED FOR INDICATION ONLY. RESULTS WERE NON-DETECTABLE.
- INTEGRATED READING TAKEN IF AUDIBLE ALPHA DETECTED ALL RESULTS: <100 dpm/100cm2 ALPHA AND <5K dpm/100cm2 BETA NO AUDIBLE DETECTED

LEGEND:

= mrem/hr (γ) whole body

#E = mrem/hr (β+η+γ) extremity on contact

K = factor of 1000

—·—·— = radiological boundary

△# = mrem/hr neutron

(#) = swipe number

[#] = air sample number

(#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5755/5723	8-8-2003
BICRON	3815/3846	1-7-2003
	N/A	

Completed by: (Signature) RM Coblentz for DJ Harvey K. Abercrombie [redacted]		Date: 12-7-2002
Completed by: (Print Name) DANIEL HARVEY/KEITH ABERCROMBIE		
Counted by: (Signature) RECORD ON FILE	HP# NA	Date: NA
Counted by: (Print Name) NA		
Reviewed/Approved by: (Signature) RM Coblentz	[redacted]	Date: 12-9-02
Reviewed/Approved by: (Print Name) RM Coblentz		

ML-9620

C113d6 1/5

(2-98)

Survey No. 02-TF-1819

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	See Attached		NA	CONCRETE
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20	See Attached		NA	CONCRETE
		N	A	

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
		N	A	

COMMENTS: NA/NA

NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

ML-9620A (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR008
Batch Ended: 12/9/02 7:50
Cal. Due Date: 4/25/03
Serial Number: 26966-3

BSBrown

Batch ID: 02-TF-1819 RADLEY (20) BSB

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activity DPM	Beta Activity σ	Beta Activity flags
A1	1	1.45	2.05		0.00	1.28	
A2	2	0.00	1.95		0.41	1.70	
A3	3	0.00	2.15		1.67	2.15	
A4	4	0.00	2.02		1.52	2.05	
B1	5	1.56	2.04		1.38	2.17	
B2	6	1.30	2.07		4.89	2.93	
B3	7	0.00	2.09		0.00	1.29	
B4	8	0.00	2.02		1.33	2.01	
C1	9	0.00	2.09		0.51	1.77	
C2	10	1.32	1.84		0.00	1.16	
C3	11	0.00	2.12		3.16	2.50	
C4	12	0.98	2.10		3.21	2.92	
D1	13	1.40	1.93		0.00	1.24	
D2	14	1.57	2.18		6.26	3.22	
D3	15	0.00	2.18		4.20	2.87	
D4	16	0.00	2.11		1.55	2.07	
A1	17	0.00	2.08		2.76	2.56	
A2	18	0.00	1.98		2.81	2.40	
A3	19	0.00	2.15		1.67	2.15	
A4	20	0.00	2.01		0.34	1.67	

KA KA

511 2051 C

3 of 3

~~Page 1 of 1~~ KA 12-9-02

Appendix D

Post-Demolition Soil Sampling Analytical Results

Post-Demolition Soil Sampling Analytical Results for Building 27

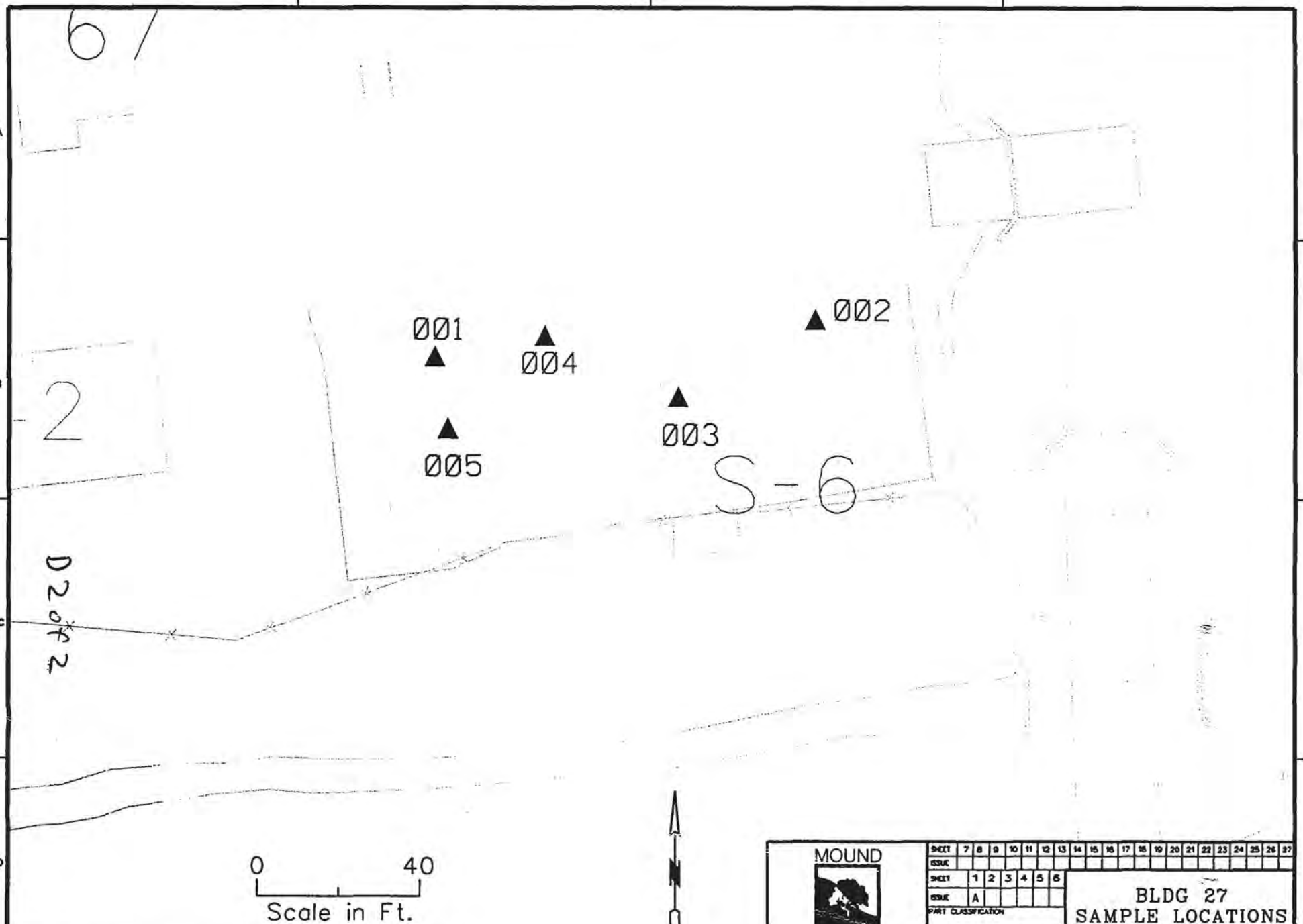
Description	Date Collected	Co-60	Co-60 MDA	Cs-137	Cs-137 MDA	Pb-210	Pb-210 MDA	Ra-226	Ra-226 MDA	Ac-227	Ac-227 MDA	Th-230	Th-230 MDA	Th-232	Th-232 MDA	Pu-238	Pu-238 MDA	Am-241	Am-241 MDA
001	12/ 3/02	0.03	0.04	0.01	0.04	0.76	0.4	0.57	0.65	0	0.24	0	5.76	0.14	0.22	0	14.09	0	0.06
002	12/ 3/02	0.01	0.03	0	0.04	0.72	0.74	0.42	0.74	0.13	0.33	0	7.19	0.58	0.12	14.1	16.91	0	0.07
003	12/ 3/02	0	0.1	0.16	0.06	0.44	0.85	1.74	0.8	0	0.29	0.75	6.77	0.51	0.26	1.23	16.01	0.08	0.07
004*	12/ 3/02	0	0.11	0.01	0.05	0.66	0.67	0.77	0.9	0	0.27	0	7.02	0.5	0.21	0	18.51	0.03	0.07
005	12/ 3/02	0	0.04	0	0.04	0.35	0.77	1.63	0.59	0.03	0.35	0	7.16	0.55	0.12	8.2	14.4	0.07	0.07
Maximum Analytical Value		ND		0.16		0.76		1.74		ND		ND		0.58		ND		0.08	
Screening Level Comparison		0.07		0.76		1.8		2.1		0.56		1.8**		1.47		55		6.3	

ND - Nondetect

** Sample 004 was collected from the location of the previous SCR114 location discussed in the BDP.*

*** alpha spec analysis for Th-230 is not indicated because all MDAs are below 10, and all results were below MDA.*

D 1 of 2



ISS	DATE	REVISION	BY	CHKR	DIG	UPKEC	APVD	S
A	12/10/02	ISSUE FOR REPORT	KRW	*			*	

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE	A																				

PART CLASSIFICATION

BLDG 27
SAMPLE LOCATIONS

GRAPHIC CLASSIFICATION: UNCLASSIFIED | SIZE | DRAWING NUMBER: sample_loc.dgn | JOB NUMBER: *

DGN TYPE: STE | PRNG: ER-GIS | CAGEC | SCALE: GRAPHIC | SHEET 1 OF *

STATUS: MD-REL-12/10/02 | ORIGIN: MSTATION