2001 0406170001 SEP 3 2002

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-100/02
August 28, 2002

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

ATTENTION: Robert S. Rothman

SUBJECT: Contract No. DE-AC24-97OH20044
VARIOUS DOCUMENTS

REFERENCE: Statement of Work Requirement C.7.1e - Regulator Reports

Dear Mr. Provencher:

Rob Rothman from your office has approved the release of the following final documents to the regulators and the public:

- Building 42 Building Data Package, Final
- Building 42 Response to Public Comments
- Building 63 Building Data Package, Final
- Building 63 Response to Public Comments
- Building SST Building Data Package, Final
- Building SST Response to Public Comments

If you or members of your staff have any questions regarding the documents, or if additional support is needed, please contact Bob Ransbottom at extension 4220.

Sincerely,

C. D. Thompson
SMPP/TFV Project Manager

CDT/VKD:jdg

Enclosures

cc: Tim Fischer, USEPA, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Frank Schmaltz, DOE/MEMP, (1) w/attachments
Randy Tormey, DOE/OH, (1) w/attachments
Terry Tracy, DOE/HQ, (1) w/attachments
Dann Bird, MMCIC, (3) w/attachments
J. D. Bonfiglio, MESH, (1) w/attachments
Bob Ransbottom, BWXT of Ohio, (1) w/attachments
Val Darnell, BWXT of Ohio, (1) w/attachments
Budd Thompson, BWXT of Ohio, (2) w/attachments
Public Reading Room, (4) w/attachments
Administrative, (2) w/attachments
DCC

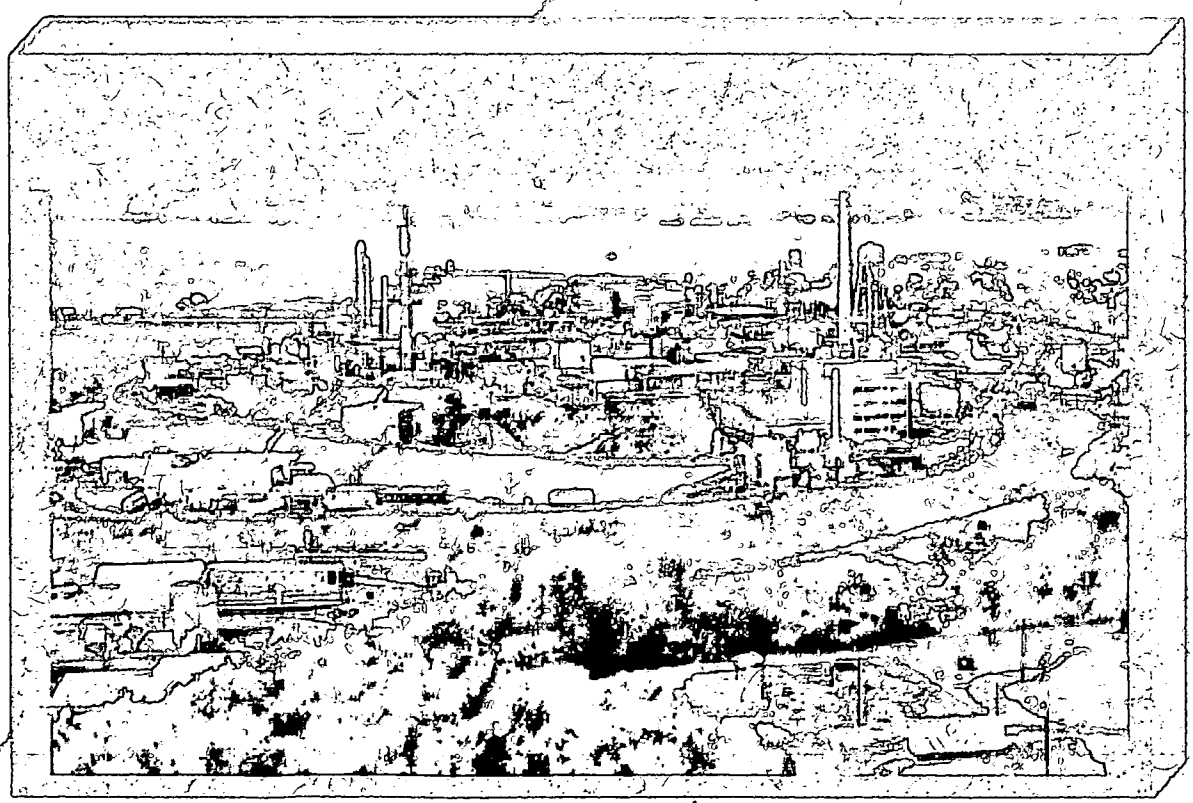
MOUND

Environmental Restoration Program

Ohio EPA

MOUND PLANT
Building Data Package
Building 42

Final
August 2002



The Mound Core Team
P.O. Box 66
Miamisburg, Ohio 45343-0066

August 2002

Mr. Daniel Bird, AICP
Planning Manager
Miamisburg Mound Community Improvement Corporation
720 Mound Road
COS Bldg. 4221
Miamisburg, Ohio 45342-6714

Dear Mr. Bird:

The Core Team, consisting of the U.S. Department of Energy Miamisburg Environmental Management Project (DOE-MEMP), U.S. Environmental Protection Agency (USEPA), and the Ohio Environmental Protection Agency (OEPA), appreciates your comment on the Building ~~63~~ 42 Building Data Package. Attached is our response.

Should the response to comment require additional detail, please contact Rob Rothman at (937) 865-3823 and we will gladly arrange a meeting or telephone conference.

Sincerely,

DOE/MEMP: _____ 8/21/02
Robert S. Rothman, Remedial Project Manager — date

USEPA: _____ 8/21/02
Timothy J. Fischer, Remedial Project Manager — date

OEPA: _____ 8/22/02
Brian K. Nickel, Project Manager — date

Response to MMCIC Comments on the Building 42 Building Data Package Public Review Draft May 2002

Comment 1. According to this document, Building 42 will be demolished as a non-CERCLA activity. In addition, the report states that the building has undergone the Safe Shutdown procedures and all required equipment has been removed from the building. Appendix F of this report includes an excerpt from the Environmental Appraisal Report of the Mound Plant. This report outlines an environmental review performed by the EG&G MAT during late 1995 and early 1996. During this review, a leaking compressor located outside of the building was documented. The report recommended that the compressor be handled as idle equipment, which would include the removal of the compressor and the remediation of the oil leak. It is not clear from this draft building data package document if the leaking compressor was removed and the oil spill remediated as part of the Safe Shutdown procedures. MMCIC requests confirmation that the leak has been remediated and the compressor properly disposed.

Response. During the building walk-through on March 7, 2002 that preceded the development of the Safe Shutdown Work Package, there was no compressor present on the outside pad and there was no visual sign of any oil stains on the concrete or surrounding soil.

A review of photographs taken in 1996 and 1998 of the Building 42 pad showed no compressor present. Accordingly, we believe that the compressor mentioned in the February 1996 Environmental Appraisal Checklist had been removed shortly after that report was released, and the pad cleaned of any oil that was present.

MOUND

Environmental Restoration Program

MOUND PLANT BUILDING DATA PACKAGE

Notice of Public Review Period

The following Building Data Package (BDP) is available for public review in the CERCLA Public Reading Room, 305 E. Central Ave., Miamisburg, Ohio. Public comment on this document will be accepted May 29, 2002 through June 28, 2002.

BDP Building 42: Explosives Component Fabrication Facility

Questions can be referred to Paul Lucas at (937) 865-4578.

BDP Building 42

REV	DESCRIPTION	DATE
WORKING DRAFT (to DOE)		**May 2002**
DRAFT (to Core Team)	BDPs for construction demolitions undergo simultaneous review by the Core Team and public.	**N/A**
DRAFT PROPOSED FINAL (incorporates Core Team comments)	N/A	**N/A**
PUBLIC REVIEW DRAFT	The public review period was May 29, 2002 through June 28, 2002.	**May 2002**
FINAL	One comment from MMCIC was received; the response is included in the front of the document. No changes to the document were required as a result of the comment and no other comments were received. Appendix O had been inadvertently omitted from the public review draft; it is included herein.	**August 2002**

BUILDING DATA PACKAGE (BDP)

Building 42

(Demolition)

DOE MOUND PLANT

MIAMISBURG, OHIO 45343

TABLE OF CONTENTS

Section Page

1.0 General Overview 1
- 1.1 Introduction 1
- 1.2 Scope 1

2.0 Building Specific Overview 2
- 2.1 Current Uses of Building 42 3
- 2.2 Past Uses of Building 42 3
- 2.3 Summary of Environmental Concerns and Findings - Building 42 3
- 2.4 Radiological Characterization Summary for Building 42 4

3.0 Site Description 5
- 3.1 Site/Vicinity Location and Characteristics 5
- 3.2 Description of Structures, Roads, Other Improvements in Proximity to Building 42 6
- 3.3 Current and Past Uses of Buildings in Proximity to Building 42 6

4.0 Records Review 6
- 4.1 General/Historical CERCLA Information 6
- 4.2 Specific Record Sources 7
  - 4.2.1 Occurrence Reports 7
  - 4.2.2 Spills and Releases 7
  - 4.2.3 Associated PRS Overview 7
  - 4.2.4 Sampling Data 8
- 4.3 Review of Building Prints 9
- 4.4 Aerial Photographs 9
- 4.5 Interviews 9

Tables

Table 1: Summary of Environmental Concerns and Findings 3

Table 2: Radiological Summary 5

Table 3: PRSs in Proximity to Building 42 8

Appendices

Appendix A General Listing of Acronyms
Appendix B Map of Montgomery County
Appendix C Figures
Appendix D Floor Plans
Appendix E Aerial Photographs
Appendix F Environmental Appraisal Report of the Mound Plant (Excerpt)
Appendix G Radiological Information
Appendix H Radon Information
Appendix I Asbestos Information
Appendix J Lead Information
Appendix K Chemical Information
Appendix L Soil Sampling, Vicinity
Appendix M Occurrence Reports
Appendix N PRS Information
Appendix O Work Plan

1.0 GENERAL OVERVIEW

1.1 Introduction

The purpose of this Building Data Package (BDP) is to prepare for the demolition of Building 42 (Explosives Component Fabrication Facility/Pyrotechnic Facility) and to identify, if possible, any recognized environmental conditions (defined below) that may affect the subject property and building.

Recognized Environmental Condition: The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a likely release, a past release, or a material threat of a release of any hazardous substances or petroleum into structures, or into the air, ground, groundwater, or surface water near the building.

1.2 Scope

This document has been prepared in accordance with the agreements and requirements as specified in the *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach*. This document is a BDP for Building 42 located at the Department of Energy (DOE) Mound Plant in Miamisburg, Ohio. The investigation performed to support this BDP models procedures found in *ASTM Standard Practice for Environmental Site Assessments; Phase I Environmental Site Assessment Process* (Designation E 1527-97).

The scope of the investigation included Building 42, the soil beneath, and a 15-foot wide perimeter border around the building. The investigation of Building 42 included the following:

A) A building and perimeter inspection.
B) An examination of historical aerial photographs and maps.
C) A review of federal and state regulatory agency records.
D) Personnel interviews.
E) A review of Mound Plant records for:

   1) History of spills, releases, and chemical inventories
   2) Past sampling data

      - Radiological survey
      - Soil sampling
      - Lead-based paint
      - Asbestos
      - Radon

In addition to the building investigation conducted by BWXT of Ohio, Inc. (BWXTO) personnel, documents were reviewed. Information used to compile BDPs includes the following:

- Characterization of Mound's Hazardous, Radioactive, and Mixed Wastes, August 1990
- OU-9 Site Scoping Report, Volumes 1-12
- Mound Facility Physical Characterization, December 1992
- Active Underground Storage Tank Plan, November 1994
- OU-9 Hydrological Investigation, Bedrock Report, January 1994
- OU-9 Hydrological Investigation, Buried Valley Aquifer Report, March 1994
- Environmental Appraisal Report of the Mound Plant, March 1996
- Title Search
- Lease Information
- EDR Report - Radius Map
- Building Prints
- Potential Release Site (PRS) information
- MD-222153, Mound Site Radionuclides By Location, July 1995 Contaminant Surveys
- MLM-3791, Mound Facility Physical Characterization, December 1993

2.0 BUILDING SPECIFIC OVERVIEW

Building 42 was constructed in 1970 in an area known as the lower valley or plant valley area (Figures 1 and 3), west of the test fire area. It is a two-story, 2,892 square-foot building with a combination reinforced concrete and concrete block structure with a built-up membrane coal tar roof. The second floor is a single-room penthouse (approximately 200 square feet) with pre-fabricated metal walls; it contains mechanical equipment and is accessed by a single outside staircase. The first floor has eleven rooms including assembly cells, an electronic equipment room, lavatory, laboratory, office, storage room, and janitor's closet. On the southwestern corner of the building, there is an attached exterior shed that was used as a drum storage area. Floor plans are included as Appendix D.

The building is serviced with central steam for heating and chilled water for cooling provided through aboveground pipes. Ventilation was provided by a single-pass HVAC system, which also enabled humidity control. Potable water and sanitary service is provided by the Mound Plant facility. The penthouse has service water, which is not distributed through the building. Electric service is 240 volts.

2.1 Current Uses of Building 42

Building 42 is currently inactive, and Safe Shutdown activities are in process. All required equipment has been removed from the building. The remaining equipment will be left in place and demolished/disposed of with the building.

2.2 Past Uses of Building 42

Building 42 was constructed and used to test components and assemble pyrotechnics and energetic materials. Safe Shutdown was initiated in 1996, and the building has been unused since. All operations in the facility have ceased and the facility is currently undergoing preparations for demolition.

2.3 Summary of Environmental Concerns and Findings - Building 42

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 42. Due to the age of the building (1970), 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	Chemicals were removed from the building in 1995 (Appendix K).	No further action required.
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	The fume hood in room 108 was decontaminated in November of 1995.	No further action required.
Asbestos	Asbestos-containing material was removed in May 2001 in preparation for building demolition.	No further action required.
Drainage Sumps	N/A	N/A
Lead	N/A	N/A
Mercury	N/A	N/A
Radiological	Within acceptable limits.	N/A
Septic System	N/A	N/A

Table 1: Summary of Environmental Concerns and Findings

Description	Comment	Resolution
Wastewater	Handled by Mound wastewater facility.	N/A
Stains & Corrosion/HVAC	The HVAC system has been inactive for many years. As a result of roof leaks, visual evidence of mold is present on interior walls.	Workers with known sensitivities to mold may have to use PPE to prevent skin contact with or inhalation of mold spores.
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 was 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.	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

2.4 Radiological Characterization Summary for Building 42

An assessment of Building 42 was performed to review operational history and radiological survey information. The building was constructed and used to test components and assemble pyrotechnics and energetic materials. Neither the past nor current uses involve radioactive material. The 1996 Mound site assessment (*Environmental Appraisal of the Mound Plant*) states that Building 42 was not contaminated with radioactive materials. Annual non-Radiological Materials Management Area (RMMA) surveys have shown no elevated levels of radioactivity.

All radiological readings were within surface release criteria. Therefore, the review team concluded that no further radiological surveys are warranted. Associated documentation for the information summarized in the following table is contained in Appendix G.

Table 2: Radiological Summary

TYPE	RSDS (Radiological Survey Data Sheet)	LOCATION	SURVEY RESULTS (dpm/100 cm²) (Note 1)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm²) (Note 2)
Highest Alpha Smearable Activity	00-TF-0388	Horizontal Surfaces & Equipment	7.01	20
Highest Alpha Fixed Activity	Note 3	Miscellaneous	< 100	100
Highest Beta Smearable Activity	00-TF-0404	Horizontal Surfaces & Equipment	10.28	1,000
Highest Beta Fixed Activity	Note 3	Miscellaneous	< 5,000	5,000
Highest Tritium Smearable Activity	00-TF-0414	Horizontal Surfaces & Equipment	343.79	10,000

Note 1: 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
Note 3: All radiological surveys indicated < 100 dpm/100cm² alpha and < 5,000 dpm/100cm² beta

3.0 SITE DESCRIPTION

3.1 Site/Vicinity Location and Characteristics

Building 42 is located at the DOE Miamisburg Environmental Management Project (MEMP), formerly known as Mound Plant. Mound Plant is situated in the City of Miamisburg, Miami Township, Montgomery County, State of Ohio as shown in Appendix B.

The Mound Plant at one time was situated on approximately 300 acres of land and contained approximately 130 buildings with a total of approximately 1.4 million square feet of floor space (the number of buildings is constantly diminishing as buildings are decommissioned and either sold or demolished). The original 182-acre site, purchased by the Manhattan Engineering District in 1946, consisted of two hills and an intervening valley that runs approximately east and west. The 124-acre tract acquired in 1981 was an undeveloped mixture of fields and woods that undulates and slopes downward to the west, away from the main site. This area was acquired to serve as a buffer and has been used as a staging area and parking area for contractors working onsite.

To the west lies a railroad line and the north south trending Miami-Erie Canal. The northern boundaries of the site abut the residential area of Miamisburg, Ohio. Mound Road marks the northern half of the eastern perimeter of the facility then veers east, away from the southern half of the eastern boundary. A public golf course (belonging to the City of Miamisburg), the Miamisburg Mound Memorial Park, old agricultural fields, residential lots, and vacant wooded lots border against the facility along Mound Road. Benner Road

formed the southern property line of the Mound Plant (at the 300-acre stage), with agricultural fields and farms occupying the lands beyond.

3.2 Description of Structures, Roads, Other Improvements in Proximity to Building 42

As shown on Figures 2 and 4, Building 42 is bordered on the north by a gravel area and asphalt parking lot (location of former Building 67), on the east by scrub grass and an asphalt driveway, on the south by scrub grass and a gravel access road, and on the west by a gravel area.

3.3 Current and Past Uses of Buildings in Proximity to Building 42

Located just east of Building 42 is Building 27, a 5,285 square foot building currently in use as an explosives production facility. Building 67, and Magazines 52 and 64 were in the vicinity of Building 42, but have been demolished. Building 67, demolished in 2001, was a 3,787 square foot office building located north of Building 42. Magazines 52 and 64, demolished in 1999, were pyrotechnic storage facilities that measured 78 and 72 square feet, respectively.

4.0 RECORDS REVIEW

4.1 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 2001 version of this report indicated that no reportable chemicals are stored in Building 42.

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.*

4.2 Specific Record Sources for Building 42

4.2.1 Occurrence Reports

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

- (5) fire alarm problems or false alarms
- trespassers on property

4.2.2 Spills and Releases

- None

4.2.3 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, six are at or near Building 42. PRSs in the vicinity of Building 42 are identified in Table 3. Additional information is included in Appendix N.

Table 3: PRSs in Proximity to Building 42

PRS	CERCLA or Bldg. Related	Binning Status	Comments
25	CERCLA	No Further Assessment (NFA)	Building 27 Leach Pit (Area 1).
33	Buildings	Unbinned	Underground Sanitary Sewer Line G14 East.
34	Buildings	Unbinned	Underground Sanitary Sewer Line G14 West.
41	CERCLA	Further Assessment (FA)	Area 3, Thorium Drum Storage and Redrumming Area. The southwest corner of Building 42 is located within PRS 41.
67	CERCLA	FA	Plant Drainage Ditch.
357	CERCLA	NFA	Elevated Soil Gas Location.

4.2.4 Sampling Data

4.2.4.1 Radiological Surveys

Radiological survey data of Building 42 indicates all readings meet surface release criteria. Supporting documentation is provided in Appendix G and summarized in Section 2.4.

4.2.4.2 Soil Sampling Data

Appendix L contains a graphic and table presenting results of all soil sampling data within a 15-foot perimeter of Building 42. All results are below screening levels or guideline values (where no screening level exists).

4.2.4.3 Chemical History

Various energetic materials were used in Building 42's operations. These materials and the admixtures were fabricated into test components. Various chemicals were used in device assembly and for materials compatibility testing. All chemicals and explosives were removed from Building 42 by Waste Management in July and August 1995 (Appendix K).

4.2.4.4 Lead-Based Paint

No objective data could be found or was generated during the walk-through assessment of Building 42 to indicate the presence of lead in paint coatings. However, due to the age of the building, all such coatings are assumed to potentially contain lead (Appendix J).

4.2.4.5 Asbestos

Asbestos-containing material (ACM) was removed from Building 42 in preparation for building demolition in May of 2001. ACM included pipe insulation, gasket insulation, floor tile, and mastic. All work was performed in accordance with current state and federal regulations (Appendix I).

4.2.4.6 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 42 (Appendix H). The USEPA recommended standard for a maximum radon level is 4.0 pCi/L.

4.3 Review of Building Prints

Building prints were reviewed and no significant items were identified. Floor plans are included in Appendix D.

4.4 Aerial Photographs

Aerial photographs from 1965 (prior to construction), 1973 (following construction), and 1996 (most recent aerial photo) were reviewed and no significant items were identified. Aerial photographs are presented in Appendix E.

4.5 Interviews

Past Building Manager, R. A. Ward, was interviewed via a building manager questionnaire (included in Appendix F). The current Building Manager, Gary Weidenbach, was also interviewed regarding past facility operations and current conditions. No significant items in the building were identified based on the questionnaire or interviews.

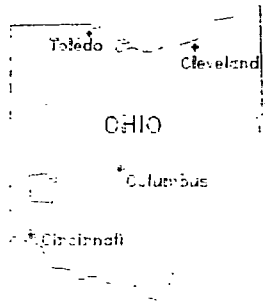
Appendix A

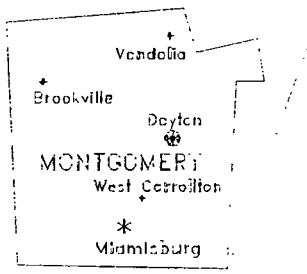
General Listing of Acronyms

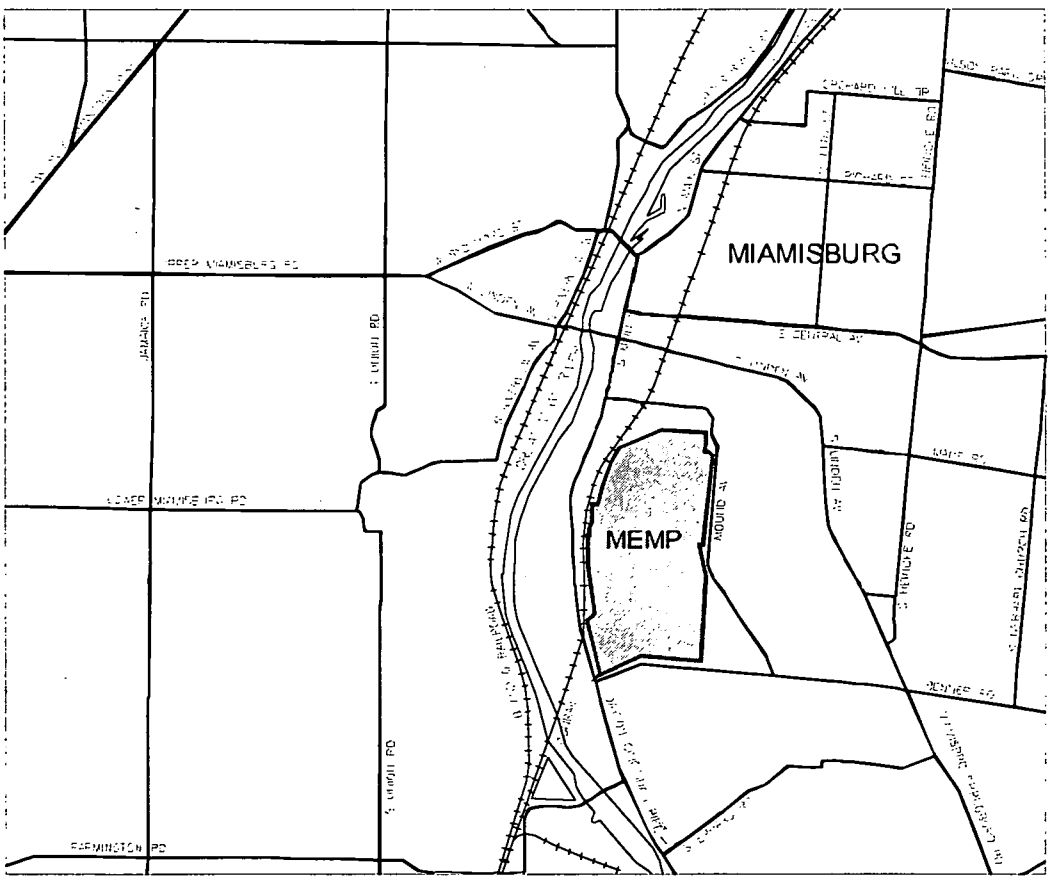
ASTM	American Society for Testing and Materials
BDP	Building Data Package
BWXTO	BWXT of Ohio, Inc.
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
cm^2	centimeters squared
CWA	Clean Water Act
DOE	United States Department of Energy
DPM	disintegrations per minute
EPA	United States Environmental Protection Agency
ER	Environmental Restoration (Program)
FFA	Federal Facility Agreement
HAZMAT	hazardous materials
MARSSIM	Multi-Agency Radiological Survey and Site Investigation Manual
MEMP	Miamisburg Environmental Management Project
N/A	not applicable
NPDES	National Pollutant Discharge Elimination System
OEPA	Ohio Environmental Protection Agency
OU	Operable Unit
PCB	polychlorinated biphenyl
pCi/L	picoCuries per liter
PRS	Potential Release Site
RI/FS	Remedial Investigation/Feasibility Study
RAPCA	Regional Air Pollution Control Agency
RCRA	Resource Conservation and Recovery Act
RSDS	Radiological Survey Data Sheet
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

Appendix B

Map of Montgomery County


Toledo
Cleveland
OHIO
Columbus
Cincinnati

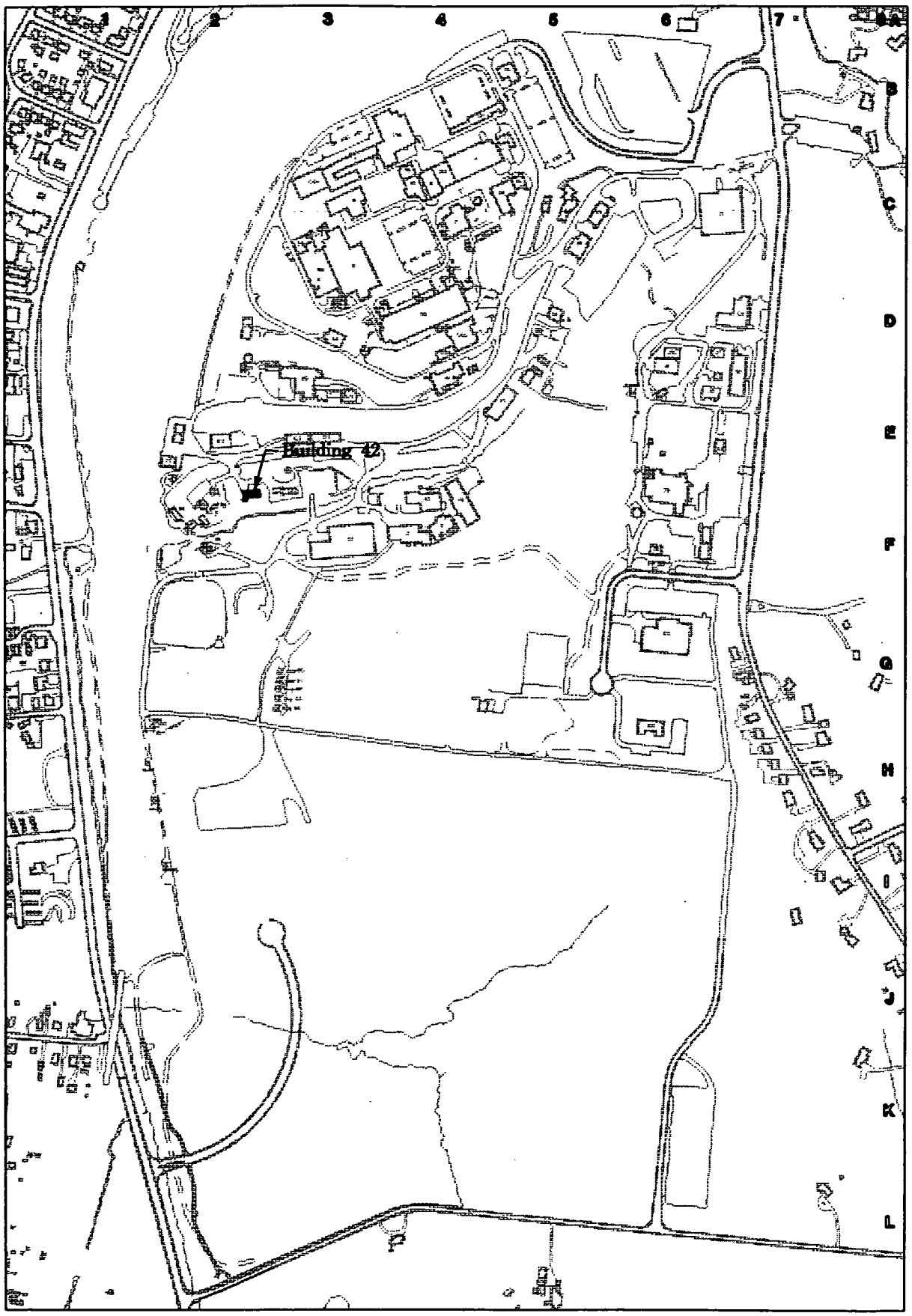

Vandalia
Brookville
Dayton
MONTGOMERY
West Carrollton
Miamisburg


MIAMISBURG
MEMP
BEEP MIAMISBURG RD
LOWER MIAMIS RD
FARMINGTON RD
S UNION RD
E CENTRAL AV
MAIN ST
DENVER AV

B 1 of 1

Appendix C

Figures



Legend

- Structures
- 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			
DATE	REVISION	BY	CHKR	ENG	M

MOUND
Environmental Restoration Geographic Information System

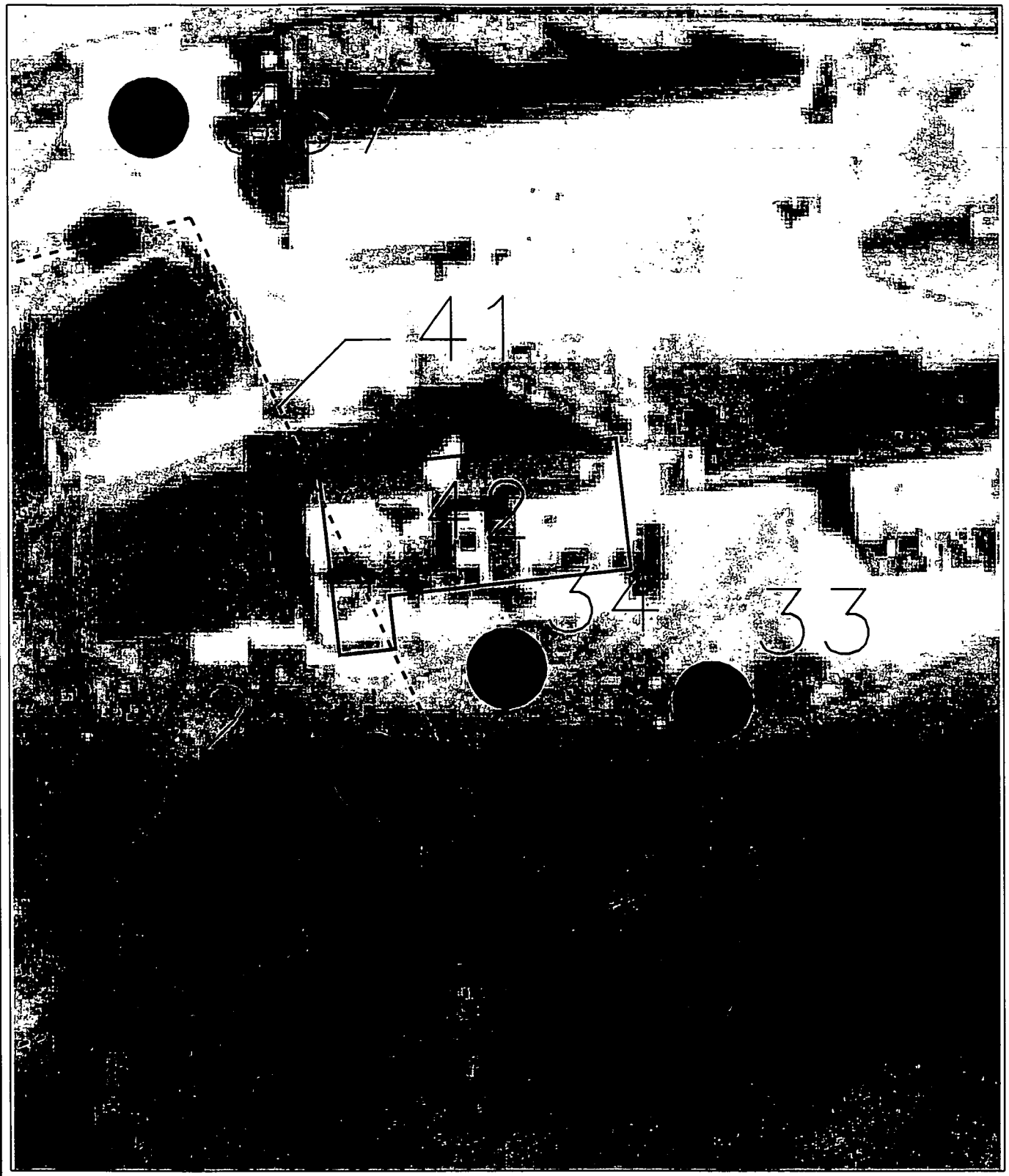
SHEET 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ISSUE
SHEET 1 2 3 4 5 6
ISSUE A
PART CLASSIFICATION

( ) TITLE CLASSIFICATION

Figure 1
Location of Building 42

DRAWING CLASSIFICATION: UNCLASSIFIED
SIZE: D
DRAWING NUMBER: gen_site_plan.dgn
DWG TYPE: SITE
PROJ
CHECK
SCALE: Graphic
SHEET 1 OF
STATUS: MD-REL-09/14/99
ORIGIN: MSTATION / /

gen_site_plan.dgn



PRS Point

PRS Area

PRS Line

ISS	DATE	REVISION	BY	CHKR	ENG	LPREC	APVD	S
	04/06/02		SSP					

MOUND

Environmental Restoration Geographic Information System

SHEET	7	8	9	10	11		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: vicinity.dgn | JOB NUMBER

DOC TYPE: STE | PRNG: ER-GIS | CACLC | SCALE | SHEET 1 OF

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

Figure 2
Building 42 and Vicinity

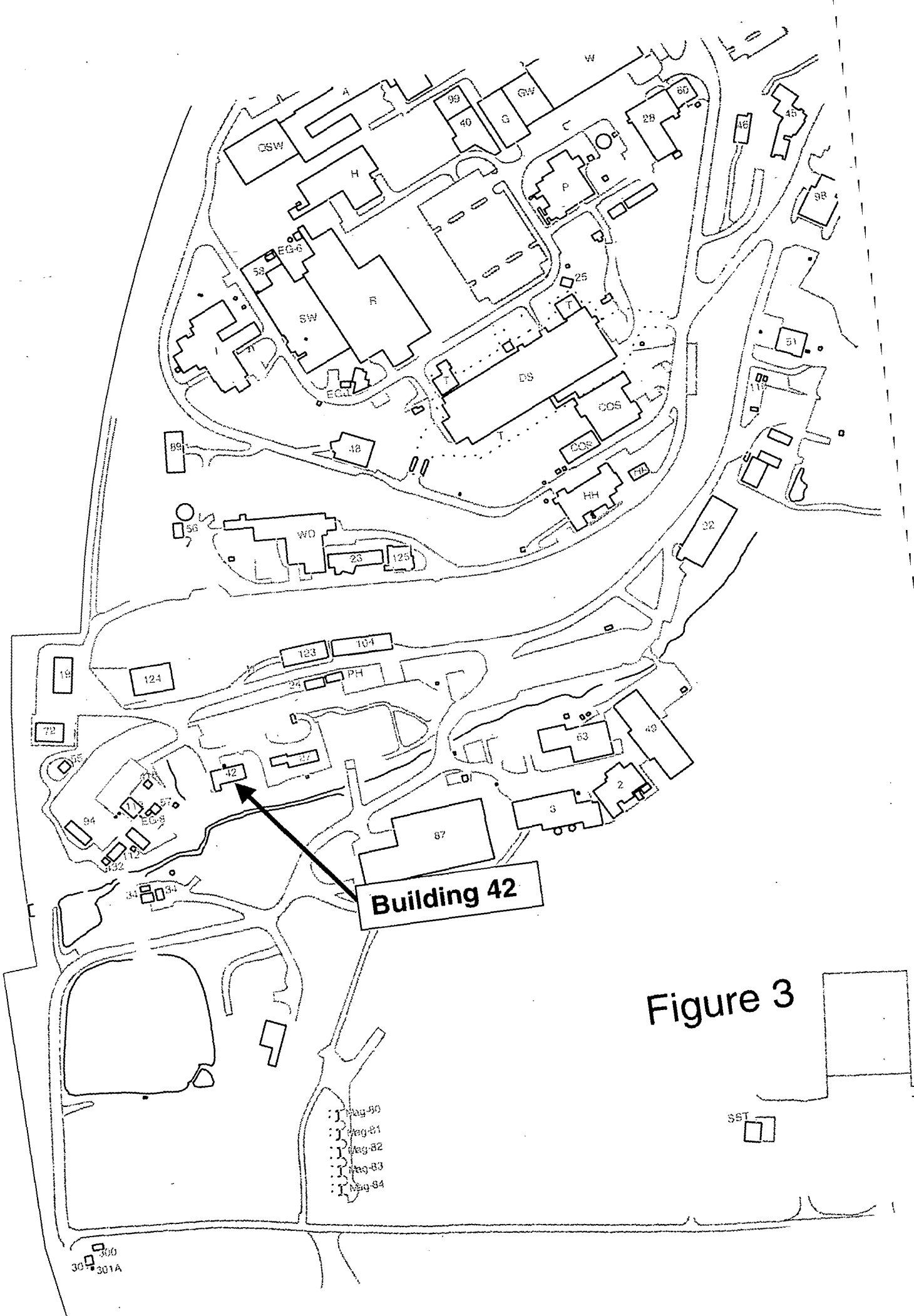


Figure 3

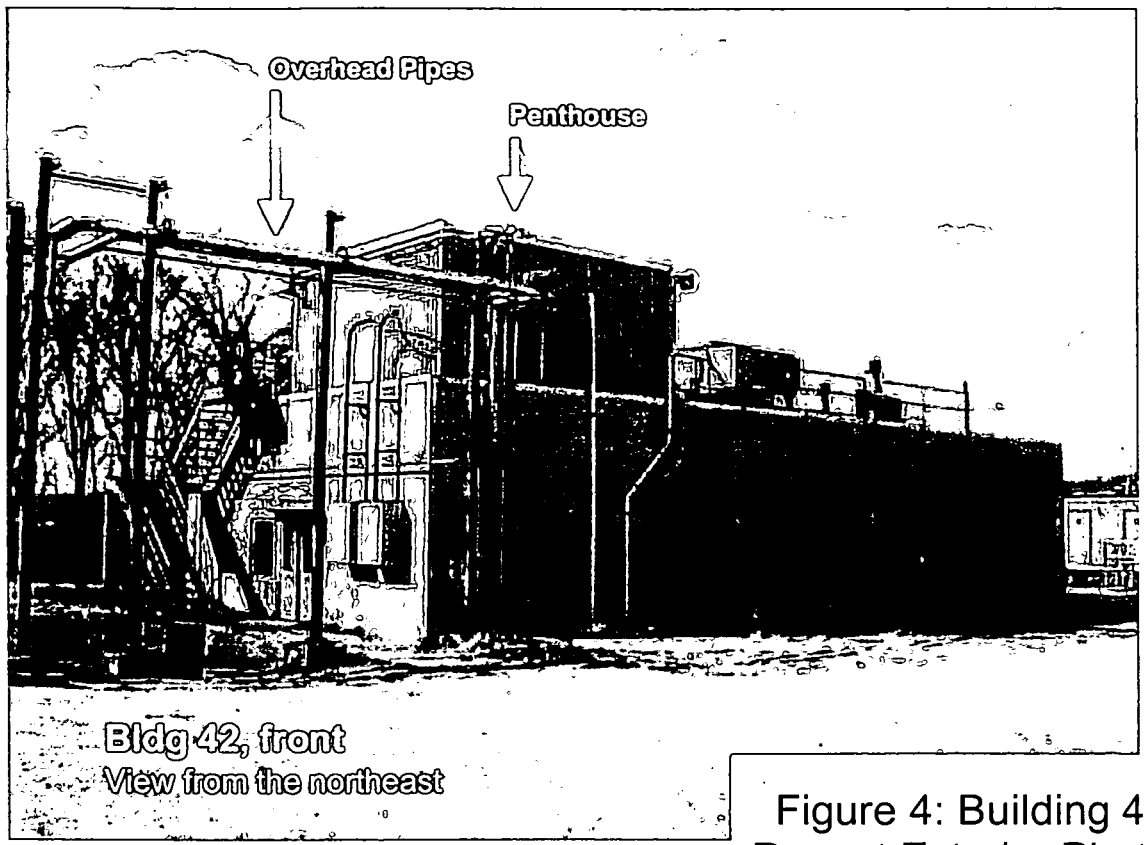
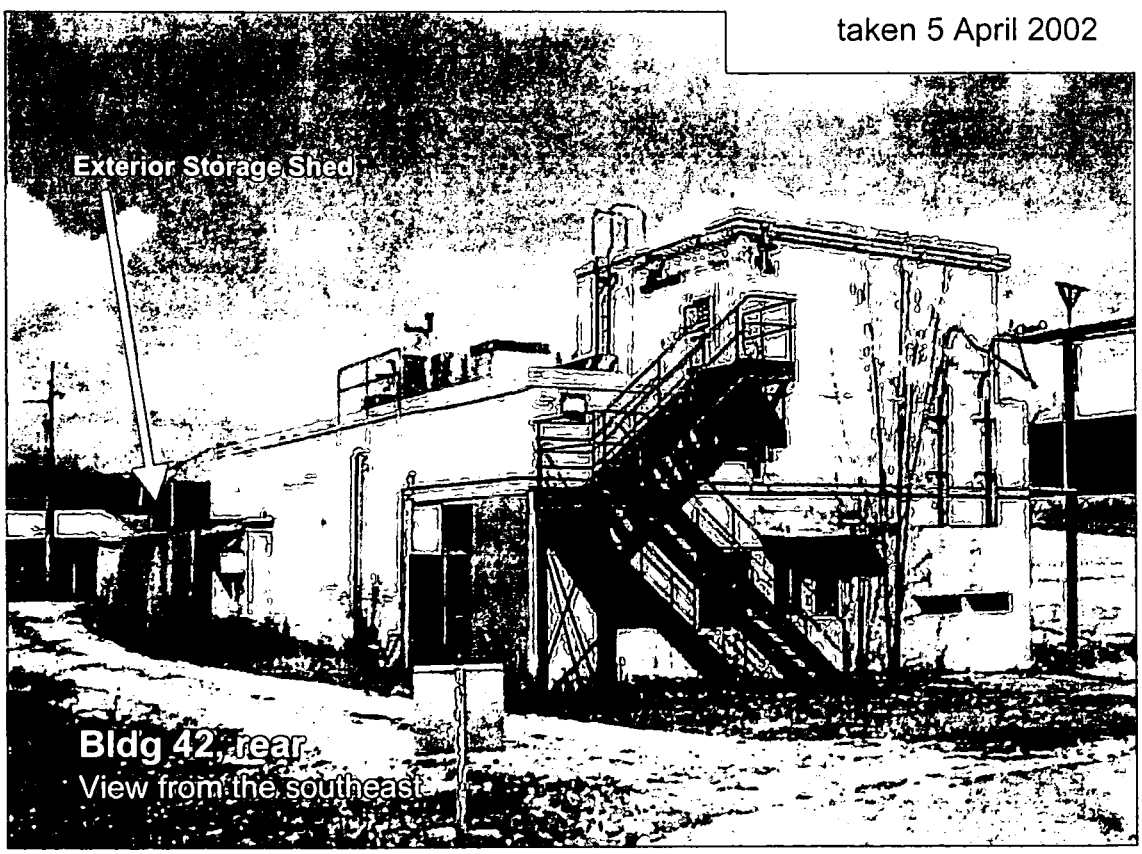


Figure 4: Building 42
Recent Exterior Photos

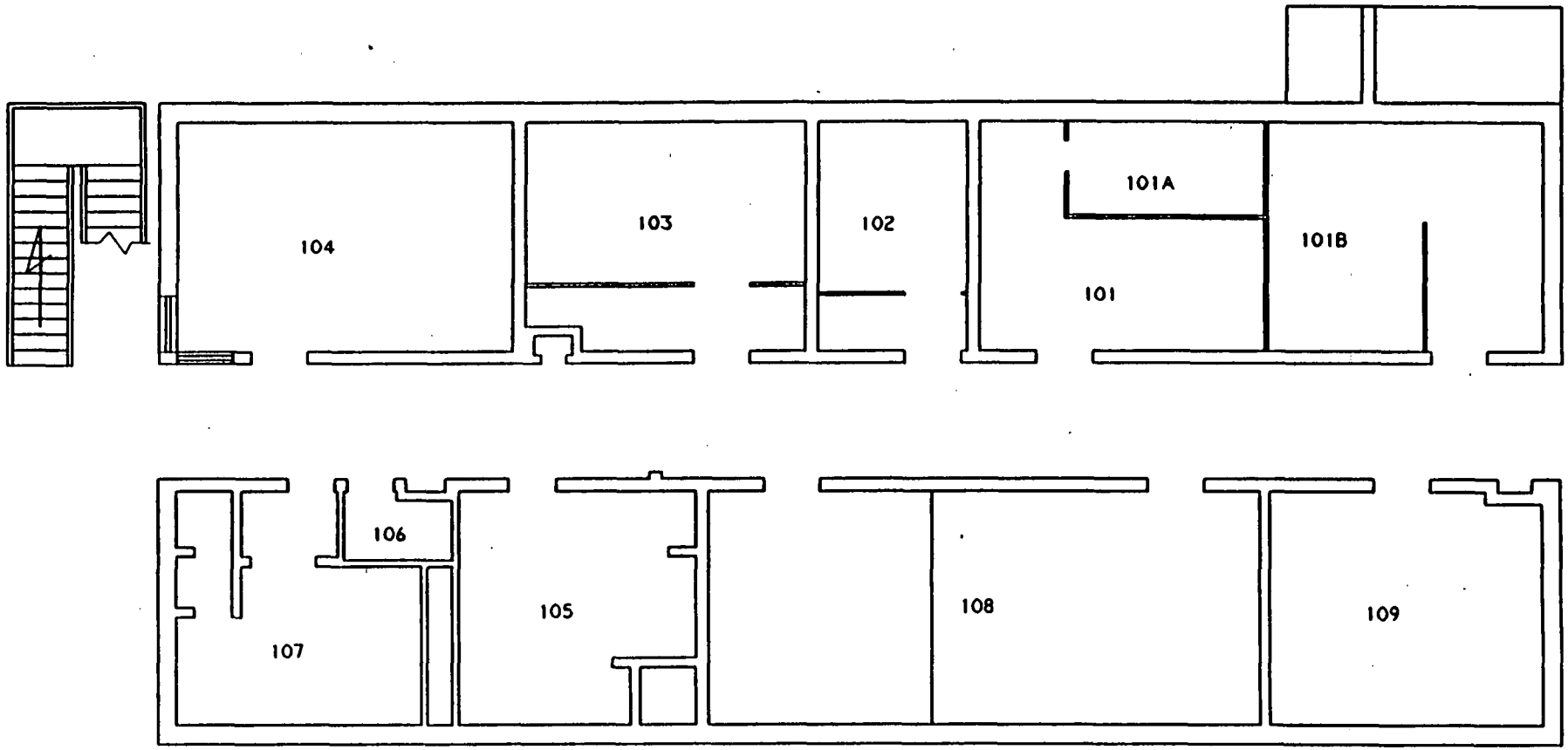
taken 5 April 2002



Appendix D

Floor Plans

REV	DATE	REVISION	BY	CHKD	ENG	SUPVD	APVD	R
B	12/12/91	ASBUILT ISSUE	DCB				DVD	



UNCLASSIFIED

DERIVATIVE CLASSIFIER

(Name)

(Title) (Date) 2/20/96

0 1' 3' 5' 10'

BLDG #42
FIRST FLOOR
BLDG CODE:3042

APPROVALS: SAFETY COMMITTEE REQUIRED: ___NONE ___TRUCHOC ___TEXOC ___CHOOC DATE:
TECH. REP. ___ ___
SR. MGR. ___ ___
TRUCHOC ___ ___
TEXOC ___ ___
CHOOC ___ ___

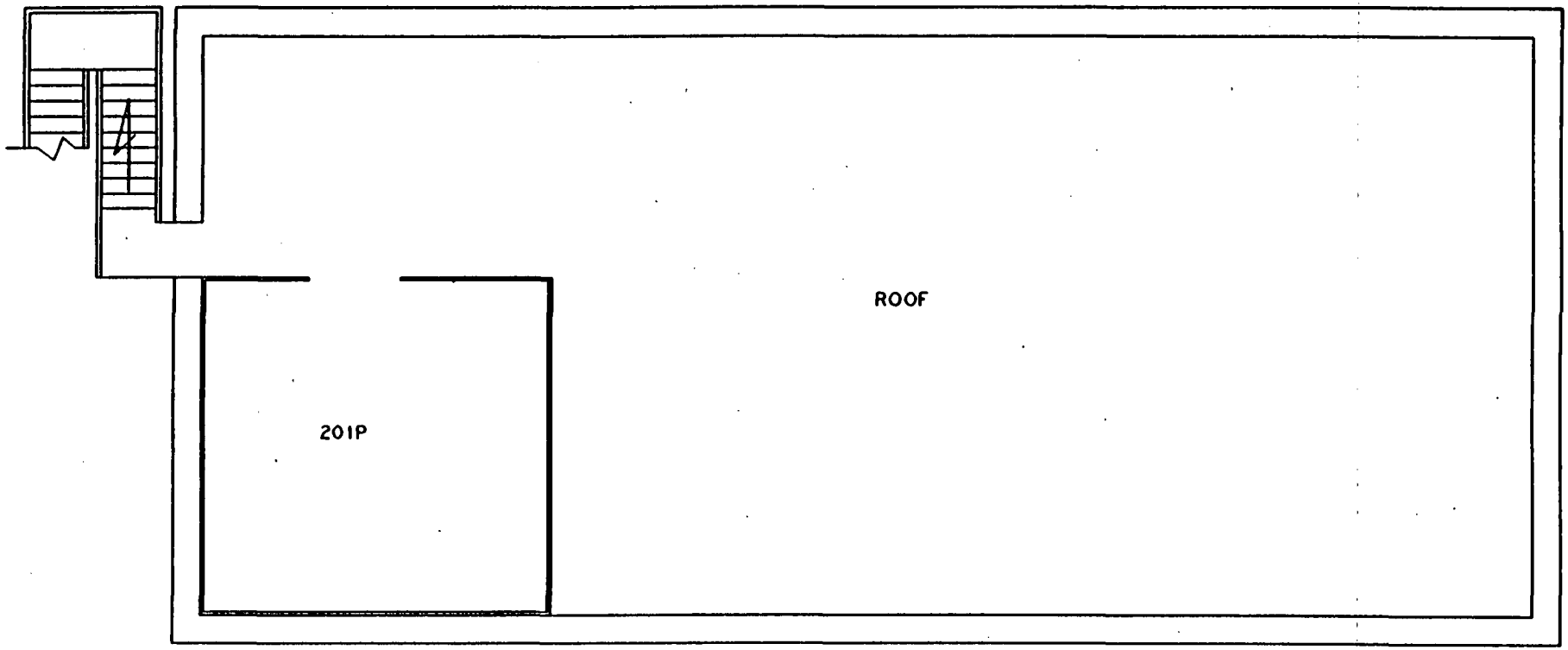
NOT FOR PUBLIC DISSEMINATION

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	TITLE	(U) TITLE CLASSIFICATION
TOTAL	8	8					BLDG #42 FLOOR PLANS	
PART CLASSIFICATION								
DRAWING CLASSIFICATION: UCNI							SIZE C	DRAWING NUMBER FSC911252
								JOB NUMBER 12335
DWG TYPE SFP							FROM BLDG #42	CODE 14865
SCALE AS NOTED							SHEET 1 OF 2	
STATUS MD-REL-12/12/91							ORIGIN MD-BR3-V3.J	

9.64-63

D1 of 2



UNCLASSIFIED

DERIVATIVE CLASSIFIER

(Title) (Date)

0 1' 3' 5' 10'

BLDG #42
PENTHOUSE
BLDG CODE:3042

NOT FOR PUBLIC DISSEMINATION

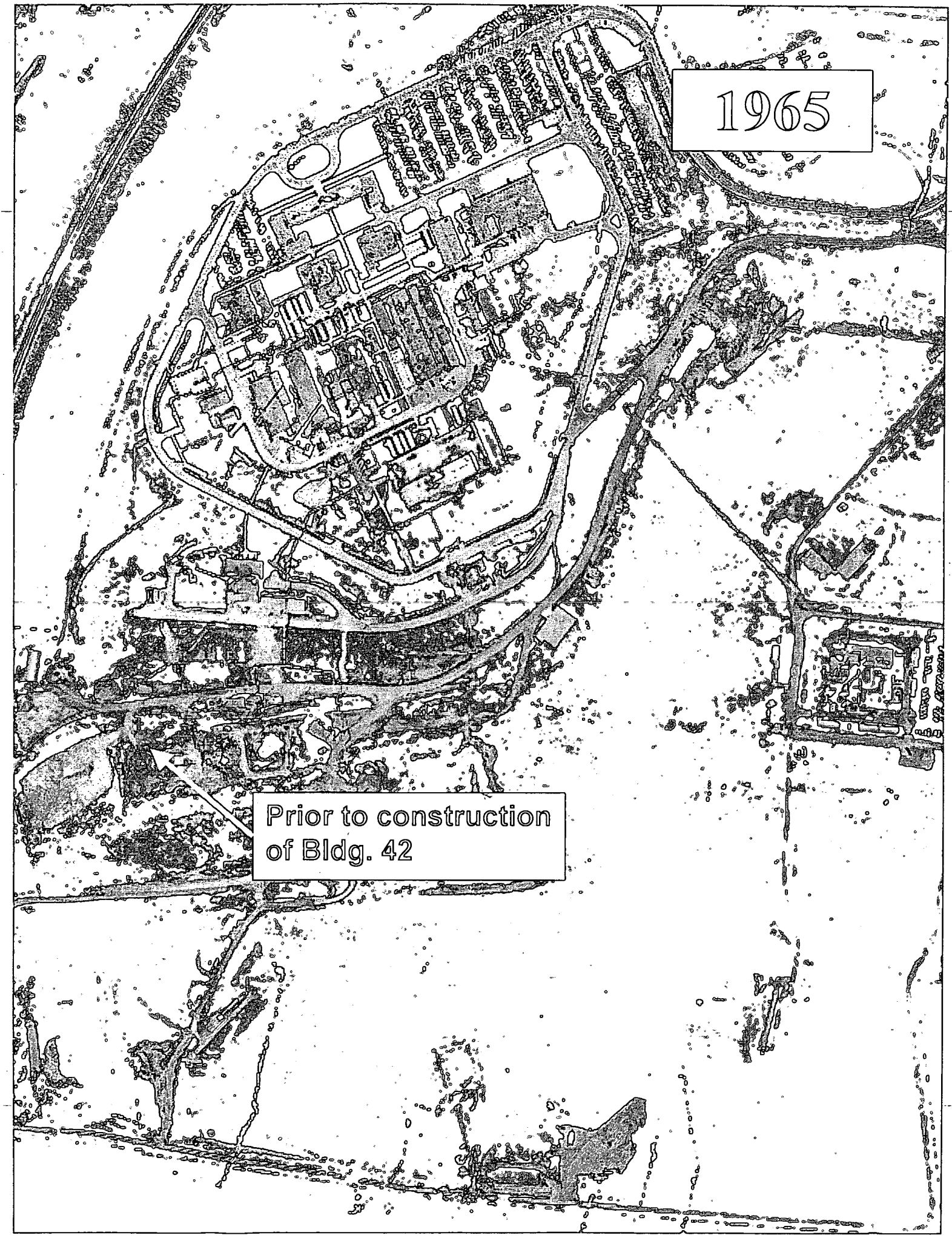
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

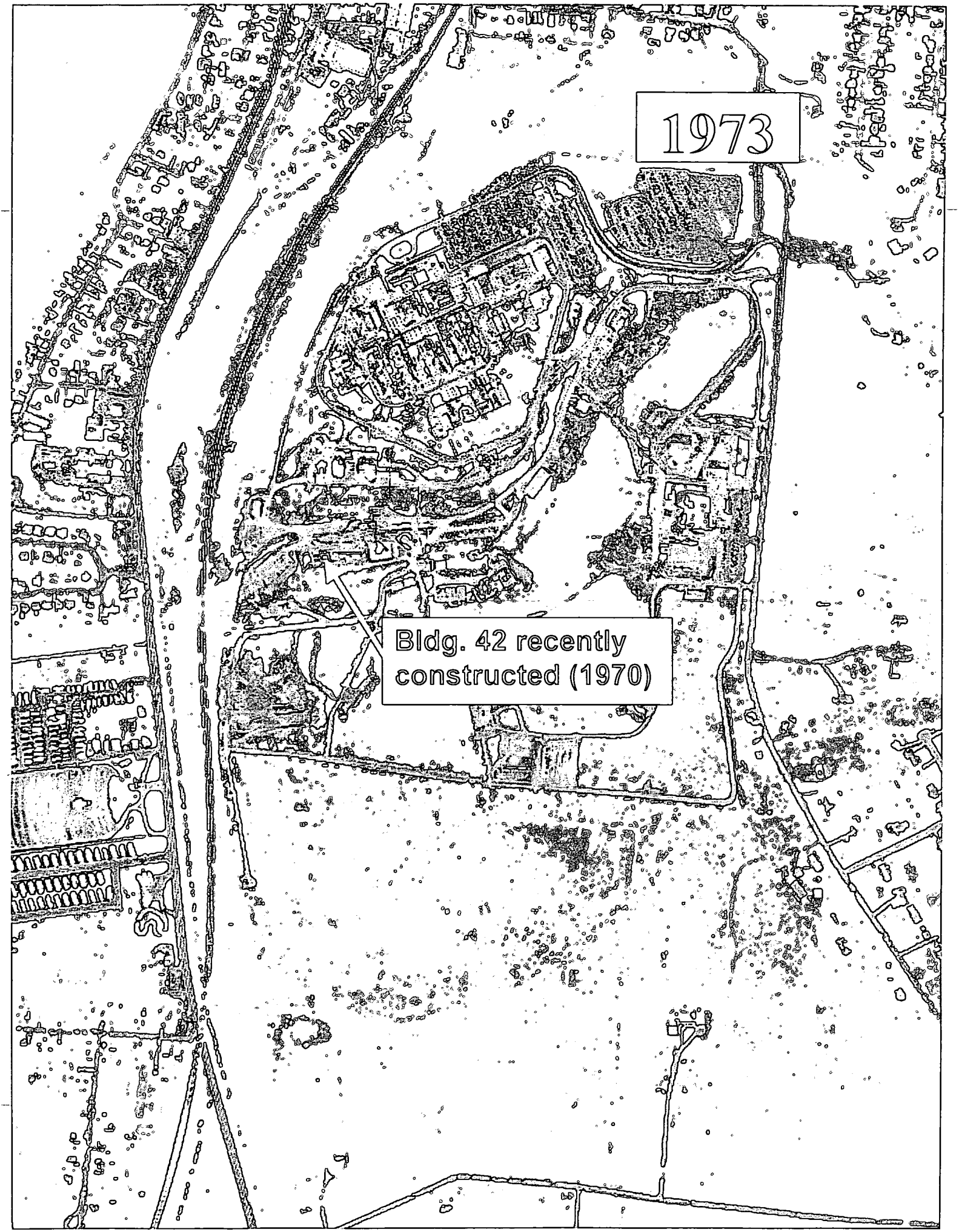
DRAWING NUMBER	FSC911252
JOB NUMBER	12335
DRAWING CLASSIFICATION	UCNI
SIZE	C
CODE	14865
SCALE	AS NOTED
SHEET	2
STATUS	MD-REL-12/12/91

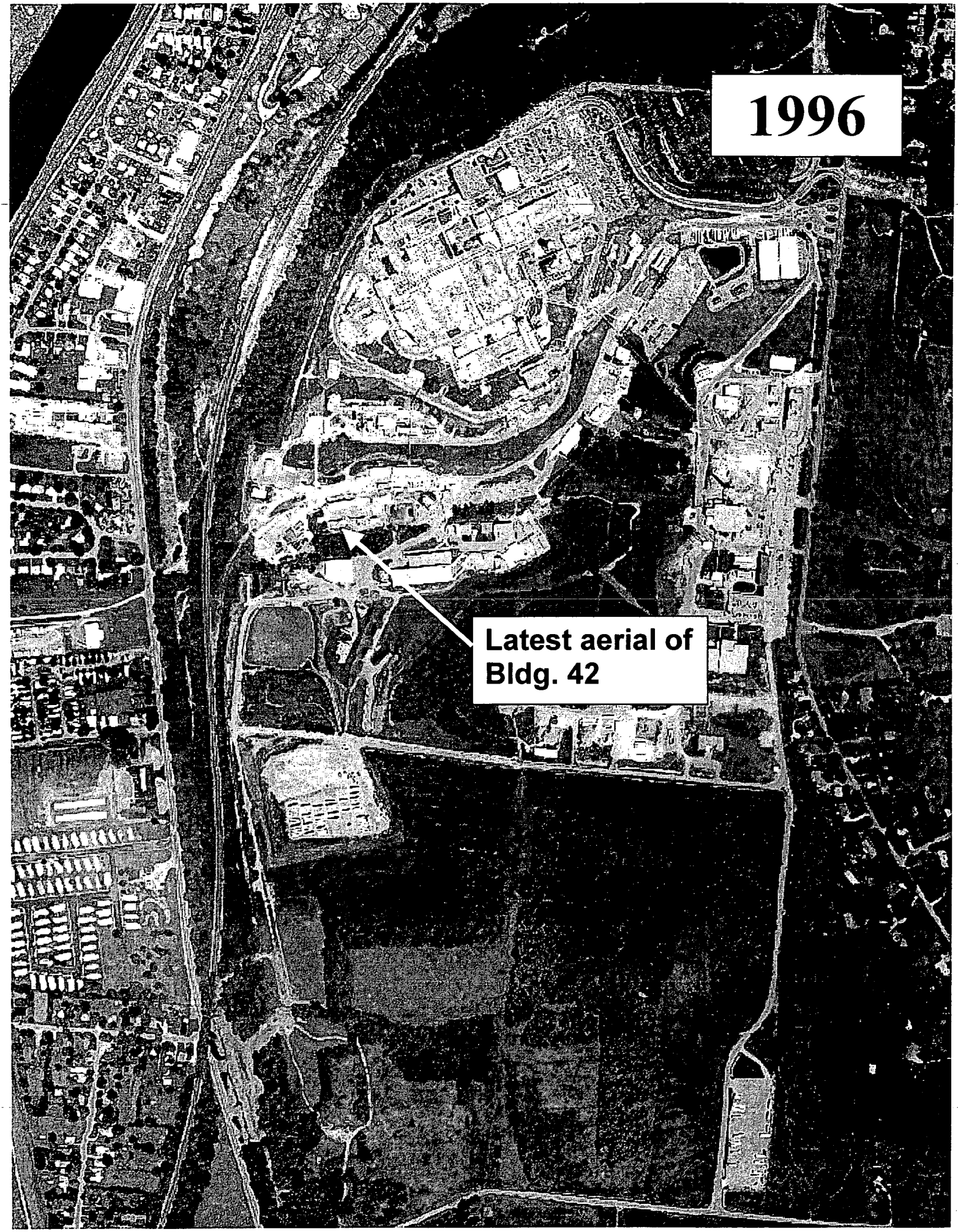
9.64-61
D 2 of 2

Appendix E

Aerial Photographs


1965
Prior to construction
of Bldg. 42


1973
Bldg. 42 recently constructed (1970)


1996
Latest aerial of
Bldg. 42

Appendix F

Environmental Appraisal Report of the Mound Plant (excerpt)

9.64 BUILDING 42

9.64.1 Scope of Building 42 Report

In late 1995 and the early months of 1996, EG&G MAT performed a review of environmental conditions at the Mound Plant. The purpose was to develop a performance baseline, and to identify areas for improvement on a building and a sitewide basis. EG&G MAT did not perform a "due diligence" or Phase I Environmental Site Assessment as specified by ASTM 1527 or ASTM 1528. The scope of the appraisal effort and a discussion of the appraisal methodology are detailed in Sections 2.0 and 5.0, found in Volume 1 of this report.

The appraisal team performed a walk-through of Building 42 on the morning of February 7, 1996. The Environmental Appraisal Checklist (EAC) was used to record findings. The EAC is included as Attachment 1 (Section 9.64.6.1). The appraisers were accompanied by the building manager. Other information was supplied by the building manager and recorded on the Building Manager's Questionnaire (BMQ), included as Attachment 2 (Section 9.64.6.2).

9.64.2 Description of Building 42

Building 42, Pyrotechnics and Thermite Production facility, is a two-story, 2,892-square-foot combination reinforced concrete and concrete block slab-on-grade structure. It has a built-up membrane (coal tar) roof. Location is shown in Attachment 3 (Section 9.64.6.3). The facility is bordered by Magazines 52 and 64 to the west), Building 27 to the east and Building 67 to the north. A gravel area is on the remaining side.

Floor plans are presented as Attachment 4 (Section 9.64.6.4). On the first floor of the structure (approximately 2,000 square feet) are the assembly cells, an electronic equipment room, lavatory, laboratory, office, storage, and a janitor's closet. The second floor (approximately 200 square feet) is the penthouse containing mechanical equipment. It has an outside access stairway. The building is serviced by central steam for heat and chilled water, and electrical service of 240V (*Mound Facility Physical Characterization*, 12-1-93).

Building 42 was constructed in 1970 (MD-10391, *Asbestos Program Manual*, 9-14-95). The building has been used for the same purpose since construction. Component testing and assembly of pyrotechnics and energetic materials have occurred in the building (*Mound Facility Physical Characterization*, 12-1-93).

Building 42 is in the process of undergoing Safe Shutdown. The central safety air exhaust systems are not scheduled to be decontaminated. The assembly rooms have steel blast shields or steel blast cells. The interior assembly rooms contain distribution systems for nitrogen, argon, and high-pressure air.

9.64.3 Summary of Findings

Installed equipment has undergone EM 60 Decontamination and has either been removed from the building or temporarily stored in Room 104, a clean room (MD-10363, Issue 6, *Mound Explosives Safety Manual*, Issue 6). Rooms have also been cleaned to the same specifications. There are physical signs that the roof leaks and significant ceiling and wall damage has occurred in Room 107, a lavatory. Three issues were identified during the walk-through. None were identified during review of reference materials or through discussions with the building manager and Safe Shutdown managers. According to the process manager, air ducts will not be cleaned during this Safe Shutdown "cheap-to-keep" phase.

9.64.4 Observations

9.64.4.1 Air Emissions

There are three fumehoods, a room exhaust, and an air collection system, including filters, servicing the assembly rooms. These rooms are out of service. Permit applications were filed with the Ohio Environmental Protection Agency (OEPA) March 5, 1992 for sources in Rooms 101A, 105 and 109 which do not correspond to the three fumehoods, room exhaust, and the assembly area's air collection system. No permits were issued. There are no fuel-burning units in the building. There is no evidence of fugitive dust or other materials observed which might be caused by the Safe Shutdown processes. Since air emission sources in the building are no longer active, the Regional Air Pollution Control Agency (RAPCA) should be notified of this change in status.

9.64.4.2 Wastewater Emissions

The Mound Facility has three wastewater collection systems: a sanitary wastewater system; a storm water system; and a radioactively contaminated process wastewater system. Sanitary wastewater is treated at an onsite tertiary treatment plant and subsequently discharged by hard pipe to the Great Miami River. Storm water and any non-process wastewater, single pass cooling water, and softener backwash may be discharged directly to the Great Miami River, via the Miami-Erie Canal, or may be diverted to a 3.1-million-gallon holding pond for settling prior to discharge. Radioactively contaminated wastewater is treated in Building WD by physical-chemical treatment. If appropriate, wastewater may be discharged by hard pipe to the Great Miami River. If concentrations of radioactive contaminants cannot be reduced to acceptable levels, wastewater is solidified and shipped to the Nevada Test Site or Envirocare for disposal. All outfalls are permitted under an active NPDES permit. Routine monitoring activities are in place. Based on NPDES monitoring report data reviewed, it appears that the facility is in compliance with qualitative and quantitative conditions of the permit.

9.64.4.2.1 Sanitary Wastewater

The building has sanitary services. According to a diagram of underground utility lines, presented as Attachment 5 (Section 9.64.6.5), the building is serviced by a sanitary line.

Confirmation of drainage of sanitary waste into sanitary conveyance lines was not within the scope of this effort; therefore, neither dye tests nor smoke tests were conducted.

Sanitary effluent from the laboratory sink, lavatory, and lavatory floor drain is conveyed to the onsite tertiary wastewater treatment facility, and subsequently discharged to the Great Miami River. There is no monitoring of building effluent. Based on operations information, supplied by the building manager, effluent from Building 42 did not deviate from that expected by the sanitary treatment plant manager.

9.64.4.2 Storm Wastewater

The building is also serviced by storms drains according to Attachment 5 (Section 9.64.6.5). Penthouse and roof drains were not tested to confirm that they connect to the storm drainage system. Inspection showed no sign of odors, colored discharges, or scarring which would indicate that any materials other than storm water has entered the storm drainage system.

9.64.4.4 Chemicals

A review of the Safe Shutdown records indicated that all chemicals stored and previously used as listed in the BMQ, included as Attachment 2 (Section 9.64.6.2) had been removed in July and August of 1995 and transferred to Waste Management for disposition. External tanks and cylinders of nitrogen and argon were removed during the same period. Chemical storage and handling procedures were still in place for proper disposal of chemicals.

There is no evidence that chemicals entered the storm or sanitary drains. Because there were no floor drains where chemicals were handled or stored there is no evidence that chemicals which might have been spilled could have entered the storm drains. There have been no reported spills from Building 42.

9.64.4.3 Potable and Service Water

Potable water is supplied to the building. Backflow prevention devices are installed at all visible points of potential cross connection in the mechanical room. The fountain which supplies drinking water has not been tested for lead. According to Environmental Protection Agency (EPA) protocol, annual sampling criteria do not require testing of the fountain. There is service water within the Penthouse; it is not distributed within the building.

9.64.4.4 Chemical Storage and Hazardous Materials

There is a flammable storage cabinet remaining in the building which meets standard National Fire Protection Association (NFPA) requirements. Chemicals are no longer stored in the building and Material Safety Data Sheets (MSDS's) have been removed. The exhaust collection system may contain thermite dust particles due to past process activities.

The building is equipped with appropriate emergency response equipment such as two eyewashes, a safety shower, and charged fire extinguishers. Each extinguisher was bar-coded. The inspection date database is maintained in the Fire Station, Building 98. There is an Emergency Evacuation Plan, and signs were posted.

There are no aboveground storage tanks in or around the building and no underground storage tanks associated with this building. There are no sumps, separators, or catch basins, in or around the building.

The building has been tested and does contain asbestos-containing building material (MD-10391, *Asbestos Program Manual*, 9-14-95). There is no evidence of friable asbestos. The Safe Shutdown process is not disturbing any of the asbestos.

There are no capacitors or transformers containing polychlorinated biphenyls (PCBs) located in the building. There is no record of past presence (PCB Annual Document Log).

9.64.4.5 Solid, Hazardous, and Radioactive Wastes

During the Safe Shutdown process, hazardous materials and/or mixed wastes are generated in the process of cleaning idle equipment, furnishings, and personal property; removing tanks, cylinders, and process piping; cleaning sumps and pits; etc. A review of the procedures and requirements contained in MD-10431, *Safe Shutdown Standard Operating Procedures*, and the Safe Shutdown process manager's records indicate that the wastes are placed in containers, characterized (including testing for radionuclides) and then transferred to Waste Management for disposition. A copy of the inventory, chemical profile of each container and Waste Management's acceptance become a permanent part of the Mound Safe Shutdown Plan for the specific building. All procedures are in accordance with MD-70523, 40 CFR 265 and OAC 3745.52. As hazardous waste generators, all Safe Shutdown Process Managers have received training in accordance with 40 CFR 265.16.

However, outside the building, attached to the wall in common with Room 101B is a lean-to which housed argon gas cylinders and the high pressure air compressor. The high pressure air compressor remains in place and a small quantity of compressor oil is leaking onto the concrete pad. The oil has not entered the soil nor the storm water collection system. The compressor should be handled along with the interior idle equipment.

There is no evidence that hazardous materials or wastes are mixed with solid waste streams during the Safe Shutdown process.

9.64.4.6 Waste Minimization and Pollution Prevention

At Mound there is an active program to minimize waste streams in accordance with state and federal requirements and Executive Order 12856. As part of the Safe Shutdown process, equipment and supplies were evaluated for reuse. They were handled in several ways: reused

at Mound; sent to other Department of Energy (DOE) facilities; claimed by the City of Miamisburg; sold at auction; sold to recycle; or disposed of.

9.64.5 Findings and Recommendations

Photographs were taken to document environmental appraisal activities. They are included as Attachment 6 (Section 9.64.6.6).

The environmental appraisal of Building 42 indicates that the following action items, in recommended priority, should be planned and scheduled for accomplishment thus assuring that best management and operating practices are in place.

42-1 Air emission sources in the building are no longer active. An air permit application was filed with the OEPA in 1992 and no permit was granted. RAPCA should be notified of this change in status (OAC 3745-31,35).

42-2 Resource Conservation and Recovery Act (RCRA) regulations (40 CFR 261.4) require that waste be removed from idled manufacturing processes and waste producing equipment within 90 days. ("Idle" is defined as occurring either from the cessation of production or idled between production runs). The leaking compressor located outside the building should be handled as idle equipment.

42-3 The exhaust system may contain thermite dust particles due to past process activities.

This page intentionally left blank.

ENVIRONMENTAL APPRAISAL CHECKLIST

Building Name 42 PRODUCTION FACILITY

Appraisers:
TEAM #4

Name	Discipline
MARK GILLIAT	Engineer
MARCIA VANNOT	CHEMIST
MYRON SMITH, Jr.	Engineer
—	

Building Manager: Bob WARD (x-3821)

Process Manager: Brady BARNHART (SAFE SHUTDOWN)

Date: 7 February 1992

9.64-9

F706 50

ENVIRONMENTAL APPRAISAL CHECKLIST

Table of Contents

Checklist	Page
Clean Water Act	1
Clean Air Act	2
Hazardous Materials	4
Safe Drinking Water Act	7
RCRA Hazardous Waste	8
TSCA and NESHAP Requirements for Asbestos	13
TSCA—PCB	14
Low-level and Transuranic Waste	17
Waste Minimization/Pollution Prevention Activities	22

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Clean Water Act (CWA) Screening Checklist

Question	Response	Comments
Does the outside drain spouting of the building discharge directly to a storm sewer/sanitary system?	(Y) / N	If the answer to any of these questions is yes, proceed with the following checklist.
Are there sinks, toilets and floor drains in the building?	(Y) / N	
Are chemicals being used in the building?	Y / (N)*	
Is there a process which discharges to the storm or sanitary system?	Y / (N)*	

CWA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 122 Appendix D Table V	If chemicals are used/stored in the building, are they on the attached list? Are they properly contained?	Y / N Y / N	No chemicals. Removed under safe shutdown Jul-Aug 95
	Is the building in operation? What are the processes and where do they discharge to?	Y / (N) _____ _____	
	Do the floor drains, sinks & toilets appear to be draining properly?	(Y) / N	
OAC 3745-33	Do the floor drains and sinks drain to a sanitary or storm sewer?	(Sanitary) Storm	
	Is there a sump/pit in the building? If so, what does it contain? How often is it pumped out? Does water collect in sump? Does sump have secondary containment?	Y / (N) _____ _____ Y / (N) Y / N	
	Are there any manholes, catch basins, drains, or fill pipes in or around the building? If so, are there any unusual appearances, colors, and/or odors? Describe in comment section. Can chemicals flow into the drain?	Y / (N) Y / N Y / N	

* Undergoing safe shutdown

9.64-11

F9 of 50

9.64-12

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Clean Air Act (CAA) Screening Checklist

Regulatory Guideline	Question	Response	Comments
	Are there any rooms that have air emissions sources that vent to the outside of the building, e.g., fumehoods, equipment? If so, note the rooms.	(Y) N	105, 107, & 109 101, 101A, 102, & 103 have safety cabinets with filter systems
OAC 3745-35	Using the air emissions inventory reference for this building, are there any sources in the building that are not documented?	Y / (N)	
	Is there evidence of fugitive dust emissions inside or outside of the building	Y / (N)	

CAA Checklist

Regulatory Guideline	Question	Response	Comments
	Are there existing air permits or applications applicable to the building?	(Y) / N	
OAC 3745-31,35	If yes, are the terms and conditions of the permit or the information included on the application (see air emissions database) being followed? Note any differences and update the air emissions database.	(Y) / N	
OAC 3745-31	Are there any sources that are not included in the air emissions database? If so, note the room, hood number, active or not, POC, and applicable air emission database information on Table B.	(Y) / N	
OAC 3745-31-03	Are there sources which are lab equipment of lab fumeheads used exclusively for chemical or physical analyses and bench scale lab equipment? These sources do not require a permit. However, the air emissions database should be updated.	Y / (N)	
	Has there been any release of air contaminants from this building?	Y / (N)	

F10 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team # 4 Date: 2-7-96

CAA Checklist

Comments: Note the number of sources/hoods per room, the number that are active, and the POC on the reference document.

TABLE A									
Process Source	Room Number	Hood Number	In Database	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Hours/Yr. Operation	Air Emissions
None	105	0421050001	(Y) / N	Y / (N)					
None	108	0421080001	(Y) / N	Y / (N)					
None	109	0421090001	(Y) / N	Y / (N)					
			Y / N	Y / N					
			Y / N	Y / N					

Source:

9.64-13
F11 of 50

9.64-14

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Hazardous Materials (HM) Screening Checklist

Question	Response	Comments
Are any chemicals used or stored in this building, now or in the past?	(Y) / N *	If the answer is yes, proceed with the following checklist.

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.1200(b,f)	All containers of hazardous chemicals shall be labeled as to the identity of the chemical and the appropriate hazard warnings.	Y / N	
29 CFR 1910.1200(g)	MSDS shall be available to the employees in close proximity to the work area.	Y / N	
29 CFR 1910.22, 1910.106, 1910.176	All places of employment, passageways, storerooms and service areas shall be kept clean and orderly and in a sanitary manner. Aisles shall be unobstructed. Drums and containers are not leaking and are tightly sealed.	Y / N	
29 CFR 1910.106	Storage cabinets for flammable materials are constantly kept closed, are fire resistant and are labeled "FLAMMABLE - Keep Fire Away". Containers inside should be labeled and closed. No spills inside cabinet.	Y / N	
29 CFR 1910.106(d)(7)	Incompatible chemicals are not stored together.	Y / N	
29 CFR 1910.106(d)(4)	Inside Flammable/combustible storage rooms must meet the following: 4 in. raised sill or trench that drains to a safe area, liquid tight wall/floor joints, self-closing doors, gravity or mechanical exhaust providing 6 room changes/hr., exhaust switch located outside room, at least one 3 ft. aisle; no cracks in secondary containment.	Y / N	

NO applicable

F12 of 50

* No longer in Bldg. Removed as part of

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

HM Checklist

Regulatory Guideline	Question	Response	Comments
29 CFR 1910.106(d)(7)	All flammable/combustible storage locations have at least one 12-B portable fire extinguisher located outside and within 10 ft. of a door opening into any room for storage. No smoking signs are posted.	Y / N	None
29 CFR 1910.151	Eyewashes/showers shall be provided within the work area. Ensure unit is operational.	(Y) / N	
CGA P-1 3.3 & 3.3.10	All gas cylinders (full or empty) shall carry a legible label or marking identifying the contents.	Y / N	N_2 & Argon cylinders Bunks/Racks Removed
CGA P-1 3.5.3	Full and empty containers should be stored separately with the storage layout planned so that containers comprising of old stock can be removed first with a minimum handling of other containers.	Y / N	
CGA P-1 3.5.8	All compressed gas containers in service or in storage shall be stored standing upright and the container shall be secured.	Y / N	
CGA P-1 4.2.2	Oxygen cylinders shall be separated from flammable gas containers or combustible materials a minimum of 20 ft. or a noncombustible barrier 5 ft. high.	Y / N	
29 CFR 1910.104(2)(10)	Oxygen stored as a liquid shall be on a noncombustible surface. Asphalt is considered combustible. Wood and long dry grass shall be cut back 15 ft. from the container.	Y / N	
29 CFR 1910.104	Bulk oxygen storage shall be permanently placarded "OXYGEN - NO SMOKING - NO OPEN FLAMES".	Y / N	
	Is there a sign posted in each work area regarding emergency egress and emergency response action?	(Y) / N	
	Is there an emergency response plan available?	(Y) / N	

9.64-15
F13 of 50

9.64-16

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

HM Checklist

Regulatory Guideline	Question	Response	Comments
	Is there a process area?	(Y)/ N	
	Does it have proper containment?	(Y)/ N	
	Is there a liquid bulk transfer area?	Y / (N)	
	Is there proper containment?	Y / N	
	Is there an above ground storage tank? If so, complete Table B.	Y / (N)	Removed

Above Ground Storage Tanks Inventory

TABLE B—Above Ground Storage Tanks Inventory

Building	Capacity (Gal.)	Contents	Estimated Volume	In Service	Containment	Visual Stains/ Contamination	If Empty, Flushed
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N
				Y / N	Y / N	Y / N	Y / N

Source: _____

F14 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team # 4 Date: 2-7-96

Safe Drinking Water Act (SDWA) Screening Checklist

Does this facility have potable water?	(Y) / N	If yes, conduct the following survey.

SDWA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 95-02 (A)	Do actual or potential cross-connections exist between potable (light green) and service water (dark green)?	Y / (N)	
OAC 3745 95-04 (B)(C)	Are backflow prevention devices installed where cross connections (hoses connected to faucets, hot water tank vented directly to a drain) exist?	(Y) / N	
	Are sources of service water (janitorial and laboratory faucets, or outdoor spigots) posted as non-potable water sources?	Y / N	Potable Water
	Does the facility contain any water coolers or fountains that are not lead free? Complete Table C.	(Y) / N	Built-in cooler

TABLE C—Water Fountain Survey

Building	Location	Model #	Comments / Date of Analysis for Lead
42	Hallway	No stamp	hallwall outside B 104

Source: _____

9.64-17
F 15 of 50

9.64-18

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

RCRA Screening Checklist

Does this facility generate waste or use chemicals?	Y / (N)	If yes, conduct the following survey.

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745 52-11	Has any material generated been characterized RCRA hazardous? Was charactarization by analysis or by process knowledge? Are lab results or documentation of process knowledge readily available? Note any uncharacterized material in comment section. Is it waste? If yes, proceed with next section.	Y / N analysis / process Y / N Y / N	
OAC 3745 52-11	Are any of the materials noted RCRA hazardous waste? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed with the appropriate section below.	Y / N	

Building exhaust system may be contaminated with energetic materials. Safe shutdown procedures will be to check & clean to DOE xxx EM standard

IDLE EQUIPMENT - AIR COMPRESSOR on pad out side wall cover area Room 101 B, has leaking compressor oil into concrete Deck - Has not reached soil or drain.

F16 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
I. HAZARDOUS WASTE STORED IN CONTAINERS			
	Is there an area in the building that could qualify as a Satellite Accumulation Area? Is it treated as such?	Y / N Y / N	
OAC 3475-52-34 (C)	Has any of the RCRA hazardous waste in this building been managed in Satellite Accumulation Areas? If no, proceed to the next section. If yes, answer the following.	Y / N	
	Are the containers marked with the words hazardous waste, or other words denoting the hazard?	Y / N	
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the plant site boundary?	Y / N	
	Are containers kept closed and locked except during filling?	Y / N	
	Are containers moved within 3 days of being filled?	Y / N	

9.64-19
F17 76 50

9.64-20

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-52-11 (A)	If a Satellite accumulation area has been abandoned and/or if waste left in place, and the containers may be subject to the 90-day-storage exclusion. If this exclusion does not apply, go to the next section. If the containers have been in storage under this exclusion, answer the following:		
	Are the containers in good condition?	Y / N	
	Are the waste compatible with the containers?	Y / N	
	Are the containers kept closed except during filling?	Y / N	
	Are the containers managed in such a way, that they are not ruptured, or leaks caused?	Y / N	
	Is the area inspected at least once weekly?	Y / N	
	Is the inspection recorded? Blank Where is the log? Is it properly completed, dated, and signed?	Y / N Y / N	
	Are containers managing ignitable hazardous waste stored at least 50 feet from the facility boundary?	Y / N	
	Are incompatible wastes managed in such a way that they will not react with another incompatible waste?	Y / N	
OAC 3745-52-34(B)	Has any of the waste (except in Building 23, Building 72 and the Burn Area) been managed in excess of 90-days?	Y / N	
	If no go to next section.		
	If yes, note.		
	For Building 23, Building 72 & Burn Area use special checklist.		

F18 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team # 4 Date: 2-7-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
II. HAZARDOUS WASTE STORED IN TANKS			
OAC 3745-52-32 (B)	Has any chemical waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:	Y / N	
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	Is there a sump?	Y / N	
	Is it dry?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Has any hazardous waste stored in a tank, piece of process equipment or ancillary equipment been in storage in excess of 90-days?	Y / N	
	If the answer was no, then proceed with the following:		
	Has the tank or piece of equipment had an integrity assessment?	Y / N	
	Does the tank or equipment have secondary containment?	Y / N	
	Does the tank or equipment have leak detection device(s)?	Y / N	
	Has spill control prevention been enacted?	Y / N	
	Is there a closure plan?	Y / N	
	If yes, then note.		
OAC 3745-67	Has any of the waste been managed in a surface impoundment? If yes, then note. Go to the next section.	Y / N	

9.64-21
F19 of 50

9.64-22

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

RCRA Checklist

Regulatory Guideline	Question	Response	Comments
OAC 3745-68	Has any of the waste been managed in a Landfill? If yes, then note. Go to the next section.	Y / N	
OAC 3745-68	Has any of the waste been managed in an Incinerator (other than Burn area units)? If yes, then note. Go to the next section.	Y / N	
OAC 3745-68	Has any of the waste been managed in a Thermal treatment Unit (other than Burn area units)? If yes, then note. Go to the next section	Y / N	
OAC 3745-69	Has any of the waste been managed in a Miscellaneous Treatment Unit (other than Burn area units)? If yes, then not. Go to the next section.	Y / N	
OAC 3745-56	Has any of the waste been managed in a Waste Pile? If yes, then note. Go to the next section.	Y / N	

Blank

General Comments:

F20 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team # 4 Date: 2-7-96

Asbestos Screening Checklist

Does this facility contain ACBM?	(Y)/ N	If yes, conduct the following survey.

Asbestos Checklist

Note: Routinely, the asbestos standard for ACBM in schools has been applied to facilities for purpose of cleanup. In addition to AEHERA, there are additional standards in the NESHAPS that may be of importance.

Regulatory Guideline	Question	Response	Comments
ADAPTED FROM TSCA ACBM IN SCHOOLS:			
	Has this building been characterized either through process knowledge, by analyses, or by inspection to determine if it contains asbestos?	(Y)/ N	
	If no for this building or area note this conclusion in the comment section.		
	Is there any evidence of friable asbestos?	Y / (N)	
	Is the asbestos removal properly managed? (See questions listed below)	Y / N	If there is no asbestos removal, do not complete the following section. N/A
NESHAPS FOR ASBESTOS FOR ANY ONGOING ASBESTOS REMOVAL:			
40 CFR 61.156	There are no discharges of visible emissions to the outside air from collection, processing, packaging, transporting, or deposition of ACBM during the removal.	Y / N	
40 CFR 61.152(b) (1)	ACBM is treated with water in accordance with 40 CFR 152(b)?	Y / N	
40 CFR 61.154	Is friable asbestos adequately wetted during stripping? Or, has an adequate ventilation and collection system been installed?	Y / N	
40 CFR 61.152	Is wetting continued until the waste friable asbestos is collected for disposal?	Y / N	

9.64-23
F21 of 50

9.64-24

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Toxic Substances and Control Act (TSCA) PCB's Screening Checklist

Does this facility potentially contain any PCB's or PCB contaminated equipment?	Y / N	If yes, are transformers labeled (Blue or Yellow stickers)? If yes, conduct the following survey.

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761	Has any waste generated in, or from, this building been characterized either through process knowledge or by analyses to determine if it contains PCB's ? If the answer is no, note . If the answer is yes, proceed with next section.	Y / N	
	Based on an inspection, are any of the materials or equipment potentially PCB contaminated? If no, note and stop here. If yes, note the location of the management unit, and the method of management, and proceed.	Y / N	
40 CFR 761.65 (c) (5)	Are PCB articles or containers stored in this building checked for leaks at least once every 30 days?	Y / N	
	If yes, are auditable records maintained.	Y / N	
40 CFR.30 (a) (1) (ix)	Are any PCB transformers in use, or stored for possible reuse, that contain PCB's at concentrations of 500 ppm or greater?	Y / N	
	Are they visually inspected quarterly? If yes, are auditable records maintained?	Y / N	

F22 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.30 (a) 1,viii	Are all combustible materials (i.e., paints, solvents, plastics, paper, sawn wood, etc.) cleared from areas containing PCB transformers to a distance of five meters?	Y / N	
40 CFR 761.65 (b) (8)	Are all PCB articles and containers labeled with the date they were placed in storage?	Y / N	
	Are labeled PCB articles and containers stored so that the labels can be referenced?	Y / N	
40 CFR 761.65 (a)	Are all PCB's and PCB contaminated items at concentrations above 50 PPM, that are stored for disposal, stored no longer than one year from the date they were placed in storage?	Y / N	
40 CFR 761.62 (b) (1) (i)	Do all PCB storage areas have an adequate roof and walls to prevent rainwater from reaching the stored items?	Y / N	
40 CFR 761.62 (b) (1) (iv)	Are storage are floors curbed and constructed of continuous smooth and impervious materials?	Y / N	
40 CFR 761.62 (b) (1) (i)	Are the curbs at least 6 inches high?	Y / N	
40 CFR 761.62 (b) (1) (iii)	No drains are allowed in storage areas. Are there drains in the storage areas?	Y / N	

9.64-25
F23 of 50

9.64-26

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

TSCA Checklist

Regulatory Guideline	Question	Response	Comments
40 CFR 761.65 (c) (2)	Only non-leaking and undamaged large high voltage PCB's capacitators and PCB-containing electrical equipment are allowed to be stored outside of PCB storage areas, on pallets if stored outside, with containment for 10 percent of the volume of the equipment. Do all PCB's stored in this configuration conform with this requirement?	Y / N	
40 CFR 761.45 and .65	Are all PCB storage areas marked with a large PCB mark as described in 40 CFR 761.45 (a)?	Y / N	
40 CFR 761.65 (c) (5)	Have all leaking PCB articles and containers been transferred to non-leaking containers?	Y / N	
40 CFR 761.65 (c) (6)	Do all PCB storage containers for the storage of liquid and non-liquid PCB's comply with DOT shipping container specifications?	Y / N	

Blank

GENERAL COMMENTS:

F24 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Low-Level Waste and Transuranic Waste Screening Checklist

Does this facility contain radioactive waste ?	Y / N	If yes, conduct the following survey.

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
Low-Level Waste			
DOE Order 5820.2A Chapter III	Can any waste generated in, or from, this building be characterized either through process knowledge or by analyses to determine if it is LLW ? If the answer is no, note. If the answer is yes, proceed with next section.	Y / N	Blank
DOE Order 5820.2A Chapter III.	Are any of the materials noted by inspection LLW? If no, The audit would stop here, because there are no LLW. If yes, note the location of the management unit, and the method of management, and proceed with the section below.	Y / N	
DOE Order 5820.2A Chapter III, 3.a.	Have the storage configurations in use in this area been taken into account for keeping external exposures to the general public below 25 mrem/yr?	Y / N	
	Is the waste stored in a configuration that protects ground-water resources?	Y / N	
DOE Order 5820.2A Chapter III, 3.b.	Has monitoring been conducted in this area in accordance with DOE Order 5820.2A in order to evaluate the area against the performance standard?	Y / N	
	Based on field data, does the monitoring conducted in this area conform to the performance standard?	Y / N	

9.64-27
F25 of 50

9.64-28

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A Chapter III, 3.d.	Based on field data, is the characterization of the materials in this area sufficient to assure proper segregation to assure proper segregation, treatment, storage, and disposal?	Y / N	
	Based on field data does the characterization as documented at the time of generation of the waste ensure that the actual physical and chemical characteristics, and major radionuclide content of this material are recorded and known at all stages of the waste management process?	Y / N	Blank
	Do characterization data include the following:		
	Physical and chemical characteristics of the waste?	Y / N	
	Volume of the waste (including solidification and absorbent material)?	Y / N	
	Weight of the waste (including solidification and absorbent material)?	Y / N	
	Major radionuclides and their concentrations?	Y / N	
	Packaging date, package weight, external volume?	Y / N	
	How were the concentration of radionuclides determined? Direct methods?	_____	
	How were the concentrations of radionuclides determined? Indirect methods?	_____	
DOE Order 5820.2A Chapter III, 3.h	Is the storage configuration in long term storage sufficient to meet the performance standard?	Y / N	
	Are records maintained at the facility enabling this waste to be traced from its origin?	Y / N	

F 26 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
TRU WASTE			
	Can any waste generated in, or from this building be characterized either through process knowledge or by analyses to determine if it is TRU waste? If no, note and stop. If yes, proceed with the next section.	Y / N	Blank
	Are any of the materials noted as being TRU waste during an inspection? If no, note and stop. If the answer is yes, note the location of the management unit, and the method of management and proceed with the appropriate section below.	Y / N	
DOE Order 5820.2A, Chapter II, 3.a	Was this material evaluated as soon as possible in the generating process, to determine if it is TRU (>100nCi/g), if it is recoverable, or if it is waste? (Note if the activity level is less than 100nCi/g, the waste is not TRU, and can be managed as LLW.)	Y / N	
	Did the determination of TRU radionuclide concentration include the mass of the container, including shielding? These should be included in calculating the specific activity of the waste.	Y / N	

9.64-29
F27 of 50

9.64-30

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II, 3.b	Has the TRU waste been assayed or otherwise evaluated to determine its radioactive content prior to storage?	Y / N	
	Has the TRU waste been characterized or otherwise evaluated to determine if hazardous waste is present?	Y / N	
	Has classified TRU waste been treated to destroy the classified characteristics? Blank	Y / N	
DOE Order 5820.2A, Chapter II 3.d	Has all newly generated TRU waste been packaged in non-combustible packaging that meets DOT requirements?	Y / N	
	Have all Type A TRU waste packages been equipped with a method to prevent pressure buildup?	Y / N	
	Have all TRU packages been marked, labeled and sealed in accordance with 40 CFR 261 Subpart C and 49 CFR 172 Subparts D, E and 49 CFR 173 Subpart I?	Y / N	

F28 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Low-Level Waste and Transuranic Waste Checklist

Regulatory Guideline	Question	Response	Comments
DOE Order 5820.2A, Chapter II 3.e	Has the TRU waste been segregated in manner that will not permit commingling of TRU waste with LLW or high-level waste?	Y / N	
	Has the TRU waste been protected from unauthorized access?	Y / N	Blank
	Has the TRU waste been monitored periodically to ensure that it is not releasing its radioactive and/or hazardous constituents?	Y / N	
	Has this TRU waste storage area been designed, constructed, maintained, and operated to minimize the possibility of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	
	Does the facility have a contingency plan designed to minimize the adverse impacts of fire, explosion, or accidental release of its radioactive and/or hazardous constituents?	Y / N	

GENERAL COMMENTS:

9.64-31
F29 of 50

9.64-32

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team # 4 Date: 2-7-96

Waste Minimization/Pollution Prevention Activities Screening Checklist

Does this facility generate waste or use chemicals?	(Y)/ N *	If yes, conduct the following survey.

Waste Minimiaztion/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Based on available information and a walk through, are there any apparent opportunities to curtail the consumption of raw materials (including but not limited to paper, chemicals, electricity, and etc.). If yes, list candidate areas in the comment section.	Y /(N)	
	Are there solvent wastes?	Y /(N)	
	Is vehicle maintenance performed?	Y /(N)	
	Are oils used ?	Y /(N)	
	Are these corrosive wastes?	Y /(N)	
	Are there sludges?	Y /(N)	
	Are there halogenated organic (nonsolvent) wastes?	Y /(N)	
	Are metals recovered from wastewater?	Y /(N)	
	Is waste sludge generated?	(Y)/ N	Energetic material
	Are any waste minimization practices used that reduce the generation of sludge?	Y /(N)	
	Ion exchange process?	Y / N	
	Lead in gasoline lowered to reduce tank sludge toxicity?	Y / N	Blank
	Storage tank agitators installed?	Y / N	
	Corrosive resistant materials used?	Y / N	
	Prevention of crude oil oxidation ?	Y / N	
	Drying?	Y / N	

F30 of 50

* AS A RESULT OF SAFE SHUTDOWN PROCESS - NO CHEMICALS

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
HALOGENATED ORGANIC (NONSOLVENT) WASTES			
	Are halogenated organic wastes used as fuel in cement kilns?	Y / N	
	Are baghouse filters used to collect pesticides and pesticide intermediates?	Y / N	Blank
	Are solid wastes generated from the collection of baghouse dust?	Y / N	
	Wet instead of dry grinding used?	Y / N	
	The output spray dried?	Y / N	
	Has baghouse emptying and recycling of baghouse fines been scheduled?	Y / N	
	Have operations been evaluated to improve procedures such as handling, storage and spill prevention for increased efficiency?	Y / N	
METAL WASTES			
	Are any technologies for the recovering of metals from waste rinsewater used?	Y / N	Blank
	Evaporation of waste rinsewater?	Y / N	
	Reverse osmosis?	Y / N	
	Ion exchange?	Y / N	
	Electrolysis?	Y / N	
	Agglomeration?	Y / N	
CORROSIVE WASTES			
	Are acidic or basic cleaning solutions used as treatment for pH adjustment chemicals?	Y / N	N/a

9:64-33
F31 of 50

9.64-34

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are ion exchange resins used to remove heavy metals and cyanides from acid and base solutions?	Y / N	Blank
	Is crystallization used to remove corrosives from solution by cooling?	Y / N	
	Is the process of evaporation of liquid wastes by heating used to leave behind a more concentrated solution?	Y / N	
CYANIDE AND REACTIVE WASTES			
	Has non-cyanide or low concentration of cyanide process replaced zinc cyanide bath ?	Y / N	
	Are any of these processes used to recycle cyanide wastes?	Y / N	Blank
	Refrigeration/crystallization?	Y / N	
	Evaporation?	Y / N	
	Ion exchange?	Y / N	
	Membrane separation which includes reverse osmosis or electrodialysis?	Y / N	
VEHICLE MAINTENANCE			
	How are auto parts cleaned?	Y / N	
	Solvent sink?	Y / N	Blank
	Solvent dunk bucket?	Y / N	
	Solvent dip tank?	Y / N	
	Are parts cleaning solvents used for anything else besides cleaning parts?	Y / N	
	Are spills reduced by locating sinks or dunk buckets near auto service bays?	Y / N	

F32 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are cleaned parts drained on the sink to minimize solvent spills?	Y / N	
	Are drip tanks used to capture losses?	Y / N	
	Is a solvent sink used for mineral solvents rather than a dunk bucket or dip tank?	Y / N	
	Does a waste hauler collect solvent waste for recycling or treatment?	Y / N	
OILS			
	What kind of oils are used?		
	Hydraulic oil?	Y / N	Air Compressor out-of-service Idle Equip
	Transformer oil?	Y / N	
	Metal working fluids?	Y / N	
	Spent lubricating oils?	Y / N	
	Can the process be modified or changed to use water-based fluids?	Y / N	
	Are these good housekeeping and operation practices used to minimize oil waste production?		
	Use oils not contaminated with other liquids?	Y / N	
	Oil spills prevented?	Y / N	
	Drip pans installed?	Y / N	
	Oil soaked rags laundered?	Y / N	
	Rags and absorbants used to their limit?	Y / N	

9.64-35
F33 of 50

9.64-36

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team #4 Date: 2-7-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	Are these treatment techniques used to promote separation of oil/water wastes?		
	Reclaiming process to remove water and solvents by heat?	Y / N	
	Gravity setting?	Y / N	
	Screening?	Y / N	
	Centrifugation?	Y / N	
	Filtration?	Y / N	
SOLVENT WASTES			
	Has there been an attempt to reduce volume or toxicity by:		
	Eliminating solvents?	Y / N	
	Reducing the use of solvents?	Y / N	
	Reducing the loss of solvents?	Y / N	
	Increasing recyclability?	Y / N	
	Are solvents segregated?	Y / N	
	Are waste solvents free from water and garbage?	Y / N	
	Are recycled solvent containers labeled as such?	Y / N	
	Are containers kept closed?	Y / N	
	Free and sheltered from the elements?	Y / N	
	Are solvent tanks kept as free from contaminations as possible so that the waste can be recycled?	Y / N	
	Is a method used to minimize the use of new materials such as a countercurrent process?	Y / N	

F34 of 50

Environmental Appraisal Checklist

Building Name: 42 Appraisers: Team # 4 Date: 2-7-96

Waste Minimization/Pollution Prevention Activities Checklist

Regulatory Guideline	Question	Response	Comments
	If there is a recycling program, what technique is used?	Y / N	
	Distillation?	Y / N	
	Solids removal?	Y / N	
	Dispersion breaking?	Y / N	
	Dissolved and emulsified organics recovery?	Y / N	
	Are any of these housekeeping procedures used to minimize the production of solvent wastes?		
	Separators cleaned and checked?	Y / N	
	Parts not allowed to enter the degreaser while wet?	Y / N	
	Sludge from the bottom of the tank not allowed to accumulate?	Y / N	
	Lids kept on tanks?	Y / N	
	Freeboard space on tanks increased?	Y / N	
	Are better operating practices used to reduce waste?	Y / N	
	How long is solvent waste stored and where?	_____ _____	

Blank

F35 of 50 9.64-37

This page intentionally left blank.

Building Manager's Questionnaire

Building Name: 42 Building Manager: R.A. Ward Phone: 3821 Date: 12-07-95
Alternate: K. HOEHLER Phone: 4886

1. What are the access requirements (training, clearance, etc.)?

NONE

2. What protective equipment is required to enter the building?

NONE

3. Are there any restricted areas? Yes (No)
Where are they?

4. Provide a physical description of the building.

This one-story building contains 2,892 ft^2. It is constructed of reinforced concrete and concrete blocks with a BUM roof (coal tar). HVAC systems are central steam and chilled water. Building is contaminated with energetic materials and also contains asbestos.

Source: Mound Facility Physical Characterization, 12-1-93

5. Provide a drawing of the building.

Attached

6. What is the current building use?

Used to produce pyrotechnics and thermites and for materials compatibility studies in support of defense programs.

Source: Mound Buildings, 5-9-95

7. What is the history of building use other than that described in #6?

Source: Mound Buildings, 5-9-95

9.64-41

F37 06 50

Page 2 of 11 of the Building Manager's Questionnaire was not provided.

F38 of 50

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

9. In the last six months, have any modifications been made to the building or to processes in the building? Yes No
EQUIPMENT REMOVAL

10. Does the building have air emission sources? Yes

Process Source	Room Number	Hood Number	Active	Chemicals Used	Quantity Used	Quantity to Waste Management	Lbs./Yr. Operation	Air Emissions
High Explosives Pyrotechnics	101A	42101 A0001	Y N*	Acetone	.106		66.144	
High Explosives	109	42109	Y N*	Acetone hexane methanol petroleum ether	.265 .134 .041 .134		165.36 83.616 25.584 83.616	
High Explosives	105	42105 0001	Y N*	Acetone ethanol hexane	.1453 .029 .082		27.8976 5.568 15.744	
			Y / N					
			Y / N					

Source: Mound Air Emissions Database 11/30/95

* 2/7/96 undergoing Safe Shutdown

9.64-43
F39 of 50

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

11. Describe air pollution control equipment used to reduce emissions for each source. None Listed

Process Source	Emissions	Control Equipment	Functioning
			Y / N
			Y / N
			Y / N
			Y / N
			Y / N

Source: Air Permits 2/4/95

12. For existing permits are emissions monitored? At what frequency? Where are the records maintained? None Listed

Process Source	Permit	Log	Permit Conditions & Frequency of Monitoring
		Y / N	
		Y / N	
		Y / N	
		Y / N	
		Y / N	

Source: Air Permits 2/4/95

13. Does the building have domestic water service? (Yes) No
Is there bottled water?

14. Does the building discharge to the storm sewer? Yes (No)
Where?

15. Does the building discharge to the sanitary sewer? (Yes) No
Where?

16. Has an asbestos survey been conducted? Yes
What are the results? Yes

Source: Technical Manual MD-10391, Issue 3 Asbestos Program Manual 9/6/95

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

17. Does the building contain transformers or capacitors? NO

Source: PCB ANNUAL DOCUMENT LOG

18. Has the building been identified as containing PCBs? NO

Source: PCB ANNUAL DOCUMENT LOG

19. What chemicals are used or stored inside or outside of the building? Include compressed gasses not in large tanks.

Chemical Name	State	Amount (MAX)
NONE		

Source: Chemical Inventory 1994

Building Manager's Questionnaire

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

20. Has there been a reported spill, leak, or other release of any chemical? Yes (No)
What, how much, and what clean-up measures were followed?

Chemical	Amount	Clean-up Measures

Source: _____

21. Where do waste chemicals go?

NONE

22. What janitorial supplies are stored inside or outside of the building?

NONE

23. Where do excess janitorial supplies go?

NONE

Source: _____

24. Are pesticides or herbicides stored or used in or around the building? Yes No

Chemical	Amount	Chemical	Amount

Source: _____

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

25. Does the building contain active or inactive above ground storage tanks? Yes No
For each tank, list the content, quantity, last inspection, registration number. ?

Registration Number	Content	Quantity	Last Inspection Date	Preventive Maintenance Performed	Inside Or Outside
	Nitrogen	1500 Gal		Y / N	
7782-37-9	Nitrogen	03C		Y / N	outside
				Y / N	

remove

Source: Emergency and Hazardous Chemical Inventory Form - Chemical Storage Tanks on EGG Mound Site Owned and Maintained by Outside Contractors 8/8/94

26. Is there a sump or pit or underground tank in or around the building?
Yes (No) Unknown
Is it double-walled? What does it contain? How many days per year is it filled?
Is there an emergency overflow tank? Have there been previous overflows?

Double-Walled	Contents	Days/Year in Use	Overflow Tank	Previous Overflow
Y / N			Y / N	Y / N

Source: _____

27. Does the building generate, store, or dispose of hazardous waste? Yes (No)

Materials	Amount
ATTACHED	

Source: Characterization of Mounds Hazardous, Radioactive, and Mixed Wastes 08/15/90

BLDG 42	ALUMINUM OXIDE	NONE	2.3
[illegible] 42	ALUMINUM POWDER	D003	0.5
[illegible] 42	ALUMINUM STEARATE	NONE	1.5
BLDG 42	AMMONIUM HYDROXIDE CLEANING SOLUTION	D002	3.1
BLDG 42	AMMONIUM HYDROXIDE, PYRRIDINE	D002 D038 F005	0.2
BLDG 42	AMMONIUM SULFATE	NONE	1.2
BLDG 42	AMYL PHTHALATE	NONE	0.1
BLDG 42	AQUO AMINO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
BLDG 42	AROCHLOR CLEANUP	PCB2	0.5
BLDG 42	ASBESTOS CEMENT PASTE	NONE	4.2
BLDG 42	ASBESTOS CEMENT POWDER	NONE	4.1
BLDG 42	AZIDO PENTAMINE COBALT (III) BROMIDE, OIL WASTE	D001	0.0
BLDG 42	AZO BENZENE	NONE	0.2
BLDG 42	BENZENILIDE	NONE	0.1
BLDG 42	BENZIL	NONE	0.1
BLDG 42	BENZOIC ACID	NONE	0.3
BLDG 42	BENZOIC ACID	NONE	1.2
BLDG	BENZOIC ACID	NONE	2.8
BLDG [illegible]	BETA NAPHTHOL	NONE	0.1
BLDG 42	BORON POWDER	D001 D003	15.7
BLDG 42	BUTOXYETHYL PHTHALATE	NONE	0.1
BLDG 42	BUTYL STEARATE	NONE	0.1
BLDG 42	CALCIUM CHLORIDE	NONE	2.5
BLDG 42	CALCIUM METASILCATE	NONE	0.3
[illegible] 42	CALCIUM METASILICATE	NONE	0.3

Removed July-Aug 95

[illegible]	CALCIUM NITRATE	D001	1.2
[illegible] 42	CALCIUM PHOSPHATE	NONE	0.1
[illegible] 42	CALCIUM SILICIDE	D001 D003	20.1
[illegible] 42	CALCIUM STEARATE	NONE	0.2
BLDG 42	CALCIUM STEARATE	NONE	0.2
[illegible]	CALCIUM STEARATE	NONE	0.2
BLDG 42	CALCIUM SULFATE	NONE	2.5
BLDG 42	CALCIUM SULFATE	NONE	16.5
BLDG 42	CALCIUM SULFATE	NONE	3.5
BLDG 42	CAPRIC CHLORIDE	NONE	0.5
BLDG 42	CARBOAMINO TETRA AZOLATO PENTAMINE COBALT (III) BROMIDE, OIL WASTE	D001	0.0
BLDG 42	CARBON BLACK	NONE	0.1
BLDG 42	CARBOWAX	NONE	0.4
BLDG 42	CARBOWAX	NONE	0.1
BLDG 42	CARBOX (5-) AMINO TETRAZOLE, OIL WASTE	D001	0.0
BLDG 42	CELLULOSE ACETATE	NONE	0.2
BLDG 42	CERIC AMMONIUM NITRATE	D001	0.5
BLDG 42	COPPER CYANIDE, SODIUM CHLORIDE	NONE	12.4
BLDG 42	COPPER CYANIDE, WATER	F007 F009	2.4
BLDG 42	COPPER PHTHALOCYANINE	NONE	0.1
BLDG 42	COPPER PHTHALOCYANINE	NONE	0.9
BLDG 42	COPPER STEARATE	NONE	0.9
BLDG 42	CUPRIC OXIDE	NONE	1.1
BLDG 42	CUPROUS CHLORIDE	NONE	0.7
BLDG 42	CYANO (5-) TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
[illegible] 42	CYANO (5-) TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
BLDG [illegible]	DIALLYL PHTHALATE	NONE	2.1
BLDG 42	DIALLYL PHTHALLATE	NONE	0.3
BLDG 42	DICYANODIAMIDE	D003	0.1
BLDG 42	DIMETHYL FORMAMIDE	D001	3.1
BLDG 42	DINITRO (3,5-) PHENYL TETRAZOLE, OIL WASTE	D001	0.0
BLDG 42	DINITRO (3,5-) PHEYL TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
BLDG 42	DINITRO (3,5-) TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
BLDG 42	DINITROPHENYL HYDRAZINE (2,4-)	NONE	0.2
BLDG 42	DINONYL PHTHALATE	NONE	0.2
BLDG 42	DIPENTA ERYTHRITOL	NONE	1.9
BLDG 42	DIPHENYL SILANE DIOL	D003	0.3
BLDG 42	DIPSODIL	NONE	0.8
BLDG 42	EPON 828	NONE	0.3
BLDG 42	EPON 828	NONE	0.1
BLDG 42	EPON 828, VERSAMID 140	NONE	0.3
BLDG 42	ETHYL ETHER	D001 D003	1.4
BLDG 42	ETHYLENE CHLORIDE	D001 D028	3.7
[illegible] 42	EXPLOSIVE CONTACT DEBRIS WITH TITANIUM SUBHYDRIDE, POTASSIUM PERCHLORATE	NONE	22.5

42	EXPLOSIVE CONTACT DEBRIS WITH TITANIUM SUBHYDRIDE, POTASSIUM PERCHLORATE	NONE	5.0
42	EXPLOSIVE CONTACT WIPES, DEBRIS WITH TITANIUM SUBHYDRIDE, POTASSIUM PERCHLORATE	NONE	2.2
BLDG 42	FERROCENE	NONE	0.6
BLDG 42	FLUORESCEINE	NONE	0.2
BLDG 42	FLUORINERT FC-70	NONE	0.1
BLDG 42	FORMALDEHYDE SOLUTION	D001	1.5
BLDG 42	FURFURAL ACETATE	NONE	0.2
BLDG 42	GOLD CHLORIDE	NONE	0.1
BLDG 42	GOLD CYANIDE	D003	0.1
BLDG 42	GOLD CYANIDE, SODIUM CHLORIDE	NONE	5.8
BLDG 42	GOLD POTASSIUM CYANIDE	D003	0.1
BLDG 42	GOLD SULFIDE	D003	0.1
BLDG 42	GRAPHITE POWDER	NONE	0.3
BLDG 42	GREASE	NONE	0.2
BLDG 42	GROUND GLASS	NONE	1.9
BLDG 42	HAFNIUM HYDRIDE, NITROCELLULOSE, OIL WASTE	D001	0.0
BLDG 42	HAFNIUM OXIDE, OIL WASTE	D001	0.0
BLDG 42	HAFNIUM OXYCHLORIDE, OIL WASTE	D001	0.0
BLDG 42	HAFNIUM POWDER, OIL (FORMERLY LP91-1520)	D001 D003	0.5
BLDG 42	HALTHANE RESIN 88	NONE	0.5
BLDG 42	HEXANE	D001	2.4
BLDG 42	HYDROCHLORIC ACID	D002	2.7
[illegible]	INDOLE	NONE	0.2
[illegible]	INSULCAST	D001	1.1
BLDG 42	IODINE	NONE	0.4
BLDG 42	IRON POWDER	D003	22.2
BLDG 42	JAGUAR C13	NONE	0.1
BLDG 42	LAURYL ACRYLATE	NONE	0.3
BLDG 42	LEAD OXIDE	D008	1.3
BLDG 42	LEAD PHTHALOCYANINE	D008	0.1
BLDG 42	LINDANE (O)	D013	0.4
BLDG 42	LITHIUM CHLORIDE	NONE	0.8
BLDG 42	MAGNESIUM METAL	D003	0.8
BLDG 42	MAGNESIUM PHTHALOCYANINE	NONE	0.3
BLDG 42	MAGNESIUM PHTHALOCYANINE	NONE	0.1
BLDG 42	MAGNESIUM STEARATE	NONE	0.9
BLDG 42	MANGANESE DIOXIDE	D001	0.1
BLDG 42	MERCURIC CHLORIDE	D009	0.2
BLDG 42	MERCURY- METAL	D009 U151	1.6
BLDG 42	METHANOL, ETHYLENE GLYCOL WASTE	D001 F003	5.0
BLDG 42	METHANOL, TRIBOMOPHENOL (2,4,6-), CHLOROPHENOL (2-)	D001 U048	0.6
BLDG 42	METHYL ISOBUTYL KETONE	D001 F003	2.7
BLDG 42	METHYL METHACRYLATE	U162	0.2
BLDG 42	METHYL RED	NONE	0.3
BLDG 42	METHYLENE CHLORIDE	D001 F002	12.3
BLDG 42	MICRO CLEANER	D002	2.3
BLDG 42	NICKEL PHTHALOCYANINE	NONE	0.3
[illegible]	NICKEL POWDER	NONE	1.4

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

28. Does the building have abandoned process equipment such as tanks, piping, containers, etc.? Yes No

29. Is waste material stored in or around the building for more than 90 days?
Yes No

30. Has the building been identified as a 90-day waste accumulation area?
Yes No

31. Has any area in the building been identified as a satellite accumulation area?
Yes No

32. Is mixed waste generated, stored, or disposed of from the building? Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

F47 of 50

9.64-51

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

33. Is TRU radioactive waste generated, stored, or disposed of from the building?
Yes (No)
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

F48 of 50

Building Manager's Questionnaire

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

34. Is low-level radioactive waste generated, stored, or disposed of from the building? Yes No
Where are logs found?

Process	Waste	Stored	Disposed	Logs
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N
		Y / N	Y / N	Y / N

Source: _____

35. Identify all administrative orders, temporary or permanent injunctions, civil administrative penalties, or criminal activities issued against the building.

F49 of 50 9.64-53

Building Manager's Questionnaire

Building Name: 42 Building Manager: R.A. Ward Phone: _____ Date: 12-07-95
Alternate: _____ Phone: _____

36. Is there a waste minimization program in the building? Yes No
Discuss your ideas about how to minimize waste.

37. Has a pollution prevention program been developed for the building? Yes No

9.64-54

FS 0 of 50

Appendix G

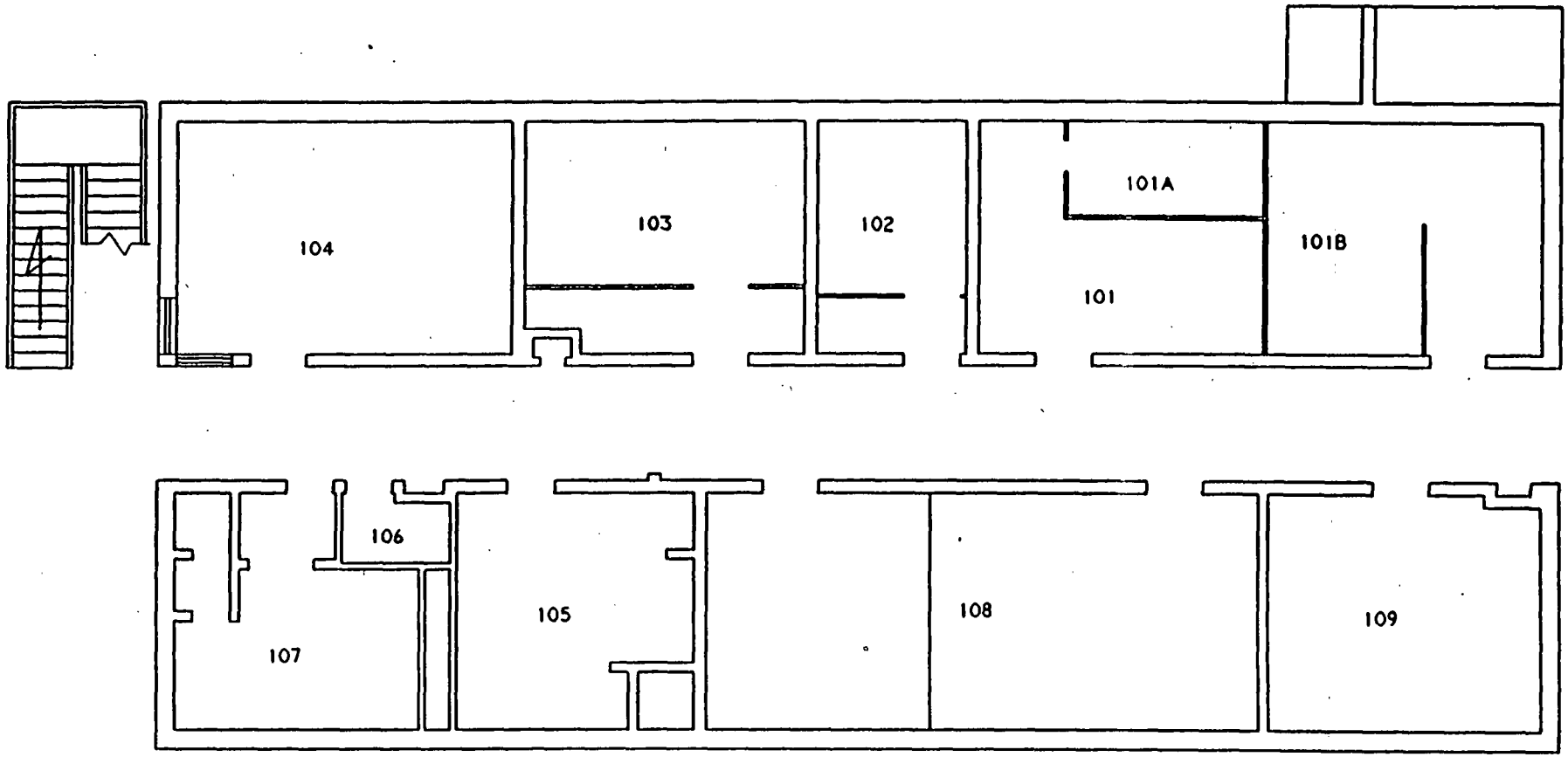
Radiological Information

Building 42 – RSDS Results

RSDS #	Building Section	Sample Location	All Samples Meet Surface Release Criteria
00-TF-0388	Corridor, Rooms 104, 105, and 107	Curb base coat, floor tile, curbing, wall, insulation, ceiling, gasket/wall, gasket/floor, piping, and plaster/wall.	Yes
00-TF-395	Corridor, Rooms 101B, 101, 102, 103, 108, and 109	Walls, floor, ceiling, curb, pass-box, fumehood, foam wrap, piping, plaster, and insulation.	Yes
00-TF-396	Room 106	Air duct, ceiling material, and pipe insulation.	Yes
00-TF-403	South, north, and west exterior walls	Sealant, gas pipe insulation, wall, and plexi-wall.	Yes
00-TF-404	Room 108 and 104 (after asbestos tile sampling)	Floors.	Yes
00-TF-407	Corridor	Walls, floors, ceiling, vents (inside and on roof), fumehood, and sink.	Yes
00-TF-408	Room 104	Floor, walls, ceiling, and vent.	Yes
00-TF-409	Rooms 109 and 108	Floor, walls, ceiling, fume hood, vent, and vent duct.	Yes
00-TF-410	Rooms 105, 106, and 107	Floor, walls, ceiling, vent, sink, fumehood, and floor drain.	Yes
00-TF-411	Room 201 (penthouse)	Floor, walls, ceiling, vents.	Yes
00-TF-412	Rooms 101A, 101B, 102, and 103	Water.	Yes
00-TF-413	Rooms 101A and 101B	Walls, ceiling, vents, sink, and fumehood.	Yes
00-TF-414	Rooms 102 and 103, and fumehood screen in 101B	Walls, ceiling, vents, and fumehood screen.	Yes
00-TF-443	Rooms 101, 101A, 101B, 102, and 103	Floor	Yes

All radiological surveys of Building 42 are below surface release criteria; there were no elevated readings. Survey areas included all areas of the building, as shown on the attached floorplan. During and after demolition, all rolloffs and debris piles will be radiologically surveyed to determine disposition of demolition debris. Disposition will be per the direction of Waste Management.

REV	DATE	REVISION	BY	CHKD	DWN	CHKD	APPRD	R
B	12/12/91	ASBUILT ISSUE	DCW				DVD	



UNCLASSIFIED

DERIVATIVE CLASSIFIER

(Name)

(Title) (Date) 2/20/96

0 1' 3' 5' 10'

BLDG #42
FIRST FLOOR
BLDG CODE:3042

APPROVALS: DATE:
SAFETY COMMITTEE REQUIRED:
___NONE ___TRIGONIC ___TOXIC ___CRITIC
TECH. REP. ___ ___
GR. MGR. ___ ___
TRIGONIC ___ ___
TOXIC ___ ___
FIRE ___ ___

NOT FOR PUBLIC DISSEMINATION

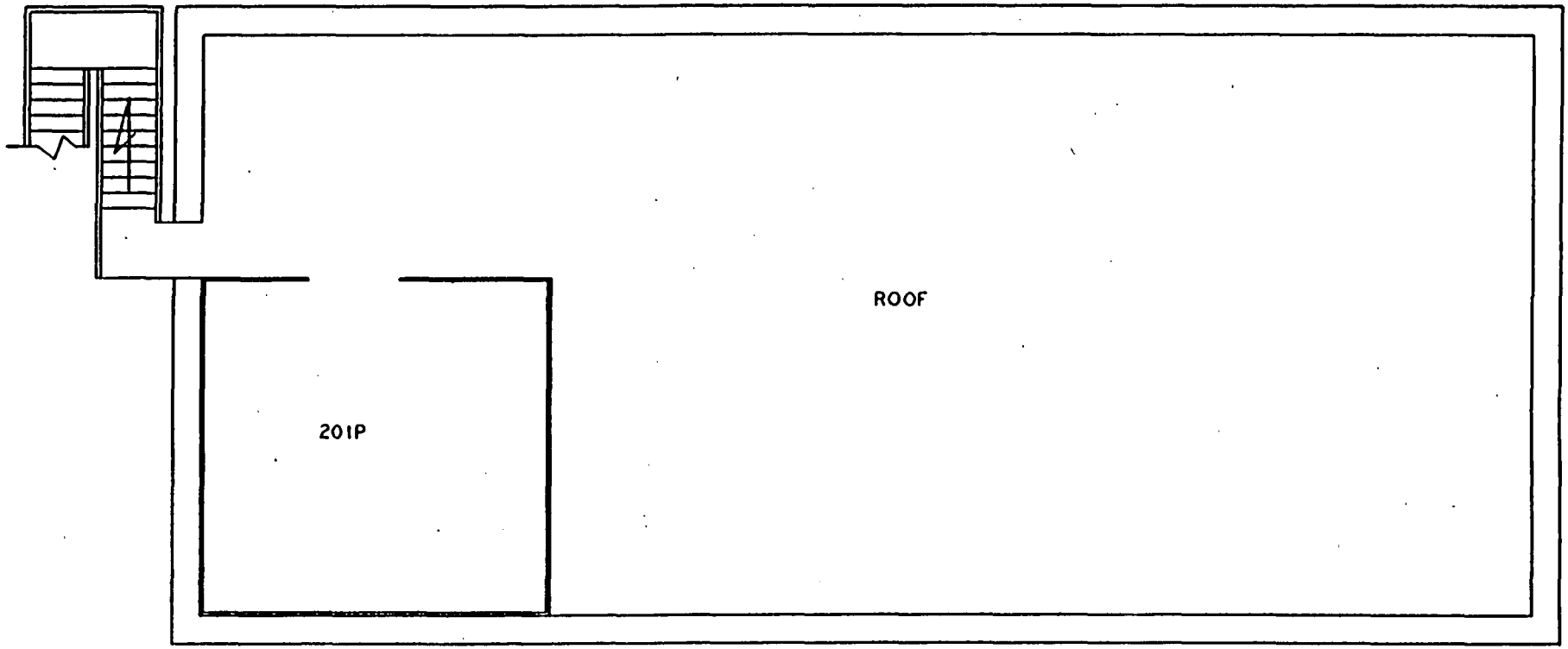
MAY CONTAIN UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION SUBJECT TO SECTION 148 OF THE ATOMIC ENERGY ACT OF 1954, AS AMENDED (42 USC 2168). APPROVAL BY THE DEPARTMENT OF ENERGY PRIOR TO RELEASE IS REQUIRED.

SECTION CHIEF | PROJ MGR
BPCRA | CHIEF SCIENTIST
S.P. & G.C. | PROJ REV.
CHIEF FIRE
SAFETY | DATE

SHEET	1	2	3	4	5	6	TITLE	(U) TITLE CLASSIFICATION
TOTAL	8	8					BLDG #42 FLOOR PLANS	
PART CLASSIFICATION								
DRAWING CLASSIFICATION: UCNI							SIZE C	DRAWING NUMBER FSC911252
								JOB NUMBER 12335
DWG TYPE SFP	PROJ BLDG #42	CODE 14BLS	SCALE AS NOTED	SHEET 1 OF 2				
STATUS MD-REL.-12/12/91			ORIGIN MD-BRJ-V3.8					

G2 of 77

9.64-63



UNCLASSIFIED

DERIVATIVE CLASSIFIER

(Title) (Date)

0 1' 3' 5' 10'

BLDG #42
PENTHOUSE
BLDG CODE:3042

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	FSC911252
JOB NUMBER	12335
DRAWING CLASSIFICATION	~~UCNI~~
SIZE	C
CODE	14865
SCALE	AS NOTED
FORMAT	B
SHEET	2
STATUS	MD-REL-12/12/91

G3 of 77 9.64-61

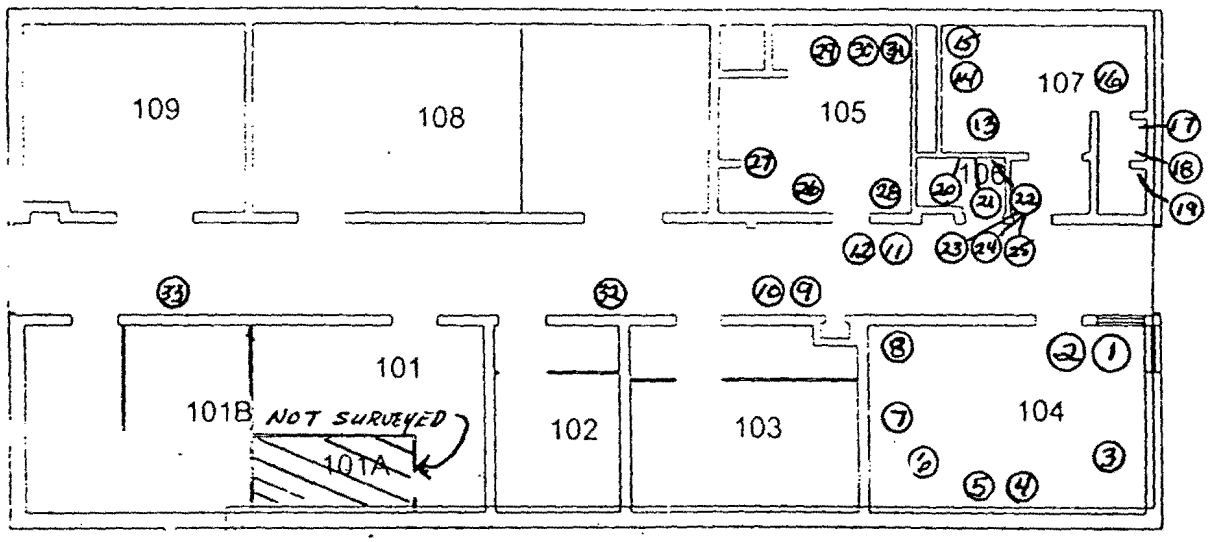
30-22 K1-K33 P2

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) BLDG. 42	SURVEY NO. 00-TF-0388
PURPOSE: Pre-work Conditions: I.H. To sample for asbestos	RWP NO. N/A
	DATE: 11-07-00
	TIME: 0950

MAP/DRAWING

NOTE: Rm. 101A not surveyed per L. Lanza (Engr.) ... concerns cy safety of explosive dusts potential.



BLDG. POSTING: NO RADIOLOGICAL postings.

→ Hazard Posting for Bldg. 42

NORTH

<500 dpm/100cm² β
<100 dpm/100cm² α
(ALL)

Electra Bkg. = 2.8 dpm/100cm² α

Direct Scan of Smear Locations:

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
Electra	5611-5613	02/19/01

[redacted]	HP# 7787	Date: 11-7-00
[redacted]	HP# 5681	Date: 11-7-00
[redacted]	HP# 7737	Date: 11-15-00

G40677

ML-9620 (2-98)

Survey No.
00-TF-0388

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			Curb Base Coat
2	↓	↓	↓	Floor Tile
3				Floor Tile
4				Curbing
5				Wall
6				Floor Tile
7				Floor Tile
8				Curbing
9				Insulation
10				Wall
11				Curbing
12				Floor
13				Ceiling
14				Gasket/Wall
15				Wall
16				Gasket/Floor
17				Ceiling
18				Ceiling
19				Insulation
20				↓
21				
22				
23				
24				
25				Insulation
26				Curbing
27				Curbing
28				Curbing
29				Counter Top
30				Piping
31				Plaster/Wall
32				Insulation
33	↓	↓	↓	Insulation
N/A				

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

COMMENTS: Smears Scanned < 1000 dpm/100cm² α/β-

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-9620 (4-98)

Alpha/Beta Analysis

Batch ID: 00-TF-0388 JONES BLDG.#42 (33) CYR

Batch File: Smear Unit 3 - 200011071041
Group: A
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 59123

Acquisition Date: 11/7/2000
Count Time (min): 1.5
Recalibration Date: 5/17/2001

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	7	2.34	4.69	2.54	3.60
2	21	2.33	4.69	5.08	5.09
3	76	0.00	0.02	1.27	2.54
4	14	2.33	4.69	5.08	5.09
5	138	2.34	4.69	3.81	4.41
6	86	0.00	0.11	6.36	5.69
7	51	4.67	6.63	6.34	5.69
8	10	4.68	6.63	5.07	5.09
9	39	0.00	0.07	3.82	4.41
10	64	0.00	0.04	2.54	3.60
11	70	2.33	4.69	6.35	5.69
12	17	2.34	4.69	3.81	4.41
13	32	2.34	4.69	1.26	2.55
14	100	0.00	0.11	6.36	5.69
15	119	0.00	0.02	1.27	2.54
16	10	0.00	0.07	3.82	4.41
17	23	2.34	4.69	1.26	2.55
18	30	2.33	4.69	7.63	6.23
19	119	0.00	0.07	3.82	4.41

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
20	84	2.34	4.69	3.81	4.41
21	7	0.00	0.07	3.82	4.41
22	127	2.33	4.69	5.08	5.09
23	91	2.34	4.69	3.81	4.41
24	61	0.00	0.09	5.09	5.09
25	144	2.34	4.69	1.26	2.55
26	140	0.00	0.07	3.82	4.41
27	36	2.34	4.69	2.54	3.60
28	65	→ 7.01	8.12	8.88	6.74
29	100	0.00	0.13	7.63	6.23
30	140	0.00	0.11	6.36	5.69
31	10	0.00	0.11	6.36	5.69
32	48	2.34	4.69	3.81	4.41
33	60	0.00	0.09	5.09	5.09

G706 77

445

07-Nov-2000 16:55 ALPHA/BETA - 1.09 Page #1
Protocol #: 4 Pw H3 20cc #405828 User : 5681

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	4.91
Region B:	2.0	- 18.6	0	0.0	4.83
Region C:	40.0	- 2000	0	0.0	10.70

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
00-TF-0388 JONES BLDG.#42 (30-22 R1-R33) CYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT1.DAT
Count Data Filename: c:\data\SDATA4.DAT
Spectrum Data Drive & Path: c:\data

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	4.91	4.83	0	B	522.95		0.00	10.70
0	2.00	897.34	852.03	0		526.65	2197.76	196.81	0.00
1	2.00	0.00	0.00	0		441.75	0.00	0.00	2.30
2	2.00	0.59	0.67	0		552.92	1.41	8.61	0.00
3	2.00	0.59	0.67	0		433.09	1.61	9.86	0.00
4	2.00	0.00	0.00	0		487.86	0.00	0.00	0.00
5	2.00	1.33	1.15	0		593.62	3.07	8.78	0.00
6	2.00	0.00	0.00	0		501.87	0.00	0.00	0.00
7	2.00	3.09	2.67	0		544.35	7.44	10.23	2.80
8	2.00	2.59	2.07	0		504.34	6.47	10.31	0.00
9	2.00	3.09	3.12	0		475.06	7.98	10.97	0.00
10	2.00	0.09	0.17	0		613.31	0.20	7.86	0.00
11	2.00	1.59	1.07	0		504.43	3.97	9.67	0.00
12	2.00	0.29	0.37	0		531.25	0.70	8.57	0.00
13	2.00	0.80	0.39	0		621.74	1.81	8.26	0.00
14	2.00	0.00	0.00	0		433.36	0.00	0.00	0.00
15	2.00	0.00	0.00	0		457.32	0.00	0.00	0.00
16	2.00	0.59	0.46	0		562.26	1.40	8.54	0.00
17	2.00	1.59	1.02	0		490.08	4.04	9.81	3.30
18	2.00	2.80	2.88	0		561.95	6.64	9.91	0.00
19	2.00	1.59	1.67	0		549.70	3.81	9.29	0.00
20	2.00	3.59	3.67	0		496.73	8.03	10.98	0.00
21	2.00	3.59	3.56	0		508.31	8.94	10.87	0.00
22	2.00	1.59	1.53	0		522.71	3.90	9.51	0.00
23	2.00	2.59	2.27	0		557.89	6.17	9.82	0.00
24	2.00	1.09	1.12	0		477.26	2.80	9.63	0.00
25	2.00	0.39	0.96	0		478.22	2.30	9.48	0.00
26	2.00	0.00	0.00	0		481.99	0.00	0.00	0.00
27	2.00	0.00	0.00	0		497.54	0.00	0.00	0.00
28	2.00	0.00	0.00	0		444.92	0.00	0.00	0.00
29	2.00	0.56	0.64	0		340.42	1.83	11.72	0.00
30	2.00	0.99	0.56	0		454.61	2.64	9.86	0.00
31	2.00	2.09	2.17	0		501.16	5.24	10.02	0.00
32	2.00	3.09	2.98	0		566.32	7.30	10.04	0.00
33	2.00	0.00	0.00	0		498.38	0.00	0.00	0.00

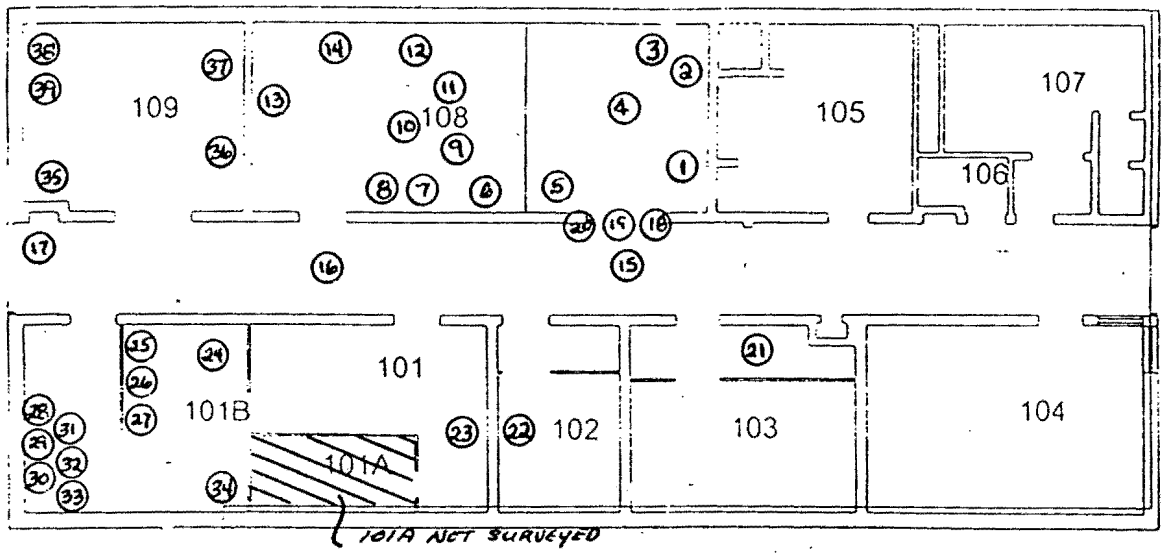
G-806 77

NT-N34 00-23 PE

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) BLDG. 42	SURVEY NO. 00-TF-395
PURPOSE: Pre-work conditions I.H. to sample for asbestos	RWP NO. N/A
	DATE: 11-08-00
	TIME: 1545

MAP/DRAWING



No Radiological Posings
BLDG. 42

Direct Scan of Smear Locations:
< 5000 dpm/100cm² β-
< 100 dpm/100cm² α

Electra Bkg. = 2.7 dpm/100cm² α

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
Electra	5611-5613	03/19/01

[redacted]

HP#	Date:
7787	11-09-00
HP# 5681	Date: 11-9-00
HP# 7737	Date: 11-15-00
G9 of 77	

ML-9620 (2-98)

Survey No. 00-TF-395

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			WALL
2				WALL
3				WALL
4				FLOOR
5				FLOOR
6				WALL
7				WALL
8				WALL
9				FLOOR
10				FLOOR
11				FLOOR
12				FLOOR
13				FLOOR
14				FLOOR
15				Ceiling
16				Ceiling
17				Ceiling
18				FLOOR
19				FLOOR
20				FLOOR
21				CURB
22				PASS-BOX
				PASS-BOX
24				HOOD
25				FOAM WRAP
26				FOAM WRAP
27				FOAM WRAP
28				COND. PIPING
29				
30				
31				
32				
33				COND. PIPING
34				PLASTER
35				CURB

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE ATTACHED			CURB
37				CURB
38				INSULATION
39				INSULATION
		N	A	

COMMENTS: Smears Scanned < 1000 dpm/100cm² β-/α

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-9620 (4-98)

G10 of 77

Alpha/Beta Analysis

Batch ID: 00-TF-395 JONES BLDG.#42 (39) CYR

Batch File: Smear Unit 2 - 200011090721
Group: J
Device: Unit 2
Geometry: Swipe/Smear
Serial Number: 59544

Acquisition Date: 11/9/2000
Count Time (min): 1.5
Recalibration Date: 5/17/2001

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	38	0.00	0.09	3.86	4.46
2	112	0.00	0.06	2.58	3.64
3	2	0.00	0.06	2.58	3.64
4	68	0.00	0.06	2.58	3.64
5	57	2.03	4.10	9.01	6.82
6	79	0.00	0.15	6.44	5.76
7	52	0.00	0.15	6.44	5.76
8	36	0.00	0.12	5.15	5.15
9	33	2.04	4.10	5.14	5.15
10	49	0.00	0.15	6.44	5.76
11	7	2.04	4.10	3.86	4.46
12	33	2.04	4.10	3.86	4.46
13	148	2.04	4.10	2.57	3.64
14	19	0.00	0.15	6.44	5.76
15	107	0.00	0.09	3.86	4.46
16	93	2.04	4.10	3.86	4.46
17	21	2.04	4.10	2.57	3.64
18	36	0.00	0.09	3.86	4.46
19	45	0.00	0.12	5.15	5.15

G11 of 77

3 of 6

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
20	133	0.00	0.09	3.86	4.46
21	50	2.04	4.10	3.86	4.46
22	93	2.03	4.10	7.72	6.31
23	51	0.00	0.12	5.15	5.15
24	5	0.00	0.03	1.29	2.58
25	13	0.00	0.06	2.58	3.64
26	111	0.00	0.09	3.86	4.46
27	99	0.00	0.09	3.86	4.46
28	7	0.00	0.06	2.58	3.64
29	83	0.00	0.15	6.44	5.76
30	146	0.00	0.09	3.86	4.46
31	69	0.00	0.03	1.29	2.58
32	98	0.00	0.06	2.58	3.64
33	99	0.00	0.03	1.29	2.58
34	136	0.00	0.18	7.73	6.31
35	143	6.14	7.10	5.13	5.16
36	2	0.00	0.09	3.86	4.46
37	108	0.00	0.03	1.29	2.58
38	25	0.00	0.09	3.86	4.46
39	30	2.03	4.10	6.43	5.76

G12 of 77

4/96

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	6.98
Region B:	2.0 -	18.6	0	0.0	6.72
Region C:	40.0 -	2000	0	0.0	12.53

[illegible]
Ext Std Terminator: Count
30-TF-395 JONES BLDG.#42 (30-23 N1-N39) CYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT6.DAT
Count Data Filename: C:\DATA\SDATA6.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.98	6.72	12.53	664.56	1	B		0.00
0	2.00	812.98	780.44	0.00	553.92	0		1923.88	170.39
1	2.00	0.52	0.52	0.00	592.09	0		1.20	9.66
2	2.00	0.00	0.00	0.00	598.08	0		0.00	0.00
3	2.00	9.78	9.23	9.40	505.03	0		24.19	15.00
4	2.00	5.27	5.52	1.09	445.07	0		14.07	13.99
5	2.00	0.00	0.00	0.00	481.15	0		0.00	0.00
6	2.00	0.00	0.00	0.00	578.98	0		0.00	0.00
7	2.00	0.02	0.28	0.00	564.68	0		0.06	9.61
8	2.00	1.35	0.84	2.52	598.94	0		3.08	10.05
9	2.00	0.00	0.00	0.97	458.15	0		0.00	0.00
10	2.00	2.02	2.09	0.00	551.55	0		4.80	10.82
11	2.00	0.07	0.06	0.00	522.15	0		0.17	10.00
12	2.00	0.00	0.00	0.00	396.61	0		0.00	0.00
13	2.00	0.02	0.28	0.00	509.12	0		0.06	10.09
14	2.00	3.03	2.55	0.97	572.93	0		7.04	11.13
15	2.00	0.00	0.00	0.00	603.14	0		0.00	0.00
16	2.00	0.00	0.00	0.00	418.84	0		0.00	0.00
17	2.00	0.00	0.00	0.00	615.64	0		0.00	0.00
18	2.00	0.00	0.00	0.85	272.95	0		0.00	0.00
19	2.00	0.00	0.00	0.47	305.17	0		0.00	0.00
20	2.00	0.00	0.00	0.00	381.01	0		0.00	0.00
21	2.00	0.00	0.00	0.00	476.12	0		0.00	0.00
22	2.00	0.00	0.00	0.00	309.39	0		0.00	0.00
23	2.00	10.76	11.01	13.97	444.32	0		28.75	16.67
24	2.00	1.44	1.69	0.00	340.32	0		4.63	14.27
25	2.00	0.00	0.00	0.00	418.19	0		0.00	0.00
26	2.00	2.43	2.69	0.00	442.74	0		6.52	12.46
27	2.00	9.56	9.58	0.00	491.96	0		24.03	15.15
28	2.00	0.00	0.00	0.00	547.27	0		0.00	0.00
29	2.00	0.00	0.00	1.47	461.37	0		0.00	0.00
30	2.00	1.78	1.26	0.00	601.76	0		4.04	10.24
31	2.00	0.00	0.00	0.00	505.06	0		0.00	0.00
32	2.00	0.00	0.00	0.00	488.69	0		0.00	0.00
33	2.00	0.00	0.00	0.00	556.24	0		0.00	0.00
34	2.00	0.00	0.00	0.00	302.82	0		0.00	0.00
35	2.00	0.02	0.28	0.00	408.87	0		0.07	11.50

G13 of 77

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
36	2.00	0.00	0.00	0.00	459.62	0		0.00	0.00
37	2.00	0.00	0.00	0.00	358.79	0		0.00	0.00
38	2.00	0.00	0.00	0.00	578.22	0		0.00	0.00
39	2.00	0.00	0.00	0.00	531.25	0		0.00	0.00

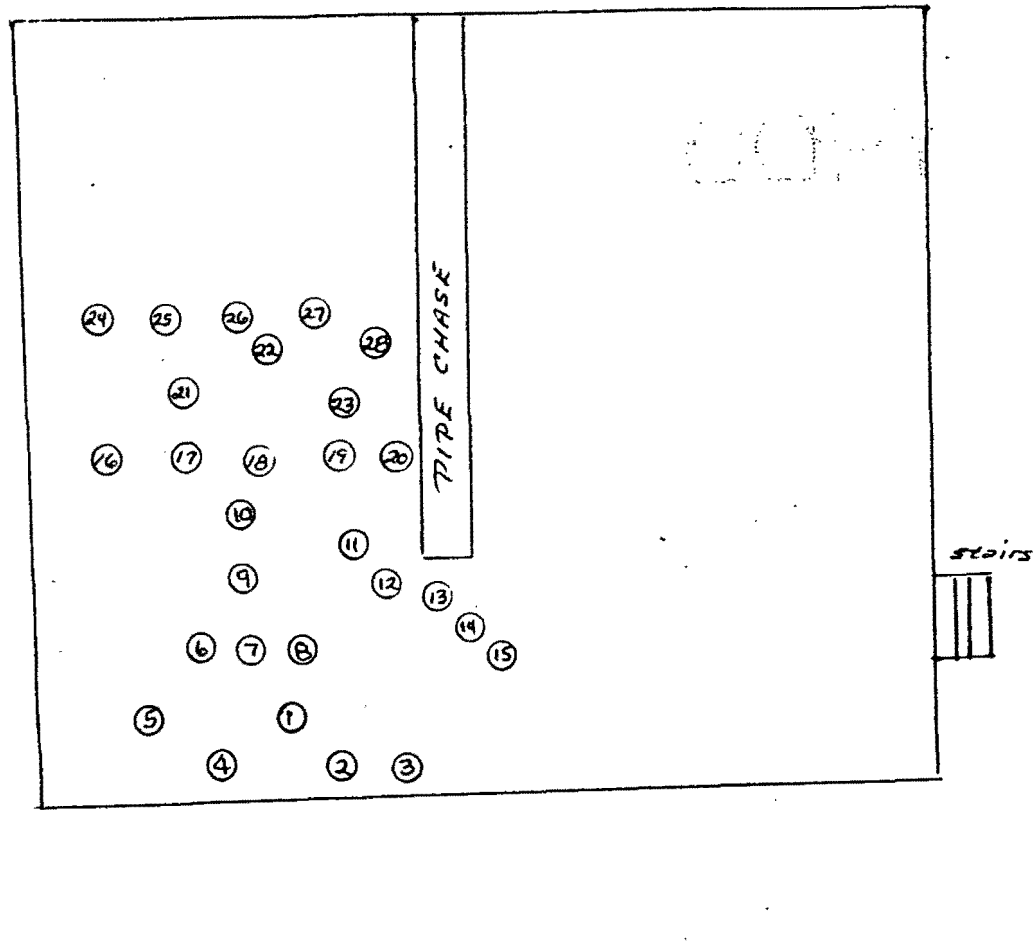
G1408 77

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 42 ~ Rm. 106 Pipe Chase	SURVEY NO. 00-TF-396
PURPOSE: Pre-work Conditions I.H. To sample for asbestos	RWP NO. N/A
	DATE: 11-09-00
	TIME: 1315

MAP/DRAWING

Direct Scan of Smear Locations (ALL)
< 5000 dpm/100 cm² β-



Electra Bkg. = 2.7 dpm/100 cm² α

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
Electra	5611-5613	03-19-01
	A	
	N	

[redacted]

HP#	Date:
7787	11-15-00
568	11-9-00
7737	11-15-00
6-15 of 77	

ML-9620 (2-98)

Survey No.
00-TF-896

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		Air Duct
2				
3				
4				Air Duct
5				Ceiling MAT
6				Ceiling MAT
7				Ceiling MAT
8				Pipe Insulation
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				Pipe Insulation
21				Ceiling MAT
22				Ceiling MAT
23				Ceiling MAT
24				Ceiling MAT
25				Pipe Insulation
26				
27				
28				Pipe Insulation
		N	A	

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

COMMENTS: 5 meters Scanned < 1000 dpm /100 cm² β-/α

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-9620 (4-98)

G16 of 77

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR140
Batch Ended: 11/9/2000 15:20
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-396 JONES 42-106 (29) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activit		
		DPM	σ	flags	DPM	σ	flags
A2	1	0.00	2.21	<MDA	0.70	1.99	<MDA
A3	2	0.00	1.94	<MDA	0.34	1.75	<MDA
A4	3	0.00	2.11	<MDA	0.00	1.46	<MDA
B1	4	1.27	2.04	<MDA	2.80	2.93	<MDA
B2	5	0.00	1.90	<MDA	0.10	1.96	<MDA
B3	6	0.00	2.03	<MDA	0.00	1.59	<MDA
B4	7	1.36	1.93	<MDA	2.65	2.71	<MDA
C1	8	0.00	1.68	<MDA	0.00	1.27	<MDA
C2	9	1.77	1.83	<MDA	1.94	2.24	<MDA
C3	10	0.[illegible]	1.98	<MDA	0.00	1.40	<MDA
C4	11	0.[illegible]	1.77	<MDA	0.00	1.25	<MDA
D1	12	0.00	2.02	<MDA	0.00	1.48	<MDA
D2	13	0.00	2.07	<MDA	0.00	1.28	<MDA
D3	14	0.00	2.12	<MDA	0.00	1.57	<MDA
D4	15	0.00	2.02	<MDA	1.39	2.12	<MDA
A2	16	0.00	2.20	<MDA	0.00	1.42	<MDA
A3	17	0.00	1.95	<MDA	1.50	2.09	<MDA
A4	18	0.00	2.13	<MDA	1.67	2.40	<MDA
B1	19	1.53	2.03	<MDA	0.00	1.65	<MDA
B2	20	0.00	1.89	<MDA	0.00	1.48	<MDA
B3	21	1.12	2.03	<MDA	0.00	1.59	<MDA
B4	22	0.00	1.92	<MDA	1.44	2.37	<MDA
C1	23	0.00	1.70	<MDA	0.00	1.68	<MDA
C2	24	0.00	1.81	<MDA	1.05	1.96	<MDA
C3	25	0.00	1.98	<MDA	0.00	1.40	<MDA
C4	26	0.00	1.77	<MDA	0.00	1.25	<MDA
D1	27	0.00	2.02	<MDA	0.00	1.48	<MDA

G17 of 77

3/75

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR140
Batch Ended: 11/9/2000 15:20
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-396 JONES 42-106 (29) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activit		
		DPM	σ	flags	DPM	σ	flags
D2	28	0.00	2.07	<MDA	0.00	1.28	<MDA
D3	29	1.52	2.12	<MDA	0.00	1.57	<MDA

G-18 of 77

445

5 of 5

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	6.59
Region B:	2.0	- 18.6	0	0.0	6.35
Region C:	40.0	- 2000	0	0.0	9.50

Quench Indicator: tSIE/LUM
Ext Std Terminator: Count
00-TF-396 JONES 42-106 PIPECHASE (30-23 V1-V29) CR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT6.DAT
Count Data Filename: C:\DATA\SDATA6.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	6.59	6.35	9.50	665.02	2	B		0.00
0	2.00	842.11	807.84	1.50	557.24	0		1987.09	175.06
1	2.00	1.12	1.36	0.00	434.79	0		3.04	11.51
2	2.00	0.00	0.00	0.00	622.78	0		0.00	0.00
3	2.00	0.00	0.00	0.00	623.20	0		0.00	0.00
4	2.00	0.20	0.00	2.00	417.96	0		0.54	11.15
5	2.00	0.91	1.15	0.00	572.54	0		2.12	9.78
6	2.00	1.41	1.65	0.00	552.65	0		3.34	10.23
7	2.00	0.00	0.00	0.00	571.67	0		0.00	0.00
8	2.00	0.00	0.00	0.00	524.03	0		0.00	0.00
9	2.00	0.00	0.00	0.00	488.95	0		0.00	0.00
10	2.00	0.18	0.41	5.00	446.28	0		0.47	10.72
11	2.00	2.91	2.77	0.00	552.12	0		6.90	11.04
12	2.00	0.00	0.00	1.50	490.04	0		0.00	0.00
13	2.00	0.00	0.00	0.00	536.53	0		0.00	0.00
14	2.00	0.00	0.00	0.00	446.41	0		0.00	0.00
15	2.00	1.91	2.15	3.00	592.68	0		4.37	10.15
16	2.00	1.93	2.16	5.00	550.30	0		4.57	10.53
17	2.00	0.41	0.56	3.00	498.08	0		1.02	10.17
18	2.00	0.00	0.00	0.00	566.74	0		0.00	0.00
19	2.00	0.00	0.00	0.00	608.33	0		0.00	0.00
20	2.00	2.11	2.35	0.00	561.41	0		4.97	10.53
21	2.00	2.91	3.15	1.00	587.25	0		6.69	10.71
22	2.00	3.62	3.86	1.50	600.53	0		8.25	10.94
23	2.00	0.00	0.00	0.00	536.78	0		0.00	0.00
24	2.00	0.00	0.00	3.00	556.72	0		0.00	0.00
25	2.00	0.00	0.00	0.00	537.94	0		0.00	0.00
26	2.00	4.91	5.14	0.00	448.86	0		13.05	13.49
27	2.00	0.00	0.00	3.00	404.08	0		0.00	0.00
28	2.00	0.00	0.00	0.00	392.62	0		0.00	0.00
29	2.00	0.00	0.00	0.50	431.14	0		0.00	0.00

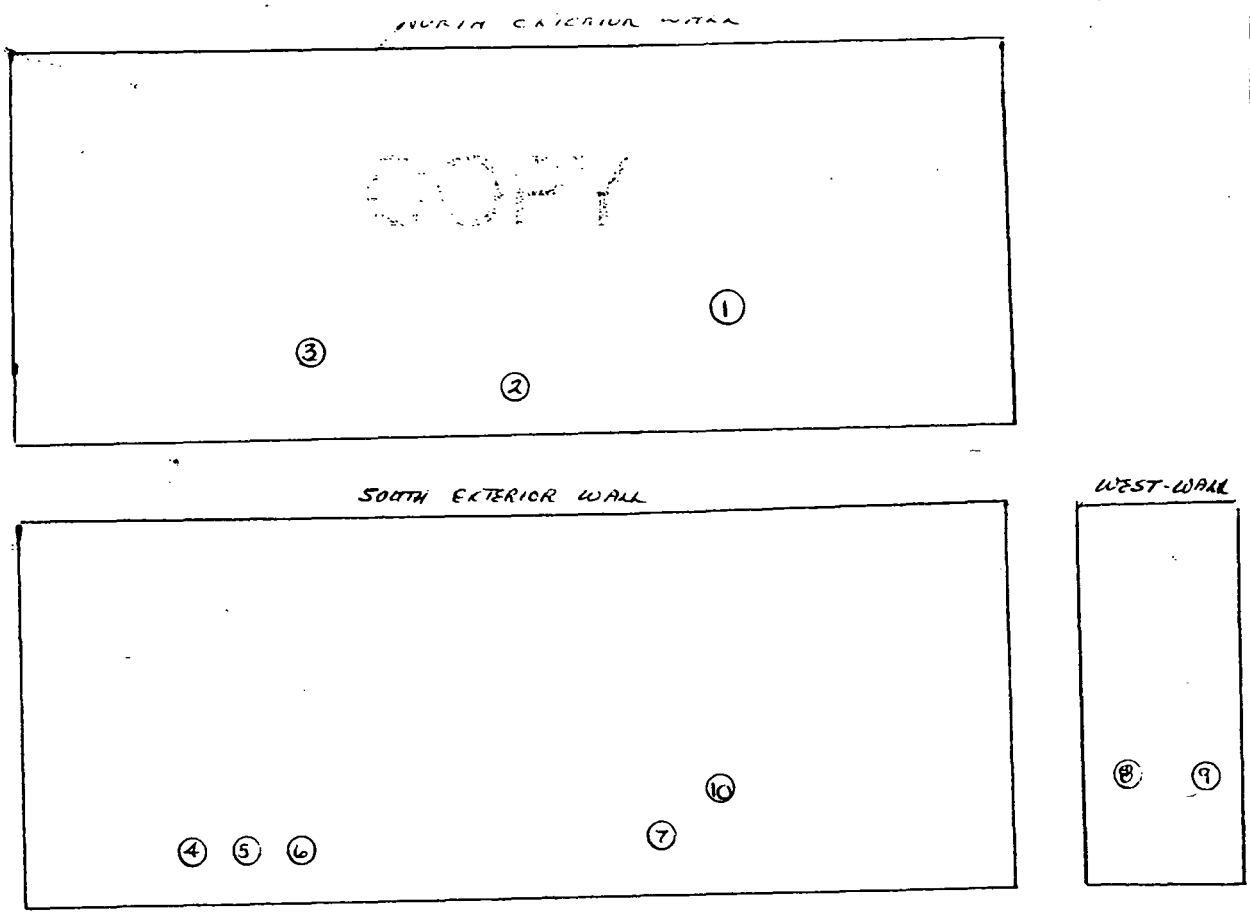
wdg

DI-D10 30-23 P4

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 42 - Exterior Walls	SURVEY NO. 00-TF-403
PURPOSE: Prework Survey Asbestos Sampling	RWP NO. N/A
	DATE: 11-15-00
	TIME: 1445

MAP/DRAWING



Direct Scan of Smear Locations
<5000 dpm/100cm² β⁻ ; <100 dpm/100cm² α

Electra Bkg =
3.2 dpm/100cm² α

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
Electra	5611-5613	3-19-01
	N A	

[redacted]

HP#	Date:
7787	11-20-00
5681	11-16-00
7737	11-21-00

G 20 of 77

ML-9620 (2-98)

Survey No.
00-TF-403

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		Pentr. Sealant
2				Gas Pipe Insul
3				WALL
4				Pipe Insul.
5				
6				Pipe Insul.
7				Pipe Pentr.
8				Plexi-wall
9				
10				Plexi-wall

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

COMMENTS: Smears Scanned < 1000 dpm/100 cm² β-/α

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-9620 (4-98)

Alpha/Beta Analysis

Batch ID: 00-TF-403 JONES 42-EXTERIOR WALLS (10) CYR.

Batch File: Smear Unit 1 - 200011161003
Group: H
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 11/16/2000
Count Time (min): 1.5
Recalibration Date: 5/17/2001

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	105	0.00	0.01	2.29	3.24
2	114	0.00	0.01	2.29	3.24
3	142	0.00	0.00	1.15	2.29
4	83	0.00	0.01	2.29	3.24
5	39	0.00	0.00	1.15	2.29
6	14	1.91	3.83	1.14	2.29
7	12	1.91	3.83	6.86	5.61
8	129	0.00	0.02	5.73	5.12
9	14	0.00	0.00	1.15	2.29
10	85	0.00	0.01	2.29	3.24

G 22 of 77

3 of 1

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: 3MVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	4.22
Region B:	2.0 -	18.6	0	0.0	4.04
Region C:	40.0 -	2000	0	0.0	9.38

[illegible]
Ext Std Terminator: Count
00-TF-403 JONES 42 EXTERIOR WALLS 30-23 D1-D11 CYB
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
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	4.22	4.04	9.38	870.71	2	B		0.00
0	2.00	819.51	783.91	0.00	555.77	0		1938.18	171.22
1	2.00	0.78	0.73	0.00	575.48	0		1.82	7.94
2	2.00	4.53	3.91	1.62	816.36	0		10.18	3.86
3	2.00	1.73	1.43	1.12	585.31	0		4.07	3.48
4	2.00	5.78	5.86	1.12	586.96	5		13.53	10.94
5	2.00	3.28	3.03	2.62	566.88	0		7.60	9.58
6	2.00	2.28	2.24	1.82	573.64	0		5.31	8.93
7	2.00	1.76	1.96	0.00	563.90	0		4.18	8.69
8	2.00	1.76	1.24	0.00	570.98	0		4.16	8.83
9	2.00	1.95	1.48	1.62	532.80	0		4.70	8.03
10	2.00	3.28	3.25	0.00	567.48	0		7.68	8.57

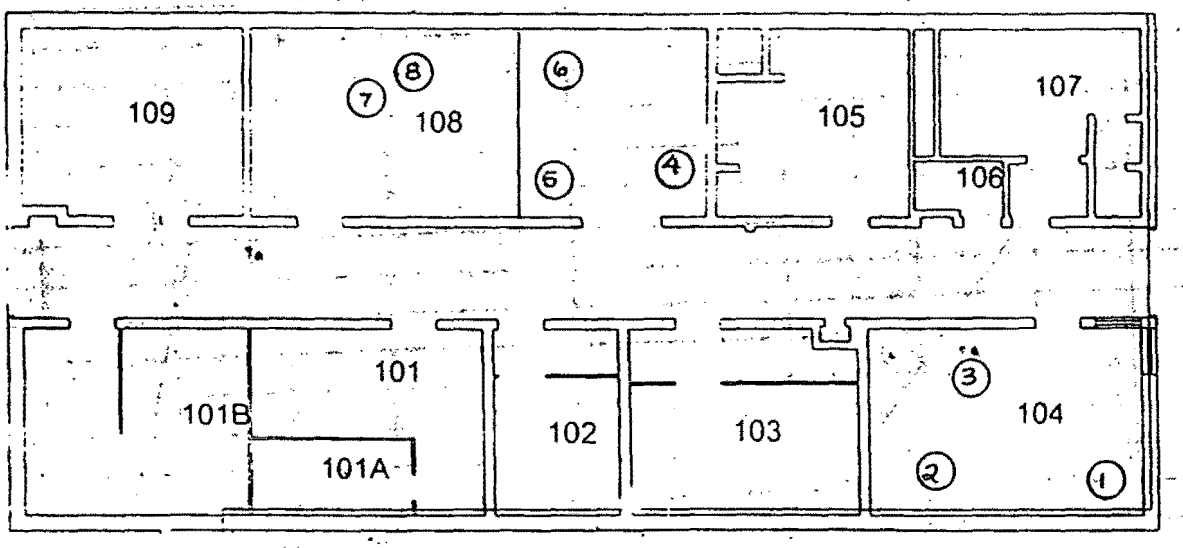
E1-E8 30-23 P5

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Bldg. 42 ~ Rms. 104 & 108	SURVEY NO. 00-TF-404
PURPOSE: Follow-up Conditions Post Floor Tile Asbestos Sampling	RWP NO. N/A
	DATE: 11-15-00
	TIME: 1615

MAP/DRAWING

COPY



Seen @ smear locations:
<5000 dpm/100 cm² β −
<100 dpm/100 cm² α

Electric Bldg. = 8.2 dpm/100cm² α

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
Electra	5611-5613	3-19-01
	A	
	N	

[redacted]

HP#	Date:
7787	11-20-00
5681	11-16-00
9727	11-21-00

G-24 of 77

ML-9620 (2-96)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE ATTACHED			Floor
2	↓	↓	↓	↓
3				
4				
5				
6				
7				
8	↓	↓	↓	Floor
		N/A		

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

COMMENTS: Sheets Scanned < 1000dpm/100cm² β-γ

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.

Alpha/Beta Analysis

Batch ID: 00-TF-404 JONES BLDG.42-RM 104 & 108 (8) CYR

Batch File: Smear Unit 1 - 200011161005
Group: A
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 11/16/2000
Count Time (min): 1.5
Recalibration Date: 5/17/2001

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	61	0.00	0.01	3.44	3.97
2	140	1.91	3.83	3.43	3.97
3	89	0.00	0.01	2.29	3.24
4	113	0.00	0.02	4.58	4.58
5	99	0.00	0.01	3.44	3.97
6	75	0.00	0.02	4.58	4.58
7	23	0.00	0.01	2.29	3.24
8	71	5.74	6.63	10.28	6.88

626 of 77

394

16 Nov 2000 14:59 ALPHA/BETA - 1.09 Page #1
Protocol #: 5 PW 5CC H3 #403727 User : 5681

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	5.20
Region B:	2.0 -	18.6	0	0.0	5.12
Region C:	40.0 -	2000	0	0.0	9.24

Quench Indicator: tSIE/APC
Ext Std Terminator: Count
00-TF-404 JONES 42-104 &108 (30-23 E1-E8) CYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT5.DAT
Count Data Filename: C:\DATA\SDATA5.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	5.20	5.12	9.24	663.36	6	B		0.00
0	2.00	976.89	942.87	2.66	547.65	0		2324.32	200.37
1	2.00	0.00	0.00	0.42	186.51	17		0.00	0.00
2	2.00	1.30	1.38	3.13	341.82	0		4.17	12.50
3	2.00	0.30	0.38	0.00	314.36	0		1.02	12.39
4	2.00	1.80	1.88	0.00	563.41	0		4.22	9.44
5	2.00	0.00	0.00	6.76	171.21	0		0.00	0.00
6	2.00	1.80	1.38	0.00	485.33	7		4.56	10.19
7	2.00	0.00	0.00	1.76	221.75	20		0.00	0.00
8	2.00	0.00	0.00	0.00	355.77	0		0.00	0.00

G27 of 77

RADIOLOGICAL SURVEY DATA SHEET

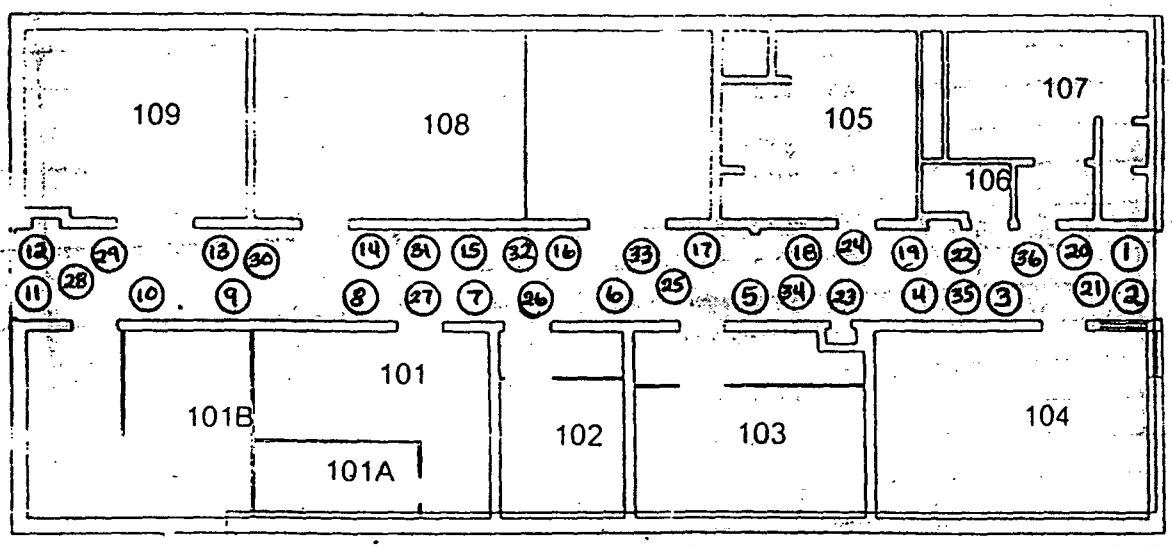
LOCATION: (BLDG/AREA/ROOM) 42 - Hallway	SURVEY NO. 00-TF-407
PURPOSE: Bldg. B1N Verification Survey	RWP NO. N/A
	DATE: 11-21-00
	TIME: 1310

MAP/DRAWING

Large Area Mass Lion of walls, floor, and ceiling
All <5000 dpm/100cm² β-
<100 dpm/100cm² α

COPY

Bldg. Not ~~posted~~ posted
RW 12-12-00



Direct Scan of Smear location(s)
All
<5000 dpm/100cm² β-
<100 dpm/100cm² α

Electra Bkg. = 3.8 dpm/100cm² α

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
Electra	5579-5580	03-01-01
	A	
	N	

[redacted]

HP# 7787	Date: 11-22-00
HP# 5681	Date: 11-21-00
HP# 6130	Date: 12-12-00

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COMMENTS: Smears Scanned < 1000dpm/100cm² β-α

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-9620 (4-98)

Rad Characterization Plan to Bin Building 47

Number of Samples (Total Number of Sample Locations = 267)					
Room #	Floor	Walls	Ceiling	Drain/sinks /vents	Comments
Hallway	8	20	8	0	3 vents
101	4	8	4	5	1 vent + 4 vents
101A	4	8	4	3	1 vent, 1 sink, 1 fumehood
101B	4	8	4	1	1 vent
102	4	8	4	3	3 vents
103	4	8	4	2	2 vents
104	4	8	4	3	3 vents
105	4	8	4	3	1 vent, 1 sink, 1 fumehood
106	4	8	4	1	1 vent
107	4	8	4	4	2 vents, 1 sink, 1 floor drain
108	4	8	4	4	3 vents + 1 fumehood
109	4	8	4	4	3 vents + 1 fumehood
201P	4	8	4	4	2 vents inside + 2 on roof
TOTAL =	56	116	56	37	TOTAL ALL = 265 samples

1. One direct and one smear per location
2. For the hallway take 2 surveys each for the two short walls, 8 surveys each for the floor, ceiling, and two long walls.
3. Each wall is to have 2 samples taken at diagonal corners with the exception of the hallway. On the adjacent walls pick sample locations that maximizes the distance from adjacent wall samples.
4. Floors and ceilings are to be divided into quadrants with a survey taken in the center of each quadrant.
5. Do not disturb suspended ceilings.

Larry T. Lamsa - November 8, 2000

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR206
Batch Ended: 11/21/2000 14:35
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-407 JONES 42-HALLWAY (36) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activi		
		DPM	σ	flags	DPM	σ	flags
A2	1	0.00	2.26	<MDA	6.30	3.44	<AL
A3	2	0.00	1.97	<MDA	4.96	2.90	<AL
A4	3	0.00	2.12	<MDA	0.32	1.99	<MDA
B1	4	0.00	2.04	<MDA	1.50	2.58	<MDA
B2	5	0.00	1.90	<MDA	0.10	1.96	<MDA
B3	6	0.00	2.05	<MDA	2.89	2.93	<MDA
B4	7	1.42	1.92	<MDA	1.34	2.37	<MDA
C1	8	1.25	1.68	<MDA	0.00	1.27	<MDA
C2	9	0.00	1.79	<MDA	0.00	1.64	<MDA
C3	10	0.00	1.99	<MDA	0.24	1.87	<MDA
C4	11	0.00	1.78	<MDA	0.26	1.67	<MDA
D1	12	0.00	2.03	<MDA	0.00	1.98	<MDA
D2	13	0.00	2.11	<MDA	3.82	2.63	<AL
D3	14	0.00	2.12	<MDA	0.00	1.57	<MDA
D4	15	0.00	2.01	<MDA	0.21	1.76	<MDA
A2	16	0.00	2.21	<MDA	0.70	1.99	<MDA
A3	17	0.00	1.97	<MDA	4.96	2.90	<AL
A4	18	3.73	2.97	<AL	1.39	2.40	<MDA
B1	19	0.00	2.03	<MDA	0.00	1.65	<MDA
B2	20	1.25	1.90	<MDA	1.27	2.34	<MDA
B3	21	0.00	2.04	<MDA	1.47	2.56	<MDA
B4	22	1.49	1.92	<MDA	0.03	1.98	<MDA
C1	23	0.00	1.72	<MDA	2.14	2.29	<MDA
C2	24	1.27	1.83	<MDA	1.94	2.24	<MDA
C3	25	0.00	1.98	<MDA	0.00	1.40	<MDA
C4	26	1.49	1.80	<AL	1.20	2.01	<MDA
D1	27	0.00	2.03	<MDA	0.00	1.98	<MDA

G31 of 77

4 of 7

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR206
Batch Ended: 11/21/2000 14:35
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-407 JONES 42-HALLWAY (36) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activ		
		DPM	σ	flags	DPM	σ	flags
D2	28	0.00	2.09	<MDA	1.52	2.07	<MDA
D3	29	1.52	2.12	<MDA	0.00	1.57	<MDA
D4	30	0.00	2.01	<MDA	0.21	1.76	<MDA
A2	31	2.16	2.21	<AL	0.53	1.99	<MDA
A3	32	1.45	1.97	<MDA	4.85	2.90	<AL
A4	33	0.00	2.14	<MDA	3.02	2.76	<MDA
B1	34	1.44	2.03	<MDA	0.00	2.17	<MDA
B2	35	0.00	1.90	<MDA	1.38	2.34	<MDA
B3	36	0.00	2.04	<MDA	0.05	2.13	<MDA

G32 of 77

5 of 7

6 of 7

Time: 2:00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	8.28
Region B:	2.0	18.6	0	0.0	7.79
Region C:	40.0	2000	0	0.0	10.50

Ext Std Terminator: Count
00-TF-407 JONES 42-HALLWAY (30-23 U1-U36) CYR
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
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	8.28	7.79	10.50	666.61	1	B		0.00
0	2.00	835.22	800.27	0.00	555.28	0		1974.20	174.24
1	2.00	1.22	1.40	1.00	505.61	0		3.01	11.67
2	2.00	5.22	4.52	0.00	557.23	0		12.32	13.02
3	2.00	0.00	0.00	0.00	575.98	0		0.00	0.00
4	2.00	0.00	0.00	0.00	605.91	0		0.00	0.00
5	2.00	4.22	2.77	1.00	647.78	0		9.24	11.67
6	2.00	0.00	0.00	0.00	580.32	0		0.00	0.00
7	2.00	0.22	0.00	0.00	611.65	0		0.49	10.16
8	2.00	2.22	1.67	0.00	598.32	0		5.06	11.24
9	2.00	0.00	0.00	0.50	622.99	0		0.00	0.00
10	2.00	0.00	0.00	0.00	577.62	0		0.00	0.00
11	2.00	1.22	1.71	1.50	604.06	0		2.77	10.72
12	2.00	3.22	2.78	0.00	569.78	0		7.52	11.99
13	2.00	41.72	35.45	3.50	564.04	0		97.87	24.90
14	2.00	0.22	0.00	0.00	601.19	0		0.50	10.25
15	2.00	4.22	4.39	0.00	507.72	0		10.40	13.14
16	2.00	0.00	0.02	0.00	557.49	0		0.00	0.00
17	2.00	0.00	0.00	0.00	581.92	0		0.00	0.00
18	2.00	2.72	2.14	0.50	553.89	0		6.44	11.92
19	2.00	1.72	1.18	0.00	597.58	0		3.92	11.01
20	2.00	0.22	0.00	0.00	616.44	0		0.49	10.12
21	2.00	0.00	0.00	0.00	661.54	0		0.00	0.00
22	2.00	5.02	4.17	0.00	602.98	0		11.39	12.44
23	2.00	0.00	0.00	1.00	658.89	0		0.00	0.00
24	2.00	1.22	1.31	0.00	671.55	0		2.62	10.15
25	2.00	1.72	0.00	1.00	645.15	0		3.77	10.59
26	2.00	0.00	0.00	0.00	622.84	0		0.00	0.00
27	2.00	0.00	0.21	0.50	672.86	0		0.00	0.00
28	2.00	0.00	0.00	0.00	669.68	0		0.00	0.00
29	2.00	0.00	0.00	0.00	359.89	0		0.00	0.00
30	2.00	1.22	1.11	0.00	505.67	0		3.01	11.67
31	2.00	0.00	0.00	0.50	487.68	0		0.00	0.00
32	2.00	0.25	0.75	0.50	505.47	0		0.62	11.15
33	2.00	0.00	0.00	0.00	476.79	0		0.00	0.00
34	2.00	3.72	2.73	0.00	584.11	0		8.58	12.07

G33 of 77

21 Nov 2000 21:07 ALPHA/BETA - 1.09 Page #2
Protocol #: 4 PW 5CC H3 #403727 User : 568

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM FLAG	DPM1	2SIGMA
35	2.00	0.00	0.00	0.00	516.27	0	0.00	0.00
36	2.00	0.00	0.00	0.00	487.59	0	0.00	0.00

30-23 P1

RADIOLOGICAL SURVEY DATA SHEET

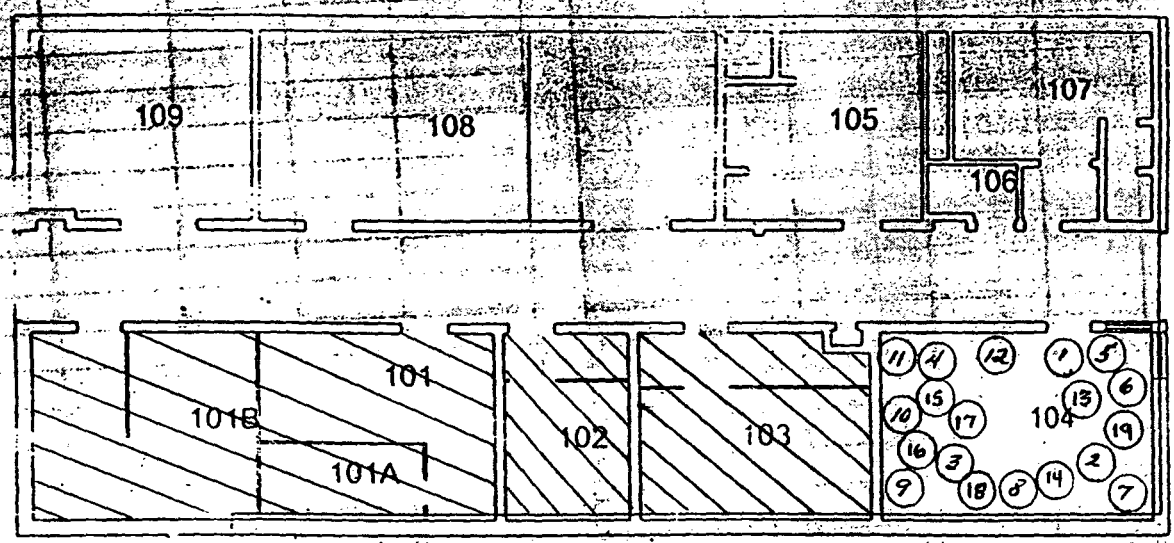
LOCATION (BLDG/AREA/ROOM) 42 [redacted]	SURVEY [redacted] 708
PURPOSE: Bin Bldg. Verification Survey	RWP NO. n/a
	DATE: [redacted]
	TIME: 1350

MAP/DRAWING

Large Area Wipe Survey of Floor — Rita: not posted

All < 5000 dpm/100cm² β-
< 100 dpm/100cm² α

COPY



Rms 101 ~ 101A ~ 101B ~ 102 ~ 103 not surveyed at this time. Floor covered w/ water and ice.

Direct Scan of Smear locations
All < 5000 dpm/100cm² β-
< 100 dpm/100cm² α

Electra Bkg = 1.5 dpm/100cm² α

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
Electra	5579-5580	03-01-01
	N A	

[redacted]

HPs	Date:
7787	11-27-00
5681	11-22-00
6130	12-12-00

[redacted]

ML-9620 (2-98)

G35 of 77

Survey No. [redacted] Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination					
Swipes (dpm/100cm²)					
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		FLOOR
2				
3				
4				FLOOR
5				WALLS
7				
8				
9				
10				
11				
12				WALLS
13				Ceiling
14				
15				
16				Ceiling
17				O/H Vent
18				O/H Vent
19				O/H Vent
		N	A	

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

COMMENTS: Smears Scanned <1000 dpm/100cm² β⁻

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-9620 (4-98)

G3606 77

Rad Characterization Plan to Bin Building 42

Number of Samples (Total Number of Sample Locations = 267)					
Room #	Floor	Walls	Ceiling	Drain/sinks /vents	Comments
Hallway	8	20	8	0	3 vents
101	4	8	4	3	1 vent + 4 vents
101A	4	8	4	3	1 vent, 1 sink, 1 fumehood
101B	4	8	4	1	1 vent
102	4	8	4	3	3 vents
103	4	8	4	2	2 vents
104	4	8	4	3	3 vents
105	4	8	4	3	1 vent, 1 sink, 1 fumehood
106	4	8	4	1	1 vent
107	4	8	4	4	2 vents, 1 sink, 1 floor drain
108	4	8	4	4	3 vents + 1 fumehood
109	4	8	4	4	3 vents + 1 fumehood
201P	4	8	4	4	2 vents inside + 2 on roof
TOTAL =	56	116	56	37	TOTAL ALL = 265 sample

11/21/00 (WK)

11/21/00 (WK)

11/21/00 (WK)

1. One direct and one smear per location
2. For the hallway take 2 surveys each for the two short walls, 8 surveys each for the floor, ceiling, and two long walls.
3. Each wall is to have 2 samples taken at diagonal corners with the exception of the hallway. On the adjacent walls pick sample locations that maximizes the distance from adjacent wall samples.
4. Floors and ceilings are to be divided into quadrants with a survey taken in the center of each quadrant.
5. Do not disturb suspended ceilings.

Larry T. Lamsa - November 8, 2000

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR211
Batch Ended: 11/22/2000 9:17
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-408 JONES 42-4 (19) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activi		
		DPM	σ	flags	DPM	σ	flags
B1	1	0.00	2.05	<MDA	4.29	3.25	<AL
B2	2	0.00	1.89	<MDA	0.00	1.48	<MDA
B3	3	0.00	2.03	<MDA	0.00	1.59	<MDA
B4	4	0.00	1.92	<MDA	1.44	2.37	<MDA
C1	5	0.00	1.70	<MDA	0.00	1.68	<MDA
C2	6	0.00	1.79	<MDA	0.00	1.64	<MDA
C3	7	0.00	1.99	<MDA	0.24	1.87	<MDA
C4	8	0.00	1.77	<MDA	0.00	1.25	<MDA
D1	9	1.41	2.02	<MDA	0.00	1.48	<MDA
D2	10	0.00	2.07	<MDA	0.00	1.28	<MDA
D3	11	0.00	2.15	<MDA	2.80	2.86	<MDA
D4	12	0.00	2.03	<MDA	2.57	2.43	<MDA
B1	13	0.00	2.03	<MDA	0.00	1.65	<MDA
B2	14	1.30	1.90	<MDA	0.00	1.96	<MDA
B3	15	0.00	2.04	<MDA	1.47	2.56	<MDA
B4	16	0.00	1.92	<MDA	0.13	1.98	<MDA
C1	17	1.25	1.70	<MDA	0.00	1.68	<MDA
C2	18	0.00	1.78	<MDA	0.00	1.25	<MDA
C3	19	0.00	1.98	<MDA	0.00	1.40	<MDA

G38 of 77

4/5

27 Nov 2000 08:47 ALPHA/BETA - 1.09 Page #1
Protocol #: 1 PW 5CC H3 #403727 User : 5681

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2SX	BKS
Region A:	0.5 -	18.6	0	0.0	6.90
Region B:	2.0 -	18.6	0	0.0	6.58
Region C:	40.0 -	2000	0	0.0	9.70

Quench Indicator: tSIE/AEC
Ext Std Terminated: Count
00-TF-408 JONES 42-4 (30-23 E1-E19) CYR
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	6.90	6.58	9.70	669.82	6	B		0.00
0	2.00	435.05	416.28	3.30	548.87	0		1034.05	103.74
1	2.00	1.60	1.57	0.00	639.73	6		3.52	9.82
2	2.00	1.26	0.34	4.40	583.92	0		2.90	10.10
3	2.00	0.00	0.00	3.67	576.47	0		0.00	0.00
4	2.00	1.98	1.57	0.00	512.09	0		4.85	11.15
5	2.00	5.81	4.07	1.30	621.42	0		12.99	11.92
6	2.00	0.00	0.00	0.00	622.67	0		0.00	0.00
7	2.00	1.60	1.26	0.30	632.05	0		3.55	9.88
8	2.00	0.00	0.00	0.00	581.91	0		0.00	0.00
9	2.00	2.06	2.38	1.46	637.29	0		4.54	10.06
10	2.00	1.73	1.55	0.00	675.[illegible]	0		3.70	9.61
11	2.00	0.98	0.45	0.00	605.39	0		2.22	9.77
12	2.00	0.00	0.00	0.00	635.49	8		0.00	0.00
13	2.00	4.99	4.76	1.30	602.63	4		11.34	11.75
14	2.00	0.00	0.00	0.30	551.75	7		0.00	0.00
15	2.00	2.13	1.21	2.30	581.11	5		4.93	10.58
16	2.00	2.48	1.80	1.80	542.25	5		5.93	11.12
17	2.00	0.00	0.00	1.30	484.39	0		0.00	0.00
18	2.00	1.10	0.33	5.30	569.49	0		2.57	10.14
19	2.00	0.10	0.42	0.00	418.21	0		0.28	11.37

RADIOLOGICAL SURVEY DATA SHEET

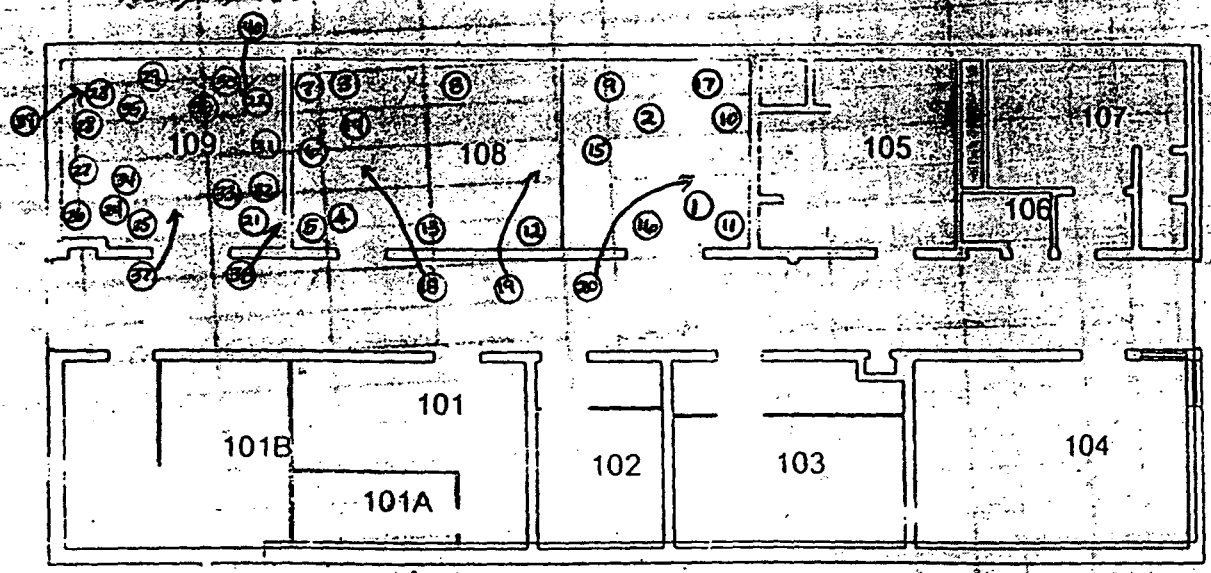
Page 1 of 1

LOCATION: (BLDG/AREA/ROOM) [redacted] | Survey by: [redacted]

PURPOSE: Bldg. Dwn Verification Survey | RWP No.: N/A | DATE: [redacted] | TIME: [redacted]

MAP/DRAWING

Large [illegible] and Fume Hoods
< 5000 dpm/100cm² β
< 100 dpm/100cm² α



Bldg. not posted

Direct Scan & Smear locations
ALL
< 5000 dpm/100cm² β
< 100 dpm/100cm² α

Electra Bkg. = 3.8 dpm/100cm² α

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+γ+γ) extremity 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	5314-5468	03-13-01

Completed by: (Signature)	HPs	Date:
[redacted]	2287	
	5681	11-27-00
	6130	12-12-00

ML-0620 (2-98)

G4006 77

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Survey No. [illegible] Page [illegible] of [illegible]

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

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTACHED		CEILING
37				i/s Vent
38				o/s Vent Fumehood
39				o/s Vent duct
"				" vent duct
		N	A	

COMMENTS: Smears Scanned <1000dpm/100cm² β-α

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-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR228
Batch Ended: 11/27/2000 13:33
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-409 JONES 42 RMS. 108 & 109 (40) CYR

Detector ID	Sample ID	Alpha Activity DPM	Alpha Activity σ	Alpha Activity flags	Beta Activi DPM	Beta Activi σ	Beta Activi flags
A2	1	0.00	2.24	<MDA	3.50	2.81	<AL
A3	2	3.34	2.71	<AL	1.27	2.09	<MDA
A4	3	0.00	2.13	<MDA	1.67	2.40	<MDA
B1	4	0.00	2.03	<MDA	0.10	2.17	<MDA
B2	5	0.00	1.90	<MDA	0.10	1.96	<MDA
B3	6	0.00	2.04	<MDA	1.47	2.56	<MDA
B4	7	0.00	1.92	<MDA	0.13	1.98	<MDA
C1	8	1.25	1.72	<MDA	1.97	2.29	<MDA
C2	9	1.28	1.78	<MDA	0.00	1.25	<MDA
C3	10	0.00	1.98	<MDA	0.00	1.40	<MDA
D1	11	0.00	2.03	<MDA	0.00	1.98	<MDA
D2	12	0.00	2.07	<MDA	0.00	1.28	<MDA
D3	13	0.00	2.13	<MDA	0.04	2.09	<MDA
D4	14	0.00	2.03	<MDA	2.57	2.43	<MDA
A2	15	2.17	2.20	<AL	0.00	1.42	<MDA
A3	16	0.00	1.95	<MDA	2.65	2.39	<MDA
A4	17	0.00	2.18	<MDA	8.42	3.86	<AL
B1	18	0.00	2.03	<MDA	0.10	2.17	<MDA
B2	19	0.00	1.90	<MDA	0.10	1.96	<MDA
B3	20	0.00	2.03	<MDA	0.00	1.59	<MDA
B4	21	0.00	1.92	<MDA	0.13	1.98	<MDA
C1	22	0.00	1.68	<MDA	0.00	1.27	<MDA
C2	23	0.00	1.81	<MDA	1.05	1.96	<MDA
C3	24	0.00	2.00	<MDA	1.49	2.25	<MDA
D1	25	1.40	2.05	<MDA	1.11	2.37	<MDA
D2	26	0.00	2.09	<MDA	1.52	2.07	<MDA
D3	27	0.00	2.12	<MDA	0.00	1.57	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR228
Batch Ended: 11/27/2000 13:33
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-409 JONES 42 RMS. 108 & 109 (40) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activi		
		DPM	σ	flags	DPM	σ	flags
D4	28	0.00	2.01	<MDA	0.00	1.31	<MDA
A2	29	0.00	2.20	<MDA	0.00	1.42	<MDA
A3	30	1.46	1.94	<MDA	0.23	1.75	<MDA
A4	31	0.00	2.14	<MDA	3.02	2.76	<MDA
B1	32	0.00	2.03	<MDA	0.10	2.17	<MDA
B2	33	1.30	1.90	<MDA	0.00	1.96	<MDA
B3	34	0.00	2.04	<MDA	0.05	2.13	<MDA
B4	35	1.61	1.91	<AL	0.00	1.48	<MDA
C1	36	0.00	1.71	<MDA	1.04	2.01	<MDA
C2	37	0.00	1.86	<MDA	4.27	2.71	<AL
C3	38	1.47	1.99	<MDA	0.07	1.87	<MDA
D1	39	0.00	2.05	<MDA	1.30	2.37	<MDA
D2	40	0.00	2.07	<MDA	0.00	1.28	<MDA

G43 of 77

4/4/6

27 Nov 2000 15:45 ALPHA/BETA - 1.09 Page #1
Protocol #: 7 PW 5CC H3 #403727 User : 5681

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	7.48
Region B:	2.0	18.6	0	0.0	7.43
Region C:	40.0	2000	0	0.0	11.64

Quench Indicator: tSIE/AEC

00-TF-409 JONES 42 108 /109 (30-23 H1-H40) CYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT7.DAT
Count Data Filename: C:\DATA\SDATA7.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	7.48	7.43	11.64	663.55	6	B		0.00
0	2.00	865.58	936.90	2.36	539.83	0		2073.63	182.07
1	2.00	0.00	0.00	0.00	513.04	0		0.00	0.00
2	2.00	2.28	2.34	0.00	654.32	0		4.97	10.37
3	2.00	0.00	0.00	0.00	414.87	0		0.00	0.00
4	2.00	0.00	0.00	0.00	612.57	0		0.00	0.00
5	2.00	0.00	0.00	0.00	656.88	0		0.00	0.00
6	2.00	0.00	0.00	0.00	630.76	0		0.00	0.00
7	2.00	0.52	0.20	0.00	652.98	0		1.12	9.53
8	2.00	5.73	4.66	3.86	625.06	0		12.77	12.15
9	2.00	0.00	0.00	0.00	644.75	0		0.00	0.00
10	2.00	0.00	0.00	0.00	637.72	0		0.00	0.00
11	2.00	0.00	0.00	0.00	619.29	0		0.00	0.00
12	2.00	4.52	3.47	0.00	614.54	0		10.15	11.73
13	2.00	0.00	0.00	0.00	659.71	0		0.00	0.00
14	2.00	0.00	0.00	0.00	621.87	0		0.00	0.00
15	2.00	0.00	0.00	0.00	423.64	0		0.00	0.00
16	2.00	2.52	1.96	3.36	509.77	0		6.19	11.84
17	2.00	0.00	0.00	0.00	393.02	0		0.00	0.00
18	2.00	4.29	3.60	0.00	654.79	0		9.34	11.26
19	2.00	0.32	0.38	0.00	656.54	0		0.70	9.41
20	2.00	2.02	1.57	0.00	649.67	0		4.40	10.28
21	2.00	0.02	0.00	2.86	528.28	0		0.04	10.30
22	2.00	0.00	0.00	1.86	488.32	0		0.00	0.00
23	2.00	0.00	0.00	0.00	438.97	0		0.00	0.00
24	2.00	0.00	0.00	0.00	426.81	0		0.00	0.00
25	2.00	2.52	1.57	1.36	560.40	0		5.92	11.32
26	2.00	0.00	0.00	0.00	607.52	0		0.00	0.00
27	2.00	0.00	0.00	0.00	547.80	0		0.00	0.00
28	2.00	0.21	0.01	0.86	590.98	0		0.49	9.86
29	2.00	1.52	1.32	0.00	588.20	0		3.48	10.56
30	2.00	2.52	1.83	0.00	513.55	0		6.17	11.80
31	2.00	2.15	1.60	0.00	616.94	0		4.83	10.62
32	2.00	0.00	0.00	0.00	605.15	0		0.00	0.00
33	2.00	0.00	0.00	0.00	689.21	0		0.00	0.00
34	2.00	0.00	0.00	0.00	588.40	0		0.00	0.00
35	2.00	0.00	0.00	0.00	612.89	0		0.00	0.00

S#	TIME	CPMA	CPMB	CPMC	±SIE	LLIM FLAG	DPM1	2SIGMA
36	2.00	3.08	2.94	0.00	552.95	0	7.28	11.67
37	2.00	0.00	0.00	0.00	635.88	0	0.00	0.00
38	2.00	0.00	0.00	0.00	328.21	0	0.00	0.00
39	2.00	0.52	0.57	1.36	415.92	0	1.43	12.15
40	2.00	0.00	0.00	0.00	509.31	0	0.00	0.00

RADIOLOGICAL SURVEY DATA SHEET

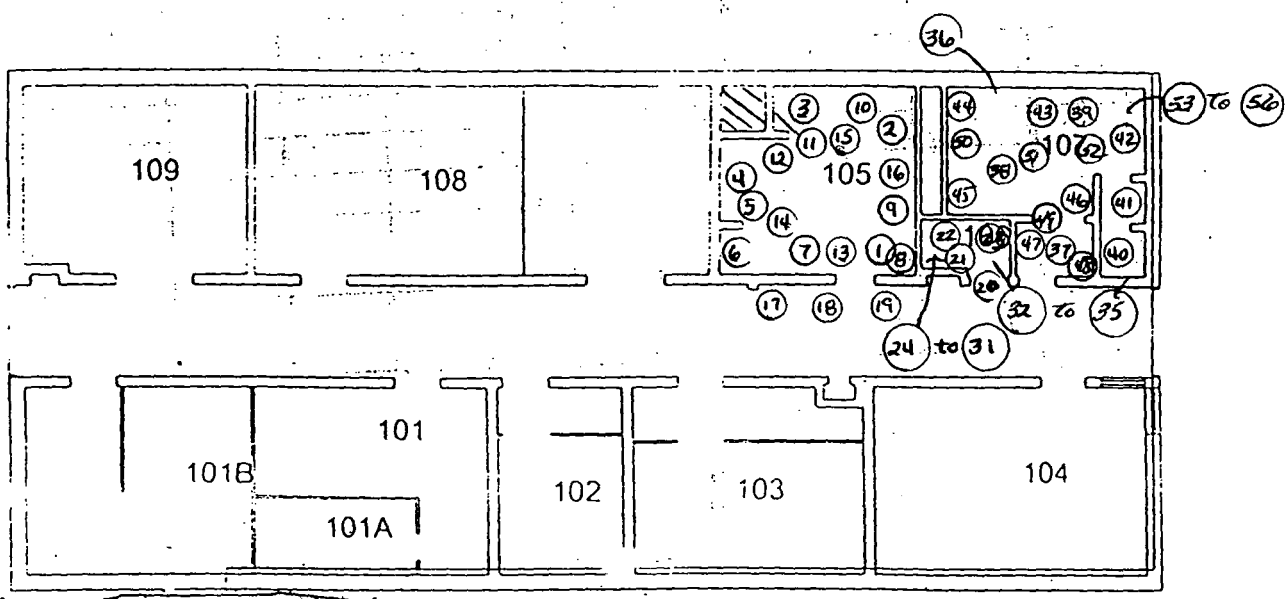
LOCATION: (BLDG/AREA/ROOM) 42 ~ Rm [redacted]	SURVEY NO. [redacted] 410
PURPOSE: Bin Bldg Verification Survey	RWP NO. N/A
	DATE: 11-28-00
	TIME: 1415

MAP/DRAWING

Large Area Masslin of Floors, Walls, Ceilings, Vents, Sinks

< 100 dpm/100 cm² α

All + noted.



Smears Nos: 32, 33, 34, 35 not included in this survey; area is Non-Permit Req'd. Confined Space; entry requires o/s attendant from I.H. not available at time of this survey.

Direct Scan @ Smear location
< 5000 dpm/100 cm² β⁻
< 100 dpm/100 cm² α
ALL

Electra Bkg. = 3.8 dpm/100 cm² α

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
Electra	5579-5580	03-01-01
	N A	

[redacted]

	HP#	Date:
	7787	11-29-00
	6681	11-28-00
	6130	12-12-00

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTACHED		VENT
37				FLOOR
38				
39				
[illegible]				
41				WALLS
42				
43				
44				
45				
46				
47				
48				WALLS
49				CEILING
50				
51				
52				CEILING
53				VENT
54				VENT
55				SINK
56				FLOOR DRAIN

COMMENTS: Smears Scanned < 1000dpm/100cm² β-α

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-9620 (4-98)

G47 of 77

Alpha/Beta Analysis

Batch ID: 00-TF-410 JONES 42-105/106/107 (56) CYR

Batch File: Smear Unit 1 - 200011281428
Group: I
Device: Unit 1
Geometry: Swipe/Smear
Serial Number: 64937

Acquisition Date: 11/28/2000
Count Time (min): 1.5
Recalibration Date: 5/17/2001

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	21	1.91	3.83	3.43	3.97
2	79	0.00	0.02	4.58	4.58
3	45	0.00	0.01	2.29	3.24
4	133	3.83	5.41	1.13	2.30
5	50	1.91	3.83	2.28	3.24
6	93	3.83	5.41	3.42	3.97
7	51	0.00	0.01	2.29	3.24
8	5	0.00	0.01	2.29	3.24
9	13	0.00	0.01	3.44	3.97
10	111	0.00	0.01	3.44	3.97
11	99	0.00	0.01	2.29	3.24
12	7	0.00	0.02	4.58	4.58
13	83	3.83	5.41	3.42	3.97
14	146	1.91	3.83	1.14	2.29
15	69	0.00	0.02	4.58	4.58
16	98	1.91	3.83	5.72	5.12
17	99	1.91	3.83	8.01	6.06
18	136	1.91	3.83	5.72	5.12
19	143	7.65	7.66	7.98	6.07
20	2	1.91	3.83	2.28	3.24

Page 8 of 77

347

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
21	108	0.00	0.01	2.29	3.24
22	25	0.00	0.02	4.58	4.58
23	30	0.00	0.01	2.29	3.24
24	38	1.91	3.83	5.72	5.12
25	4	0.00	0.03	6.87	5.61
26	52	0.00	0.02	5.73	5.12
27	33	0.00	0.01	2.29	3.24
28	87	1.91	3.83	4.57	4.58
29	15	0.00	0.01	2.29	3.24
30	103	0.00	0.00	1.15	2.29
31	128	1.91	3.83	3.43	3.97
~~32~~	~~100~~	~~0.00~~	~~0.02~~	~~4.58~~	~~4.58~~
~~33~~	~~85~~	~~0.00~~	~~0.00~~	~~1.15~~	~~2.29~~
~~34~~	~~143~~	~~0.00~~	~~0.00~~	~~1.15~~	~~2.29~~
~~35~~	~~93~~	~~0.00~~	~~0.01~~	~~3.44~~	~~3.97~~
36	38	1.91	3.83	3.43	3.97
37	21	0.00	0.02	5.73	5.12
38	114	1.91	3.83	4.57	4.58
39	33	1.91	3.83	6.86	5.61
40	143	0.00	0.02	4.58	4.58
41	140	0.00	0.01	3.44	3.97
42	36	0.00	0.01	2.29	3.24
43	65	0.00	0.02	4.58	4.58
44	100	1.91	3.83	3.43	3.97
45	30	0.00	0.01	3.44	3.97
46	32	0.00	0.01	3.44	3.97
47	61	0.00	0.02	4.58	4.58
		WZ	WZ	WZ	

11-28-00 CYR

WERE NOT INCLUDED WITH SAMPLES RECEIVED

11/29/00 WZ

LL for 4/7

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
48	86	0.00	0.01	2.29	3.24
49	141	0.00	0.00	1.15	2.29
50	56	0.00	0.00	1.15	2.29
51	92	0.00	0.01	2.29	3.24
52	62	3.83	5.41	2.27	3.24
53	148	0.00	0.01	2.29	3.24
54	51	0.00	0.01	3.44	3.97
55	23	0.00	0.02	4.58	4.58
56	149	0.00	0.01	2.29	3.24

6 of 7

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

	LL	UL	LTR	2SM	BKG
Region A:	0.5 -	18.6	0	0.0	5.69
Region B:	2.0 -	18.6	0	0.0	5.52
Region C:	40.0 -	2000	0	0.0	10.22

Quench Indicator: tSIE/aEC
Ext Std Terminator: Count
~~10-30-2000 SMWB 32/126 (30-23 F1-F56)~~ 00-TF-410 Jones 42-105/106/107 (30-23 F1-F56) Cup 11-29-00
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT7.DAT
Count Data Filename: C:\DATA\SDAT47.DAT

SY	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPMC	DPSMA
-1	10.00	5.69	5.52	10.23	665.27	5	B		0.00
0	2.00	895.32	837.11	4.77	541.96	0		2146.86	136.91
1	2.00	3.81	3.74	1.77	560.02	0		8.97	10.90
2	2.00	0.00	0.00	0.00	536.47	0		0.00	0.00
3	2.00	0.50	0.66	0.27	590.56	0		1.15	8.81
4	2.00	2.31	2.08	0.00	662.64	0		5.00	9.27
5	2.00	2.07	2.22	1.77	594.59	0		4.72	9.67
6	2.00	3.81	3.81	0.77	534.77	0		9.17	11.34
7	2.00	0.00	0.00	0.00	552.47	0		0.00	0.00
8	2.00	2.81	2.97	2.00	627.20	0		6.25	9.30
9	2.00	0.00	0.00	0.00	639.65	0		0.00	0.00
10	2.00	0.31	0.20	0.00	549.43	0		0.74	9.31
11	2.00	4.31	3.47	0.00	614.43	0		5.47	10.61
12	2.00	1.28	1.44	0.00	607.13	0		2.59	9.13
13	2.00	1.79	1.45	2.27	602.32	0		3.83	8.90
14	2.00	0.00	0.00	1.77	601.37	0		0.00	0.00
15	2.00	2.81	2.57	2.77	667.30	0		6.06	9.45
16	2.00	2.31	2.97	2.00	693.28	0		6.00	9.50
17	2.00	3.31	3.61	3.77	647.28	0		5.34	10.14
18	2.00	0.00	0.00	1.77	615.93	0		0.00	0.00
19	2.00	0.00	0.00	1.70	577.67	0		0.00	0.00
20	2.00	0.31	0.00	0.00	501.07	0		0.77	9.41
21	2.00	0.00	0.00	2.27	523.57	0		0.00	0.00
22	2.00	0.00	0.00	0.00	507.09	0		0.00	0.00
23	2.00	0.00	0.00	0.00	486.66	0		0.00	0.00
24	2.00	0.81	0.97	0.00	544.55	0		1.93	9.15
25	2.00	7.81	6.67	0.00	613.42	0		17.56	12.26
26	2.00	0.81	0.97	0.00	555.37	0		1.91	9.26
27	2.00	0.81	0.97	2.27	635.92	0		1.79	9.66
28	2.00	0.00	0.00	1.77	630.24	0		0.00	9.00
29	2.00	1.80	1.45	0.00	613.90	0		4.26	9.45
30	2.00	6.85	6.12	2.27	640.10	0		14.82	[illegible]
[illegible]	2.00	4.14	3.93	3.27	659.08	0		[illegible]	[illegible]
32	2.00	[illegible]	[illegible]	1.77	680.01	[illegible]		[illegible]	[illegible]
33	2.00	[illegible]	[illegible]	0.00	574.52	[illegible]		[illegible]	[illegible]
34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]

[illegible] 11/29/00 - See Cover Sheet

[illegible] GS 11/29/00

29 Nov 2000 12:56 ALPHA/BETA - 1.09

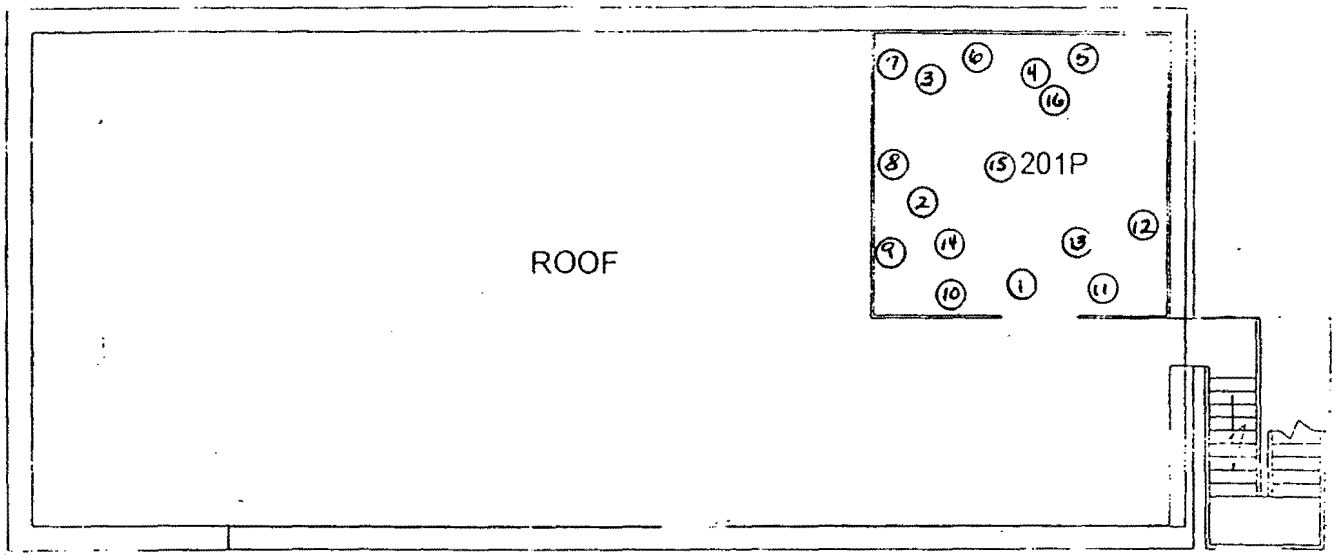
Protocol #: 7 PW 500 H3 #403727 User : 5681

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
39	2.00	0.00	0.00	0.00	393.71	0		0.00	0.00
40	2.00	0.00	0.00	2.27	600.77	0		0.00	0.00
41	2.00	1.81	1.58	0.00	659.94	0		3.92	9.04
42	2.00	1.26	1.02	0.00	664.89	0		2.71	8.71
43	2.00	1.81	0.97	0.00	647.59	0		3.96	9.12
44	2.00	0.45	0.61	0.77	617.26	0		1.01	8.58
45	2.00	3.31	2.82	0.00	626.87	0		7.37	10.06
46	2.00	1.31	0.97	0.00	643.02	0		2.88	8.89
47	2.00	2.31	1.97	0.00	649.59	0		5.05	9.37
49	2.00	0.00	0.00	0.00	482.97	0		0.00	0.00
50	2.00	5.81	5.57	0.77	669.87	0		12.49	10.87
51	2.00	0.00	0.00	0.77	335.16	0		0.00	0.00
52	2.00	0.87	1.03	0.00	671.92	0		1.88	8.48
53	2.00	1.31	0.97	0.00	653.34	0		2.85	8.82
54	2.00	0.31	0.47	0.00	653.70	0		0.67	8.25
55	2.00	0.31	0.47	0.00	556.75	0		0.73	8.95
56	2.00	4.18	4.06	0.20	601.46	0		9.51	10.71

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 42 ~ Roof & Penthouse	SURVEY NO. 00-TF-411
PURPOSE: BIN BLDG Verification Survey	RWP NO. N/A
	DATE: 11-28-00
	TIME: 1530

MAP/DRAWING



Bldg. not Posted.

Direct Scan of Smear locations
ALL <5000 dpm/100cm² β⁻
<100 dpm/100cm² α

~~Electra Bkg. = 3.~~ dpm/100cm² α

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
Electra	5579-5580	03-01-01
	N A	

[redacted]

HP#	Date:
7787	11-29-00
5681	11-29-00
6130	12-12-00

[redacted]

ML-9620 (2-98)

Survey No. 04-JE-HIA

Page 2 of 4

RADIOLOGICAL SURVEY DATA SHEET (cont.)

2 of 4

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		Floor of PH
2				
3				
4				Floor of PH
5				Walls of PH
6				
7				
8				
9				
10				
11				
12				Walls of PH
13				Ceiling of PH
14				
15				
16				Ceiling of PH
17				i/s Vent
18				i/s Vent
19				o/s Vent
20				o/s Vent
		N	A	

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

COMMENTS: Smears Scanned. <1000 dpm/100cm² β

NOTES:

1. See MD-60036 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-9620 (4-98)

G-54 of 77

Alpha/Beta Analysis

Batch ID: 00-TF-411 JONES 42-ROOF & PENTHOUSE (20) CYR

Batch File: Smear Unit 2 - 200011290831
Group: J
Device: Unit 2
Geometry: Swipe/Smear
Serial Number: 59544

Acquisition Date: 11/29/2000
Count Time (min): 1.5
Recalibration Date: 5/17/2001

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	22	0.00	0.12	5.15	5.15
2	117	0.00	0.03	1.29	2.58
3	129	0.00	0.03	1.29	2.58
4	115	0.00	0.21	9.02	6.82
5	17	0.00	0.03	1.29	2.58
6	135	0.00	0.09	3.86	4.46
7	35	0.00	0.09	3.86	4.46
8	22	0.00	0.15	6.44	5.76
9	70	2.04	4.10	2.57	3.64
10	31	0.00	0.15	6.44	5.76
11	55	2.04	4.10	5.14	5.15
12	105	0.00	0.09	3.86	4.46
13	19	0.00	0.15	6.44	5.76
14	31	0.00	0.12	5.15	5.15
15	70	0.00	0.12	5.15	5.15
16	13	0.00	0.15	6.44	5.76
17	130	0.00	0.09	3.86	4.46
18	89	0.00	0.06	2.58	3.64
19	31	0.00	0.03	1.29	2.58
20	108	0.00	0.06	2.58	3.64

LL 2 of 55 G

394

Time: 2.00
Data Mode: DPM Nuclide: 5MVIALS Quench Set: 5MVIALS
Background Subtract: 1st Vial

	LL	UL	LCR	2SX	3XS
Region A:	0.5 -	18.6	0	0.0	6.88
Region B:	2.0 -	18.6	0	0.0	6.81
Region C:	40.0 -	2000	0	0.0	11.23

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
00-TF-411 JONES 42-ROOF & PENTHOUSE (K1-K20)-DYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT6.DAT
Count Data Filename: C:\DATA\SDATA6.DAT

SN	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	DPMBKG
-1	10.00	6.88	6.81	11.23	480.83	12	E		0.00
0	2.00	860.49	830.37	0.00	552.91	1		2090.53	1[illegible]
1	2.00	0.00	0.00	0.00	466.20	0		0.00	0.00
2	2.00	0.00	0.00	0.00	371.94	0		0.00	0.00
3	2.00	0.00	0.00	0.00	394.18	0		0.00	0.00
4	2.00	0.00	0.00	0.00	434.23	0		0.00	0.00
5	2.00	0.00	0.00	0.00	467.10	0		0.00	0.00
6	2.00	0.11	0.00	1.77	343.54	0		0.22	9.20
7	2.00	0.12	0.19	0.00	645.61	0		0.26	9.04
8	2.00	3.13	3.15	0.00	640.72	0		6.76	10.82
9	2.00	0.00	0.00	3.07	642.34	0		0.00	0.00
10	2.00	0.00	1.89	0.00	620.46	0		3.87	10.57
11	2.00	1.24	1.31	0.00	612.42	0		2.79	9.90
12	2.00	0.00	0.00	0.00	638.66	0		0.00	0.00
13	2.00	0.00	0.00	0.00	656.79	0		0.00	0.00
14	2.00	0.00	0.00	0.00	651.24	0		0.00	0.00
15	2.00	1.12	0.94	0.00	568.85	0		2.57	10.03
16	2.00	0.00	0.00	0.00	548.59	0		0.00	0.00
17	2.00	0.00	0.00	10.21	450.30	0		0.00	0.00
18	2.00	0.00	0.00	0.00	487.97	0		0.00	0.00
19	2.00	0.00	0.00	0.00	423.76	0		0.00	0.00
20	2.00	0.00	0.00	0.00	508.00	0		0.00	0.00

LOG

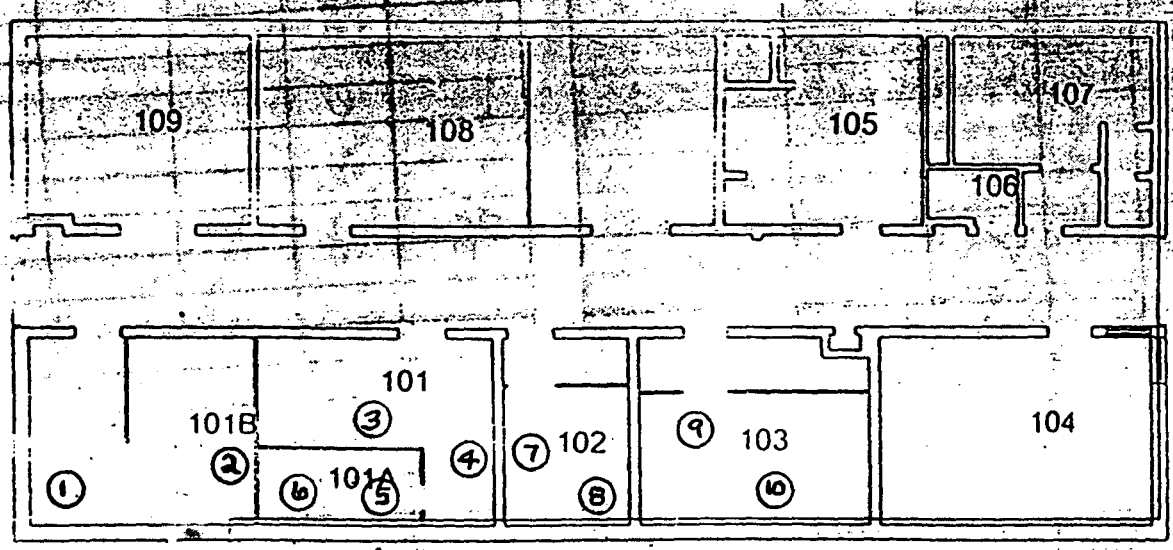
G56677

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of

LOCATION (BLDG/AREA/ROOM)	SURVEY NO.
PURPOSE: Bin verification. Liquid samples taken from floor drains	RWP NO. N/A
	DATE:
	TIME: 1300

MAP/DRAWING



(#) denotes location of water samples submitted to Envir. Lab

Electra BKG = 2.4 dpm/100cm² α

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

11-29-00

[redacted]

	HPI#	Date:
	7782	11-29-00
	5681	11-29-00
	7737	12-7-00

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Electra	6391-5409	05/06/01
	N A	

ML-9620 (2-98)

Survey No. [redacted]

[redacted]

Page [illegible] of [illegible]

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				[redacted]
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		Vials #1 & 2
2				Vials #3 & 4
3				Vials #5 & 6
4				Vials #7 & 8
5				Vials #9 & 10
		N	A	

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

COMMENTS: Smears Scanned < 1000 dpm/100cm²

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-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR006
Batch Ended: 11/29/2000 15:36
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-412 JONES BLDG.#42 (5) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activi		
		DPM	σ	flags	DPM	σ	flags
A2	1	0.00	2.21	<MDA	0.70	1.99	<MDA
A3	2	0.00	1.94	<MDA	0.34	1.75	<MDA
A4	3	0.00	2.13	<MDA	1.67	2.40	<MDA
B1	4	0.00	2.03	<MDA	0.00	1.65	<MDA
B2	5	0.00	1.90	<MDA	0.10	1.96	<MDA

WRJ WRJ

G59 of 77

395

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 -	18.6	0	0.0	5.20
Region B:	2.0 -	18.6	0	0.0	4.96
Region C:	40.0 -	2000	0	0.0	12.50

Quench Indicator: tSIE/AEC

90-TF-423 JONES BLDG.42 (30-23 S1-S5) CYR
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: C:\DATA\PROT2.DAT
Count Data Filename: C:\DATA\SDATA2.DAT

S#	TIME	CPMA	CPMB	CPMC	tSIE	LUM	FLAG	DPM1	2SIGMA
-1	10.00	5.20	4.96	12.50	668.19	5	B		0.00
0	2.00	1003.57	965.24	1.50	531.72	0		2421.36	207.84
1	2.00	3.45	2.03	0.00	677.06	0		7.39	9.46
2	2.00	2.53	2.77	0.00	681.89	0		5.42	8.98
3	2.00	5.94	5.27	1.00	676.62	0		12.73	10.63
4	2.00	193.79	185.31	131.23	677.95	0		414.89	52.50
5	2.00	7.00	5.90	0.00	679.98	0		14.98	11.08

G 60 of 77

BWXT of Ohio, Inc.

ENVIRONMENTAL/ANALYTICAL SERVICES REQUEST FOR ANALYSIS

DATE:	SAMPLE MATRIX:	NUMBER OF SAMPLES:	PROJECT/FUNCTION:
11-30-00	LIQUID	10	TFV
COLLECTED BY:	**PRIMARY CONTACT:**	**EXTENSION:**	**RSDS # (if applicable):**
Jones, W	Tomlinson, G (L. Lamsa)	4585	00-TF-412 (attached)
CHARGE NUMBER:	**SEND DATA TO:**	**MAIL STOP:**	**GAMMA SPEC. PERFORMED (YES/NO):**
J00300	Jones, W.		N

ANALYSES REQUESTED (check):

- ☐ Qualitative (identify)
- ☐ Qualitative (identify + proportionality of isotopes)
- ☐ Quantitative (concentration)
- ☐ ^3H
- ☐ Gross α
- ☒ Characterize and Approve Water for Release
- ☐ Other

S.L. Howard 12/5/00

SUSPECTED CONTAMINANTS: ☐ ^3H ☐ Pu ☐ U ☐ Th ☐ Other

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

LAB IDENTIFICATION	SAMPLE LOCATION	SAMPLE #	SAMPLE VOLUME/AREA	RESULTS ^3H	RESULTS α
0024183	BL06.42	1		<0.6 nCi/L	<0.60 dpm/mL
		2		<0.6 nCi/L	<0.60 dpm/mL
		3		<0.6 nCi/L	<0.60 dpm/mL
		4		<0.6 nCi/L	<0.60 dpm/mL
		5		<0.6 nCi/L	<0.60 dpm/mL
		6		<0.6 nCi/L	<0.60 dpm/mL
		7		<0.6 nCi/L	0.68 dpm/mL
		8		<0.6 nCi/L	<0.60 dpm/mL
		9		<1.1 nCi/L	<1.31 dpm/mL
		10		<1.3 nCi/L	<1.31 dpm/mL

COMMENTS: Provide estimate of volume for release

~200 gallons per L. Lamsa 12/5/00 (way)

ANALYZED BY:	DATE:
J GAVIN	12-5-00

ML-5222 (5-00)

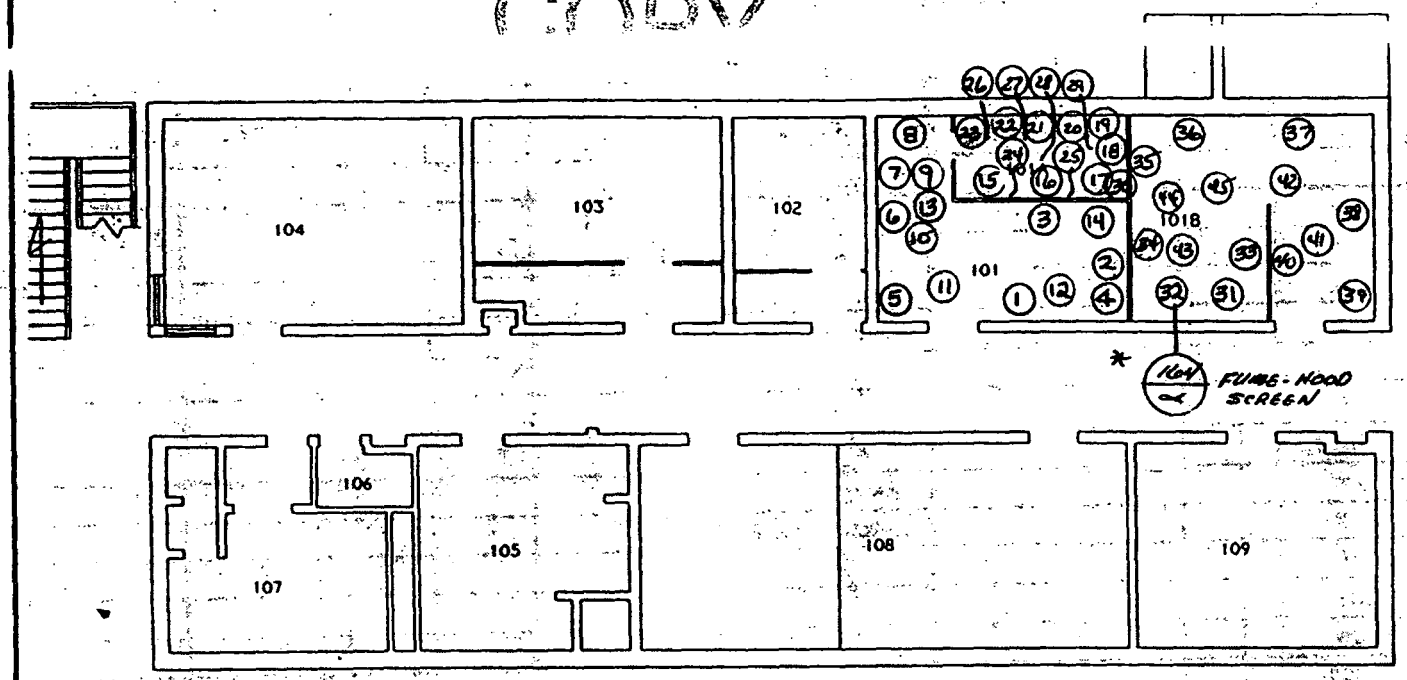
D-1 / D-46 P-3 T403

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 43 - Rms. 101 ~ 101A ~ 101B	SURVEY NO. 00-TF-413
PURPOSE: BLDG. BIN VERIFICATION	RWP NO. N/A
	DATE: 12-15-00
	TIME: 1000

MAP/DRAWING

COPY



Direct Scan @ Smear Locations
< 100 dpm/100 cm² α
< 5000 dpm/100 cm² β-
unless otherwise noted.

BLDG #42
FIRST FLOOR
BLDG CODE:3042

Late Entry 12/20/00 - HP 7787
* Fume Hood Re-survey RSDS 00-TF-413
12/20/00 : < 100 dpm/100 cm² α
< 5000 dpm/100 cm² β-
demonstrating Radon decay.

3/C 45

Electra Bkg. = 3.8 dpm/100cm² α

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
Electra	5270-5290	02-22-01
	N A	

[redacted]

HP#	Date:
7787	12-20-00
5262	12-18-00
[redacted]	
7737	12-20-00

ML-9620 (2-98)

Survey No.
00-TF-413

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	(β/γ)	(Alpha)	(Tritium)	Comments
1	SEE ATTACHED			WALLS 101
2				
3				
4				
5				
6				
7				
8				WALLS 101
9				CEILING 101
10				
11				
12				CEILING 101
13				VENTS
14				
15				
16				
17				VENTS
18				WALLS 101A
19				
20				
21				
22				
23				
24				
25				WALLS 101A
26				CEILING 101A
27				
28				
29				CEILING 101A
30				VENT
31				SINK
32				FUMEHOOD
33				WALLS
34				WALLS
35				WALLS

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	(β/γ)	(Alpha)	(Tritium)	Comments
36	SEE ATTACHED			WALLS
37				
38				
39				
40				WALLS
41				CEILING
42				
43				
44				CEILING
45				VENT
		N	A	

COMMENTS: Smears Scanned: <1000 dpm/100 cm² α

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-9620 (4-98)

Alpha/Beta Analysis

Batch ID: T 00-TF-413 [45] JONES 12-18-00 RLH

Batch File: Smear Unit 3 - 200012181350
Group: C
Device: Unit 3
Geometry: Swipe/Smear
Serial Number: 15764-1

Acquisition Date: 12/18/00
Count Time (min): 1.5
Recalibration Date: 3/23/2001

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	42	0.00	0.02	1.48	2.97
2	146	0.00	0.02	1.48	2.97
3	71	2.46	4.97	7.40	6.64
4	129	0.00	0.02	1.48	2.97
5	36	0.00	0.06	4.45	5.14
6	89	0.00	0.00	0.00	0.00
7	133	2.47	4.96	2.95	4.20
8	121	0.00	0.02	1.48	2.97
9	147	0.00	0.07	5.94	5.94
10	23	0.00	0.04	2.97	4.20
11	99	0.00	0.04	2.97	4.20
12	117	0.00	0.02	1.48	2.97
13	62	0.00	0.11	8.90	7.27
14	97	0.00	0.02	1.48	2.97
15	21	0.00	0.00	0.00	0.00
16	7	0.00	0.02	1.48	2.97
17	50	0.00	0.00	0.00	0.00
18	45	0.00	0.04	2.97	4.20
19	33	0.00	0.00	0.00	0.00
20	118	0.00	0.04	2.97	4.20
21	27	0.00	0.02	1.48	2.97
22	35	0.00	0.04	2.97	4.20
23	24	0.00	0.04	2.97	4.20

LL 20 49-5

Alpha/Beta Analysis

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
24	11	0.00	0.06	4.45	5.14
25	47	2.48	4.96	0.00	0.11
26	41	0.00	0.02	1.48	2.97
27	126	0.00	0.06	4.45	5.14
28	134	0.00	0.02	1.48	2.97
29	28	0.00	0.09	7.42	6.64
30	135	0.00	0.00	0.00	0.00
31	29	0.00	0.04	2.97	4.20
32	49	0.00	0.02	1.48	2.97
33	68	0.00	0.07	5.94	5.94
34	29	0.00	0.00	0.00	0.00
35	80	0.00	0.04	2.97	4.20
36	93	0.00	0.02	1.48	2.97
37	101	0.00	0.04	2.97	4.20
38	30	0.00	0.04	2.97	4.20
39	75	0.00	0.02	1.48	2.97
40	40	2.48	4.96	1.46	2.97
41	56	0.00	0.04	2.97	4.20
42	124	0.00	0.00	0.00	0.00
43	54	0.00	0.02	1.48	2.97
44	42	0.00	0.06	4.45	5.14
45	129	0.00	0.02	1.48	2.97

G659 77

Protocol #: 3 Name:Pw H3 #401393 19-Dec-2000 11:13
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
T 00-TF-413 [D1-D45] JONES 12-19-00 RLH
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	66	B	2.68	2.82	6.70	694		28.61
0	2.00	1		942.77	895.16	1.30	572.	2456.58	4.66
1	2.00	33		4.80	5.36	0.00	546.	12.94	115.9
2	2.00	59		3.93	3.09	0.00	626.	9.61	184.2
3	2.00	59		1.93	0.77	0.00	536.	5.27	309.8
4	2.00	16		17.92	14.68	0.00	606.	44.85	42.19
5	2.00	9		69.92	60.76	0.00	622.	171.68	18.86
6	2.00	8		67.95	55.82	0.00	647.	162.07	19.06
7	2.00	12		76.14	67.18	0.00	611.	189.34	18.53
8	2.00	70		0.00	0.62	0.00	441.	0.00	0.00
9	2.00	64		5.89	2.68	0.00	454.	18.22	152.0
10	2.00	29		22.91	20.01	0.00	584.	58.80	42.01
11	2.00	33		4.77	3.09	0.30	625.	11.68	116.3
12	2.00	22		1.25	0.28	0.00	570.	3.27	289.7
13	2.00	31		7.88	4.31	0.00	634.	19.06	81.57
14	2.00	19		28.41	22.06	0.00	583.	73.02	33.56
15	2.00	3		57.72	47.34	0.00	623.	141.56	19.78
16	2.00	9		44.97	36.51	0.00	631.	109.27	23.90
17	2.00	0		45.74	38.62	0.00	538.	124.45	21.63
18	2.00	3		50.41	41.72	0.00	596.	127.68	21.15
19	2.00	2		73.57	61.98	0.00	607.	183.78	17.19
20	2.00	82		0.00	0.00	0.00	640.	0.00	0.00
21	2.00	27		0.26	0.00	0.00	625.	0.62	1310.
22	2.00	48		0.00	0.00	0.00	586.	0.00	0.00
23	2.00	82		0.00	0.00	0.00	581.	0.00	0.00
24	2.00	18		0.00	0.00	0.00	585.	0.00	0.00
25	2.00	30		1.22	1.53	0.00	595.	3.10	319.3
26	2.00	39		1.66	1.93	0.00	651.	3.96	271.1
27	2.00	16		6.23	4.45	0.00	644.	14.91	80.73
28	2.00	25		2.22	0.83	0.00	571.	5.80	187.0
29	2.00	27		1.72	0.75	0.00	554.	4.59	234.2
30	2.00	10		11.72	7.16	0.00	526.	32.43	51.38
31	2.00	22		3.22	2.48	0.00	531.	8.86	136.3
32	2.00	20		1.75	0.26	0.00	591.	4.47	214.8
33	2.00	41		2.13	2.13	0.00	596.	5.39	227.4
34	2.00	4		42.02	32.52	0.00	604.	105.36	23.42
35	2.00	45		0.66	0.87	0.00	568.	1.72	650.8
36	2.00	33		4.13	1.54	0.00	616.	10.21	126.8
37	2.00	65		0.32	0.82	0.80	591.	0.81	1796.
38	2.00	56		3.56	2.55	0.00	598.	9.00	184.7
39	2.00	100		0.00	0.00	2.30	608.	0.00	0.00
40	2.00	40		5.18	4.39	0.00	616.	12.81	119.0
41	2.00	40		0.69	0.16	0.00	535.	1.88	586.6
42	2.00	54		1.54	0.00	0.00	622.	3.78	347.6
43	2.00	84		0.00	0.00	0.00	616.	0.00	0.00

G 6606 77

00-TF-413

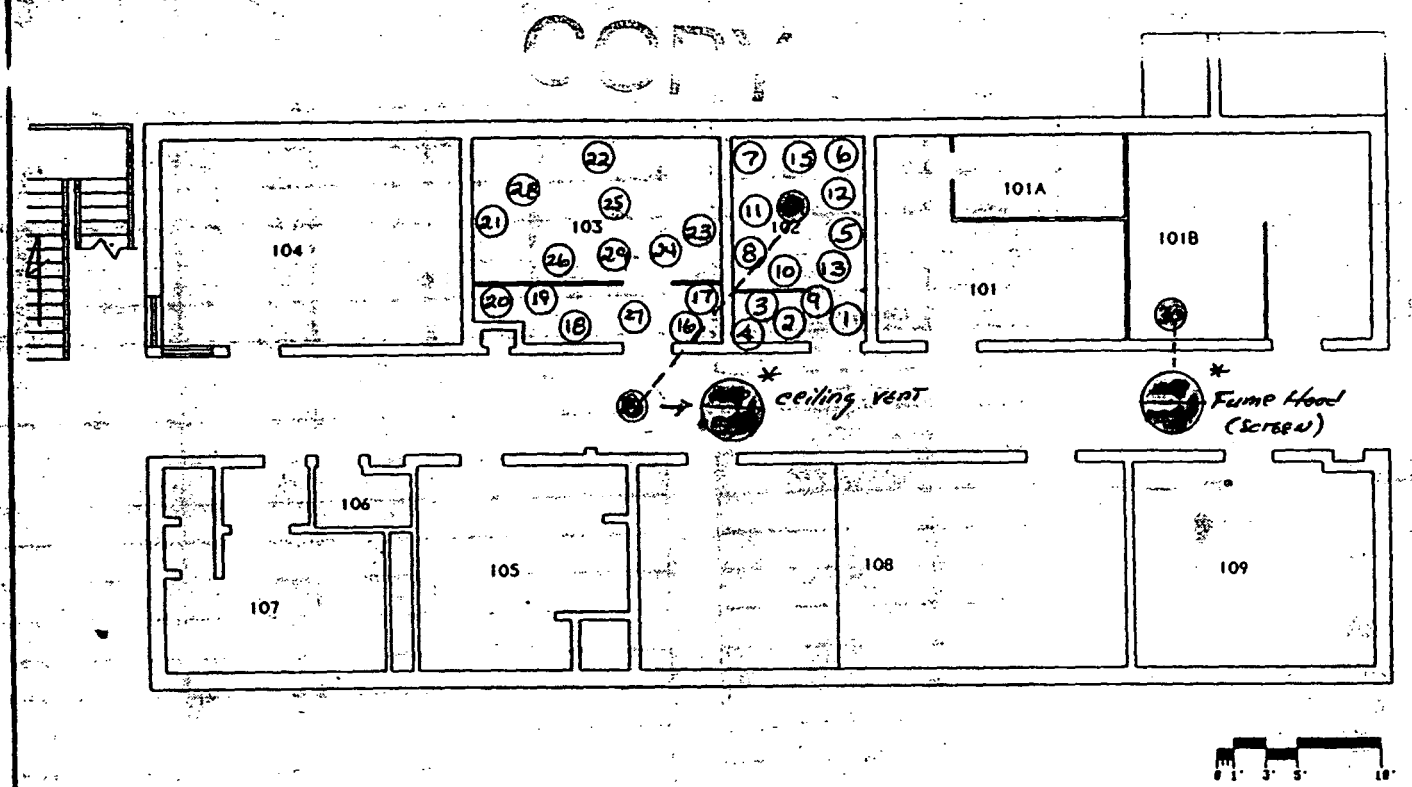
SAMP	TIME	LUM	FLAG	CPMA	CPMB	CPMC	tSIE	DPM1	A:2S%
44	2.00	58		7.54	3.60	0.00	618.	18.61	114.5
45	2.00	80		0.00	1.96	0.00	551.	0.00	0.00

LT-L30 30-23 P.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 42 - Rms 102/103	SURVEY NO. 00-TF-414
PURPOSE: BLDG. BIN VERIFICATION	RWP NO. N/A
	DATE: 12-17-00
	TIME: 1430

MAP/DRAWING



BLDG #42
FIRST FLOOR
BLDG CODE:3042

* Late Entry 12/20/00 - NP 7787
Fume Hood & Ceiling Vent re-survey RSDS 00-TF-443
12/20/00: <100 dpm/100cm² α
<5000 dpm/100cm² β-
demonstrating Radon decay

Direct Scan of Smear locations
<100 dpm/100cm² α
<5000 dpm/100cm² β-
unless otherwise noted.

Electra Bkg. = 3.8 dpm/100cm² α

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
Electra	5435-5436	04-30-01

[redacted]

HP#	Date:
7787	12-20-00
5681	12-19-00
7737	12-20-00

ML-9620 (2-98)

G6806 77

Survey No.
00-TF-44

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination					Removable Contamination				
Swipes (dpm/100cm²)					Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments	Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		WALLS - 102					
2									
3									
4									
5									
6									
7									
8				WALLS - 102					
9				CEILING - 102					
10									
11									
12				CEILING - 102					
13				VENT			N	A	
14				VENT					
15				VENT					
16				WALLS - 103					
17									
18									
19									
20									
21									
22									
23				WALLS - 103					
24				CEILING - 102					
25									
26									
27				CEILING - 102					
28				VENT					
29				VENT					
30				FUME-HOOD - 101B					
			A						
		N							

COMMENTS: Smears Scanned: <1000 dpm/100cm² α

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-9620 (4-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR150
Batch Ended: 12/19/2000 14:57
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-414 JONES 42-102 & 103 (30) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activi		
		DPM	σ	flags	DPM	σ	flags
A2	1	0.00	2.20	<MDA	0.00	1.42	<MDA
A3	2	0.00	1.94	<MDA	0.34	1.75	<MDA
A4	3	0.00	2.11	<MDA	0.00	1.46	<MDA
B1	4	1.27	2.04	<MDA	2.80	2.93	<MDA
B2	5	0.00	1.89	<MDA	0.00	1.48	<MDA
B3	6	0.00	2.03	<MDA	0.00	1.59	<MDA
B4	7	1.36	1.93	<MDA	2.65	2.71	<MDA
C1	8	1.25	1.72	<MDA	1.97	2.29	<MDA
C2	9	0.00	1.78	<MDA	0.00	1.25	<MDA
C3	10	0.00	1.98	<MDA	0.00	1.40	<MDA
C4	11	0.00	1.78	<MDA	0.26	1.67	<MDA
D1	12	0.00	2.02	<MDA	0.00	1.48	<MDA
D2	13	0.00	2.08	<MDA	0.37	1.72	<MDA
D3	14	0.00	2.12	<MDA	0.00	1.57	<MDA
D4	15	0.00	2.01	<MDA	0.21	1.76	<MDA
A2	16	0.00	2.21	<MDA	0.70	1.99	<MDA
A3	17	1.46	1.93	<MDA	0.00	1.31	<MDA
A4	18	0.00	2.12	<MDA	0.32	1.99	<MDA
B1	19	0.00	2.03	<MDA	0.10	2.17	<MDA
B2	20	0.00	1.90	<MDA	1.38	2.34	<MDA
B3	21	0.00	2.04	<MDA	0.05	2.13	<MDA
B4	22	0.00	1.91	<MDA	0.00	1.48	<MDA
C1	23	0.00	1.71	<MDA	1.04	2.01	<MDA
C2	24	0.00	1.81	<MDA	1.05	1.96	<MDA
C3	25	0.00	1.99	<MDA	0.24	1.87	<MDA
C4	26	0.00	1.83	<MDA	3.59	2.55	<AL
D1	27	0.00	2.05	<MDA	1.30	2.37	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR150
Batch Ended: 12/19/2000 14:57
Cal. Due Date: 5/22/2001
Serial Number: 26966-3

Alpha activity action level (DPM): 20
Beta activity action level (DPM): 200

Batch ID: 00-TF-414 JONES 42-102 & 103 (30) CYR

Detector ID	Sample ID	Alpha Activity			Beta Activi		
		DPM	σ	flags	DPM	σ	flags
D2	28	0.00	2.09	<MDA	1.52	2.07	<MDA
D3	29	1.51	2.16	<MDA	4.03	3.18	<AL
D4	30	1.40	2.01	<MDA	0.09	1.76	<MDA

19 Dec 2000 17:37 TRI-CARB - 1.09 Page #1
Protocol #: 1 PW H3 20CC 407906 User : 5681

Time: 2.00
Data Mode: DPM Nuclide: SMVIAL3 Quench Set: SMVIAL3
Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5	18.6	0	0.0	8.38
Region B:	2.0	18.6	0	0.0	7.66
Region C:	40.0	2000	0	0.0	12.40

Ext Std Terminator: Count
00-TF-414 JONES 42-102/103 (30-23 L1-L30) CYR
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
Spectrum Data Drive & Path: C:\DATA

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
-1	10.00	8.38	7.66	1	B	615.74		0.000	12.40
0	2.00	794.41	735.55	0		521.83	3399.52	246.400	0.00
1	2.00	0.12	0.84	0		627.69	0.30	11.270	0.00
2	2.00	0.00	0.00	0		606.15	0.00	0.000	0.00
3	2.00	0.00	0.00	0		619.08	0.00	0.000	0.00
4	2.00	3.12	3.84	0		615.40	10.32	16.988	0.00
5	2.00	0.00	0.00	0		317.12	0.00	0.000	0.00
6	2.00	0.00	0.00	0		261.16	0.00	0.000	0.00
7	2.00	0.74	0.21	0		582.73	17.57	110.724	0.00
8	2.00	0.00	0.00	0		603.76	0.00	0.000	0.00
9	2.00	1.94	0.62	0		644.87	4.00	10.104	0.00
10	2.00	0.00	0.00	0		575.29	0.00	0.000	0.00
11	2.00	7.52	1.72	0		560.00	85.50	67.572	0.00
12	2.00	8.52	3.61	0		561.30	102.66	73.660	0.00
13	2.00	0.96	1.51	0		539.95	5.85	28.542	0.00
14	2.00	6.34	3.70	0		518.94	25.90	23.438	0.00
15	2.00	0.00	0.34	0		537.17	0.00	0.000	0.00
16	2.00	6.13	1.16	0		580.07	295.18	274.274	1.60
17	2.00	11.20	7.47	0		574.50	343.79	200.963	0.00
18	2.00	2.76	2.97	0		587.68	33.92	62.221	0.00
19	2.00	0.12	0.66	0		549.56	0.96	35.309	0.00
20	2.00	0.00	0.34	0		595.20	0.00	0.000	0.00
21	2.00	0.00	0.00	0		569.45	0.00	0.000	0.00
22	2.00	0.00	0.00	0		597.03	0.00	0.000	0.00
23	2.00	1.06	1.49	0		605.43	4.75	21.159	0.00
24	2.00	0.12	0.00	0		416.62	0.31	11.537	0.00
25	2.00	0.36	0.00	0		473.61	0.86	10.923	0.00
26	2.00	1.12	1.84	0		481.58	2.89	12.205	1.10
27	2.00	3.15	2.54	0		630.50	7.46	12.167	0.00
28	2.00	0.00	0.00	0		427.01	0.00	0.000	0.00
29	2.00	0.89	0.00	0		505.57	3.00	15.818	0.00
30	2.00	0.60	0.00	0		547.89	4.44	34.403	0.00

G7206 77

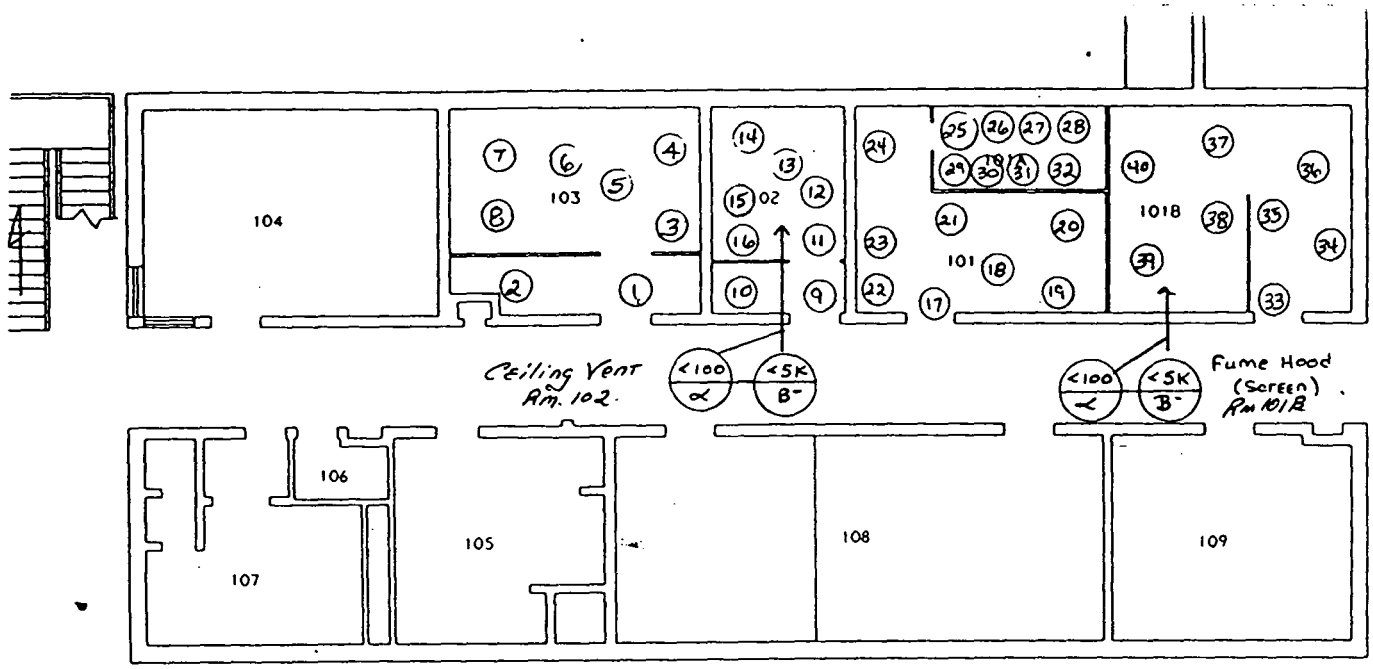
C1-C40 T-212 P2

COPY

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) 42 ~ Rms. 101/101A/101B/102/103	SURVEY NO. 00-TF-443
PURPOSE: BLDG. BIN VERIFICATION (Floor Surfaces Only) Re-survey Condition of 101B Fume Hood & 102 Ceiling Vent	RWP NO. n/a
	DATE: 12-20-00
	TIME: 1300

MAP/DRAWING



Direct Scan of Fume Hood Screen (Rm 101B) and Ceiling Fan/Vent (Rm. 102)
All < 100 dpm/100cm² α
< 5000 dpm/100cm² β-
Ref. RSDS. Nos. 00-TF-414
00-TF-413

BLDG #42
FIRST FLOOR
BLDG CODE:3042

Floor Surfaces loose Contam. Survey Only ~ directs not performed due to standing water in areas.

COPY

Electra Bkg. = 2.5 dpm/100cm² α

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
Electra	5385-5386	05/28/01
N	A	

[redacted]

HP#	Date:
7787	12-22-00
HP# 2324	Date: 12-21-00
HP# 7737	Date: 1-16-01

ML-9620 (2-98)

Survey No.
00-TF-443

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHED		FLOOR
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				
31				
32				
33				
34				
35				FLOOR

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE	ATTACHED		FLOOR
37				
38				
39				
40				FLOOR
	N	A		

COMMENTS: Direct Scan of Smears: <1000 dpm/100cm² β-α

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-9620 (4-98)

Alpha/Beta Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR000
Batch Ended: 12/21/2000 9:14
Recalibration Date: 6/14/2001
Serial Number: 64575

Batch ID: JONES 00-TF-443 [40] JC

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.0	3.5	<MDA	4.1	2.7	<AL
A2	2	1.9	3.5	<MDA	5.6	2.9	<AL
A3	3	0.0	2.0	<MDA	0.3	1.5	<MDA
A4	4	0.0	3.3	<MDA	0.0	1.3	<MDA
B1	5	0.0	3.7	<MDA	0.3	1.6	<MDA
B2	6	0.0	3.8	<MDA	0.7	2.1	<MDA
B3	7	1.6	3.0	<MDA	2.7	2.0	<AL
B4	8	0.0	1.9	<MDA	0.0	1.5	<MDA
C1	9	0.0	3.6	<MDA	0.3	1.6	<MDA
C2	10	0.5	2.4	<MDA	0.3	1.6	<MDA
C3	11	0.0	3.2	<MDA	0.6	1.3	<MDA
C4	12	0.0	3.2	<MDA	0.6	1.3	<MDA
D1	13	0.0	3.7	<MDA	0.6	1.4	<MDA
D2	14	0.0	3.6	<MDA	0.3	1.6	<MDA
D3	15	0.0	3.3	<MDA	0.6	1.3	<MDA
D4	16	0.0	3.4	<MDA	2.1	1.8	<AL
A1	17	0.0	3.5	<MDA	2.9	2.4	<AL
A2	18	0.0	3.5	<MDA	1.9	1.9	<AL
A3	19	0.0	2.0	<MDA	0.0	1.5	<MDA
A4	20	0.0	3.3	<MDA	0.0	1.3	<MDA
B1	21	0.0	3.7	<MDA	0.3	1.6	<MDA
B2	22	0.0	3.8	<MDA	0.0	1.7	<MDA
B3	23	0.0	3.0	<MDA	0.6	1.2	<MDA
B4	24	0.0	1.9	<MDA	0.0	1.5	<MDA
C1	25	0.0	3.6	<MDA	0.0	1.6	<MDA
C2	26	0.0	2.4	<MDA	0.4	1.6	<MDA
C3	27	0.0	3.2	<MDA	1.7	1.7	<AL
C4	28	0.0	3.2	<MDA	2.9	2.1	<AL
D1	29	0.0	3.7	<MDA	0.6	1.4	<MDA
D2	30	0.0	3.6	<MDA	4.1	2.7	<AL
D3	31	0.0	3.3	<MDA	1.8	1.7	<AL
D4	32	0.0	3.4	<MDA	0.9	1.3	<MDA

Alpha/Beta Analysis

Unit Type: LB4100/W
Counting Unit ID: Green
Data file name: SMEAR000
Batch Ended: 12/21/2000 9:14
Recalibration Date: 6/14/2001
Serial Number: 64575

Batch ID: JONES 00-TF-443 [40] JC

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	33	0.0	3.5	<MDA	0.3	1.6	<MDA
A2	34	0.0	3.5	<MDA	0.6	1.4	<MDA
A3	35	0.0	2.0	<MDA	3.9	2.5	<AL
A4	36	1.8	3.3	<MDA	0.0	1.3	<MDA
B1	37	0.0	3.7	<MDA	0.3	1.6	<MDA
B2	38	0.0	3.8	<MDA	0.0	1.7	<MDA
B3	39	1.7	3.0	<MDA	0.4	1.2	<MDA
B4	40	0.0	1.9	<MDA	0.0	1.5	<MDA

Protocol #: 2 Name:PW H3 #401388 21-Dec-2000 11:28
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
00-TF-443 JONES BLDG.42 (C1-C40) CYR
Conventional DPM
Nuclide 1 = 800
Luminescence Correction On
Data/Application Drive & Path = c:\data

SAMP	TIME	CPMA	CPMB	CPMC	FLAG	LUM	tSIE	DPM1	A:2S%
-1	10.00	6.37	5.65	4.60	B	8	708.		25.06
0	2.00	908.32	879.80	3.90		0	564.	2327.95	4.73
1	2.00	0.00	0.00	2.40		0	439.	0.00	0.00
2	2.00	0.00	0.00	0.00		0	534.	0.00	0.00
3	2.00	0.00	0.00	0.90		22	513.	0.00	0.00
4	2.00	0.12	0.21	0.00		0	517.	0.33	3303.
5	2.00	0.00	0.00	0.00		31	585.	0.00	0.00
6	2.00	0.00	0.00	0.00		0	463.	0.00	0.00
7	2.00	0.00	0.00	0.40		0	580.	0.00	0.00
8	2.00	5.57	5.41	37.31		8	550.	14.52	99.51
9	2.00	0.00	0.24	0.40		0	504.	0.00	0.00
10	2.00	0.13	0.85	0.00		0	370.	0.46	3043.
11	2.00	0.00	0.00	0.00		0	340.	0.00	0.00
12	2.00	0.00	0.00	0.00		0	561.	0.00	0.00
13	2.00	0.00	0.00	3.90		0	483.	0.00	0.00
14	2.00	0.00	0.00	0.00		0	472.	0.00	0.00
15	2.00	0.00	0.00	0.40		0	535.	0.00	0.00
16	2.00	0.00	0.00	0.00		0	474.	0.00	0.00
17	2.00	1.32	2.16	0.00		7	331.	5.24	340.2
18	2.00	0.00	0.00	0.90		0	349.	0.00	0.00
19	2.00	0.00	0.00	0.00		22	532.	0.00	0.00
20	2.00	0.00	0.00	0.00		54	544.	0.00	0.00
21	2.00	0.00	0.00	0.90		0	511.	0.00	0.00
22	2.00	0.00	0.00	1.90		0	551.	0.00	0.00
23	2.00	0.00	0.00	1.90		16	554.	0.00	0.00
24	2.00	0.00	0.00	0.00		0	592.	0.00	0.00
25	2.00	0.00	0.00	0.00		18	515.	0.00	0.00
26	2.00	0.00	0.00	0.00		0	487.	0.00	0.00
27	2.00	0.00	0.00	1.40		0	554.	0.00	0.00
28	2.00	0.00	0.00	0.01		0	590.	0.00	0.00
29	2.00	0.00	0.00	0.40		0	500.	0.00	0.00
30	2.00	0.00	0.00	1.90		0	535.	0.00	0.00
31	2.00	0.00	0.00	0.00		0	545.	0.00	0.00
32	2.00	0.00	0.00	0.00		18	565.	0.00	0.00
33	2.00	0.00	0.00	0.00		100	390.	0.00	0.00
34	2.00	0.13	0.80	0.00		0	465.	0.38	3043.
35	2.00	0.00	0.00	0.00		0	409.	0.00	0.00
36	2.00	0.00	0.00	1.90		18	503.	0.00	0.00
37	2.00	0.10	0.96	0.00		8	490.	0.27	4331.
38	2.00	0.00	0.58	0.00		0	568.	0.00	0.00
39	2.00	0.00	0.00	1.40		27	224.	0.00	0.00
40	2.00	0.00	0.00	2.90		24	508.	0.00	0.00

Appendix H

Radon Information

UNC Geotech

UNC Geotech
2597 B 3/4 Road
P.O. Box 14000
Grand Junction, Colorado 81502-5504
303/242-8621

April 12, 1990

Dennis Murphy
EG&G Mound Applied Technonogies
P.O. Box 3000
Mound Road
Miamisburg, OH 45343-3000

File

Dear Mr. Murphy:

I have enclosed the results ~~of the~~ radon measurements made at your site as part of the DOE Indoor Radon Study. A copy of these results can be provided in electronic ~~format if desired~~. The results will be forwarded to the study sponsor, the DOE Office of Projects and Facilities Management, by the end of April.

Please contact me at FTS 326-6293 or commercial (303) 248-6293 if you have any questions.

Sincerely yours,

Mark D. Pearson

Mark D. Pearson
Project Manager
UNC Geotech

cc: DOE Points of Contact

H1064

									Comments
21		ABOVE AIR SAMPLER	161.1	125.0	1678055	1666782	12/14/89	2/16/90	MET - OLD THORIUM STORAGE
21		ABOVE AIR SAMPLERS	116.7		1668588		12/14/89	2/16/90	MET - OLD THORIUM STORAGE
	SW	19 MID EAST WALL	4.0		1661547		12/12/89	2/19/90	HISTORY OF ELEVATED READINGS
40		114 B CLOSET ON SPRINKLER PIPE	3.2		1671292		12/12/89	2/19/90	
19		ROOM 1	2.6		1678051		12/13/89	2/19/90	
	OLD SO BLDG	BASEMENT RIGHT CABINET	2.4		1681585		12/14/89	2/19/90	
55		1 BELOW THERMOSTAT ON E WALL	2.1		1661515		12/18/89	2/19/90	
57		ROOM 1	1.9		1681565		12/12/89	2/19/90	
87		143	1.5		1681563		12/13/89	2/19/90	
990	FIRE STATION	ROOM 002 EQUIPMENT ROOM WITH SUMP	1.4		1654460		12/12/89	2/19/90	
24		ROOM 1 PLANT NORTH WALL	1.3		1672087		12/12/89	2/19/90	
	PAINT SHOP	PS 4	1.2		1661516		12/12/89	2/16/90	
30		ROOM 3 EAST	1.1		1671262		12/12/89	2/16/90	
100		103 MIDDLE OF NORTH WALL	1.0		1678060		12/12/89	2/19/90	
37		6 NORTH WALL	1.0		1678044		12/12/89	2/19/90	
34		34 A WEST WALL	.9	.6	1672062	1672042	12/12/89	2/19/90	MET
102		123	.9		1681577		12/14/89	2/19/90	
61		RM 221 MIDDLE OF NORTH WALL	.9		1681585		12/13/89	2/19/90	
67		101 M	.9		1678029		12/12/89	2/19/90	
G-13	LOG	G-614 WEST WALL	.9		1661544		12/12/89	2/16/90	
	T	CORRIDOR 28	.8		1678039		1/15/90	2/19/90	
	T	153	.8		1678067		1/15/90	2/19/90	
	T	78	.8		1678077		1/15/90	2/19/90	
	T	30	.8		1681586		1/15/90	2/19/90	
105	PARTS MACHINING BUILDING	STAIRWELL NEXT TO ROOM 127	.8		1681564		12/12/89	2/19/90	
25	ARAC	3 ON BOOK CASE MIDDLE	.8		1671314		12/15/89	2/19/90	
60		1 ON DOOR TO ROOM 3	.8		1678049		12/12/89	2/19/90	
	A	153C CENTER CUBICLE WEST WALL	.8		1672056		12/14/89	2/16/90	
	C BUILDING OLD CAFETERIA	NORTHEAST SECTION INTERNAL WALL RM2	.8		1672052		12/12/89	2/16/90	
	R BUILDING	68 NORTH WALL	.8		1678060		12/13/89	2/16/90	
	SW	8 WEST WALL AT OLD RECOVERY	.8		1672057		12/11/89	2/16/90	
	WO BLDG	WO 8	.8		1678045		12/18/89	2/16/90	
87		124	.8		1678032		12/12/89	2/19/90	
88		ROOM 116 ON NORHT WALL RIGHT OF CEN	.7	.5	1661524	1661535	12/12/89	2/19/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.7	.5	1666783	1668532	12/15/89	2/19/90	
22		RM 1 EAST CORRIDOR ON STORAGE RACK	.7		1678070		12/13/89	2/19/90	
56	FIRE PUMP HOUSE	ROOM 1 THERE IS ONLY 1 ROOM	.7		1678066		12/12/89	2/19/90	
	E ANNEX	E 225 EAST WALL	.7		1681552		12/18/89	2/16/90	
	POWER HOUSE PH-1	REPAIR SHOP NORTH EAST CORNER	.7		1678040		12/12/89	2/19/90	
	N BLDG	N-135	.7		1681553		12/12/89	2/16/90	
26		ROOM 84 SOUTH WEST WALL	.6	.5	1672048	1667159	12/13/89	2/16/90	
69		RM 7 ON NORTH WALL	.6	.4	1672044	1672077	12/12/89	2/19/90	
26		ROOM 84 SOUTH WEST WALL	.6		1671278		12/13/89	2/16/90	
35		RM 7	.6		1654458		12/14/89	2/19/90	
38	PP BLDG	PP CORR 136	.6		1678016		12/14/89	2/19/90	
72		ON OVERHEAD DOOR BEAM	.6		1672069		1/03/90	2/19/90	
93		HALLWAY 107 (MIDWAY)	.6		1681629		12/13/89	2/20/90	
98	FIRE STATION	ROOM 114 DORM	.6		1661507		12/12/89	2/19/90	
	COS	NW STAIRWELL AT BASEMENT LEVEL	.6		1672086		12/14/89	2/19/90	
	OSW	120 C	.6		1681573		12/12/89	2/16/90	
	SW	150 WEST END GAS BOX	.6		1678042		12/11/89	2/16/90	
	A	34 EAST WALL	.5	.7	1672075	1672051	12/14/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5	.5	1650114	1666819	12/12/89	2/16/90	

H2064

Area	Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	45		WORK STATION AREA	.4		1681568		12/14/89	2/16/90	
	46		81 EAST WALL	.4		1672070		12/12/89	2/16/90	
	49		WALL OUTSIDE RM 125	.4		1670020		12/14/89	2/16/90	
	51		107 TOP OF FUME HOOD	.4		1681575		12/12/89	2/16/90	
	63		ROOM 134	.4		1672059		12/13/89	2/20/90	
	63B		RM 4	.4		1670070		12/14/89	2/16/90	
	65		ROOM 10 CONFERANCE ROOM	.4		1671204		12/14/89	2/16/90	
	66		OFFICE AREA	.4		1681554		12/12/89	2/16/90	
	68		EAST WALL CENTER BEAM	.4		1681555		12/14/89	2/16/90	
	69		RM 18A	.4		1681576		12/12/89	2/16/90	
	70		170 MEETING ROOM CENTER WALL	.4		1670041		12/12/89	2/16/90	
	88		ROOM 116	.4		1671205		12/12/89	2/16/90	
	95	SH/PP	95- BLD-ROOM81	.4		1661531		12/12/89	2/20/90	
		DS BUILDING	CORRIDOR 2 - 6 FT. ABOVE FLOOR	.4		1670071		12/13/89	2/16/90	
		I	I HALLWAY	.4		1667194		12/12/89	2/16/90	
		N BUILDING	N 21 WEST WALL	.4		1670057		12/15/89	2/20/90	
		POWER HOUSE PH-1	OFFICE SUPERVISOR	.4		1670036		12/12/89	2/16/90	
		Q BUILDING	12 SOUTH WALL	.4		1681566		12/13/89	2/16/90	
	34		BURN ROOM			1654481		12/12/89		BURNT (NOT AVAILABLE)
	61		RM 151			1681567		12/13/89		MISSING

H3084

Bldg	Bldg Description	Room	Avg Radon pCi/l	Duplicate Radon pCi/l	Monid	Dupid	Monitor Install Date	Monitor Retrieve Date	Comments
	R BUILDING	143 NEXT TO NORTH WALL	.5	.5	1666533	1666616	12/13/89	2/16/90	
101		ROOM 5 ON SOUTH WEST WALL IN OFFSET	.6		1671280		12/12/89	2/19/90	
	"B" 175	175 WEST WALL	.5		1678048		12/12/89	2/16/90	
26		ELECTRICAL PANEL RM IN ELEC/RONICS	.5		1678062		12/12/89	2/19/90	
40		100	.6		1654480		12/13/89	2/16/90	
43		1 EAST WALL OVER WATER DISPENSER	.5		1678076		12/12/89	2/20/90	
44		ON BULLETTIN BOARD	.5		1678047		12/12/89	2/16/90	
47		102 MIDDLE OF EAST WALL	.5		1678058		12/12/89	2/16/90	
50		CELL 113	.5		1661502		12/13/89	2/19/90	
78		CENTRAL HALLWAY WEST OF DOOR TO RM7	.5		1661605		12/18/89	2/16/90	
89		101 NEAR BACK CORNER BY ROOF DRAIN	.5		1678079		12/15/89	2/19/90	
91		1ST FLOOR	.5		1661525		12/15/89	2/16/90	
91		2ND FLOOR OUTSIDE RM215	.5		1661593		12/15/89	2/16/90	
92		HALLWAY RIGHT OFF ROOM 8	.5		1661509		12/12/89	2/19/90	
94		BAY 2 NORTH WALL	.5		1654477		12/12/89	2/19/90	
	A	215 WEST WALL	.5		1661572		12/14/89	2/16/90	
	A	1680 WEST WALL	.5		1661580		12/14/89	2/16/90	
	COS	110 N WALL NEAR PUNCH PRESS	.5		1654456		12/12/89	2/19/90	
	COS	310 WALL CABINET TO RIGHT OF SINK	.5		1661590		12/12/89	2/19/90	
	E BUILDING	150 WEST WALL	.5		1678033		12/14/89	2/16/90	
	E BUILDING	103 WEST WALL	.6		1678072		12/14/89	2/16/90	
	E ANNEX	E 212 NORTH WALL	.5		1661507		12/18/89	2/16/90	
	GH BUILDING	ROOM 2	.6		1678065		12/12/89	2/16/90	
	GP 81	1A MIDDLE OF WEST WALL	.6		1678054		12/12/89	2/19/90	
	H BLDG	ROOM 127	.5		1661571		12/12/89	2/16/90	
	HH	HH-8	.5		1671268		12/18/89	2/19/90	
	I BUILDING	BASEMENT LEFT CRAWL SPACE DOOR	.5		1671260		12/12/89	2/19/90	
	M BUILDING	M 108	.5		1678056		12/15/89	2/19/90	
	OSE	CORRIDOR 437	.5		1661536		12/15/89	2/16/90	
	OSE	CORRIDOR 301 ACROSS FROM WATER FOUN	.5		1672084		12/15/89	2/16/90	
	OSM	4HT FLOOR	.5		1678020		12/12/89	2/16/90	
	OSE	CORR 212 SOUTH WALL NEAR 210 DOOR	.5		1678036		12/15/89	2/16/90	
	OSM	319	.5		1678069		12/13/89	2/16/90	
	OSM	2ND FLOOR	.5		1661611		12/12/89	2/16/90	
	POWER HOUSE PH-1	STATIONARY BOARD CORNER	.5		1678073		12/12/89	2/19/90	
	R BUILDING	145 WEST WALL ABOVE BALANCE	.5		1654538		12/14/89	2/16/90	
	SM/R TRITIUM COMPLEX	128 OVER LARGE METAL FLOOR DISC	.5		1678019		12/12/89	2/16/90	
	W BLDG	W135 WEST CENTRAL WALL	.5		1671293		12/12/89	2/16/90	
	WO BLDG	WOA 110	.5		1671301		12/18/89	2/16/90	
	"B" 124	EAST WALL	.5		1667189		12/12/89	2/16/90	
	OSE	113 BULLETIN BOARD OPPOSITE ELEVATO	.5		1678027		12/15/89	2/16/90	
TF-2		114 EAST WALL CENTER OF ROOM	.4		1678064		12/12/89	2/19/90	
	HH	HH-24	.4		1667187		12/14/89	2/19/90	
	OS BUILDING	CORRIDOR 7 NEXT TO ROOM 216	.4		1661614		12/13/89	2/19/90	
	GP 81	1A MIDDLE OF WEST WALL	.4	.5	1672135	1661542	12/12/89	2/19/90	
105	PARTS MACHINING BUILDING	136 QC OFFICE	.4		1678017		12/12/89	2/19/90	
27		CELL 8 - HALL	.4		1661503		12/12/89	2/19/90	
28	CERAMIC PRODUCTION	101	.4		1672061		12/12/89	2/19/90	
29		HALLWAY	.4		1672105		12/14/89	2/19/90	
	TEST FIRE BUILDING 3	3-315	.4		1672036		12/12/89	2/19/90	
38	PP BLDG	PP CORR 16/BAY 2 WALL	.4		1661578		12/14/89	2/19/90	
39		BREAK RM	.4		1678050		12/14/89	2/19/90	
42		101 B EAST WALL	.4		1678031		12/13/89	2/19/90	

H4 of 4

Appendix I

Asbestos Information

From: Christopher Ahlquist
To: Darnell, Val
Date: 5/10/02 4:47PM
Subject: Building 42

Val -

Concerning the disposition of Building 42 prior to demolition, the following information is provided for incorporation into the Building Data Package.

Asbestos
A complete survey for asbestos-containing materials located within and on the building was accomplished by Mr. Andrew Petty (a Certified Industrial Hygienist with BWXTO) in December of 2000. Mr. Petty was an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulation. The purpose of this survey was to identify all asbestos-containing material regulated by the EPA which would require removal prior to demolition of the building.

With the exception of the explosion proof light fixture gaskets located in Building 42, all regulated asbestos-containing materials in/on the building were removed by Environmental Risk Management, Inc. of Cincinnati (an Ohio Department of Health Licensed Asbestos Abatement Contractor) on May 2 of 2001. These materials were delivered to the Mound Waste Management Project for proper disposal in an EPA-approved landfill. Mr. Petty performed surveillance and oversight of this contractor's removal efforts and verified that all of the specified asbestos had been adequately removed.

The referenced light fixture gaskets were removed with the fixtures intact by asbestos worker trained Mound personnel in March of 2002 for disposal by the Mound Waste Management Project.

With the exception of EPA Category I asphalt-based nonfriable roofing materials, all asbestos-containing materials within and on Building 42 have been properly removed. This roofing material (2,800 square feet) is assumed to contain asbestos and is permitted to be left in place during demolition provided it remains nonfriable up to the time of conventional demolition by use of heavy-duty equipment. The quantity of the roofing material to remain in place during demolition must be noted on the Notification of Demolition to be issued to the EPA.

Lead
No lead surveys or sampling data could be found pertaining to the paint coatings in and on Building 42. Paint coatings which have not been specifically tested are assumed to contain lead. Excepting some atypical aspect of demolition which would involve disturbance of paint by personnel in close contact (i.e., torch-cutting, scraping, sanding, etc.), no special effort is made to test, evaluate or remove lead paint from a structure. The Mound Waste Management Project has given guidance that lead paint does not present a hazardous waste upon demolition of a building.

Mold
The Building 42 HVAC system has ben inactive for many years and roof leaks have developed during that time. There is visual evidence of mold on many of the internal walls. Supervisors with Safe Shutdown and/or demolition activities planned for the building have been informed that workers with known sensitivities to mold may have to use PPE to prevent skin contact or inhalation of mold spores. No effort to remove or mitigate mold is planned.

I hope that this information proves useful. Let me know if I can be of further assistance.

Respectfully,

Chris Ahlquist

Industrial Hygienist

SMPP/TFV Project Team

CC: Hanson, W. Doug

PROJECT SUMMARY

Building "42"

The scope of work for this project was the removal of all remaining asbestos containing materials from a rooftop penthouse and from the hallways and rooms and crawlspaces of Building 42 prior to the demolition of the building. Asbestos material removed included pipe insulation gasket insulation, and floor tile and mastic. All work was performed according to current state and federal regulations and no compliance issues were encountered.

ASBESTOS PROJECT: CERTIFICATE OF COMPLETION

(Required document for engineering project)

PROJECT TITLE: Building 42	
CONTRACTOR NAME: MARTIN ENVIRONMENTAL SERVICE, INC (MES, INC)	MOUND PROJECT #:

I Donald C MARTIN certify:

1. I have personally inspected, monitored and supervised the abatement work of Penthouse & 1st Floor (Specify Work Area or Building) which took place from 5-1-01 (Date Work Began) to 5-2-01 (Date Work Ended)
2. that throughout the work all applicable regulations and Mound project specifications were observed.
3. that any person who entered this work area was protected with the appropriate clothing and respiratory systems and that they followed the proper entry and exit procedures and the proper operating procedures throughout the work.
4. that all employees of the contractor engaged in this work were trained in respiratory protection, experienced with abatement work, had proper medical records, and were not exposed at any time during the project to asbestos without the benefit of adequate respirator protection.
5. that I performed and supervised all inspection and testing specified and required by applicable regulations and Mound project specifications.
6. that the condition outside the work area was always safe and Mound personnel were not exposed to asbestos fiber concentrations above the OSHA permissible exposure limit or excursion limit.
7. that the negative pressure air systems were installed and operated properly, and they maintained the required negative pressure in the work area throughout the project.

Donald C Martin	
(Contractor's Supervisor Printed Name)	*(Consultant's Printed Name)*
Donald C Martin	
(Supervisor's Signature and Date)	*(Consultant's Signature and Date)*

ML-8491D (11-97)

I 4 of 4

Appendix J

Lead Information

From: Christopher Ahlquist
To: Darnell, Val
Date: 5/10/02 4:47PM
Subject: Building 42

Val -

Concerning the disposition of Building 42 prior to demolition, the following information is provided for incorporation into the Building Data Package.

Asbestos
A complete survey for asbestos-containing materials located within and on the building was accomplished by Mr. Andrew Petty (a Certified Industrial Hygienist with BWXTO) in December of 2000. Mr. Petty was an Ohio Department of Health Certified Asbestos Hazard Evaluation Specialist as required by State regulation. The purpose of this survey was to identify all asbestos-containing material regulated by the EPA which would require removal prior to demolition of the building.

With the exception of the explosion proof light fixture gaskets located in Building 42, all regulated asbestos-containing materials in/on the building were removed by Environmental Risk Management, Inc. of Cincinnati (an Ohio Department of Health Licensed Asbestos Abatement Contractor) on May 2 of 2001. These materials were delivered to the Mound Waste Management Project for proper disposal in an EPA-approved landfill. Mr. Petty performed surveillance and oversight of this contractor's removal efforts and verified that all of the specified asbestos had been adequately removed.

The referenced light fixture gaskets were removed with the fixtures intact by asbestos worker trained Mound personnel in March of 2002 for disposal by the Mound Waste Management Project.

With the exception of EPA Category I asphalt-based nonfriable roofing materials, all asbestos-containing materials within and on Building 42 have been properly removed. This roofing material (2,800 square feet) is assumed to contain asbestos and is permitted to be left in place during demolition provided it remains nonfriable up to the time of conventional demolition by use of heavy-duty equipment. The quantity of the roofing material to remain in place during demolition must be noted on the Notification of Demolition to be issued to the EPA.

Lead
No lead surveys or sampling data could be found pertaining to the paint coatings in and on Building 42. Paint coatings which have not been specifically tested are assumed to contain lead. Excepting some atypical aspect of demolition which would involve disturbance of paint by personnel in close contact (i.e., torch-cutting, scraping, sanding, etc.), no special effort is made to test, evaluate or remove lead paint from a structure. The Mound Waste Management Project has given guidance that lead paint does not present a hazardous waste upon demolition of a building.

Mold
The Building 42 HVAC system has ben inactive for many years and roof leaks have developed during that time. There is visual evidence of mold on many of the internal walls. Supervisors with Safe Shutdown and/or demolition activities planned for the building have been informed that workers with known sensitivities to mold may have to use PPE to prevent skin contact or inhalation of mold spores. No effort to remove or mitigate mold is planned.

I hope that this information proves useful. Let me know if I can be of further assistance.

Respectfully,

Chris Ahlquist

Industrial Hygienist

SMPP/TFV Project Team

CC: Hanson, W. Doug

Appendix K

Chemical Information

Chemicals Removed Via Waste Management in July 1995

G 42	ALUMINUM OXIDE	NONE	2.3
42	ALUMINUM POWDER	D003	0.5
42	ALUMINUM STEARATE	NONE	1.5
G 42	AMMONIUM HYDROXIDE CLEANING SOLUTION	D002	3.1
G 42	AMMONIUM HYDROXIDE, PYRRIDINE	D002 D038 F005	0.2
G 42	AMMONIUM SULFATE	NONE	1.2
G 42	AMYL PHTHALATE	NONE	0.1
G 42	AQUO AMINO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
G 42	AROCHLOR CLEANUP	PCB2	0.5
G 42	ASBESTOS CEMENT PASTE	NONE	4.2
G 42	ASBESTOS CEMENT POWDER	NONE	4.1
G 42	AZIDO PENTAMINE COBALT (III) BROMIDE, OIL WASTE	D001	0.0
G 42	AZO BENZENE	NONE	0.2
G 42	BENZENILIDE	NONE	0.1
G 42	BENZIL	NONE	0.1
G 42	BENZOIC ACID	NONE	0.3
G 42	BENZOIC ACID	NONE	1.2
	BENZOIC ACID	NONE	2.8
	BETA NAPHTHOL	NONE	0.1
	BORON POWDER	D001 D003	15.7
42	BUTOXYETHYL PHTHALATE	NONE	0.1
42	BUTYL STEARATE	NONE	0.1
42	CALCIUM CHLORIDE	NONE	2.5
42	CALCIUM METASILCATE	NONE	0.3
42	CALCIUM METASILICATE	NONE	0.3

Removed July-Aug 95

K 106 3

	CALCIUM NITRATE	D001	1.2
42	CALCIUM PHOSPHATE	NONE	0.1
42	CALCIUM SILICIDE	D001 D003	20.1
42	CALCIUM STEARATE	NONE	0.2
2	CALCIUM STEARATE	NONE	0.2
	CALCIUM STEARATE	NONE	0.2
BLDG 42	CALCIUM SULFATE	NONE	2.5
BLDG 42	CALCIUM SULFATE	NONE	16.5
BLDG 42	CALCIUM SULFATE	NONE	3.5
BLDG 42	CAPRIC CHLORIDE	NONE	0.5
BLDG 42	CARBOAMINO TETRA AZOLATO PENTAMINE COBALT (III) BROMIDE, OIL WASTE	D001	0.0
BLDG 42	CARBON BLACK	NONE	0.1
BLDG 42	CARBOWAX	NONE	0.4
BLDG 42	CARBOWAX	NONE	0.1
BLDG 42	CARBOX (5-) AMINO TETRAZOLE, OIL WASTE	D001	0.0
BLDG 42	CELLULOSE ACETATE	NONE	0.2
BLDG 42	CERIC AMMONIUM NITRATE	D001	0.5
BLDG 42	COPPER CYANIDE, SODIUM CHLORIDE	NONE	12.4
BLDG 42	COPPER CYANIDE, WATER	F007 F009	2.4
BLDG 42	COPPER PHTHALOCYANINE	NONE	0.1
BLDG 42	COPPER PHTHALOCYANINE	NONE	0.9
BLDG 42	COPPER STEARATE	NONE	0.9
BLDG 42	CUPRIC OXIDE	NONE	1.1
BLDG 42	CUPROUS CHLORIDE	NONE	0.7
BLDG 42	CYANO (5-) TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
42	CYANO (5-) TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
[illegible]	DIALLYL PHTHALATE	NONE	2.1
BLDG 42	DIALLYL PHTHALLATE	NONE	0.3
BLDG 42	DICYANODIAMIDE	D003	0.1
BLDG 42	DIMETHYL FORMAMIDE	D001	3.1
BLDG 42	DINITRO (3,5-) PHENYL TETRAZOLE, OIL WASTE	D001	0.0
BLDG 42	DINITRO (3,5-) PHEYL TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
BLDG 42	DINITRO (3,5-) TETRA AZOLATO PENTAMINE COBALT (III) PERCHLORATE, OIL WASTE	D001	0.0
BLDG 42	DINITROPHENYL HYDRAZINE (2,4-)	NONE	0.2
BLDG 42	DINONYL PHTHALATE	NONE	0.2
BLDG 42	DIPENTA ERYTHRITOL	NONE	1.9
BLDG 42	DIPHENYL SILANE DIOL	D003	0.3
BLDG 42	DIPSODIL	NONE	0.8
BLDG 42	EPON 828	NONE	0.3
BLDG 42	EPON 828	NONE	0.1
BLDG 42	EPON 828, VERSAMID 140	NONE	0.3
BLDG 42	ETHYL ETHER	D001 D003	1.4
BLDG 42	ETHYLENE CHLORIDE	D001 D028	3.7
[illegible] 42	EXPLOSIVE CONTACT DEBRIS WITH TITANIUM SUBHYDRIDE, POTASSIUM PERCHLORATE	NONE	22.5

K2063

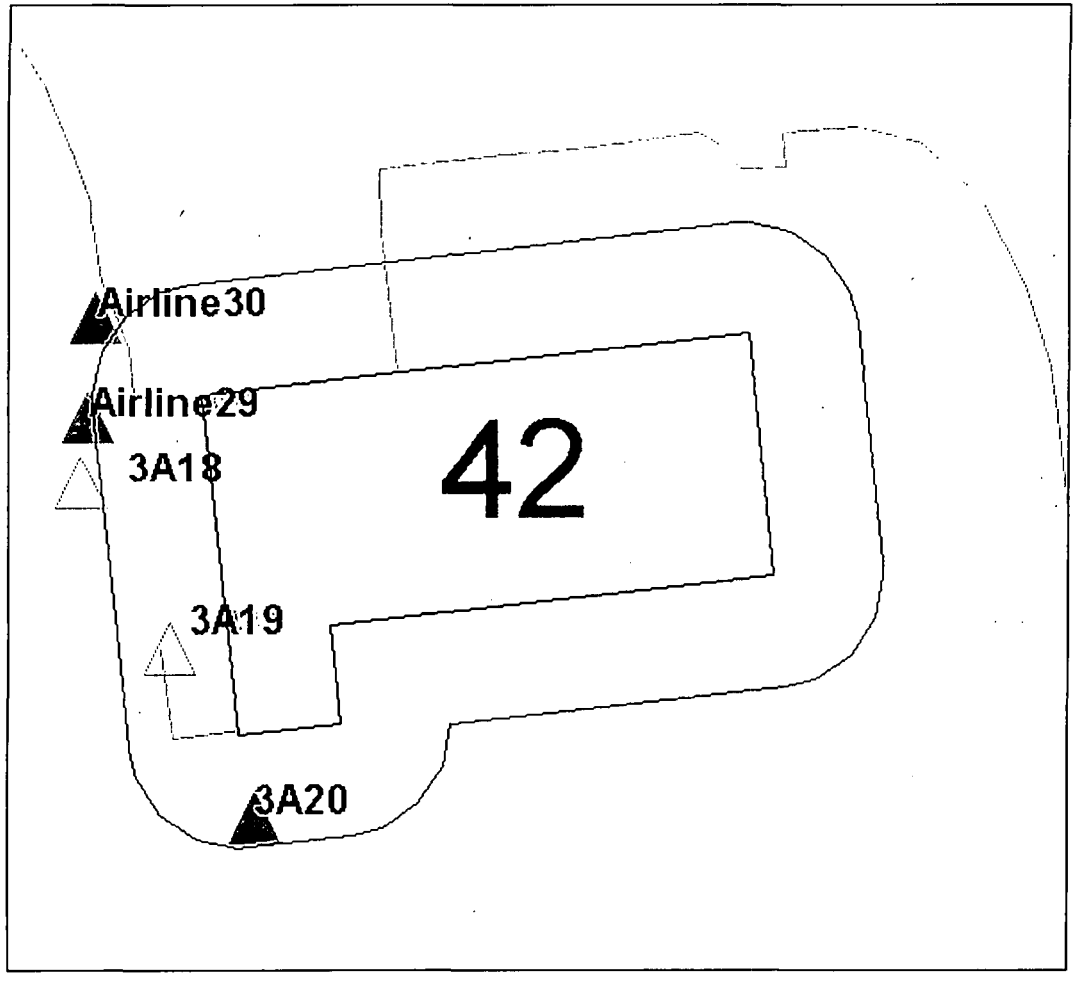
	EXPLOSIVE CONTACT DEBRIS WITH TITANIUM SUBHYDRIDE, POTASSIUM PERCHLORATE	NONE	5.0
42	EXPLOSIVE CONTACT WIPES, DEBRIS WITH TITANIUM SUBHYDRIDE, POTASSIUM PERCHLORATE	NONE	2.2
	FERROCENE	NONE	0.6
42	FLUORESCEINE	NONE	0.2
42	FLUORINERT FC-70	NONE	0.1
42	FORMALDEHYDE SOLUTION	D001	1.5
42	FURFURAL ACETATE	NONE	0.2
42	GOLD CHLORIDE	NONE	0.1
42	GOLD CYANIDE	D003	0.1
42	GOLD CYANIDE, SODIUM CHLORIDE	NONE	5.8
42	GOLD POTASSIUM CYANIDE	D003	0.1
42	GOLD SULFIDE	D003	0.1
42	GRAPHITE POWDER	NONE	0.3
42	GREASE	NONE	0.2
42	GROUND GLASS	NONE	1.9
42	HAFNIUM HYDRIDE, NITROCELLULOSE, OIL WASTE	D001	0.0
42	HAFNIUM OXIDE, OIL WASTE	D001	0.0
42	HAFNIUM OXYCHLORIDE, OIL WASTE	D001	0.0
42	HAFNIUM POWDER, OIL (FORMERLY LP91-1520)	D001 D003	0.5
42	HALTHANE RESIN 88	NONE	0.5
42	HEXANE	D001	2.4
42	HYDROCHLORIC ACID	D002	2.7
	INDOLE	NONE	0.2
	INSULCAST	D001	1.1
	IODINE	NONE	0.4
42	IRON POWDER	D003	22.2
42	JAGUAR C13	NONE	0.1
42	LAURYL ACRYLATE	NONE	0.3
42	LEAD OXIDE	D008	1.3
42	LEAD PHTHALOCYANINE	D008	0.1
42	LINDANE (O)	D013	0.4
42	LITHIUM CHLORIDE	NONE	0.8
42	MAGNESIUM METAL	D003	0.8
42	MAGNESIUM PHTHALOCYANINE	NONE	0.3
42	MAGNESIUM PHTHALOCYANINE	NONE	0.1
42	MAGNESIUM STEARATE	NONE	0.9
42	MANGANESE DIOXIDE	D001	0.1
42	MERCURIC CHLORIDE	D009	0.2
42	MERCURY- METAL	D009 U151	1.6
42	METHANOL, ETHYLENE GLYCOL WASTE	D001 F003	5.0
42	METHANOL, TRIBOMOPHENOL (2,4,6-), CHLOROPHENOL (2-)	D001 U048	0.6
42	METHYL ISOBUTYL KETONE	D001 F003	2.7
42	METHYL METHACRYLATE	U162	0.2
42	METHYL RED	NONE	0.3
42	METHYLENE CHLORIDE	D001 F002	12.3
42	MICRO CLEANER	D002	2.3
	NICKEL PHTHALOCYANINE	NONE	0.3
	NICKEL POWDER	NONE	1.4

K 306 3

Appendix L

Soil Sampling, Vicinity

Building 42 Sample Locations within 15 feet



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

N
W E
S

25 0 25 50 75 100 Feet

04/08/02

L 1 of 12

Building 42 Detects

Location_n	Sample_id	Collection_dat	Value_name	Measured_	Value_u	Detectio	Chem	Start	End_	Lab	Dat	Project_cod	Media	Comments
3A20	3A20	19940720	Plutonium-238	31.0000	PCI/G		RAD	0.0	1.5			2680	Soil	1 2
Airline29	AIRLINE29	20010628	Radium-226	1.1800	PCI/G	0.6200	RAD	0.0	0.0			AIRLINE01	Soil	1
Airline30	AIRLINE30	20010628	Radium-226	0.7400	PCI/G	0.7000	RAD	0.0	0.0			AIRLINE01	Soil	1
Airline29	AIRLINE29	20010628	Thorium-232	0.4600	PCI/G	0.1500	RAD	0.0	0.0			AIRLINE01	Soil	1
Airline30	AIRLINE30	20010628	Thorium-232	0.4200	PCI/G	0.1500	RAD	0.0	0.0			AIRLINE01	Soil	1
*Comments														
1	Exceeds the 10-6 Risk-Based Guide Value													
2	Exceeds the OU9 Soil Background Value													
3	Exceeds screening level													
4	Exceeds MCL													
5	Exceeds the Guide Value based on the hazard index													

L 2 of 12

Building 42 Non-Detects

Location_	Sample_id	Collection_	Value_name	Measured_value	Value_	Detection_limit	Chem_	Start_	End_	Lab	Dat	Project_code	Media
Airline30	AIRLINE30	20010628	Actinium-227	0.2700	PCI/G	0.2700	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline29	AIRLINE29	20010628	Actinium-227	0.2200	PCI/G	0.2200	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline29	AIRLINE29	20010628	Americium-241	0.0600	PCI/G	0.0600	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline30	AIRLINE30	20010628	Americium-241	0.0500	PCI/G	0.0500	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline30	AIRLINE30	20010628	Cesium-137	0.0600	PCI/G	0.0600	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline29	AIRLINE29	20010628	Cesium-137	0.0400	PCI/G	0.0400	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline30	AIRLINE30	20010628	Cobalt-60	0.0700	PCI/G	0.0700	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline29	AIRLINE29	20010628	Cobalt-60	0.0500	PCI/G	0.0500	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline30	AIRLINE30	20010628	Lead-210	0.5800	PCI/G	0.5800	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline29	AIRLINE29	20010628	Lead-210	0.4900	PCI/G	0.4900	RAD	0.00	0.00	U		AIRLINE01	Soil
3A19	3A19	19940720	Plutonium-238	19.0000	PCI/G	19.0000	RAD	0.00	1.50		U	2680	Soil
Airline29	AIRLINE29	20010628	Plutonium-238	11.7500	PCI/G	11.7500	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline30	AIRLINE30	20010628	Plutonium-238	11.0100	PCI/G	11.0100	RAD	0.00	0.00	U		AIRLINE01	Soil
3A18	3A18	19940817	Plutonium-238	5.0000	PCI/G	5.0000	RAD	0.00	1.50		U	2680	Soil
Airline30	AIRLINE30	20010628	Thorium-230	5.8200	PCI/G	5.8200	RAD	0.00	0.00	U		AIRLINE01	Soil
Airline29	AIRLINE29	20010628	Thorium-230	4.9700	PCI/G	4.9700	RAD	0.00	0.00	U		AIRLINE01	Soil
3A19	3A19	19940720	Thorium-232	1.3000	PCI/G	1.3000	RAD	0.00	1.50		U	2680	Soil
3A20	3A20	19940720	Thorium-232	0.8000	PCI/G	0.8000	RAD	0.00	1.50		U	2680	Soil
3A18	3A18	19940817	Thorium-232	0.7000	PCI/G	0.7000	RAD	0.00	1.50		U	2680	Soil
3A19	3A19	19940720	Total Aromatic Hydrocarbons	1550019.0000	IC	1550019.0000	GENE	0.00	1.50		U	2680	Soil
3A20	3A20	19940720	Total Aromatic Hydrocarbons	316726.0000	IC	316726.0000	GENE	0.00	1.50		U	2680	Soil
3A18	3A18	19940817	Total Aromatic Hydrocarbons	17158.0000	IC	17158.0000	GENE	0.00	1.50		U	2680	Soil
3A19	3A19	19940720	Total C5 TO C11 Petroleum Hydroc	3315453.0000	IC	3315453.0000	GENE	0.00	1.50		U	2680	Soil
3A20	3A20	19940720	Total C5 TO C11 Petroleum Hydroc	706951.0000	IC	706951.0000	GENE	0.00	1.50		U	2680	Soil
3A18	3A18	19940817	Total C5 TO C11 Petroleum Hydroc	20047.0000	IC	20047.0000	GENE	0.00	1.50		U	2680	Soil
3A18	3A18	19940817	Total Halogenated Hydrocarbons	62019.0000	IC	62019.0000	GENE	0.00	1.50		U	2680	Soil
3A19	3A19	19940720	Total Halogenated Hydrocarbons	8510.0000	IC	8510.0000	GENE	0.00	1.50		U	2680	Soil
3A19	3A19	19940720	Total Semivolatile Hydrocarbons	19250.0000	IC	19250.0000	GENE	0.00	1.50		U	2680	Soil

LABORATORY DATA QUALIFIERS (LABQUAL)

The following qualifiers will be applied to the organic analysis results by the laboratory in accordance with CLP SOW direction:

ORGANICS

U	Indicates compound was analyzed for but not detected. The associated sample quantitation limit will be the CRQL, corrected for dilution and for percent moisture.
J	Indicates an estimated value. This flag is used under the following circumstances: 1) when estimating a concentration for tentatively identified compounds (TICs) assuming a 1:1 response, 2) when the qualitative data indicated the presence of a compound that meets the volatile, semivolatile, and pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero.
N	Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where identification is based on a mass spectral library search.
P	Used for pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns.
C	Applies to pesticide results where the identification has been confirmed by GC/MS.
B	Used when the analyte is found in the associated blank as well as in the sample. This flag must be used for a TIC as well as for a positively identified target compound.
E	Identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.
D	Identifies all compounds identified in an analysis at a secondary dilution factor.
A	Indicates that a TIC is a suspected aldol-condensation product.

INORGANICS

B	Indicates that the reported value was obtained from a reading that was less than the CRDL but greater than or equal to the Instrument Detection Limit (IDL).
U	Indicates that the analyte was analyzed for but not detected.
E	Indicates the reported value is estimated because of the presence of interferences.
M	Duplicate injection precision was not met.
N	Spiked sample recovery not within control limits.
S	Reported value was determined by the Method of Standard Additions (MSA).
W	Post-digestion spike for Furnace AA analysis is out of control limits, while sample absorbency is less than 50% of spike absorbency.
*	Duplicate analysis not within control limits.
+	Correlation coefficient for the MSA is less than 0.995.

DATA QUALIFIER CODES (DATAQUAL)

ORGANICS AND INORGANICS

U	The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.
J	The associated numerical value is an estimated quantity.
R	The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.
N	Presumptive evidence of the presence of the material.
NJ	Presumptive evidence of the presence of the material at an estimated quantity.
UJ	The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

SUB-QUALIFIER CODES

ORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
K	Qualified due to surrogate recovery
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to internal standard
N	Tentative identification (only for TICs)
P	Pesticide/PCB results have >25 percent difference on two different columns
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)

INORGANICS

D	Duplicates
B	Qualified due to blank
C	Qualified due to calibration
H	Holding time exceeded
L	Qualified due to Laboratory Control Sample
S	Qualified due to matrix spike recovery
I	Qualified due to interference
+	Positive bias (added after subqualifier)
-	Negative bias (added after subqualifier)
Examples of final qualification might be J-C, UJ-S(+), UJ-BC(-), etc.	

The subqualifiers have been included to clarify any reports you may use. The subqualifiers have been captured when it was included in the electronic data submitted by the contractor. Most of the data in MEIMS does not include them.

The above data was extracted from the OU9 Site Wide Quality Assurance Project Plan, pages 9-16 and Appendix H page 3-1. It was updated from the Methods Compendium.

1	107-06-2	1,2-Dichloroethane	3.20E+00	MG/KG
1	118-96-7	2,4,6-Trinitrotoluene	1.91E+02	MG/KG
1	72-55-9	4,4'-DDE	9.00E+00	MG/KG
1	50-29-3	4,4'-DDT	9.00E+00	MG/KG
1	309-00-2	Aldrin	1.80E-01	MG/KG
1	5103-71-9	Alpha Chlordane	8.50E+00	MG/KG
1	12672-29-6	Aroclor-1248	3.85E-01	MG/KG
1	11096-82-5	Aroclor-1260	3.85E-01	MG/KG
1	7440-38-2	Arsenic	1.20E+03	MG/KG
1	71-43-2	Benzene	8.90E+00	MG/KG
1	56-55-3	Benzo(a)anthracene	4.10E+00	MG/KG
1	50-32-8	Benzo(a)pyrene	4.10E-01	MG/KG
1	205-99-2	Benzo(b)fluoranthene	4.10E+00	MG/KG
1	207-08-9	Benzo(k)fluoranthene	4.10E+01	MG/KG
1	7440-41-7	Beryllium	7.00E-01	MG/KG
1	319-85-7	Beta-BHC	1.65E+00	MG/KG
1	117-81-7	Bis(2-ethylhexyl)phthalate	2.15E+02	MG/KG
1	75-27-4	Bromodichloromethane	4.80E+01	MG/KG
1	75-25-2	Bromoform	3.75E+02	MG/KG
1	7440-43-9	Cadmium	1.00E+04	MG/KG
1	56-23-5	Carbon Tetrachloride	4.60E+00	MG/KG
1	67-66-3	Chloroform	3.10E+00	MG/KG
1	7440-47-3	Chromium	1.50E+03	MG/KG
1	218-01-9	Chrysene	4.10E+02	MG/KG
1	53-70-3	Dibenz(a,h)anthracene	4.10E-01	MG/KG
1	124-48-1	Dibromochloromethane	3.55E+01	MG/KG
1	75-09-2	Dichloromethane	3.95E+02	MG/KG
1	60-57-1	Dieldrin	1.85E-01	MG/KG
1	5103-74-2	Gamma Chlordane	8.50E+00	MG/KG
1	58-89-9	Gamma-BHC (Lindane)	2.30E+00	MG/KG
1	76-44-8	Heptachlor	0.66	MG/KG
1	1024-57-3	Heptachlor Epoxide	0.33	MG/KG
1	193-39-5	Indeno(1,2,3-cd)pyrene	4.10E+00	MG/KG
1	78-59-1	Isophorone	3.15E+03	MG/KG
1	86-30-6	N-Nitrosodiphenylamine	6.00E+02	MG/KG
1	87-86-5	Pentachlorophenol	2.50E+01	MG/KG
1	121-82-4	RDX	2.70E+01	MG/KG
1	79-01-6	Trichloroethene	4.10E+01	MG/KG
1	7440-41-7	1,1,1,2-Tetrachloroethane	1.10E-02	MG/L
1	7440-38-2	1,1,2,2-Tetrachloroethane	1.40E-03	MG/L
1	7440-34-8	Actinium-227	4.50E-01	PCI/G
1	14596-10-2	Americium-241	6.30E+00	PCI/G
1	13982-38-2	Bismuth-207	1.60E-01	PCI/G
1	10045-97-3	Cesium-137	3.40E-01	PCI/G
1	10198-40-0	Cobalt-60	7.00E-02	PCI/G
1	14255-04-0	Lead-210	6.20E-01	PCI/G
1	13981-16-3	Plutonium-238	6.10E+00	PCI/G
1	15117-48-3	Plutonium-239	5.50E+00	PCI/G

L 6 of 12

1	PU239/240	Plutonium-240		5.50E+00	PCI/G
1	13966-00-2	Potassium-40		1.42E+00	PCI/G
1	14331-85-2	Protactinium-231		3.90E-01	PCI/G
1	13982-63-3	Radium-226		9.00E-02	PCI/G
1	10098-97-2	Strontium-90		3.00E+00	PCI/G
1	14274-82-9	Thorium-228		1.40E-01	PCI/G
1	14269-63-7	Thorium-230		9.00E-02	PCI/G
1	7440-29-1	Thorium-232		7.00E-02	PCI/G
1	10028-17-8	Tritium		2.35E+04	PCI/G
1	13968-55-3	Uranium-233		9.68E-01	PCI/G
1	13966-29-5	Uranium-234		1.05E+01	PCI/G
1	15117-96-1	Uranium-235		1.60E+00	PCI/G
1	24678-82-8	Uranium-238		1.00E-01	PCI/G
1	14596-10-2	Americium-241		4.90E-01	PCI/L
1	14331-79-4	Bismuth-210		2.20E+01	PCI/L
1	15262-20-1	Radium-228		3.30E-01	PCI/L
1	13967-73-2	Strontium-85		1.10E+02	PCI/L
1	10098-97-2	Strontium-90		3.90E+00	PCI/L
1	15623-47-9	Thorium-227		4.00E+00	PCI/L
1	14274-82-9	Thorium-228		6.90E-01	PCI/L
1	14269-63-7	Thorium-230		1.20E-01	PCI/L
1	7440-29-1	Thorium-232		3.10E-01	PCI/L
1	24678-82-8	Uranium-238		1.10E-01	PCI/L
2	72-54-8	4,4'-DDD		4.2	MG/KG
2	72-55-9	4,4'-DDE		4.3	MG/KG
2	50-29-3	4,4'-DDT		13	MG/KG
2	309-00-2	Aldrin	ND		MG/KG
2	5103-71-9	Alpha Chlordane	ND		MG/KG
2	319-84-6	Alpha-BHC	ND		MG/KG
2	7429-90-5	Aluminum		19000	MG/KG
2	14596-10-2	Americium-241	ND		MG/KG
2	12672-29-6	Aroclor-1248	ND		MG/KG
2	11097-69-1	Aroclor-1254		58	MG/KG
2	11096-82-5	Aroclor-1260	ND		MG/KG
2	7440-38-2	Arsenic		8.6	MG/KG
2	7440-39-3	Barium		180	MG/KG
2	7440-41-7	Beryllium		1.3	MG/KG
2	319-85-7	Beta-BHC	ND		MG/KG
2	7440-69-9	Bismuth	ND		MG/KG
2	13982-38-2	Bismuth-207	ND		MG/KG
2	13982-38-2	Bismuth-207	ND		MG/KG
2	14331-79-4	Bismuth-210m	ND		MG/KG
2	7440-43-9	Cadmium		2.1	MG/KG
2	7440-70-2	Calcium		310000	MG/KG
2	7440-47-3	Chromium		20	MG/KG
2	7440-48-4	Cobalt		19	MG/KG
2	7440-50-8	Copper		26	MG/KG
2	57-12-5	Cyanide	ND		MG/KG

L7 of 12

2	60-57-1	Dieldrin	ND	MG/KG
2	959-98-8	Endosulfan I	ND	MG/KG
2	1031-07-8	Endosulfan Sulfate	ND	MG/KG
2	72-20-8	Endrin	ND	MG/KG
2	7421-93-4	Endrin Aldehyde	ND	MG/KG
2	53494-70-5	Endrin Ketone	ND	MG/KG
2	5103-74-2	Gamma Chlordane	ND	MG/KG
2	58-89-9	Gamma-BHC (Lindane)	ND	MG/KG
2	76-44-8	Heptachlor	ND	MG/KG
2	1024-57-3	Heptachlor Epoxide	ND	MG/KG
2	77-47-4	Hexachlorocyclopentadiene	ND	MG/KG
2	7439-89-6	Iron	35000	MG/KG
2	7439-92-1	Lead	48	MG/KG
2	7439-93-2	Lithium	26	MG/KG
2	7439-95-4	Magnesium	40000	MG/KG
2	7439-96-5	Manganese	1400	MG/KG
2	7439-97-6	Mercury	ND	MG/KG
2	72-43-5	Methoxychlor	30	MG/KG
2	7439-98-7	Molybdenum	27	MG/KG
2	7440-02-0	Nickel	32	MG/KG
2	7440-09-7	Potassium	1900	MG/KG
2	7782-49-2	Selenium	ND	MG/KG
2	7440-22-4	Silver	1.7	MG/KG
2	7440-23-5	Sodium	240	MG/KG
2	7440-28-0	Thallium	0.46	MG/KG
2	7440-31-5	Tin	20	MG/KG
2	7440-62-2	Vanadium	25	MG/KG
2	7440-66-6	Zinc	140	MG/KG
2	7440-34-8	Actinium-227	1.10E-01	PCI/G
2	10045-97-3	Cesium-137	0.42	PCI/G
2	14255-04-0	Lead-210	1.20E+00	PCI/G
2	13981-16-3	Plutonium-238	0.13	PCI/G
2	15117-48-3	Plutonium-239	1.80E-01	PCI/G
2	PU239/240	Plutonium-240	1.80E-01	PCI/G
2	13966-00-2	Potassium-40	37	PCI/G
2	14331-85-2	Protactinium-231	1.10E-01	PCI/G
2	13982-63-3	Radium-226	2	PCI/G
2	10098-97-2	Strontium-90	0.72	PCI/G
2	14274-82-9	Thorium-228	1.5	PCI/G
2	14269-63-7	Thorium-230	1.9	PCI/G
2	7440-29-1	Thorium-232	1.4	PCI/G
2	10028-17-8	Tritium	1.6	PCI/G
2	13966-29-5	Uranium-234	1.1	PCI/G
2	15117-96-1	Uranium-235	0.11	PCI/G
2	24678-82-8	Uranium-238	1.2	PCI/G
3	7439-92-1	Lead	400	MG/KG
3	7440-34-8	Actinium-227	5.60E-01	PCI/G
3	14596-10-2	Americium-241	6.3	PCI/G

L8 of 12

3	10045-97-3	Cesium-137	0.76	PCI/G
3	10198-40-0	Cobalt-60	7.00E-02	PCI/G
3	14255-04-0	Lead-210	1.80E+00	PCI/G
3	13981-16-3	Plutonium-238	55	PCI/G
3	14331-85-2	Protactinium-231	4.00E+00	PCI/G
3	13982-63-3	Radium-226	2.1	PCI/G
3	14274-82-9	Thorium-228	3	PCI/G
3	14269-63-7	Thorium-230	3	PCI/G
3	7440-29-1	Thorium-232	1.47	PCI/G
3	15117-96-1	Uranium-235	1.7	PCI/G
3	24678-82-8	Uranium-238	1.3	PCI/G
5	71-55-6	1,1,1-Trichloroethane	0.2	MG/L
5	79-00-5	1,1,2-Trichloroethane	0.005	MG/L
5	75-35-4	1,1-Dichloroethene	0.007	MG/L
5	120-82-1	1,2,4-Trichlorobenzene	0.07	MG/L
5	156-59-2	1,2-cis-Dichloroethene	0.07	MG/L
5	106-93-4	1,2-Dibromoethane	0.00005	MG/L
5	95-50-1	1,2-Dichlorobenzene	0.6	MG/L
5	107-06-2	1,2-Dichloroethane	0.005	MG/L
5	78-87-5	1,2-Dichloropropane	0.005	MG/L
5	156-60-5	1,2-trans-Dichloroethene	0.01	MG/L
5	106-46-7	1,4-Dichlorobenzene	0.075	MG/L
5	95-95-4	2,4,5-Trichlorophenol	0.05	MG/L
5	94-75-7	2,4-D	0.07	MG/L
5	7440-36-0	Antimony	0.0006	MG/L
5	7440-38-2	Arsenic	0.05	MG/L
5	7440-39-3	Barium	2	MG/L
5	71-43-2	Benzene	0.005	MG/L
5	50-32-8	Benzo(a)pyrene	0.002	MG/L
5	7440-41-7	Beryllium	0.004	MG/L
5	117-81-7	bis(2-ethylhexyl)phthalate	0.006	MG/L
5	75-27-4	Bromodichloromethane	0.008	MG/L
5	75-25-2	Bromoform	0.008	MG/L
5	7440-43-9	Cadmium	0.005	MG/L
5	56-23-5	Carbon Tetrachloride	0.005	MG/L
5	57-74-9	Chlordane	0.002	MG/L
5	108-90-7	Chlorobenzene	0.1	MG/L
5	67-66-3	Chloroform	0.008	MG/L
5	7440-47-3	Chromium	0.1	MG/L
5	7440-50-8	Copper	1.3	MG/L
5	57-12-5	Cyanide	0.2	MG/L
5	96-12-8	Dibromochloropropane	0.0002	MG/L
5	75-09-2	Dichloromethane (Methylene Chloride)	0.005	MG/L
5	88-85-7	Dinoseb	0.007	MG/L
5	1746-01-6	Dioxin	0.00000003	MG/L
5	72-20-8	Endrin	0.002	MG/L
5	100-41-4	Ethylbenzene	0.07	MG/L
5	16984-48-8	Flouride	4	MG/L

L 9 of 12

5	58-89-9	Gamma-BHC (Lindane)	0.0002	MG/L
5	76-44-8	Heptachlor	0.0004	MG/L
5	1024-57-3	Heptachlor Epoxide	0.0002	MG/L
5	118-74-1	Hexachlorobenzene	0.001	MG/L
5	77-47-4	Hexachlorocyclopentadiene	0.05	MG/L
5	7439-92-1	Lead	0.015	MG/L
5	7439-97-6	Mercury	0.002	MG/L
5	72-43-5	Methoxychlor	0.04	MG/L
5	7440-02-0	Nickel	0.1	MG/L
5	NO3	Nitrate	10	MG/L
5	14797-65-0	Nitrite	1	MG/L
5	87-86-5	Pentachlorophenol	0.001	MG/L
5	7782-49-2	Selenium	0.05	MG/L
5	100-42-5	Styrene	0.1	MG/L
5	127-18-4	Tetrachloroethene	0.005	MG/L
5	7440-28-0	Thallium	0.002	MG/L
5	108-88-3	Toluene	1	MG/L
5	8001-35-2	Toxaphene	0.003	MG/L
5	79-01-6	Trichloroethene	0.005	MG/L
5	75-01-4	Vinyl Chloride	0.002	MG/L
5	1330-20-7	Xylenes, Total	10	MG/L
5	7440-34-8	Actinium-227	0.4	PCI/L
5	14596-10-2	Americium-241	1.2	PCI/L
5	13982-38-2	Bismuth-207	1200	PCI/L
5	10045-97-3	Cesium-137	120	PCI/L
5	10198-40-0	Cobalt-60	400	PCI/L
5	13981-16-3	Plutonium-238	1.6	PCI/L
5	13982-63-3	Radium-226	4	PCI/L
5	10098-97-2	Strontium-90	40	PCI/L
5	14274-82-9	Thorium-228	16	PCI/L
5	14269-63-7	Thorium-230	12	PCI/L
5	7440-29-1	Thorium-232	2	PCI/L
5	10028-17-8	Tritium	20000	PCI/L
5	13968-55-3	Uranium-233	20	PCI/L
5	13966-29-5	Uranium-234	20	PCI/L
5	15117-96-1	Uranium-235	24	PCI/L
5	24678-82-8	Uranium-238	24	PCI/L
6	76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	7.00E+04	MG/KG
6	75-34-3	1,1-Dichloroethane	7.80E+00	MG/KG
6	120-82-1	1,2,4-Trichlorobenzene	2.04E+04	MG/KG
6	156-59-2	1,2-cis-Dichloroethene	2.13E+03	MG/KG
6	156-60-5	1,2-trans-Dichloroethene	4.30E+03	MG/KG
6	99-65-0	1,3-Dinitrobenzene	2.00E+02	MG/KG
6	118-96-7	2,4,6-Trinitrotoluene	1.00E+03	MG/KG
6	78-93-3	2-Butanone	9.30E+03	MG/KG
6	95-57-8	2-Chlorophenol	1.06E+03	MG/KG
6	108-10-1	2-Methyl-4-pentanone	7.00E+02	MG/KG
6	50-29-3	4,4'-DDT	1.10E+02	MG/KG

L10 of 12

6	106-44-5	4-Methylphenol	1.10E+03	MG/KG
6	67-64-1	Acetone	2.10E+04	MG/KG
6	309-00-2	Aldrin	6.4	MG/KG
6	5103-71-9	Alpha Chlordane	110	MG/KG
6	7429-90-5	Aluminum	210000	MG/KG
6	120-12-7	Anthracene	6.40E+04	MG/KG
6	7440-36-0	Antimony	8.50E+01	MG/KG
6	11097-69-1	Aroclor-1254	4.30E+00	MG/KG
6	7440-38-2	Arsenic	6.40E+01	MG/KG
6	7440-39-3	Barium	1.50E+04	MG/KG
6	65-85-0	Benzoic Acid	8.50E+05	MG/KG
6	7440-41-7	Beryllium	1.10E+03	MG/KG
6	117-81-7	Bis(2-ethylhexyl)phthalate	4.30E+03	MG/KG
6	75-27-4	Bromodichloromethane	4.30E+03	MG/KG
6	75-25-2	Bromoform	4.30E+03	MG/KG
6	85-68-7	Butyl Benzyl Phthalate	4.30E+04	MG/KG
6	7440-43-9	Cadmium	2.10E+02	MG/KG
6	75-15-0	Carbon Disulfide	2.80E+02	MG/KG
6	56-23-5	Carbon Tetrachloride	1.50E+02	MG/KG
6	75-00-3	Chloroethane	1.60E+02	MG/KG
6	67-66-3	Chloroform	2.10E+03	MG/KG
6	7440-47-3	Chromium	1.10E+03	MG/KG
6	18540-29-9	Chromium-VI	6.39E+02	MG/KG
6	7440-50-8	Copper	7.90E+03	MG/KG
6	57-12-5	Cyanide	4.30E+03	MG/KG
6	53-70-3	Dibenz(a,h)anthracene	4.08E-02	MG/KG
6	124-48-1	Dibromochloromethane	4.30E+03	MG/KG
6	75-09-2	Dichloromethane	1.00E+03	MG/KG
6	60-57-1	Dieldrin	1.10E+01	MG/KG
6	84-74-2	Di-n-butyl Phthalate	2.10E+04	MG/KG
6	117-84-0	Di-n-octyl Phthalate	4.30E+03	MG/KG
6	959-98-8	Endosulfan I	1300	MG/KG
6	33213-65-9	Endosulfan II	1300	MG/KG
6	100-41-4	Ethylbenzene	4.80E-01	MG/KG
6	86-73-7	Flourene	8.50E+03	MG/KG
6	206-44-0	Fluoranthene	8.50E+03	MG/KG
6	5103-74-2	Gamma Chlordane	110	MG/KG
6	58-89-9	Gamma-BHC (Lindane)	64	MG/KG
6	76-44-8	Heptachlor	110	MG/KG
6	1024-57-3	Heptachlor Epoxide	2.8	MG/KG
6	110-54-3	Hexane	9.10E+01	MG/KG
6	193-39-5	Indeno(1,2,3-cd)pyrene	4.08E-01	MG/KG
6	78-59-1	Isophorone	4.30E+04	MG/KG
6	7439-96-5	Manganese	2.70E+04	MG/KG
6	7439-97-6	Mercury	6.40E+01	MG/KG
6	72-43-5	Methoxychlor	1100	MG/KG
6	7440-02-0	Nickel	4.30E+03	MG/KG
6	87-86-5	Pentachlorophenol	6.40E+03	MG/KG

L 11 of 12

6	108-95-2	Phenol	1.30E+05	MG/KG
6	129-00-0	Pyrene	6.40E+03	MG/KG
6	7782-49-2	Selenium	1100	MG/KG
6	7440-22-4	Silver	1.10E+03	MG/KG
6	127-18-4	Tetrachloroethene	2.10E+03	MG/KG
6	7440-28-0	Thallium	17	MG/KG
6	7440-31-5	Tin	130000	MG/KG
6	108-88-3	Toluene	2.50E+02	MG/KG
6	75-69-4	Trichlorofluoromethane	7.30E+02	MG/KG
6	7440-62-2	Vanadium	1.50E+03	MG/KG
6	1330-20-7	Xylenes, Total	4.30E+05	MG/KG
6	7440-66-6	Zinc	6.40E+04	MG/KG
6	7440-41-7	1,1,1,2-Tetrachloroethane	2.90E-01	MG/L
6	7440-38-2	1,1,2,2-Tetrachloroethane	2.50E-01	MG/L
6	71-55-6	1,1,1-Trichloroethane	1.80E+00	MG/L
6	76-13-1	1,1,2-Trichloro-1,2,2triflouroethane	2.50E+03	MG/L
6	7429-90-5	Aluminum	100	MG/L
6	7440-42-8	Boron	9.00E+00	MG/L
6	18540-29-9	Chromium-VI	3.00E-01	MG/L
6	7440-48-4	Cobalt	6	MG/L
6	7440-50-8	Copper	4.00E+00	MG/L
6	7439-98-7	Molybdenum	0.5	MG/L
6	7782-49-2	Selenium	0.5	MG/L
6	7440-28-0	Thallium	0.008	MG/L
6	7440-31-5	Tin	60	MG/L
6	2691-41-0	HMX	1.10E+04	UG/KG
6	121-82-4	RDX	6.40E+04	UG/KG

1 Value is 10-6 Risk-Based Guide Value
2 Value is OU9 Soil Background Value
3 Value is screening level
5 Value is MCL
6 Value is the Guide Value based on the hazard index

Note:
Edited on 10/08/01
01/29/02 Removed all color

L 12 of 12

Appendix M

Occurrence Reports

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

- (5) fire alarm problems or false alarms
- trespassers on property

Appendix N

PRS Information

Recommendation pages are not generated for PRSs that require Further Assessment (FA) or that have been unbinned. Accordingly, there are no recommendation pages included for PRSs 33, 34, 41, and 67.

MOUND PLANT
PRS 21, 22, 25, 26, 27, 29
Wastewater Transfer Structures/RCRA Closures

RECOMMENDATION:

The RCRA PRSs (21, 22, 25, 26, 27, and 29), otherwise known as wastewater transfer structures, were identified as potential release sites because of the concern that residual volatile organic compounds from past operations associated with Buildings 1 & 27 remained in/on the structures.

Available data supports that radiological contamination is within acceptable risk (10^{-5}) for industrial reuse.

A Closure Report was submitted to OEPA, which documents that the standards established for the RCRA constituents presented in the OEPA-approved Closure Plan have been met. The Core Team, therefore, now recommends No Further Assessment for PRSs 21, 22, 25, 26, 27, and 29.

CONCURRENCE:

DOE/MEMP:	Robert S. Rothman, Remedial Project Manager	10/12/00 (date)
USEPA:	Timothy J. Fischer, Remedial Project Manager	11/16/00 (date)
OEPA:	Brian K. Nickel, Project Manager	10/17/00 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from _____ to _____

☐ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

N 1 of 2

MOUND PLANT
PRS 351/352/353/357/359/360/361/362/385/386/387
SOIL CONTAMINATION

RECOMMENDATION:

PRSs 351, 352, 353, 357, 359, 360, 361, 362, 385, 386, and 387 are located in the western sector of the original Mound plant. These soil locations were identified as PRSs due to qualitative hydrocarbon detections found during the PETREX soil gas portion of the ***OU5, Non Area of Concern*** investigation. No radioactive or hazardous waste generating processes or activities are known to have occurred at these PRSs.

In 1996, the Soil Gas Confirmation sampling effort sampled the locations with the highest ion counts (confirmation sample locations 7, 11, and 18) in the western sector and discovered no contamination above the 10^{-6} risk range. PRSs 351, 352, 353, 357, 359, 360, 361, 362, 385, 386, and 387 were not sampled as part of the *Soil Gas Confirmation Sampling* but the PRSs had lower ion counts than confirmation sample locations 7, 11, and 18. This implies that these PRSs will have similar or lower health risk.

All radiological samples collected near these PRSs indicate that radionuclides are below their applicable 10^{-6} Risk Based Guideline Criteria, ALARA, regulatory, or background levels. Therefore, NO FURTHER ASSESSMENT is recommended.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath 11/20/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fischer 11/20/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel 11/26/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 12/19/96 to 1/23/97

☒ No comments were received during the comment period.

☐ Comment responses can be found on page _____ of this package.

Page R

N 2 of 2

Appendix O

Work Plan

WORK PACKAGE / PRELIMINARY HAZARD ANALYSIS

X ~ 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 42 Demolition

2. WORK PACKAGE NUMBER. *SMPP/TFV- 29942-00* | **REQUESTOR: L. Koehmstedt**

1. WORK PACKAGE SCOPE:

The purpose of this effort is to demolish Building 42, see Figure 1.0. Using heavy equipment to demolish the facility, remove and dispose of the debris, and provide temporary erosion protection with seeding and mulch. The area is scheduled for soil remediation in the near future; therefore permanent restoration is not warranted. Asbestos abatement and safe shutdown activities will be completed prior to demolition.

4. WORK PACKAGE PHASES:

1. **Establish Work Zone.**
2. **Demolish Structure.**
3. **Demolish Slab and Foundation.**
4. **Organize area for future soil remediation.**

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 #: **42**

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 42

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:

Job Foreman: _____ Date: 5/30/02 Phone: 3663

Superintendent/Constr. Mgr: _____ Date: 05/17/02 Phone: X-3866

Industrial Safety & Hygiene: _____ Date: 5/15/02 Phone: 470-0220 or X4096

Rad. Controls: _____ Date: 5/16/02 Phone: 3178

ES&C: _____ Date: 6/4/02 Phone: 4080

Waste Mgmt: _____ Date: 5/17/02 Phone: x 3822

Bldg. Mgr: _____ Date: 6/5/02 Phone: 3241

Craft Review: _____ Trade H-D Date: 5/30/02 Phone: X 3663

Craft Review: _____ Trade H P Date: 5/31/02 Phone:

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

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

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

Brief Explaination: USQ screen did not require determination, remaining safety issues covered in JSHA

USQ Trained Person: _____ Date: 6/5/02 Phone: 937-865-3867

10. AUTHORIZATION SIGNATURE:

Construction manager: _____ Date: 6/05/02 Phone: 4071

11. WORK PACKAGE CLOSURE:

Job Supervisor: _____ Date: / / Phone:

Construction 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	[BURN] Cutting of rebar will require a permit.
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	NO	N/A	
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] FHA dated 6/22/1995 & 4/9/1996 Liability assessment 6/6/96
Flammable liquids/gases	NO	N/A	[FLAM]
Forklifts, aerial lifts or material handling equipment	NO	N/A	
Grounding of electrical equipment	NO	N/A	
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 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 shut down 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 shut down activities.
Repetitive work	NO	N/A	[ERGO]
Structural Modification	NO	N/A	[STRUCT]
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	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	NO	N/A	[ASBEST] Asbestos Abatement completed.
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	NO	N/A	
Foam in Place Operations	NO	N/A	
Mercury	NO	N/A	
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*	NO	N/A	
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.
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)	NO	N/A	
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	N/A	[SURFAC] See section A industrial, building Non-rad.
	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 Point north of Building 42 near roadway. Take shelter area is in building 19. -See Appendix E. ***Be aware of threatening weather and take shelter when life-threatening storms are imminent.***

Work Package Revision Form

Work Package Revision Form			
Work Package No.SMPP/TFV-29942-00		Revision No.	
Revision Description: (attach page revisions to form)			
	Name	Signature	Date
PREPARED BY:			
Revision Preparer:			
REVIEWED BY:			
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:			
Construction manager:			

0 8 of 39 B 8 of 39

Work Package Revision History Form

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

Job Specific Work Plan
Table of Contents

1. WORK SCOPE 2
   1.1. Introduction 2
   1.2. Work package scope 2
   1.3. Site Information 2

2. DRAWINGS AND REFERENCES 3

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

4. RADIATION PROTECTION REQUIREMENTS 4

5. ENVIRONMENTAL PROTECTION REQUIREMENTS 4
   5.1 CERCLA 4
   5.2 National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 5
   5.3 Notification 5
   5.4 Restriction of emission of fugitive dust (OAC 3745-17-08) 5
   5.5 Clean Water Act & Storm Water Pollution Prevention 5
   5.6 National Historic Preservation Act (NHPA) 6
   5.7 Safe Drinking Water Act 6
   5.8 Emergency Spill Response 6

6. CHEMICAL AND WASTE MANAGEMENT REQUIREMENTS 6

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

8. PRE-DEMOLITION SEQUENCE OF WORK 7
   8.1 Site Characterization 7
   8.2 Site Preparation 8
   8.3 Preliminary Activities 9

9. BUILDING DEMOLITION SEQUENCE OF WORK 9
   9.1. Establish Work Zone 9
   9.2. Structural Demolition 10

APPENDICES

Appendix A	JSHA/HASP
Appendix C	PRE-JOB BRIEFING
Appendix E	DRAWINGS/SKETCHES
Appendix F	REFERENCES/LESSONS LEARNED
Appendix G	MISCELLANEOUS
Appendix H	POST-JOB CONFERENCE

The following appendices do not apply to this Work Package, and therefore are not included.

Appendix B
Appendix D
Appendix F

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 Construction 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 Building 42, remove the debris, and to provide temporary seeding and mulching of the area to provide erosion protection. 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. Please note that the main electrical feeder will have been rerouted prior to demolition and the heavy-duty equipment should maintain a safe distance from Building 27. All fire extinguishers need to be removed from the building prior to demolition.

1.3. Site Information

Building 42, the Explosives Component Fabrication Facility, was constructed in 1970 with 11 rooms, including a corridor, and a penthouse utility room. The corridor had two room numbers. Three of the rooms constituted the change rooms/rest rooms. [1]

The exterior walls of the building are constructed of 12" concrete block with horizontal reinforcing (#4 rebar) at 16" O.C., with expansion joints on the outside walls. The penthouse and the shed structure at the southwestern corner of the building were constructed of structural steel. Interior walls on the original room floor plans were constructed of 8" concrete block. [2] [3]

The foundation and slab consists of an 11" thick slab of reinforced concrete set on 3' deep footers. The footers underlie the exterior walls and underlie the southern wall of the interior corridor. Number 4 dowels extend 4" up, at 3' O.C., along the footers. All concrete, based on a note in the referenced drawing was 3000 p.s.i. [4]

---

[1] Engineering Design Drawing 304200-02002, Explosives Component Fabrication Facility-Plans, Schedules, and Details, May 15, 1970.
[2] Engineering Design Drawing 304200-02002, Explosives Component Fabrication Facility-Plans, Schedules, and Details, May 15, 1970.
[3] Engineering Design Drawing 304200-02002, Explosives Component Fabrication Facility-Wall Sections and Details, May 15, 1970.
[4] Engineering Design Drawing 304200-02002, Explosives Component Fabrication Facility-Foundation Plan, May 15, 1970.

Remodel of Building 42 into a Pyrotechnic Facility--1974

This remodeling effort converted Building 42 into a different type of explosives processing facility, into a pyrotechnic facility. To achieve this conversion, existing equipment was removed, some of the Building 42 rooms were separated into smaller rooms, and areas of other rooms were segregated into definable areas by the addition of walls.

2. DRAWINGS AND REFERENCES

PP-1059A, Issue 7, "Integrated Work Control Program"
MD-50000, Issue 10, "Maintenance Work Order and Material Processing"

3. INITIAL CONDITIONS AND PREREQUISITES

3.1 Lessons Learned

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

- Driver has near miss with electrocution when overhead wires catch on truck.

See Appendix F for the full report. The result of the Lessons Learned is that heavy equipment must be kept clear of all energized wires. Overhead line will be rerouted or locked out and tagout out.

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 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 Above & underground electrical utilities will be identified and field located by scanning the area during safe shutdown activities, prior to beginning any field demolition 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 demolition activities.

3.2.4 Monitoring for silca 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

An assessment of Building 42 was performed to review operational history and radiological survey information. The building was constructed and used to test components and assemble pyrotechnics and energetic materials. Neither the past nor current use's involve radioactive material. The 1996 Mound site assessment (*Environmental Appraisal of the Mound Plant*) states that Building 42 was not contaminated with radioactive materials. Annual non-Radiological Materials Management Area (RMMA) surveys have shown no elevated levels of radioactivity. 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

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 Potential Release Sites (PRSs) identified under the various regulatory programs in effect at the site. Of these 440 PRSs, six are at or near Building 42. PRSs in the vicinity of Building 42 are identified in Table 1. None of the PRS are directly related to Building 42.

Table 1: PRSs in Proximity to Building 42

PRS	CERCLA or Bldg. Related	Binning Status	Comments
25	CERCLA	No Further Action (NFA)	**Building 27 Leach Pit (Area 1).**
33	Buildings	Unbinned	**Underground Sanitary Sewer Line G14 East.**
34	Buildings	Unbinned	**Underground Sanitary Sewer Line G14 West.**
41	CERCLA	Further Assessment (FA)	**Area 3, Thorium Drum Storage and Redrumming Area. The southwest corner of Building 42 is located within PRS 41.**
67	CERCLA	FA	**Plant Drainage Ditch.**
357	CERCLA	NFA	**Elevated Soil Gas Location.**

O 13 of 39 B 13 of 39

5.2 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.

5.3 Notification

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

5.4 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:

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

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

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

5.5 Clean Water Act & Storm Water Pollution Prevention

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

5.5.2 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.

5.6 National Historic Preservation Act (NHPA)

Building 42 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.

5.7 Safe Drinking Water Act

The potable water supply to Building 42 has been turned off and capped to protect the integrity of the water supply to that portion of the plant site during safe shutdown activities.

5.8 Emergency Spill Response

Building 42 has been disconnected from all utility services and the lines drained. There should be no regulated component 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 summarized in the Job Specific Waste Management Plan, which is included below:

It may not be practical or cost effective to dispose of the concrete rubble from Bldg. 42 on site utilizing the concrete crusher. Radiological survey data dated May 2002 of Bldg. 42 indicates all readings meet surface release criteria. If unusable and no MARSSIM is in place form ML-9901 (3/02) must be completed for each roll-off of concrete/debris pile before the Bldg. 42 waste can be taken to an Off-Site construction debris landfill for disposal. PCB containing light ballast's were removed and packaged for disposal during Safe Shutdown activities. Tritium Exit Signs were removed and packaged for disposal at the end of Safe Shutdown activities. Non-PCB containing light ballasts will be left in place and demolished with the building. All Fluorescent Tubes have been removed. All chemical and explosives were removed in August 1995. An asbestos abatement decontamination program was performed in May 2001; no further action is required.

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

The assembly area is north of Building 42 at the edge of the roadway. See map per Appendix E.

7.3 Take Shelter Area

Take shelter area is in Building 19. -See Appendix E. *Be aware of threatening weather and take shelter when life-threatening storms are imminent.*

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 42 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 42 was performed to review operational history and radiological survey information. The building was constructed and used to test components and assemble pyrotechnics and energetic materials. Neither the past nor current uses involve radioactive material. The 1996 Mound site assessment (*Environmental Appraisal of the Mound Plant*) states that Building 42 was not contaminated with radioactive materials. Annual non-Radiological Materials Management Area (RMMA) surveys have shown no elevated levels of radioactivity. Radiological survey data of Building 42 indicates all readings meet surface release criteria.

8.1.3. Chemical and Metals Characterization

Various energetic materials were used in Building 42's operations. These materials and the admixtures were fabricated into test component. Various chemicals were used in device assembly and for materials compatibility testing. All chemicals and explosives were removed from Building 42 by Waste Management in July and August 1995.

8.1.4 Asbestos Characterization

An asbestos survey was completed. Asbestos had been prevalent in Building 42. Asbestos-containing materials (ACM) of non-friable nature were used in floor tiles and mastic. Friable ACM included pipe joint insulation, condensation tape, pipe wrap, and thermal insulation. An asbestos abatement decontamination program was performed; no further action is required.

8.2 Site Preparation

8.2.1 Site Access Control

The demolition area will be identified utilizing the existing fence 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 may use the existing Building 44 and Building 38 shower/restroom area or utilize SMPP/TV F project new trailer complex to be located in the existing Mound "C" parking lot. Also, a portable toilet will be located at the job site.

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, fire water, electrical, fire alarm system and communications lines have been disconnected under separate safe shutdown MSR. 29940. 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 have been removed during safe shutdown activities; asbestos abatement has been completed

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 Construction Manager/Foreman first

Do not begin any demolition activities until the following items are completed.

All new workers assigned to this project must 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 completed.

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 42, 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 Upper Structure Demolition

Demolish the Upper Section of the structure's block walls and steel 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 heavy-duty equipment will be operating within 10' of overhead powers, perform LOTO.
Struck by flying debris Struck by moving equipment	Establish construction boundary. Temporary closure of the roadway to be coordinated with site wide safety, emergency and other necessary entities. 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 – 35 feet Bobcat – 15 feet
Noise Hazard	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.

019 of 39 B19 of 39

9.2.2 Slab and Foundation Demolition

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

HAZARD	MITIGATION
Burns/fire	Burn permit, fire protection, and PPE.
Threatening weather conditions	Imminent lighting or high wind, operators shall shut heavy-duty equipment down and move to take shelter area.
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 of this workpackage will be to temporarily restore the area by grading 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. Restoration will be temporary in scope since the area is scheduled to be disturbed in the near future by the PRS 41 Removal Action.

Appendix A
JSHA/HASP

Project/Activity: Building 42 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 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 tear. , 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 – 29942-0

DATE: 05/15/02	_X_ NEW ___ REV	BUILDING: 42	JOB: Demolish Building 42
DEPARTMENT/COMPANY: **SMPP/TFV**			SECTION: N/A
OCCUPATIONS: Heavy Duty, Demo Tech, Construction Craft, Pipefitter/Welder, Electrical Control, Fab Mechanic, RCT, III			

SIGNATURES

ORIGINATOR: Lee Kochmsjon
REVIEW/REV: Jared Willis
REVIEW/REV: Bill Wahler
REVIEW/REV: Gary Weidenbach
APPROVED: C.D. Thompson

REQUIRED PERSONAL PROTECTIVE EQUIPMENT:	MSDS(s)/CHEMICALS ASSOCIATED WITH THE JOB:
Hard Hat, Safety Glasses with side shields, safety shoes, safety vest	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.)
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
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.
Operation of heavy equipment near electric overhead lines	Electrocution	LOTO all electrical overhead lines.

JOB SAFETY AND HEALTH ANALYSIS FORM
(CONTINUATION SHEET)

BASIC JOB STEPS	POTENTIAL ACCIDENT/ILLNESSES OR KNOWN HAZARDS	SAFE JOB PROCEDURES
Demolish building and slab using excavator mounted shear, hoe ram, grapple, loader, and bobcat	Struck by flying debris Struck by moving equipment Noise Hazard Fugitive dust inhalation	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 – 35 feet Bobcat – 15 feet Make sure equipment is in safe working order. Use spotter if vision is obstructed. Install traffic control. Wear hearing protection while running heavy-duty equipment. Follow the requirements of MD-10286 D9. Use a water mist to suppress dust.
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, and assembly and take shelter areas.
Be aware of threatening weather	Possible injury from lightning strike or high wind from tornado.	Take shelter when life-threatening storms are imminent.
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.

B24839
0 24 of 39

SIGN-OFF SHEET

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

SIGNATURE	Date	Department

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	

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).

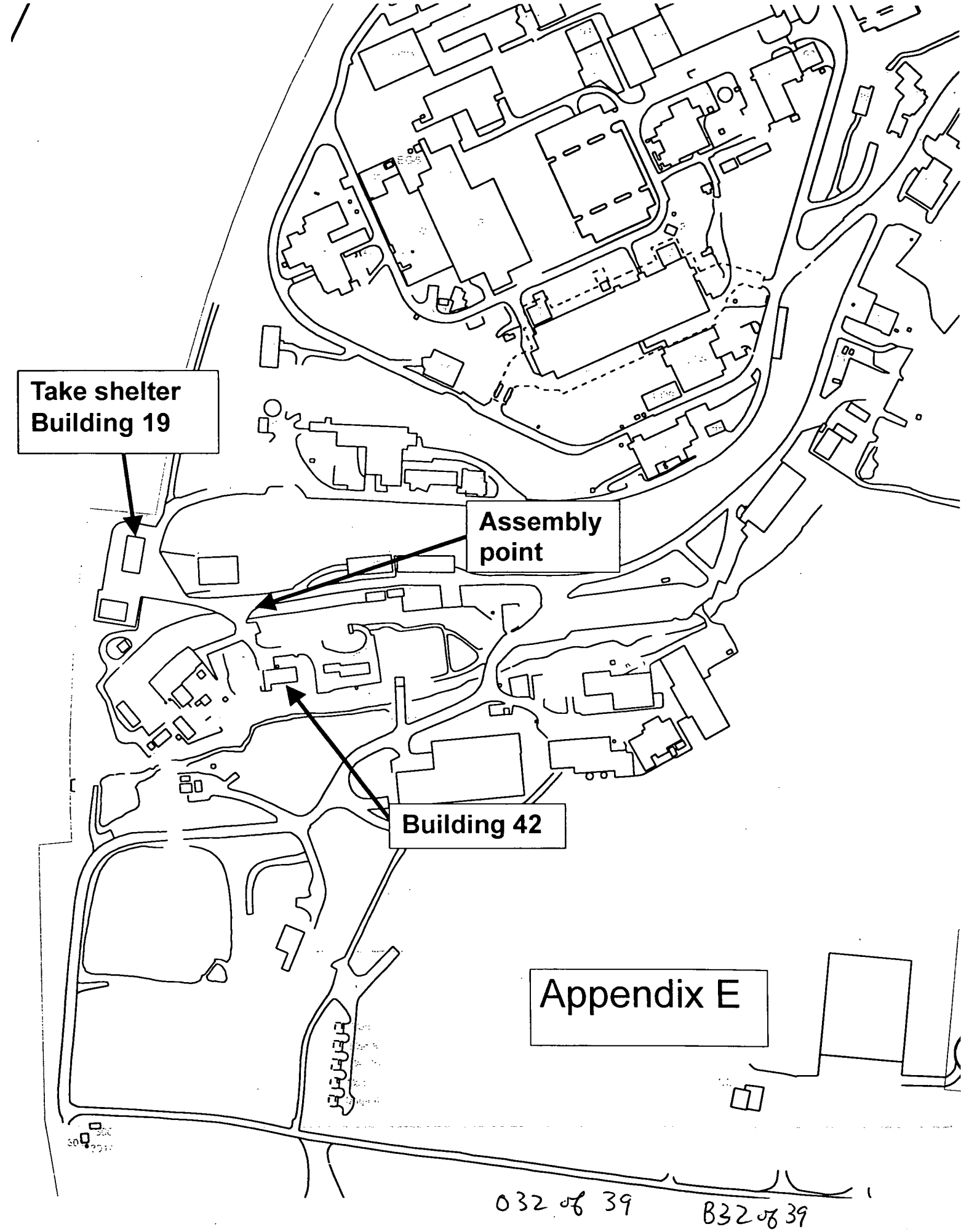
2. Any changes/revisions to safety envelop for work: e. New/added assignments and responsibilities of any [illegible]dual f. Changes in facility conditions, tagouts, valve lineups g. New or changed precautions/hazards h. Valid RWP or other required work permits still in effect
2. Adequate supply of PPE
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.

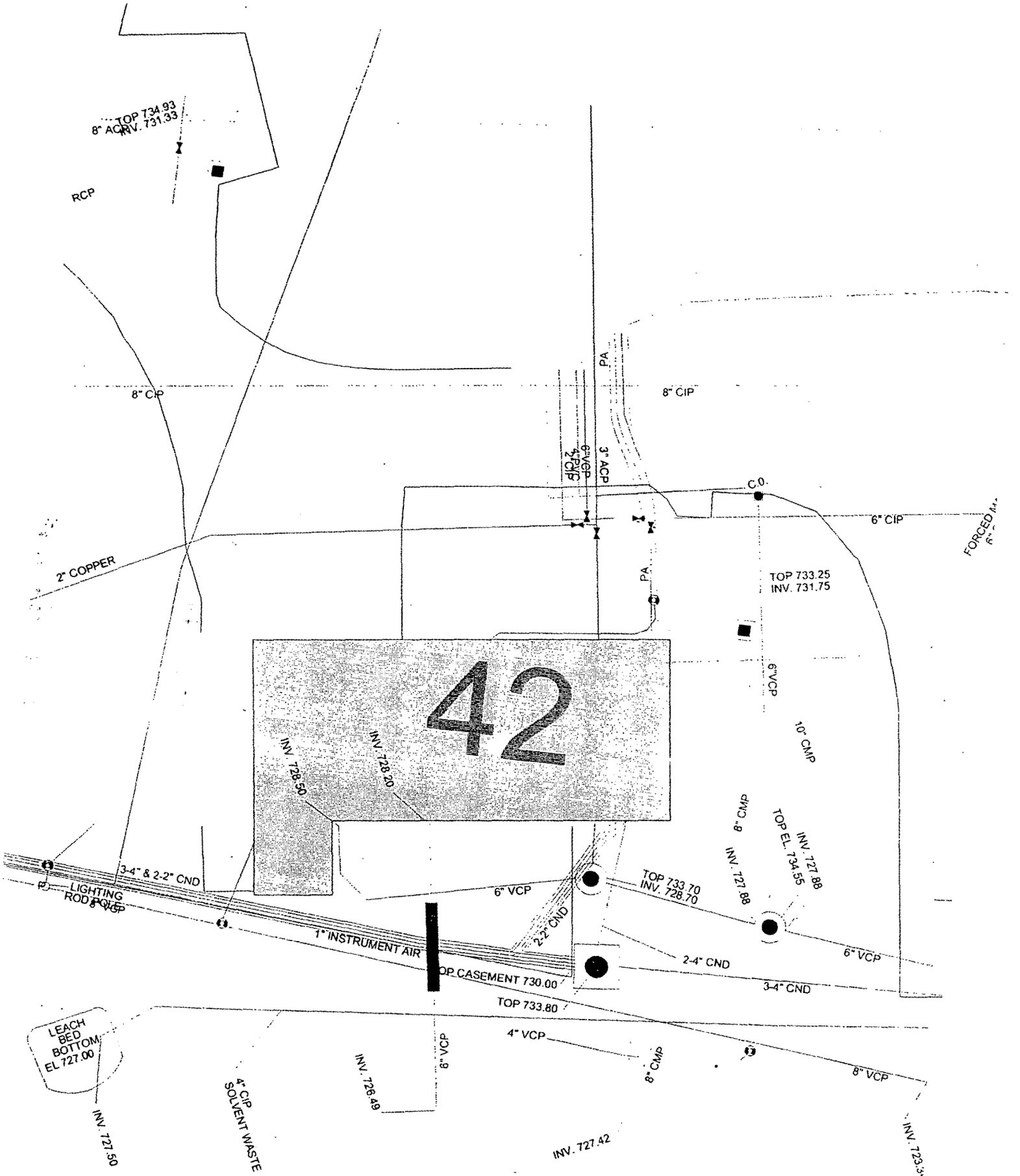
The above minimum requirements have been met; this PJB has been conducted in sufficient detail to maximize continued safe conduct of the job, and all personnel have been through a previous Pre-Job Brief.

_____

Job Supervisor/Foreman Date

Appendix E
DRAWINGS/SKETCHES


Take shelter
Building 19
Assembly
point
Building 42
Appendix E


TOP 734.93
INV. 731.33
8" ACP
RCP
8" CIP
8" CIP
PA
6"VCP
4"PVC
2"CIP
3" ACP
C.O.
6" CIP
FORCED M
2" COPPER
PA
TOP 733.25
INV. 731.75
6"VCP
10" CMP
42
INV. 728.50
INV. 728.20
8" CMP
TOP EL. 734.55
INV. 727.88
INV. 727.88
3-4" & 2-2" CND
LIGHTING ROD & VCP
6" VCP
TOP 733.70
INV. 728.70
2-2" CND
1" INSTRUMENT AIR
2-4" CND
6" VCP
TOP CASEMENT 730.00
3-4" CND
TOP 733.80
LEACH BED BOTTOM EL 727.00
4" VCP
8" VCP
8" CMP
8" VCP
4" CIP SOLVENT WASTE
INV. 726.49
INV. 727.50
INV. 727.42
INV. 723.3

Appendix F
REFERENCES/ LESSONS LEARNED

DRIVER HAS NEAR MISS WITH ELECTROCUTION WHEN OVERHEAD WIRES CATCH ON TRUCK

Background:

On 9-23-99 an equipment hauling subcontractor arrived at the Rocky Flats Environmental Technology Site (RFETS) to relocate four pieces of subcontractor heavy equipment. The two pieces of equipment involved in this incident were tracked excavators, both equipped with building demolition equipment, one with a metal shear attachment and the other with a concrete crushing attachment. Both pieces of equipment had been previously delivered to RFETS by the same transporter without incident. On this day, the driver was escorted to the 960 Staging Area of the Site by another employee to retrieve the excavators. The driver deviated from his previously approved delivery and exit route and encountered interference from an overhead telecommunications line at the intersection of the south inner Patrol Road and Sixth Street west of Building 771. At this time, approximately 12:00 noon, the truck driver exited the cab of his truck, climbed the boom of the excavator and with his bare hands flipped the telecommunications line over the high point of the boom that was approximately 18' above the ground. The driver exposed himself to a fall hazard and a shock hazard from the energized electrical lines located approximately 2' above the telecommunications line. The escort told the driver that this was not acceptable practice, the escort failed however to notify supervision or to stop the activity. They then proceeded to Portal 2 and exited the Protected Area. At approximately 2:20 PM this process was repeated with the second excavator at the same location. RFETS personnel had observed this breach in safety practices and reported the incidents to their supervision.

Analysis:

Due to the construction and demolition activities currently underway in support of the Rocky Flats Environmental Technology Site (RFETS) closure mission, heavy equipment of this type is in constant movement around the Site. Unapproved field changes can create unanticipated/uncontrolled hazards. In this case, unauthorized deviation from previously approved routes of travel caused this incident during an otherwise routine activity. Work should be planned and the plan should be followed (Plan The Work/Work The Plan). Deviations from the plan (field changes) need to be reviewed and approved prior to implementation.

Lessons Learned:

The potential for this incident to occur exists on other sites, especially on construction or demolition projects where heavy equipment such as cranes, drill rigs, excavators or other tall pieces of equipment are being moved around the project. The installation of temporary overhead wiring or utilities can also increase the potential for such an incident to occur. Depending on voltage, OSHA regulation 29CFR 1926, Subpart V-Power Transmission and Distribution, specifies minimum safe distances from energized lines for equipment and personnel. In spite of good work planning, unexpected hazards can arise. In these cases, work should be stopped and re-evaluated so that appropriate hazard controls can be implemented.

Recommendations:

035 of 39 B35 of 39

Briefings should be conducted to ensure that subcontractor personnel are aware of safety standards. Personnel should be informed that work should be stopped when unexpected hazards are encountered.

Contact:

Jim McLaughlin, Lessons Learned, 303-966-3471 or james.mclaughlin @rfets.gov

---

Back to Lessons Learned

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

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.

INTER OFFICE MEMO B W XT.

Date: May 14, 2002 cc. L. Koehmstedt

From: W. L. Johanan – OSW-430

Subject: Structural Survey of Building 42, RE: 29 CFR 1926.850 (a)

To: Bud Thompson – Project Manager

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

Please call me if you have any further questions.

W. L. Johanan

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

STATE OF OHIO
WILLIAM
L.
JOHANAN
E-44883
REGISTERED
PROFESSIONAL ENGINEER