3006-0605010003

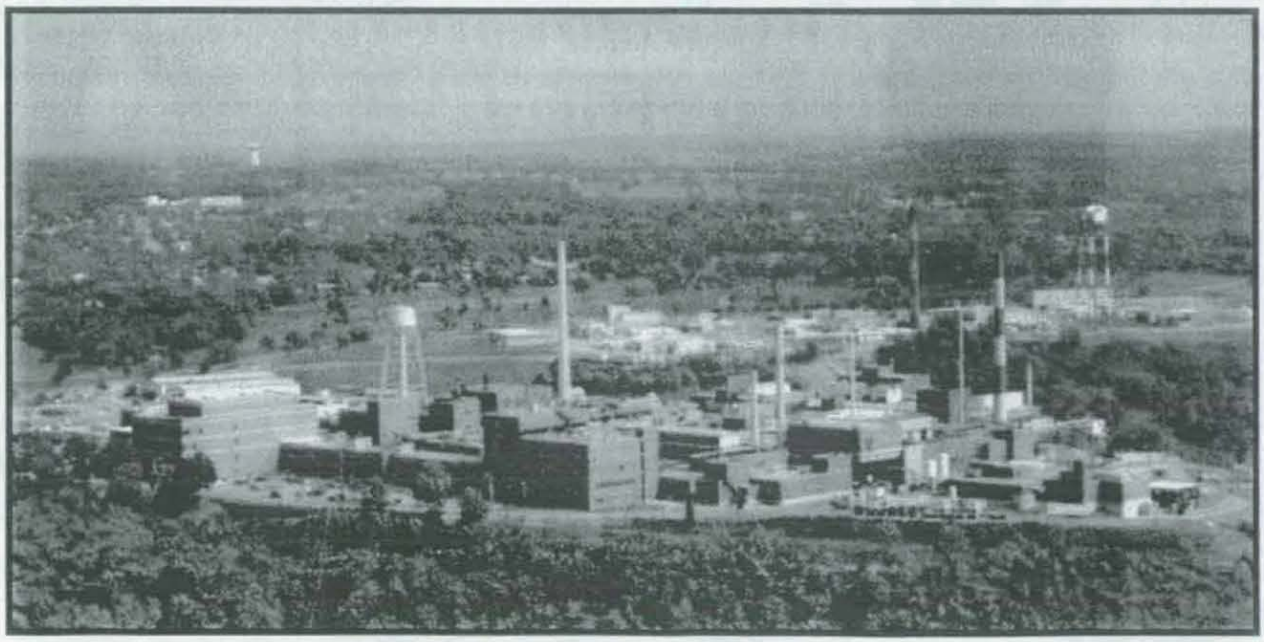
Environmental
Restoration
Program

OhioEPA

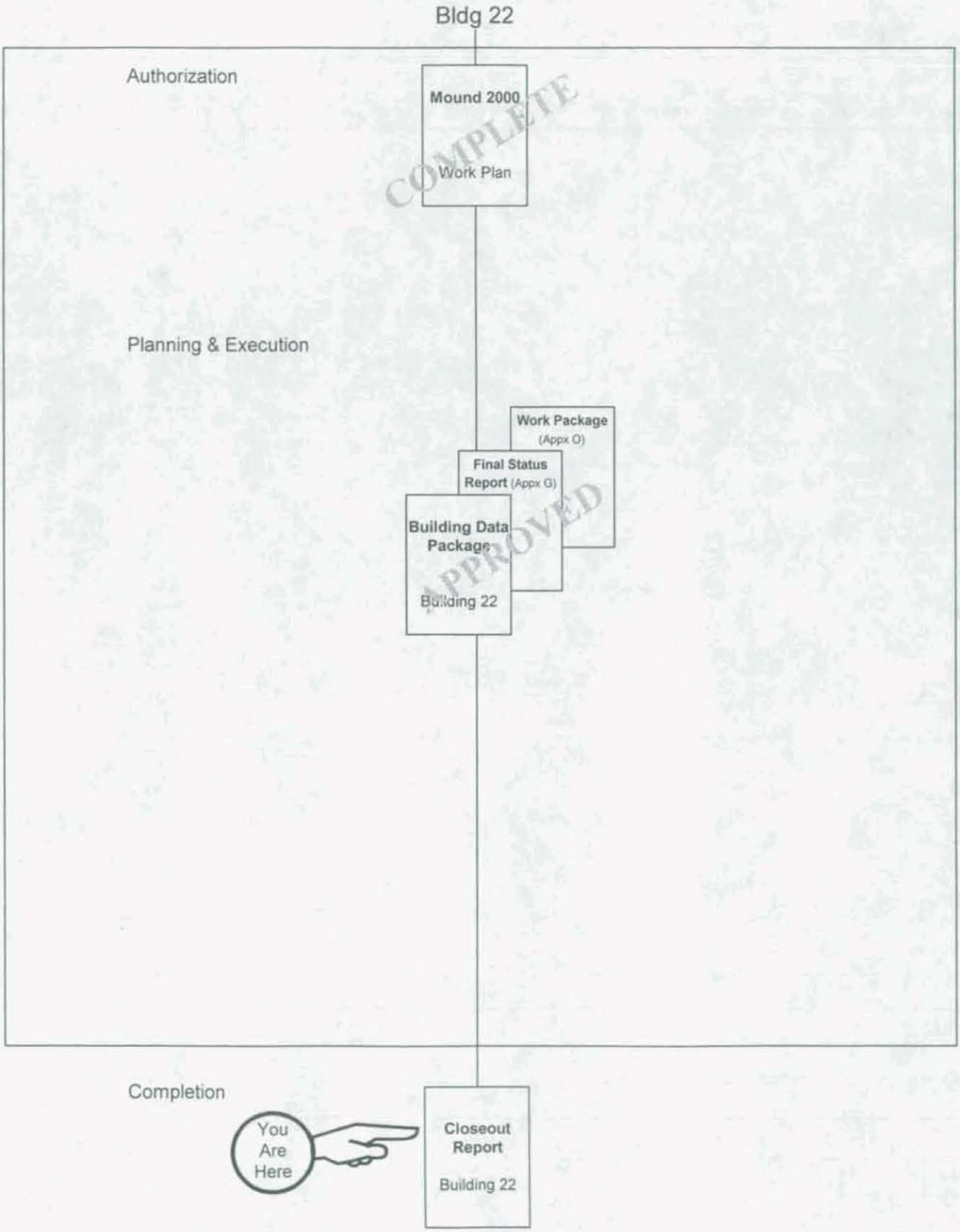
Miamisburg Closure Project
CLOSEOUT REPORT

Building 22
(Demolition)

Final
January 2005



Building 22



20Jan05vkd

TABLE OF CONTENTS

Section — Page

Tables

Appendices

1.0 PURPOSE

This is the final report documenting completion of the demolition of Building 22 located at the Department of Energy (DOE) Miamisburg Closure Project (MCP) Site, as shown in the figures provided in Appendix A. The building demolition; including the dock pad, sidewalks, retaining wall, the fire system control valve building, and the Building 22 and fire system control valve building foundation walls/footers to three feet below grade, was accomplished per the Work Package for Building 22 Demolition #BOSS-38214. A copy of the Work Package was included in Appendix O of the Building Data Package (BDP) for Building 22. The scope of work relating to this building is considered complete. Final site restoration was not done as part of the demolition activities but will be performed as part of the PRS 66 Removal Action activities.

2.0 BACKGROUND

2.1 Building 22

Building 22 was originally constructed as a 5,400-square-foot (approximately) storage facility in 1965. The building was located in the central portion of the site, along the south side of the plant site main roadway leading to the Test Fire area. In 1968, a renovation added approximately 3,600 square feet of additional storage area to bring the total building area to 9,090 square feet. After renovation, the building was approximately 150 feet long by 60 feet wide, 24 feet high at the roof peak and 14 feet high at the roof edges.

The building was originally used for office space and storage of items awaiting lot sale and/or reuse. In 1995, Environmental Safety & Health (ES&H) enhancements were made to the building to accommodate solid radioactive low level waste (LLW) storage activities. The ES&H modifications included: office area renovations, insulating the wall and roof interior surfaces in the storage area, installation of electric heating units in the storage area, a diked-perimeter sprinkler water capture system that encompassed the entire storage area, and a three foot by three foot by two foot deep sump pit along the west wall of the storage area.

The building structure was of noncombustible Type II (000) construction classification per NFPA 220, *Types of Building Construction.* The exterior walls and roof were constructed of seamed metal panels; the structural beams, girders, trusses and arches were steel; and the floor was an 8-inch reinforced concrete slab. The building was divided into two areas: a storage area on the southwest end (approximately 8,000 square feet), and an office area on the northeast end (approximately 1,000 square feet). The office area had painted gypsum board walls, vinyl floor tile, and an acoustic tile drop ceiling. The building had a lightning protection system that included air terminal type strike termination devices along the peak of the gable style roof, grounding conductors connected to the structural steel trusses, and ground rod terminations into the concrete foundation.

The building was not contaminated with either radiological or energetic materials.

Building 22 Fire System Valve Building

A 5-1/3 feet by 6-3/4 feet by 8 feet tall building was located on the north side of Building 22, approximately 19 feet from the west end of Building 22 to the centerline of the Fire System Valve Building. The walls of the building were constructed of masonry block. The roof was constructed of a concrete slab coated with tar and gravel. The building housed the control valve and piping for the Building 22 dry fire sprinkler system.

A listing of the building modification history is provided in Table 1.

Table 1: Building Modification History

Time-frame	Building Modification	Resulting Change
1965	5,400-square-foot (approximately) storage facility.	Original structure built.
1968	Addition of approximately 3,600 square feet to bring the total building area to 9,090 square feet.	Addition of approximately 3,600 square feet of storage area.
1995	ES&H enhancements were made to the building to accommodate solid radioactive low level waste (LLW) storage activities.	The ES&H modifications included office area renovations, insulating the interior wall and roof surfaces of the storage area, installation of electric heating units in the storage area, a diked-perimeter sprinkler water capture system that encompassed the entire storage area, and a three foot by three foot by two foot deep sump pit along the west wall of the storage area.
2004	Demolition of Building 22	Verification sampling to confirm that contamination from PRS 66 has not migrated beneath the building will be addressed by the verification sampling for the PRS 66 removal action. Final site restoration will be performed following verification sampling and any soil remediation activities associated with the PRS 66 removal action.

The Building 22 office area was climate controlled via a heat pump located on the south side of the building. The storage area was heated (no air conditioning) with 480-volt electric heaters suspended from the roof supports. Electric service to the building was 480 volts. The building had potable water, a dry fire sprinkler system, and sanitary services.

Storm drains, installed as part of the original construction, were removed in 1995 as part of the building ES&H modifications, when the building was reconfigured for solid radioactive LLW waste storage activities.

Table 2 details the processes and functions that have been housed in Building 22.

Table 2: Processes and Functions Housed in Building 22

Timeframe	Function or Process
1960s to mid 1990s	Warehouse storage and office space
Mid 1990s to 2004	Storage of containers of radioactive LLW waste

Building 22 continued to operate as a containerized radioactive LLW waste storage facility through the spring of 2004. No research, development, or production activities using radioactive or energetic materials occurred in the building.

2.2 Potential Release Sites (PRSs)

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 the site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Of these PRSs, eight are at or near Building 22, as identified in Table 3. The PRS locations are shown in Appendix A, Figure 2 and PRS recommendation sheets are provided in Appendix C.

Table 3: PRSs in Proximity to Building 22

PRS	CERCLA or Bldg. Related	Binning Status	Comments
32	CERCLA	NFA	Underground Sanitary Sewer Line G12
67	CERCLA	RA	Plant Drainage Ditch
75	CERCLA	RA	Railroad Siding
90	CERCLA	NFA	Site Survey Project Potential Hot Spot Location S0425
286	Building (SM)	UB	Area 16, SM Building Sanitary Sewage Septic Tank Leach Field
300	CERCLA	NFA	Area 19, Underground Waste Transfer Line
367	CERCLA	NFA	Elevated Soil Gas Location
397	CERCLA	NFA	Elevated Soil Gas Location

Note: PRS 67 is an open, unlined channel that constitutes the primary plant drainage ditch. The RA (per the 67, 363, & 41 Ditch Removal Work Plan) will consist of excavation of contaminated soil and sediment in areas indicated by sample results above the cleanup objectives. Post-excavation sampling will be performed within the excavations per a Core Team-approved Post-Excavation SUD/VSAP. A summary

of the RA & the verification data will be included in the PRS 67 OSC Report.

Note: PRS 75, a historic railroad siding, was once used for loading and unloading materials and wastes for the polonium, thorium, and plutonium projects in the 1950s, 60s, & 70s. Between 1982 and 1986 this section of track leading to the former location of Warehouse 9 was removed as a part of another project. The RA will consist of excavation of contaminated soils in the area of the historic railroad siding indicated by sample results above the cleanup. Post-excavation sampling will be performed within the excavations per the Core Team-approved Post-excavation SUD/VSAP. A summary of the RA & the verification data will be included in the PRS 75 OSC Report.

Note: PRS 286 has not yet been binned by the Core Team. Analytical results will be provided in the PRS 286 PRS Package.

3.0 ACTIONS TAKEN

The Building 22 BDP was submitted for simultaneous Core Team and public review on 5 October 2004, and the 30-day public review period concluded on 6 November 2004.

Prior to demolition, the location of Borehole SCR417 (sample results showed elevated Thorium 232 results of 2.3 pCi/g; SCR417, is not within a PRS boundary) was marked to prevent it from being disturbed during demolition activities. This sample location will be included in the residual risk evaluation and remediation activities for PRS 66.

Demolition of Building 22 commenced on 05 November 2004. Demolition activities (including slab, dock pad, foundation/footers, retaining wall, and sidewalks) and site regrading were completed on 16 December 2004. Final site restoration will be performed as part of the PRS 66 Removal Action activities. Photographs taken before, during, and after demolition are provided in Appendix A.

A Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) study of Building 22 was performed prior to demolition. The study reports (provided in Appendix G of the Final BDP) provide details of the survey design and results and indicate that Building 22 met applicable surface release criteria.

During the demolition of the slab, dock pad, foundation/footers, retaining wall, and sidewalks, radiological screening was performed on concrete surfaces in contact with soils. No post-demolition walkover surveys were required to be performed on the Building 22 site area because no contamination was found on Building 22 surfaces prior to demolition. Radiological surveys results associated Building 22 demolition activities are provided in Appendix B.

Non-concrete building debris was loaded into haulers and taken to a local sanitary landfill. Concrete debris was loaded into haulers and taken to a staging area for processing by the concrete crusher. Processed concrete debris will be used as on-site fill material.

This Closeout Report documents the completion of the demolition and removal of Building 22. All preparation and demolition activities were performed in accordance with the detailed work plan with exception of final site restoration which will be performed as part of the remediation activities for PRS 66.

Table 4: Materials Disposition

Building 22 Material	Quantity	Disposal Method	Destination
Asbestos Abatement (Debris)	8.1 cubic feet	Landfill	Stoney Hollow
Construction Debris (scrap metal and rebar)	420 cubic yards	Recycle	Metal Shredders
Clean Hard Fill Debris (concrete)	180 cubic yards	Reused onsite	Concrete Crusher
Polychlorinated biphenyl (PCB) Light Ballast	1.62 cubic feet	Treatment	Clean Harbors

4.0 PROBLEMS ENCOUNTERED

Building 22 was successfully demolished per the Work Package. No problems were encountered during demolition activities and no soil staining or unusual fumes/odors were noted during slab/foundation excavations.

5.0 RESOURCES COMMITTED

5.1 Personnel Organization

Table 5 lists the personnel organization for the demolition.

Table 5: Personnel Organization for the Demolition

Agency or Party Involved	Contact	Description of Participation
US EPA (SR-6J) 77 W. Jackson Chicago, IL 60604 312-886-7058	Timothy Fischer	Federal agency responsible for MCP oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for MCP oversight.
DOE/ MCP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 847-8350, ext. 304	Frank Schmaltz	DOE/ MCP Project Manager responsible for project oversight and success.

Table 5: Personnel Organization for the Demolition

Agency or Party Involved	Contact	Description of Participation
CH2M Hill Mound, Inc. SMPP-TFV Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-608-8007	Chris Watson	Provided the DOE/ MCP Project Manager with technical assistance, administrative support, sampling, decontamination, photo and site documentation, site safety, and report preparation. Provided the equipment necessary for the demolition and performed the building demolition and site restoration.

5.2 Demolition Cost

Under the new site contract, CH2M Hill Mound, Inc. has elected to cluster financial data for multiple buildings together. Building 22 is the only building in Cluster 22. The total cluster costs are presented in Table 6.

Table 6: Cluster 22 Total Costs

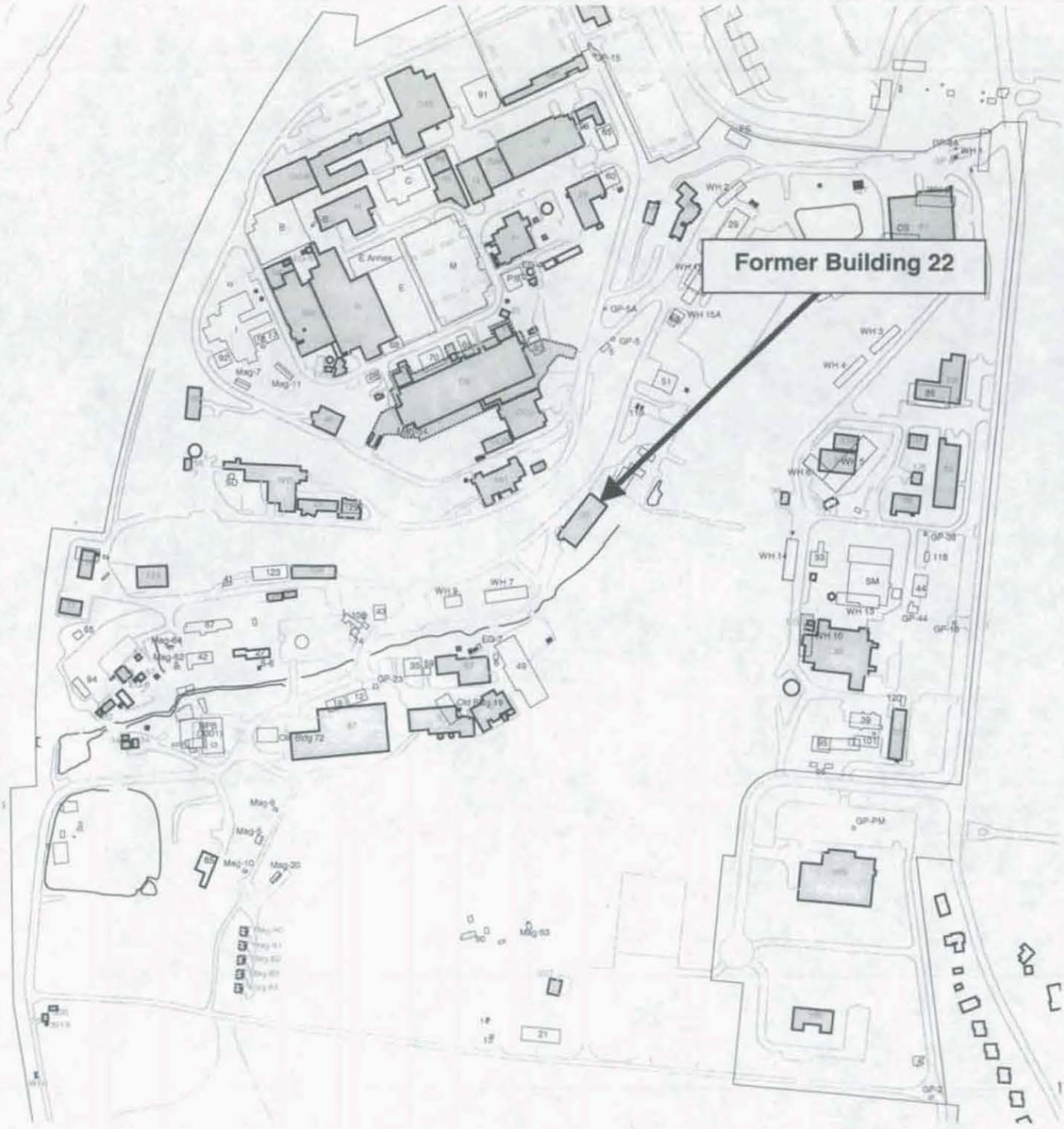
Cluster 22 Cost

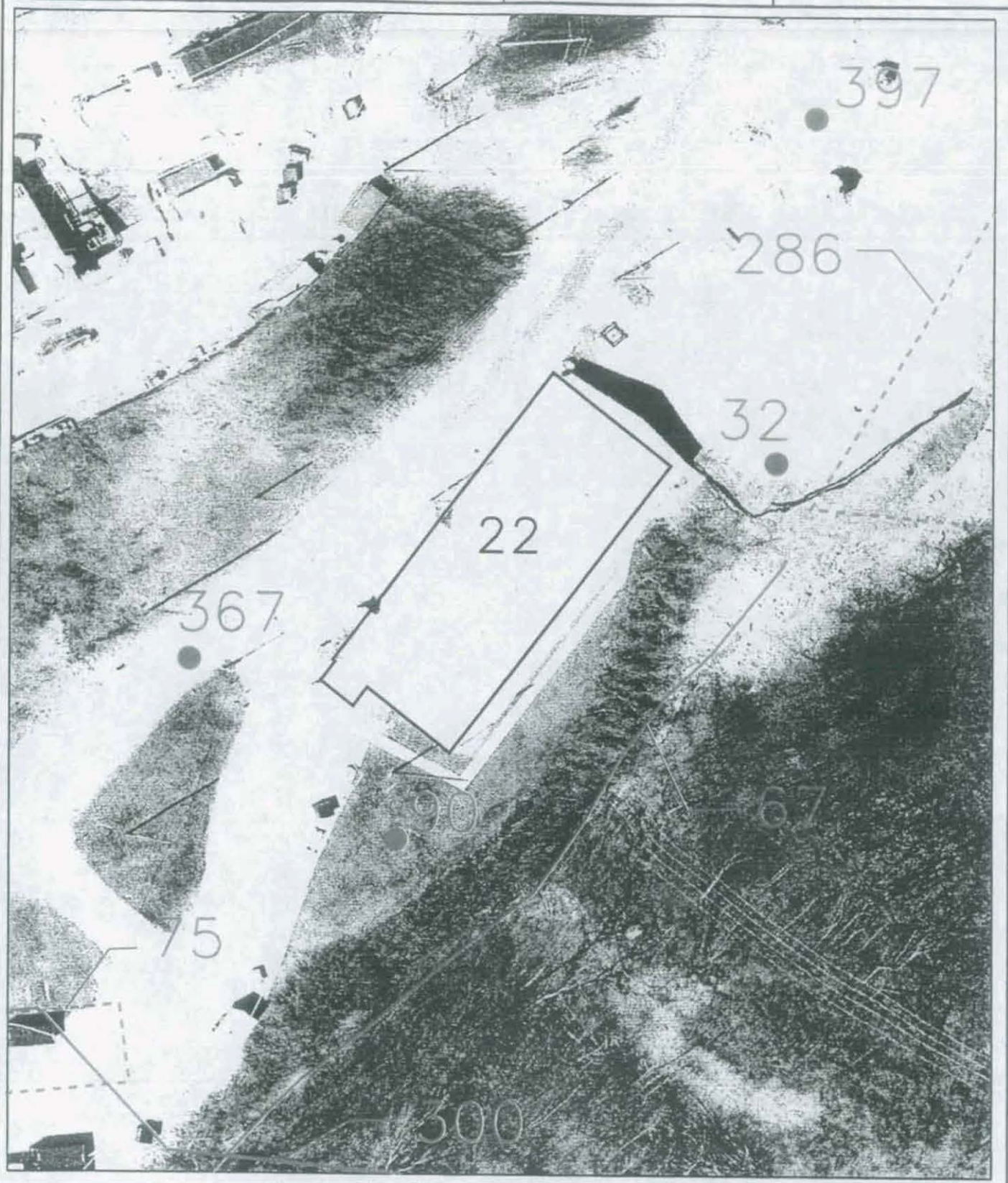
Activity	Cost
Work Planning	$14K
Facility Prep	$74K
Demolition	$29K
Total	$117K

APPENDIX A

Figures

Figure 1 – Location of Building 22





PRS Point
PRS Area
PRS Line

20 10 0 20 40FT
GRAPHIC SCALE

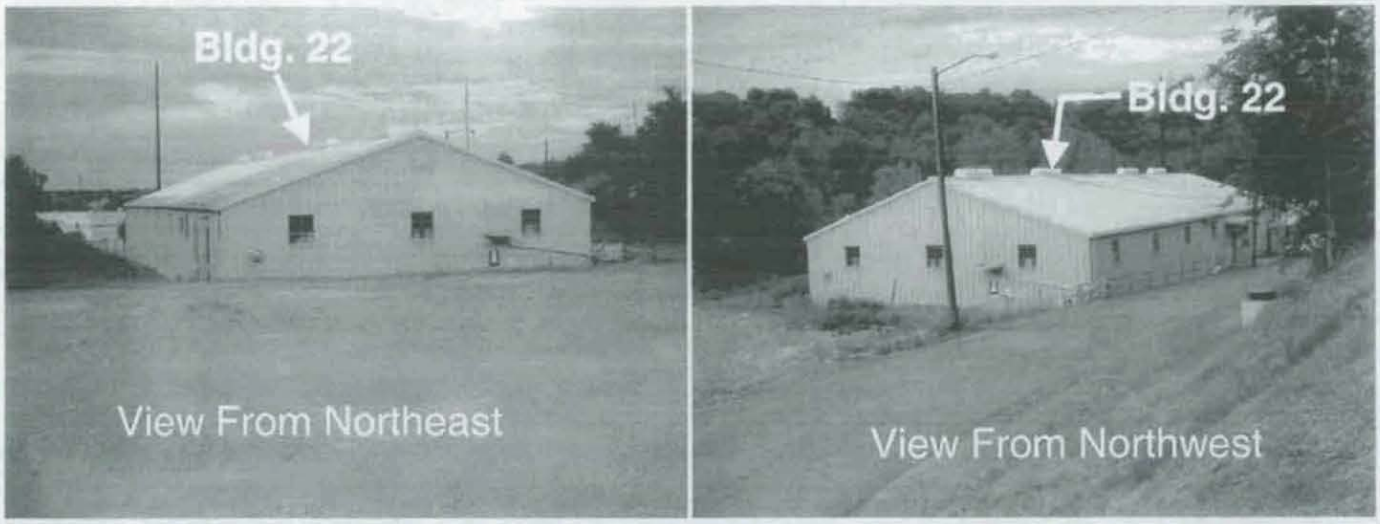
MOUND
Environmental Restoration Geographic Information System

Figure 2
Building 22
and Vicinity

06/28/04		SSF						
DATE	REVISION	BY	CHKD	ENG	UNCC	APVD	#	

GRAPHIC CLASSIFICATION: UNCLASSIFIED
DWG TYPE: STE PROC: ER-GIS CAGE: SCALE: SHEET 1 OF
STATUS: MD-REL-00/00/00 ORIGIN: MSTATION / J
SIZE: GRAPHIC NUMBER: vicinity.dgn JOB NUMBER:

Figure 3 – Photos of Building 22



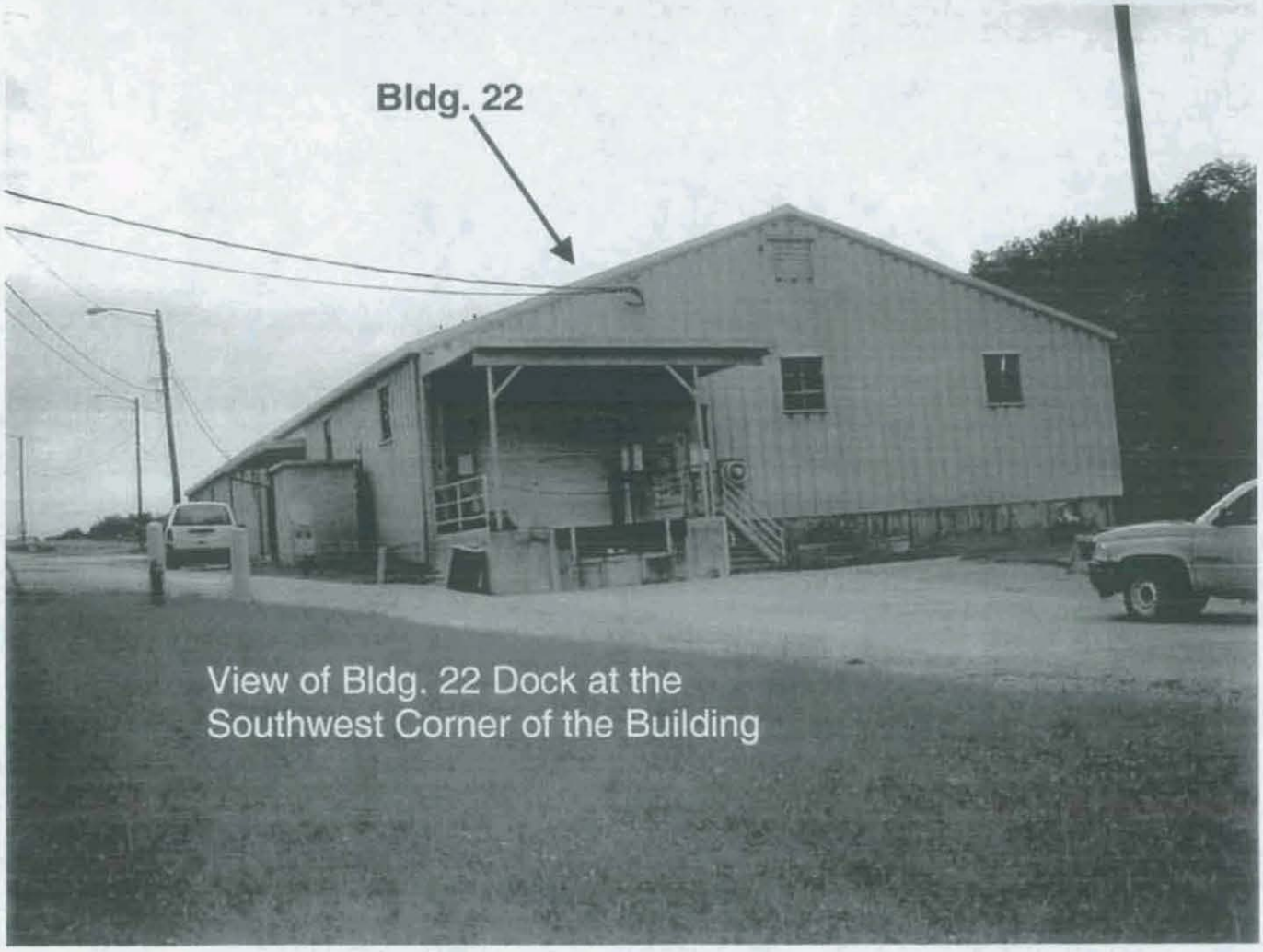
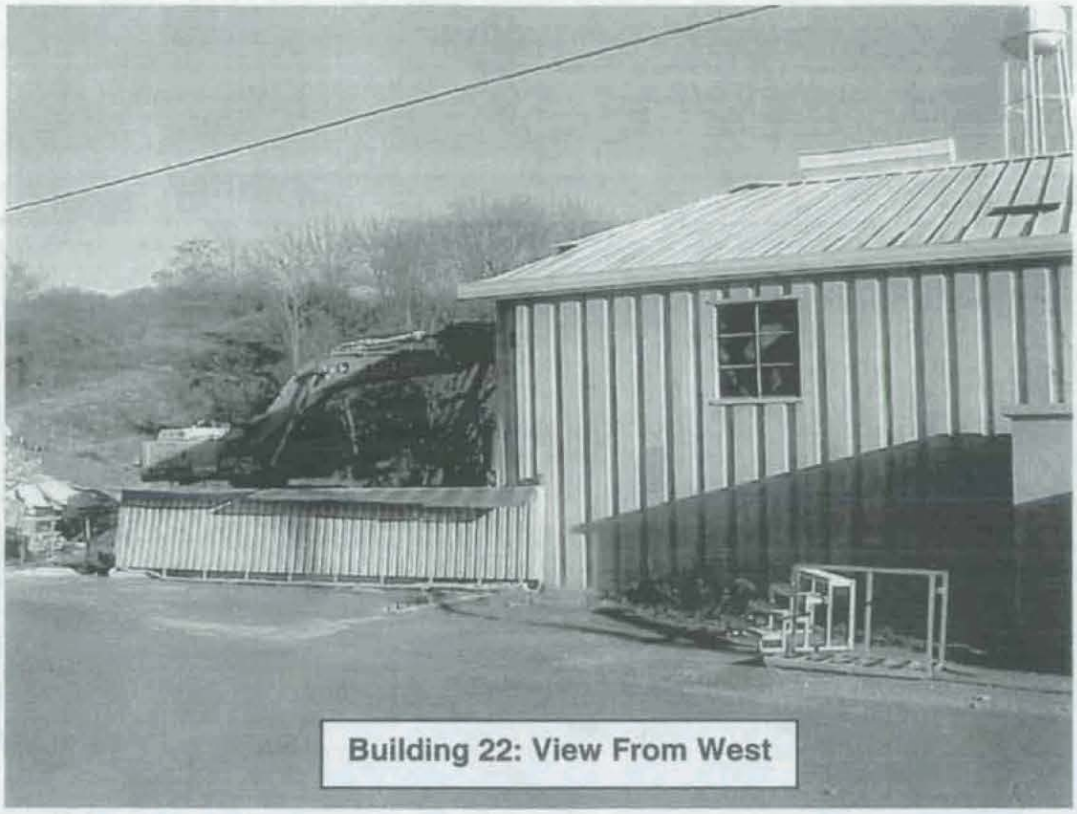
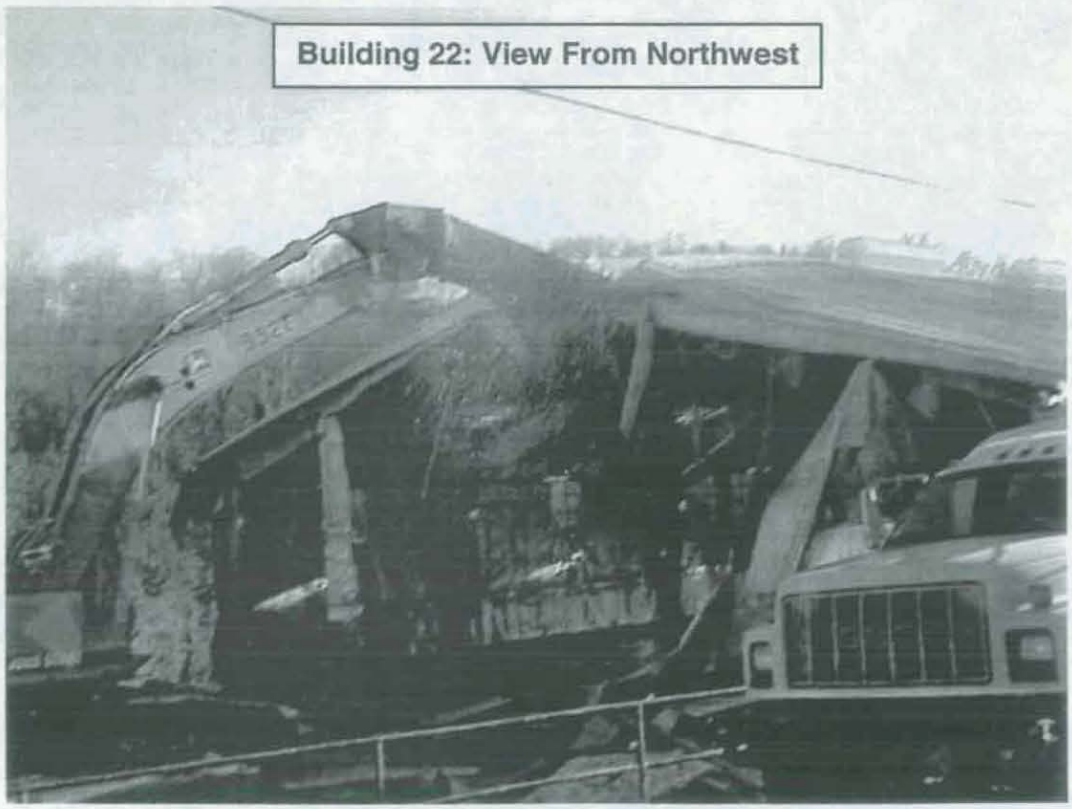


Figure 4 – Building 22 Demolition Photos



Building 22: View From West



Building 22: View From Northwest

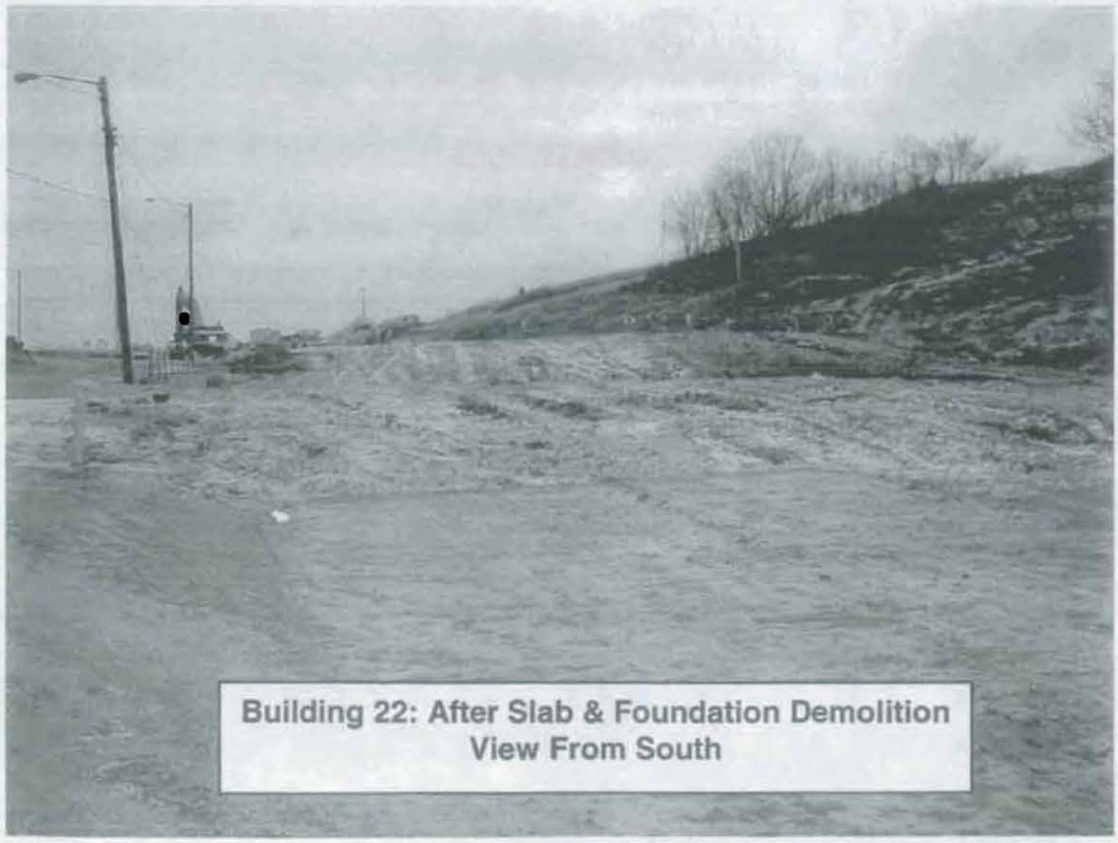
Figure 5 – Building 22 Demolition Photos (Cont.)

Building 22: View From North

Building 22: Superstructure Demolished

Figure 6 – Building 22 Demolition Photos (Cont.)

Building 22: Size-reducing Debris
View From North



Building 22: After Slab & Foundation Demolition
View From South

APPENDIX B

Post-Final Status Survey Report
Radiological Surveys

No post-demolition walkover surveys were required to be performed on the Building 22 site area because no contamination was found on Building 22 surfaces prior to demolition.

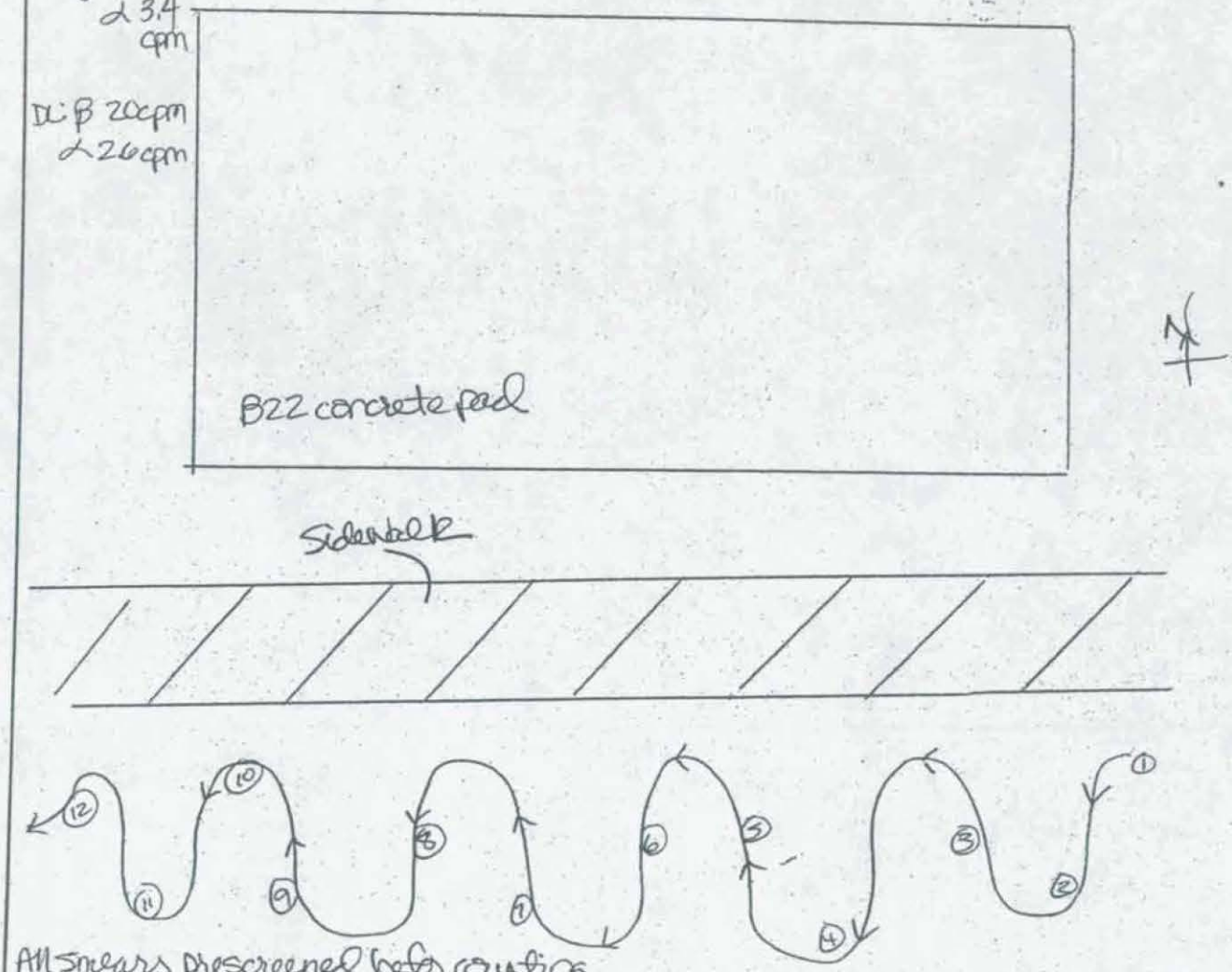
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Soil behind Bldg. 22	SURVEY NO. 04-TF-0372
PURPOSE: Survey of soil prior to excavation to install silt fence* for indication purposes only*	RWP NO. N/A
	DATE: 11.8.04
	TIME: 1030

Bkg. β 220 cpm
α 3.4 cpm

DI: β 20cpm
α 26cpm

MAP / DRAWING



All smears prescreened before counting on 3030.

→→→ = survey path with fidler*

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·— = radiological boundary
- (#) = mrem/hr neutron
- (#) = swipe number
- [#] = air sample number
- (#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Fidler/2350	5874/3960	1.13.05
2360	5208/5731	8-17-05
3030	5826	10.25.05
	N/A	

Completed by: (Signature) Ullrick	HP# [redacted]	Date: 11-8-04
Completed by: (Print Name) Ullrick		
Counted by: (Signature) Ullrick	HP# [redacted]	Date: 11-8-04
Counted by: (Print Name) Ullrick		
Reviewed/Approved by: (Signature) RM Coblentz	HP# [redacted]	Date: 11/15/04
Reviewed/Approved by: (Print Name) RM Coblentz		

Survey No. 04-TF-0371-0372 (Rev. 2-15-04)

Page 2 of 2

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	0	0	N/A	ground
2	15	4		
3	0	0		
4	0	2		
5	5	0		
6	10	2		
7	10	4		
8	5	2		
9	0	0		
10	10	0		
11	10	2		
12	3	10		
			N/A	

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

COMMENTS: * For indication purposes only. All readings taken were ≤ Bkg.

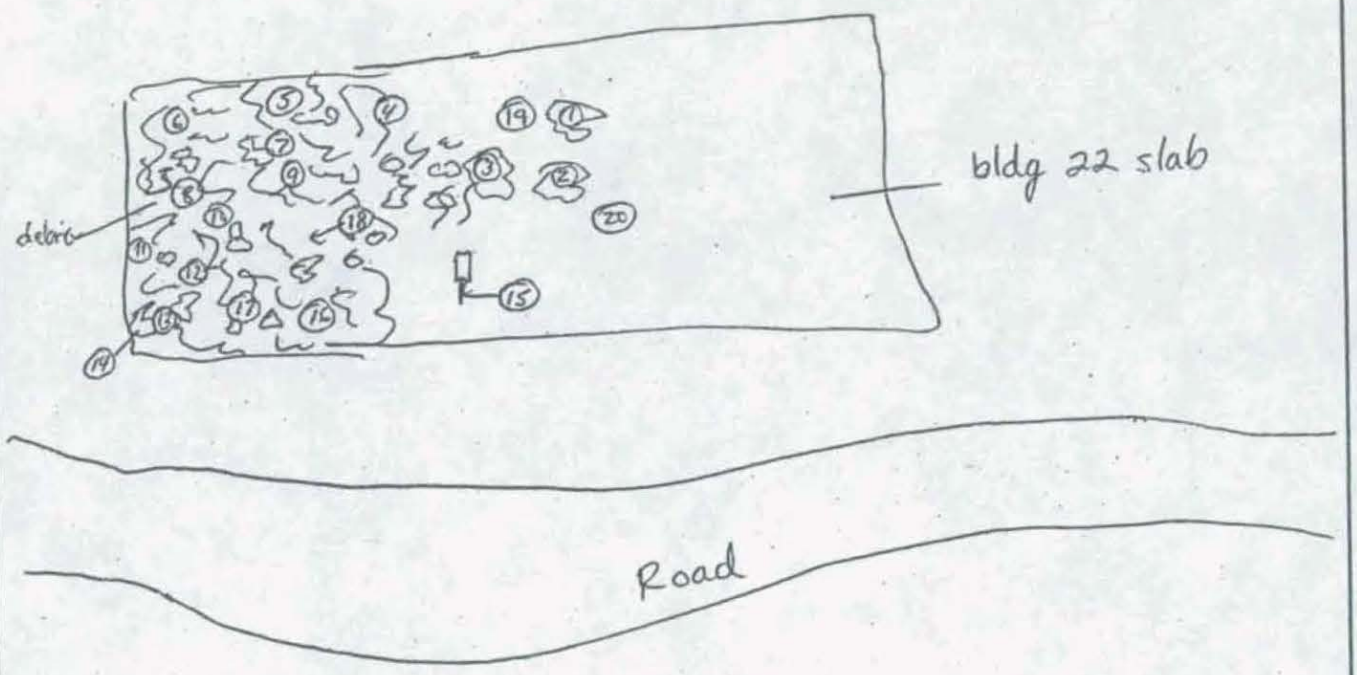
NOTES:
1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for β/γ, alpha or tritium, leave column blank. Mark column N/A if not needed. If count room printout of results are attached, write "see attached" in column.
3. Annotate special sample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

ML-9620A (4-98)

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Bldg 22 slab	SURVEY NO. 04-TF-0378
PURPOSE: In Process survey of slab debris	RWP NO. N/A
	DATE: 11-10-04
	TIME: 0900

MAP / DRAWING



LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+γ) extremity on contact
- K = factor of 1000
- —·—·— = radiological boundary
- (#) = mrem/hr neutron
- (#) = swipe number
- [#] = air sample number
- (#/α) = or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360	5753/5806	10/26/05
Lud 2360	5708/5731	8/17/05
Lud 3030	5826	10/25/05
Lud 3030	5816	7/12/05

Completed by: (Signature) L Deffner / J Quick	HP [redacted]	Date: 11-10-04
Completed by: (Print Name) L. Deffner Jr / J Quick		
Counted by: (Signature) L Deffner	HP# [redacted]	Date: 11-10-04
Counted by: (Print Name) L. Deffner Jr.		
Reviewed/Approved by: (Signature) RM Goblentz	HP# [redacted]	Date: 11/16/04
Reviewed/Approved by: (Print Name) RM Goblentz		

Survey No. 04-TF-0378

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
	Swipes (dpm/100cm²)			
Sample #	β/γ	Alpha	Tritium	Comments
1	0	0	N/A	Slab Debris
2	0	0		plastic
3	0	0		Slab Debris
4	5 ~~0~~	0 5 MD 11/4/04		
5	0	0		
6	0	0		
7	0	0		
8	0	0		
9	0	0		
10	0	0		
11	2	0		
12	0	2		
13	0	0		
14	0	0		
15	0	0		Heavy Equip. Pin
16	0	0		Slab Debris
17	0	3		
18	20	~~200~~ MD 11/4/04		
19	4.0	0 4 MD 11/4/04		
20	0	0		
			N/A	

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

COMMENTS: Direct readings taken at smear locations and various slab debris. All results (<100 α) (<5k 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 needed, mark N/A.

ML-9620A (4-98)

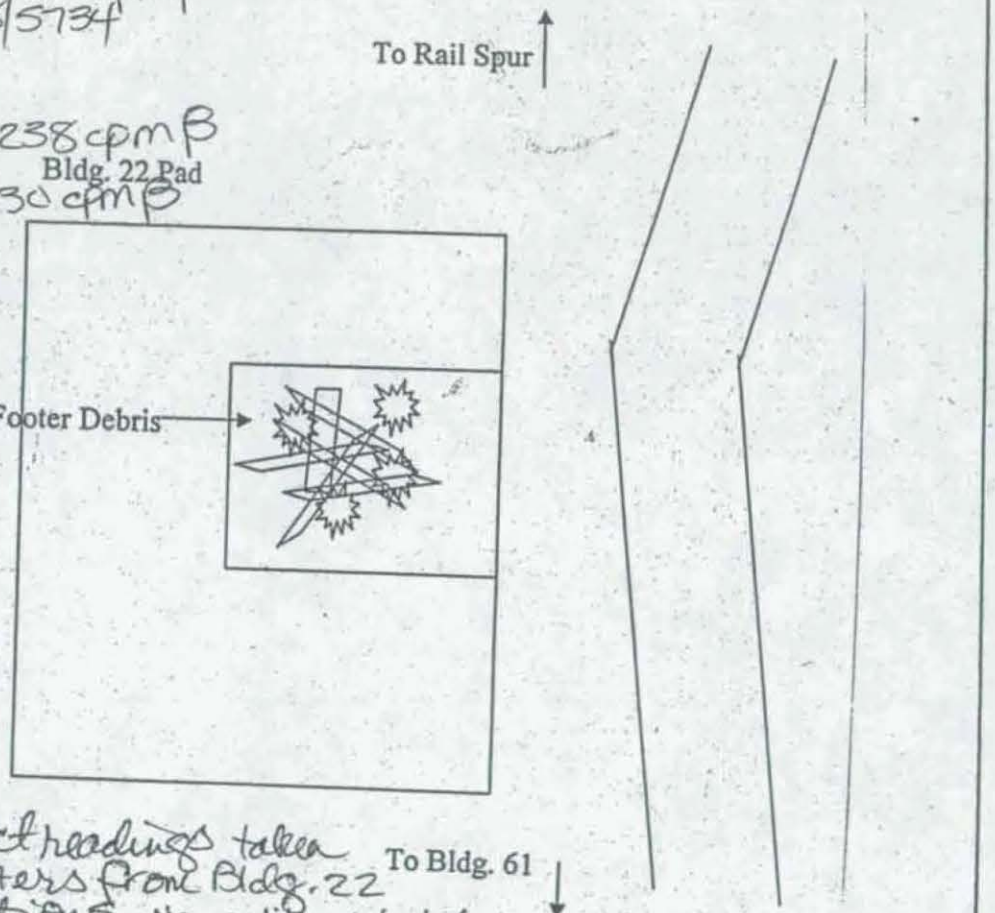
RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 2

LOCATION: (BLDG./AREA/ROOM) Bldg. 22 L07	SURVEY NO. 04-TF-0384
PURPOSE: Survey of slab & sidewalk, Survey of concrete footers prior to release of rock crusher	RWP NO. N/A
	DATE: 11-17-04
	TIME: 1400

MAP / DRAWING

Bkg. 2360: 5755/5723
42 cpm 178 cpm β
Δ: 2.6 cpm α 20 cpm β
Bkg. 2360: 5758/5734
1 cpm α 238 cpm β
Δ: 1.4 cpm α 30 cpm β



*Smears and direct readings taken on concrete footers from Bldg. 22 @ various locations. No audible detected,

(<100 α) (<5K β)

LEGEND:
- # = mrem/hr (γ) whole body
- #E = mrem/hr (β+η+↔) extremity on contact
- K = factor of 1000
- —·—·— = radiological boundary
- (#) = mrem/hr neutron
- (#) = swipe number
- [#] = air sample number
- (#/α) or /β = direct contamination measurement in dpm/100 cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360	5758/5734	4/14/05
Lud 2360	5755/5723	1/8/05
Lud 9030	5826	10/25/05
N/A		

Completed by: (Signature)	Date: 11-22-04
Completed by: (Print Name) J.T. Buck L. Deffur Jr.	
Counted by: (Signature)	Date: 11-22-04
Counted by: (Print Name) J.T. Buck	
Reviewed/Approved by: (Signature)	Date: 11-29-04
Reviewed/Approved by: (Print Name) RN Oblentz	

ML-9620 (2-98) Computer Generated

Survey No. 04-TF-0384

RADIOLOGICAL SURVEY DATA SHEET

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	24	0	N/A	debris
2	2	0		
3	2	0		
4	0	0		
5	9	0		
6	0	0		
7	0	0		
8	M	0		
9	0	0		
10	11	0		
11	0	0		
12	17	2		
13	6	0		
14	0	0		
15	12	0		
16	9	0		sheer

N/A

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

N/A

COMMENTS: N/A

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

APPENDIX C

PRS Recommendation Sheets

Recommendation pages are not generated for PRSs that require Further Assessment (FA) or that are unbinned. Accordingly, there is no recommendation page included herein for PRS 286

The Recommendation Sheet for PRS 67 is not complete; the Core Team-approved Fact Sheet for PRS 67 is included herein in its place.

RECOMMENDATION

PRS 31-36, 125, & 270 Package

Potential Release Sites (PRSs) 31-36, 125, and 270 were identified as PRSs as a result of breaks and/or separations in Mound's sanitary sewer lines, identified during a 1982 video survey of the lines. Radionuclides were not considered contaminants of concern. The concern was the potential release of non-radioactive contaminants into the environment from the identified breaks in the lines. A subsequent project repaired these lines by replacing them or by extruding a liner at the point of the breaks. Soil sampling was performed and results for all non-radioactive analytes were below 10^{-5} Risk-Based Guideline Values.

Therefore, the Core Team recommends **No Further Assessment** for PRSs 31-36, 125, and 270.

11-27-02

Rob Rothman, OSC
U.S. Department of Energy
Miamisburg, Ohio

11/26/02

Tim Fischer, RPM
USEPA
Chicago, Illinois

11/27/02

Brian Nickel
OEPA
Dayton, Ohio

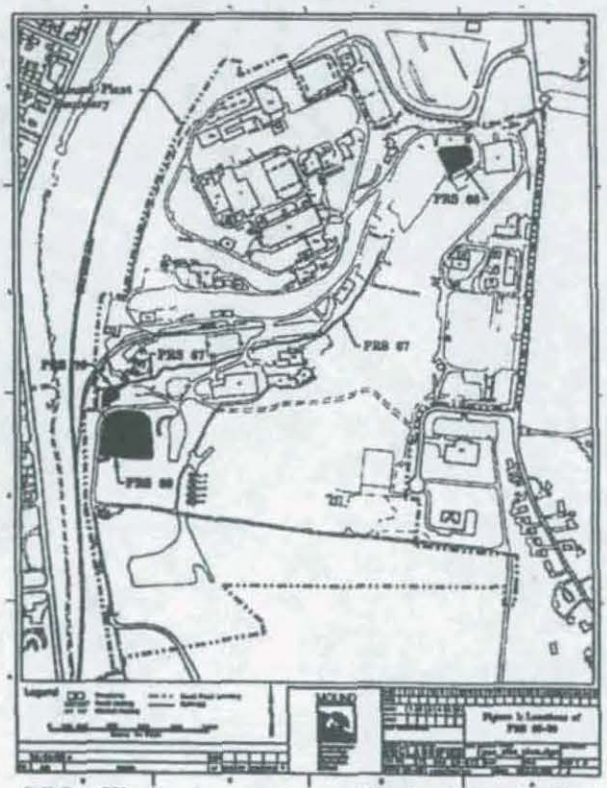
PUBLIC FACT SHEET

PRSs 67, 68, 69, & 70: Site Stormwater Drainage System

This Fact Sheet satisfies the Public Notification requirement set forth in the Contingent Action Memorandum[1].

Background. Potential Release Sites (PRSs) 67 through 70 are the primary components of the site stormwater drainage system as identified in the following table:

PRS	Description
67	Plant Drainage Ditch
68	Asphalt Lined Pond - North
69	Plant Overflow Pond - South
70	Retention Basins and Weir Basin



PRS 67 is an open, unlined channel that constitutes the primary plant drainage ditch (see Figure 1).

PRS 68 is the asphalt lined pond in the northeast corner of the site. The pond was constructed in the 1970s to receive stormwater runoff from the east central portion of the site to support reduction in suspended solids in runoff.

PRS 69 is the overflow pond and outfall pipe located at the south end of the drainage ditch. It is used to retain storm water flows, settle sediment, and support compliance with the National Pollutant Discharge Elimination System (NPDES) discharge standards for suspended solids. The pond is fed by two inlets, one being the PRS 67 drainage ditch and the other being a drainage structure (PRS 418) which was binned No Further Assessment. This PRS addresses only the stormwater sediment within the pond.

PRS 70 is also located at the south end of the drainage ditch (PRS 67) and consists of an open impoundment with earthen sides used to control the flow of water and settle sediment. The bottom is partitioned into three basins by concrete dividers. PRS 70 discharges into the weir basin. This PRS also includes the weir basin that moderates the flow so that the discharge volume can be measured.

Characterization. Several investigations have been conducted at or near the subject PRSs. Water and sediment samples have been collected and analyzed. All contaminants detected in the composited water samples were at concentrations less than applicable guideline values. The sediment sample results indicated exceedances to cleanup objectives (risk criteria), maximum results of which are presented in pCi/g in the table below.

Analyte	PRS	Maximum Result	Cleanup Objective
Plutonium-238	67	535	55
	68	257	55
	69	34	55
	70	749	55
Thorium-228	67	1.23	2.6
	68	9.44	2.6
	69	1.4	2.6
	70	1.27	2.6
Thorium-232	67	1.09	2.1
	68	0.44	2.1
	69	2.70	2.1
	70	1.57	2.1

1: Action Memorandum/Engineering Evaluation/Cost Analysis, Contingent Removal Action for Contaminated Soil, June 2002, Final
2: Standard Work Package for Contingent Removal Actions, November 2001, Final
3: Storm Water Pollution Prevention Plan

The maximum sample result of the only chemical found above cleanup objective is benzo(a)pyrene (8.0 mg/kg vs. 4.1 mg/kg CO). Benzo(a)pyrene is present in urban environments as a result of incomplete combustion in motor vehicles and is a component of asphalt based products. Five sample results were above the cleanup objectives; four were located within the asphalt-lined pond (PRS 68) and one at the discharge pipe from the asphalt-lined pond.

The Core Team originally recommended Further Assessment for these PRSs. Subsequently, the Department of Energy determined that a **Removal Action** (RA) per the Contingent Action Memo[1] is appropriate based on results above COs. RA COCs are Pu-238, Th-232, and isolated instances of benzo(a)pyrene.

The **Work Plan** for Contingent Removal Actions[2], supplemented by the Unique Work Package, includes procedures, instructions, and applicable permits and notifications required to safely conduct the work. Erosion and runon/runoff controls will be managed per the SWP3[3].

The RA will consist of excavation of contaminated soil and sediment in areas indicated by sample results above the cleanup objectives and shipping this soil to an approved disposal facility. Post-excavation sampling will be performed within the excavations per a Core Team-approved **Verification Sampling & Analysis Plan (VSAP).**

Schedule. This Fact Sheet will be in public review for 30 days, ending April 29, 2004. The RA is planned to begin in late summer 2004. As currently planned, removal activities for PRSs 67-70 will not begin until all upgradient contamination has been remediated. However if the removal of upgradient contamination is not completed by the time removal activities begin in PRSs 67-70, additional precautions such as supplemental sediment and silt controls will be put in place on all upgradient projects at the project perimeters to ensure that upgradient contamination does not re-comtaminate these PRSs. Subsequent confirmatory sampling at the appropriate outfalls into the drainage system will occur to ensure cross contamination did not take place. These precautions will be further specified within the Core Team approved Removal Work Plan and Verification Sampling Plan. A summary of the RA & the verification data will be included in the On-Scene Coordinator (OSC) Report. The OSC Report will be placed in the public reading room after the conclusion of the verification sampling and approval by the Core Team.

Expected excavation of approximately 3220 yd^3 (2460 m^3) with possible maximum excavation of 8730 yd^3 (6675 m^3) and verification are expected to cost less than $500,000.

Additional information can be found in the public reading room, or by contacting Danny Punch at 847-8350 extension 301.

1: Action Memorandum/Engineering Evaluation/Cost Analysis, Contingent Removal Action for Contaminated Soil, June 2002, Final
2: Standard Work Package for Contingent Removal Actions, November 2001, Final
3: Storm Water Pollution Prevention Plan

MOUND PLANT
PRS 75
SOIL CONTAMINATION
HISTORICAL RAILROAD SPUR AREA

RECOMMENDATION:

Potential Release Site (PRS) 75 is a soils area in the vicinity of the railway siding. This PRS was created due to its use as a radioactive drum storage, loading, unloading, and repackaging area. Plans call for the rail siding to be considered an active site, instrumental in the shipment of contaminated soils from the Mound plant.

Mutiple soil samples taken from the PRS 75 area have recorded concentrations of thorium-232 and plutonium-238 in excess of guideline criteria. Radium-226 and uranium-238 has also been found in excess of guideline in at least one sample. Plutonium-238 has been reported as high as 573 pCi/g (Mound ALARA guideline criteria is 25 pCi/g). Thorium-232, radium-226, and uranium-238 have been reported as high as 107 pCi/g, 14 pCi/g, and 13.5 pCi/g, respectively (regulatory guideline criteria for thorium-232, radium-226, and uranium-238 is 5 pCi/g).

Therefore, due to soil radiological concentrations which present an unacceptable risk to potential future construction activities at PRS 75, a RESPONSE ACTION is recommended.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager — 11/21/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 11/21/96 (date)

OEPA: Brian K. Nickel, Project Manager — 11/21/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 11/29/96 to 01/01/97

[X] No comments were received during the comment period.

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

MOUND PLANT
PRS 90
SOIL CONTAMINATION - BUILDING 22

RECOMMENDATION:

Potential Release Site (PRS) 90 was based on an isolated thorium-238 reading of 5.74 pCi/g gathered during the 1983 site survey, however no known radioactive or hazardous waste generating processes are known to have occurred at the location of PRS 90. This "hot spot" was subsequently remediated. Soil borings and subsequent soil screening results from March, 1995 verified that thorium contamination was below the D&D clean-up level of 5 pCi/g surface and 15 pCi/g subsurface. The OU5 Operational Area Phase I Investigation further indicates that the area is below the D&D clean-up level of 5 pCi/g surface and 15 pCi/g subsurface, therefore, NO FURTHER ASSESSMENT is recommended for PRS 90.

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath — 3/29/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA: Timothy J. Fisher — 3/4/96
Timothy J. Fischer, Remedial Project Manager (date)

OEPA: Brian K. Nickel — 3/4/96
Brian K. Nickel, Project Manager (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 4/15/96 to 5/15/96.

☒ No comments were received during the comment period.

☐ Comment responses can be found on page_____ of this package.

MOUND PLANT
PRS 176/177/178/300
WASTE TRANSFER SYSTEM LINE, TANKS AND SOIL

RECOMMENDATION:

These Potential Release Sites (PRSs) deal with the transfer of plutonium-238 contaminated waste solutions via the Waste Transfer System (PRS 300) to the Waste Disposal Building (WD) and to two underground storage tanks in Building 41 (PRSs 177 and 178). The PRSs were created as a result of historical knowledge of leaks in the underground Waste Transfer System (WTS).

The WTS was built in 1967 and remained in operation until 1974 when repeated leaks in the WTS lines forced the WTS to be abandoned. In 1974, the soils associated with the WTS leaks (PRS 176) were remediated. In the mid 1980s, the WTS line, the two holding tanks, and Building 43 were removed. Post removal sampling results obtained from the November 1993 *OU6, Area 19 and Area 14 Verification Report* indicated all concentrations of VOCs, SVOCs, pesticides/PCBs and inorganics, in the soil, were below their 10^{-6} Risk Based guideline values. Additionally, the *OU6, Area 19 and Area 14 Verification* sampling showed, within the 95% upper confidence level (UCL), plutonium-238 and thorium soil concentrations were below their respective guideline criteria of 25 pCi/g (Mound ALARA goal for plutonium) and 15 pCi/g (regulatory guideline criteria for subsurface thorium). No other contaminants were detected above guideline criteria.

Therefore, NO FURTHER ASSESSMENT is recommended for PRSs 176, 177, 178, and 300.

CONCURRENCE:

DOE/MB: Arthur W Kleinrath — Arthur W. Kleinrath, Remedial Project Manager — 11/26/96 (date)

USEPA: Timothy J. Fischer — Timothy J. Fischer, Remedial Project Manager — 12/3/96 (date)

OEPA: Brian Nickel — Brian K. Nickel, Project Manager — 12/17/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 1/9/97 to 2/13/97

☒ No comments were received during the comment period.

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

MOUND PLANT
PRS 176/177/178/300
WASTE TRANSFER SYSTEM LINE, TANKS AND SOIL

RECOMMENDATION:

These Potential Release Sites (PRSs) deal with the transfer of plutonium-238 contaminated waste solutions via the Waste Transfer System (PRS 300) to the Waste Disposal Building (WD) and to two underground storage tanks in Building 41 (PRSs 177 and 178). The PRSs were created as a result of historical knowledge of leaks in the underground Waste Transfer System (WTS).

The WTS was built in 1967 and remained in operation until 1974 when repeated leaks in the WTS lines forced the WTS to be abandoned. In 1974, the soils associated with the WTS leaks (PRS 176) were remediated. In the mid 1980s, the WTS line, the two holding tanks, and Building 43 were removed. Post removal sampling results obtained from the November 1993 *OU6, Area 19 and Area 14 Verification Report* indicated all concentrations of VOCs, SVOCs, pesticides/PCBs and inorganics, in the soil, were below their 10^{-6} Risk Based guideline values. Additionally, the *OU6, Area 19 and Area 14 Verification* sampling showed, within the 95% upper confidence level (UCL), plutonium-238 and thorium soil concentrations were below their respective guideline criteria of 25 pCi/g (Mound ALARA goal for plutonium) and 15 pCi/g (regulatory guideline criteria for subsurface thorium). No other contaminants were detected above guideline criteria.

Therefore, NO FURTHER ASSESSMENT is recommended for PRSs 176, 177, 178, and 300.

CONCURRENCE:

DOE/MB: Arthur W Kleinrath — Arthur W. Kleinrath, Remedial Project Manager — 11/26/96 (date)

USEPA: Timothy J. Fischer — Timothy J. Fischer, Remedial Project Manager — 12/3/96 (date)

OEPA: Brian K Nickel — Brian K. Nickel, Project Manager — 12/17/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 1/9/97 to 2/13/97

☒ No comments were received during the comment period.

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

MOUND PLANT
PRS 367
SOIL CONTAMINATION -

RECOMMENDATION:

PRS 367 is a soil potential release site (PRS) located in the western sector of the original Mound plant. This soil location was identified as a PRS 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 PRS 367.

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. PRS 367 was not sampled as part of the Soil Gas Confirmation Sampling but the PRS had lower ion counts than confirmation sample locations 7, 11, and 18. This implies that PRS 367 has similar or lower health risk than confirmation sample locations 7, 11, and 18.

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

CONCURRENCE:

DOE/MB: Arthur W. Kleinrath, Remedial Project Manager — 12/17/96 (date)

USEPA: Timothy J. Fischer, Remedial Project Manager — 12/17/96 (date)

OEPA: Brian K. Nickel, Project Manager — 12/18/96 (date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 2/27/97 to 4/3/97

☒ No comments were received during the comment period.

☐ Comment n page _____ of this pack

MIAMISBURG CLOSURE PROJECT
PRS 397

RECOMMENDATION:

Potential Release Site (PRS) 397 is located south of the former fuel tanks (Figure 1) and was binned Further Assessment (FA) by the Core Team on 3 October 1996. PRS 397 was identified based on a soil sample (Sample ID SEPW) collected as part of the passive soil gas survey in 1994.

Further Assessment was performed and confirmed that the levels of BTEX and PAH are acceptable when compared to the more stringent of the 10^{-6} RBGV or Hazard Index of one values. TPH was not detected in the sample.

Therefore, the Core Team recommends **No Further Assessment** for PRS 397.

A PRS Package with an NFA recommendation signed by the Core Team will be placed in the Public Reading Room for a 30-day review period. Upon closure of the public review comments, if any, the PRS Package will be issued as a final document and made available in the Public Reading Room.

CONCURRENCE:

DOE/MCP: _____ 2/19/03
Robert S. Rothman, Remedial Project Manager (date)

USEPA: David P Seely 2/19/03
David P. Seely, Remedial Project Manager (date)

OEPA: _____ 2/19/03
Brian K. Nickel, Project Manager (date)