

3006-0407210005



**CH2MHILL**

JUN 29 2004

CH2M HILL  
Mound, Inc.  
1 Mound Road  
P.O. Box 3030  
Miamisburg, OH  
45343-3030

ER/WM-028/04  
June 29, 2004

Ms. Margaret L. Marks, Director  
Miamisburg Closure Project  
U. S. Department of Energy  
500 Capstone Circle  
Miamisburg, OH 45342

ATTENTION: Paul Lucas  
SUBJECT: Contract No. DE-AC24-03OH20152  
**BUILDINGS 40 AND 99, CLOSEOUT REPORT, FINAL**  
REFERENCE: Statement of Work Requirement 055 - Regulator Reports

Dear Ms. Marks:

Paul Lucas from your office has authorized the release of the following final document:

- Buildings 40 and 99, Closeout Report, Final

If you or members of your staff have any questions regarding the document, or if additional support is needed, please contact me at 937-865-4203.

Sincerely,

David A. Rakel  
CERCLA Lead

DAR/vkd

Enclosures

cc: David Seely, USEPA, (1) w/attachments  
Brian Nickel, OEPA, (1) w/attachments  
Ruth Vandegrift, ODH, (1) w/attachments  
Mary Wojciechowski, Tetra Tech, (1) w/attchs  
Frank Schmaltz, DOE/MCP, (1) w/attachments  
Lisa Rawls, DOE/MCP, w/o attachments  
Randy Tormey, DOE/OH, (1) w/attachments  
Terry Tracy, DOE/HQ, (1) w/attachments  
Dann Bird, MMCIC, (2) w/attachments  
Jim Bonfiglio, MESH, (1) w/attachments

Public Reading Room, (4) w/attachments  
Chris Watson, CH2M Hill, (1) w/attachments  
CERCLA Records, CH2M Hill, (1) w/attchs  
ER Library, CH2M Hill, (1) w/attchs  
DCC (1) w/attachments  
John Fulton, CH2M Hill, w/o attachments  
Bob Ransbottom, CH2M Hill, w/o attachments  
Dave Rakel, CH2M Hill, w/o attachments  
Val Darnell, CH2M Hill, w/o attachments



Environmental  
Restoration  
Program

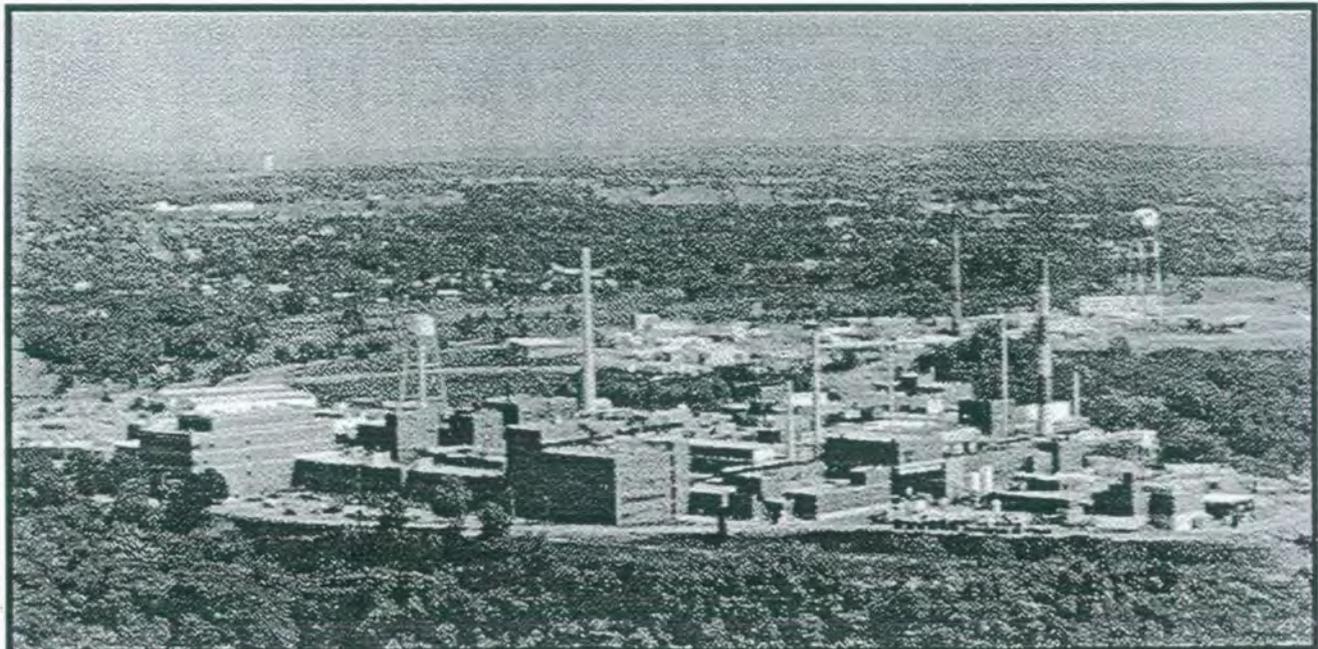


# Miamisburg Closure Project CLOSEOUT REPORT

## Buildings 40 and 99

(Demolition)

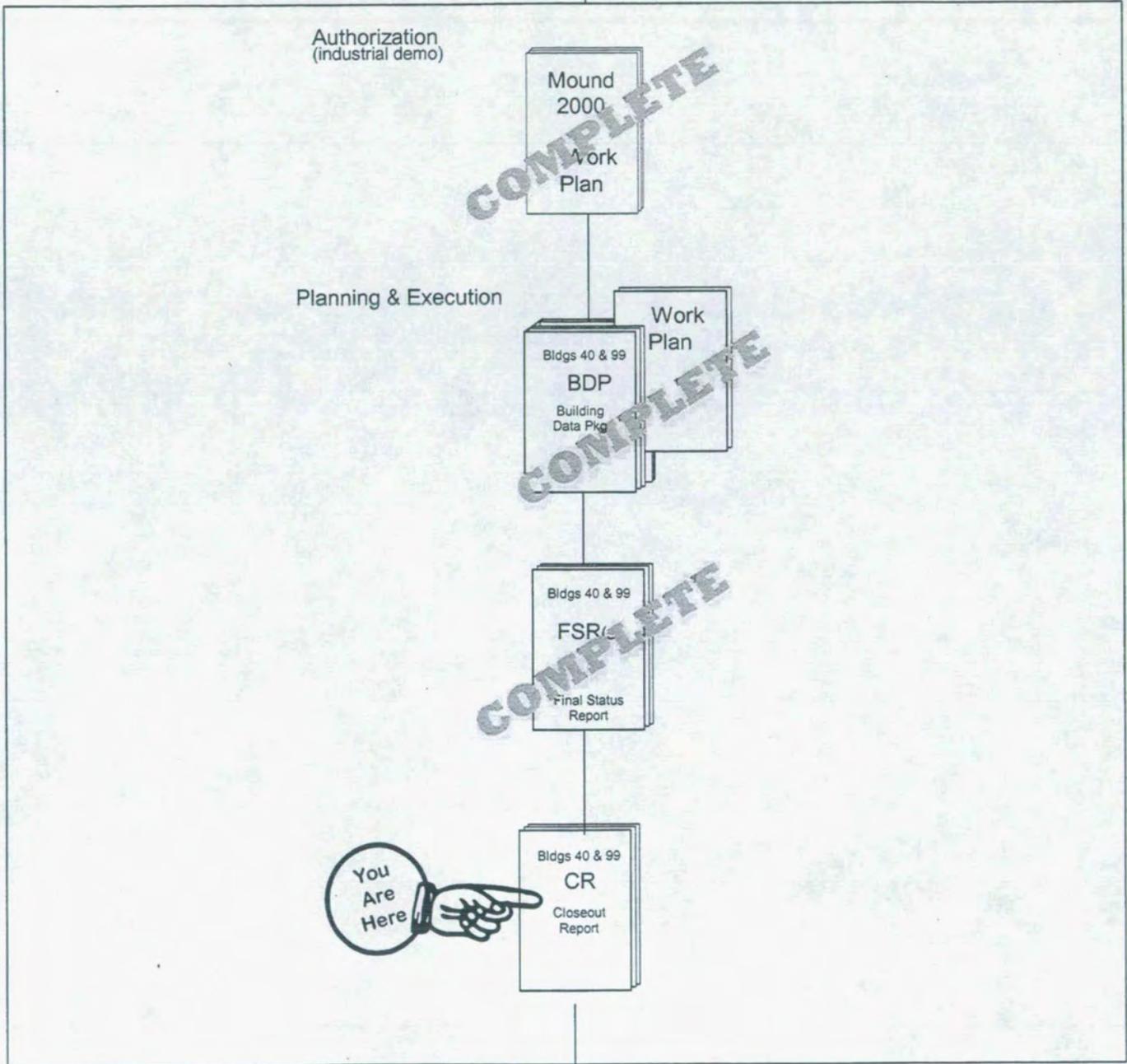
Final  
June 2004



# Buildings 40 & 99



Bldgs 40 & 99



Completion

CR  
Addendum  
to CR for:  
Bldgs 40 & 99

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## 1.0 PURPOSE

This is the final report documenting completion of the demolition of Buildings 40 and 99 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 their slabs and footers, was accomplished per the Work Package for Buildings 40 and 99 Demolition #SMPP/TFV-36035, a copy of which was included in Appendix O of the Building Data Package (BDP) for Buildings 40 and 99. The scope of work relating to these buildings is considered complete. Final site restoration will be completed after staged concrete debris has been removed.

## 2.0 BACKGROUND

### 2.1 Buildings 40 and 99

#### Building 40

Built in 1968, Building 40 was originally a single-story 2,560 square-foot structure. In the mid-1980s a three-story addition was built on its southern side bringing the total building size to 12,227 square feet.

The original building was constructed on footers that extended approximately 2'-8" below the base of the 6-inch floor slab; the addition was constructed on footers that were typically 3'-6" below the 6-inch floor slab. The first floor slabs were poured on a sub-base of 5 inches of gravel fill. The exterior walls were reinforced block with brick veneer. The roof structure was a steel bar joist type with a built-up membrane.

Building 40 was constructed and used as a printing services facility. The original building contained printing presses, bindry equipment, print wash equipment, graphics arts processing equipment, cameras, collators, drills, presses, cabinets, worktables, a dark room, and a vault for classified documents. The first floor of the Building 40 addition also contained printing and microfilming equipment, as well as office space. The second floor of the Building 40 addition housed the technical manuals and publication functions, and the third floor housed utility equipment. In the late 1990s, the rooms on the southern end of the first floor addition were used by the Training Department to train site radiological workers. While located in this area, the trainers erected mock radiological controlled and contamination areas that were used to train and to test Radiological Worker II students. These areas were for training purposes only, and were not involved in actual radiological operations. No research, development, or production activities using radioactive or energetic materials occurred in the building.

#### Building 99

Built in 1987, Building 99 was a four-story, 11,412 square-foot, reinforced concrete building with a built-up membrane roof. The first floor of the building was supported by a 5-inch thick reinforced concrete slab poured on a 4-inch thick (minimum) granular fill sub-base.

The slab was thicker under load-bearing walls. The building was supported by concrete footers. The base of the exterior concrete walls included a 6-inch perimeter slab that supported the brick veneer that covered the exterior of the building.

Building 99 was constructed and used as a security operations facility. The first and second floors were administrative areas for security personnel. The first floor also contained a locksmith shop. The third floor contained the site's Emergency Operations Center (EOC) and Security Communications Center. The fourth floor was a penthouse used for utility and mechanical equipment. The building was used for the same purposes since construction. 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 Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) cleanup process via the Federal Facilities Agreement (FFA)/DOE Environmental Restoration (ER) Program, DOE and site contractor tabulated all the PRSs identified under the various regulatory programs in effect at the site. Seven are located at or near Buildings 40 and 99 (Table 1). The PRS locations are shown on Figure 2, and recommendation sheets are provided in Appendix N of the BDP. None of the PRSs are associated with Buildings 40 and 99, and four have been binned No Further Assessment (NFA).

**Table 1 - PRSs in Proximity to Buildings 40 and 99**

PRS	CERCLA or Bldg. Related	Binning Status	Comments
106*	CERCLA	unbinned	G Building Soils (AKA Garage Area)
107	CERCLA	NFA	G Building Gasoline Tank (Tank 202)
108	CERCLA	NFA	G Building Gasoline Tank (Tank 203)
109	CERCLA	NFA	G Building Gasoline Tank (Tank 204)
211**	Building	unbinned	A Building Decontamination Shower Water Tank (Tank 28)
212**	Building	unbinned	A Building Decontamination Shower Water Tank (Tank 29)
332	CERCLA	NFA	G Building Waste Oil Tank (Tank 262)

\* PRS 106 - Soil samples were collected following removal of the G and GW Building slabs. Analytical results will be provided in the PRS 106 PRS Package.

\*\* PRSs 211 and 212 - The A Building Decontamination Shower Water Tanks were removed and disposed of as low-level waste (LLW). Soil samples were collected from below the tanks and below influent and effluent lines. Analytical results will be provided in the PRS 211 and 212 PRS Package.

### 3.0 ACTIONS TAKEN

The Buildings 40 and 99 BDP was submitted for simultaneous Core Team and public review on 18 August 2003, and the 30-day public review period concluded on 17 September 2003.

This Closeout Report documents the completion of the demolition and removal of Buildings 40 and 99. All preparation and demolition activities were performed, except for:

1. Removal of one foundation wall that has been delayed until after OSE Building power is redirected to allow shutdown of an adjacent electrical duct bank, and
2. Final site restoration.

A Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) study of Buildings 40 and 99 was performed prior to demolition. The study reports (provided in the Final BDP) provide details of the survey design and results and indicate that Buildings 40 and 99 met applicable surface release criteria. Post-demolition surveys showed no elevated readings (copies are provided in Appendix B).

Building debris was loaded into haulers and taken to a local sanitary landfill.

The demolition of Buildings 40 and 99 commenced on 28 October 2003 and was completed on 03 March 2004. Photographs taken before, during, and after demolition are provided in Appendix A.

After building demolition, the site was used to stage clean foundation demolition rubble from various buildings. As a result of this follow-on use, final site restoration was postponed. Prior to parcel transfer the site will be cleared, graded, and seeded. Site restoration will be documented in an addendum to this closeout report.

**Table 2 - Materials Disposition**

Building 40 Material	Quantity	Disposal Method	Destination
Asbestos Abatement (Debris)	300 cubic feet	Landfill	Stoney Hollow
Construction Debris (concrete, brick, and rebar)	70,956 cubic feet	Landfill	Stoney Hollow
Polychlorinated biphenyl (PCB) Light Ballast	5.4 cubic feet	Treatment	Clean Harbors
Glycol	3,578.4 liters	Treatment	Clean Harbors

Building 99 Material	Quantity	Disposal Method	Destination
Asbestos Abatement (Debris)	100 cubic feet	Landfill	Stoney Hollow
Construction Debris (concrete, brick, and rebar)	165,564 cubic feet	Landfill	Stoney Hollow
PCB Light Ballast	5.4 cubic feet	Treatment	Clean Harbors
Glycol	3,399.8 liters	Treatment	Clean Harbors

#### 4.0 PROBLEMS ENCOUNTERED

Buildings 40 and 99 were successfully demolished per the Work Package. As stated in Section 3.0, after building demolition, the site was used to stage clean foundation demolition rubble from various buildings. As a result of this follow-on use, final site restoration was postponed. Prior to parcel transfer the site will be cleared, graded, and seeded. Site restoration will be documented in an addendum to this closeout report.

#### 5.0 RESOURCES COMMITTED

##### 5.1 Personnel Organization

Table 3 lists the personnel organization for the demolition.

**Table 3 - 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	David Seely	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 3 - Personnel Organization for the Demolition**

<b>Agency or Party Involved</b>	<b>Contact</b>	<b>Description of Participation</b>
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.
CH2M Hill Mound, Inc. General Superintendent and Equipment Manager P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4278	Max Edington	Provided the equipment necessary for the demolition.

**5.2 Demolition Cost**

Under the new site contract, CH2M Hill Mound, Inc. has elected to cluster financial data for multiple buildings together. Building 40 is the only building in Cluster 40, and Building 99 is the only building in Cluster 99. The total cluster costs are presented in Table 4.

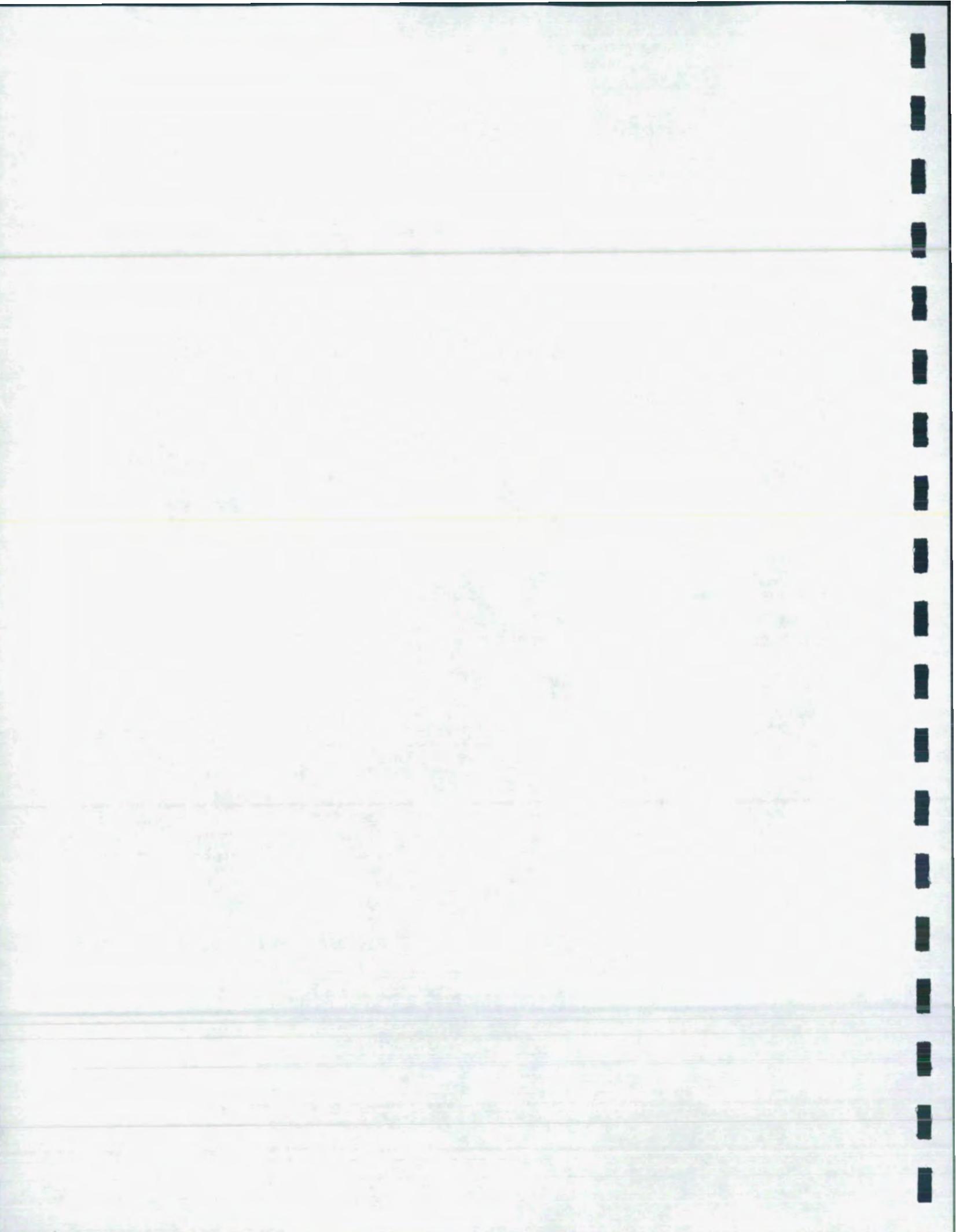
**Table 4 – Cluster 40 and Cluster 99 Total Costs**

**Cluster 40 Cost**

<b>Activity</b>	<b>Cost</b>
Work Planning	\$23K
Demolition	\$56K
<b>Total</b>	<b>\$79K</b>

**Cluster 99 Cost**

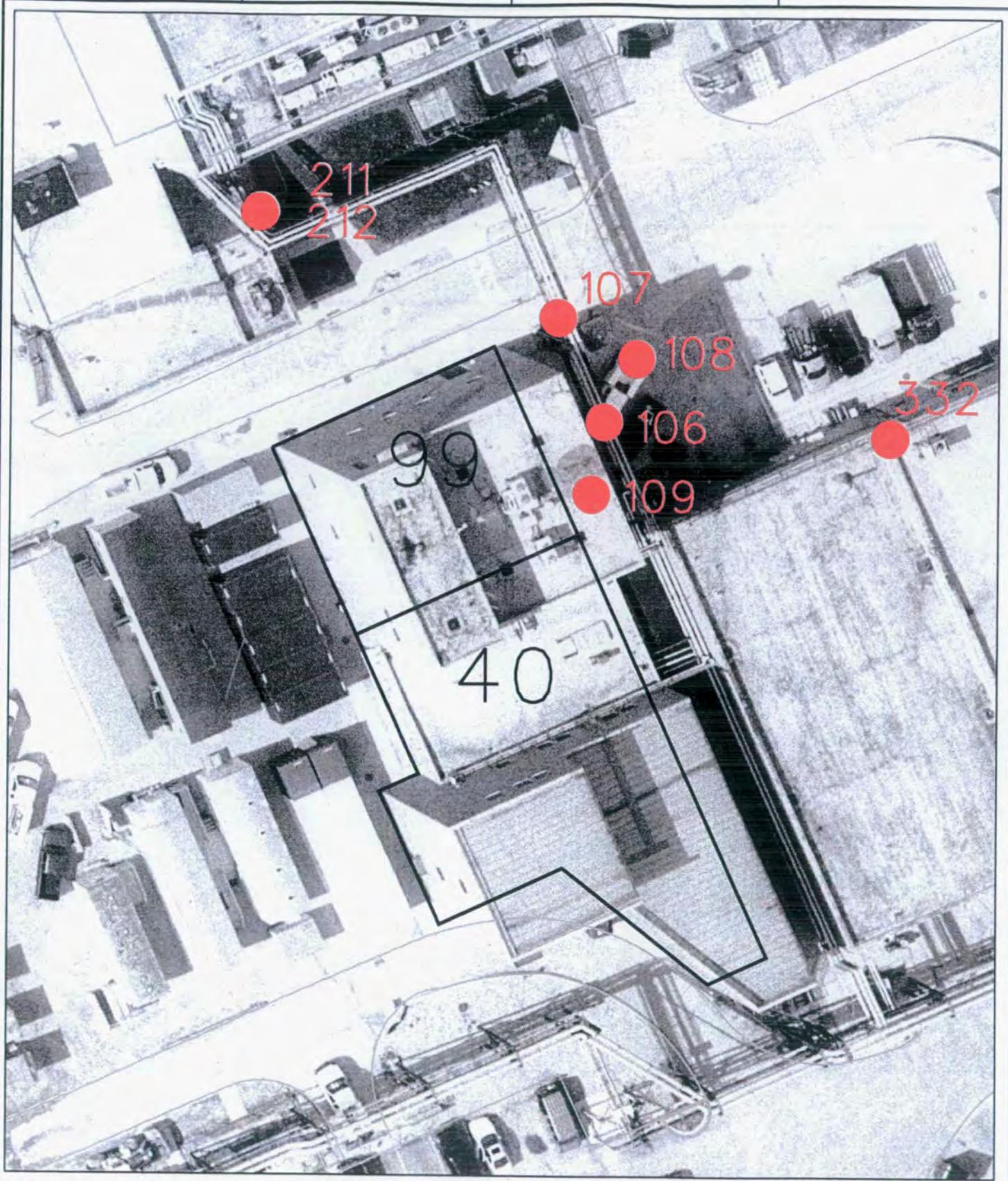
<b>Activity</b>	<b>Cost</b>
Work Planning	\$14K
Facility Prep	\$75K
Demolition	\$97K
<b>Total</b>	<b>\$186K</b>



**APPENDIX A**

**Figures**





- PRS Point
- - - PRS Area
- ~ PRS Line



06/14/04	SSF				
ISS	DATE	REVISION	BY	CHKD	ENCL

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE	1	2	3	4	5	6															
ISSUE	#																				
PART CLASSIFICATION																					
DRAWING CLASSIFICATION	<b>UNCLASSIFIED</b>										vicinity.dgn										
DWG TYPE	STE	MNG	ER-GIS	EXEC																	
STATUS	MD-REL	-**	**	**																	

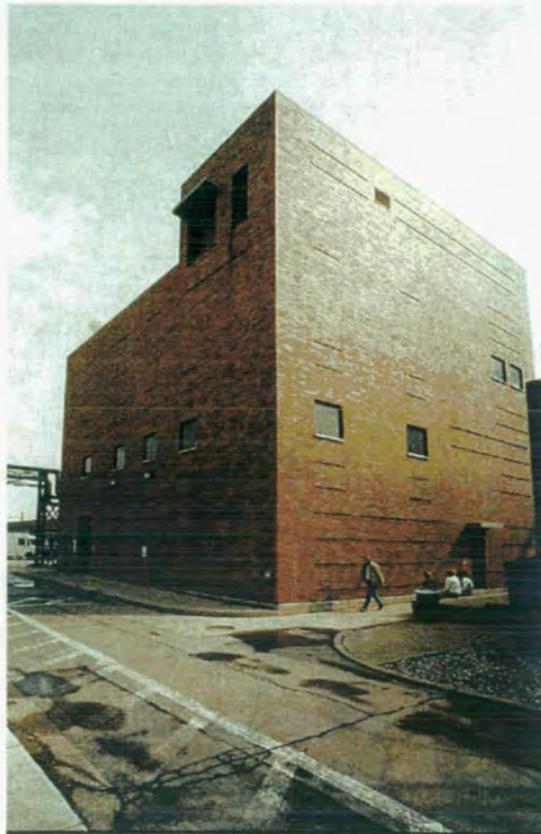
Figure 2  
Building 40 & 99  
and Vicinity

A 2085

Figure 3 - Building Photos



Building 40



Building 99

A3085



Bldg. 40 During Demolition



Bldg. 99 During Demolition



Current State of Area at Bldgs. 40 & 99

A5065

**APPENDIX B**

**Post-Final Status Survey Report  
Radiological Surveys**

# RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) <b>40/99</b>	SURVEY NO. <b>04-TF-0060</b>
PURPOSE: <b>SURVEY CONCRETE FOR RELEASE TO WASTE MANAGEMENT</b>	RWP NO. <b>N/A</b>
	DATE: <b>2-16-04</b>
	TIME: <b>10:30</b>

## MAP/DRAWING

**COPY**

CONCRETE SCANNED WITH 2360. NO AUDIBLE DETECTED. ALL READINGS  $< 100 \text{ dpm}/100 \text{ cm}^2 \alpha$ ,  $< 5,000 \text{ dpm}/100 \text{ cm}^2 \beta$ .

FIDLER USED FOR INDICATION ONLY. NO ELEVATED READINGS DETECTED. SEE ATTACHED SWIPE RESULTS.

LEGEND: # = mrem/hr ( $\gamma$ ) whole body  
#E = mrem/hr ( $\beta + \eta + \gamma$ ) extremity on contact

 = mrem/hr neutron

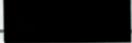
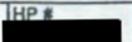
 = air sample number

 = swipe number

 or  $\beta$  = direct cont. measurement in  $\text{dpm}/100 \text{ cm}^2$

### INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5833/5847	3-13-04
FIDLER	5872/3964	1-14-05
<del>NA</del>		

Completed by: (Signature) <i>[Signature]</i>	HP # 	Date: <b>2-16-04</b>
Completed by: (Print Name) <b>H. KEYNOLOS</b>		
Counted by: (Signature) <i>[Signature]</i>	HP #	Date:
Counted by: (Print Name) <b>ATTACHED</b>		
Reviewed/Approved by: (Signature) <i>[Signature]</i>	HP # 	Date: <b>2-17-04</b>
Reviewed/Approved by: (Print Name) <b>R. Case</b>		

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm <sup>2</sup> )				
Sample #	Beta	Alpha	Tritium	Comments
1	SEE		N/A	CONCRETE
2	ATTACHED			
3				
4				
5				
6				
7				
8				
9	↓	↓	↓	↓
N/A				

Removable Contamination				
Swipes (dpm/100cm <sup>2</sup> )				
Sample #	Beta	Alpha	Tritium	Comments
N/A				

APR 12-16 04  
 COMMENTS: N/A SWIPES SCREENED WITH Z360 BEFORE SENDING TO COUNT ROOM.

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for beta, 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.

# Smear Analysis

Unit Type: LB4100/W  
 Counting Unit ID: Aqua  
 Data file name: SMEAR004  
 Batch Ended: 2/16/04 8:05

Crosstalk correction performed.

Recalibration Date: 03/18/05  
 Serial Number: 26966-1

Batch ID: REYNOLDS 04-TF-0060 [9] JC

Detector ID	Sample ID
A1	1
A2	2
A3	3
A4	4
B1	5
B2	6
B3	7
B4	8
C1	9

Alpha Activity		
DPM	$\sigma$	flags
0.00	2.01	
0.00	2.06	
0.00	1.96	
0.00	1.99	
1.53	2.00	
0.00	2.06	
1.45	1.83	
0.00	1.90	
0.00	2.07	

Beta Activity		
DPM	$\sigma$	flags
0.30	1.76	
0.00	1.20	
0.15	1.70	
1.32	2.05	
0.00	2.02	
4.98	2.88	
0.00	1.70	
1.42	2.27	
0.27	2.14	

*JR*

*JR*

B 3067

*JR 2-16-04*  
 Page 4 of 4  
 3 of 3

*J. Collins*

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B4067

# RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG/AREA/ROOM) <b>40/99 RUBBLE</b>	SURVEY NO. <b>CH-TF-0065</b>
PURPOSE: <b>SURVEY CONCRETE FOR RELEASE TO WASTE MANAGEMENT</b>	RWP NO. <b>N/A</b>
	DATE: <b>2-24-04</b>
	TIME: <b>1300</b>

## MAP/DRAWING

# COPY

SCANNED CONCRETE WITH 2360. INTEGRATED READING TAKEN IF AUDIBLE DETECTED. NO AUDIBLE DETECTED. ALL DIRECT READINGS  $< 100 \text{ dpm}/100 \text{ cm}^2 - \alpha$ ,  $< 5,000 \text{ dpm}/100 \text{ cm}^2 - \beta$ . FIDLER USED FOR INDICATION ONLY. NO ELEVATED READINGS DETECTED. SEE ATTACHED SWIPE RESULTS.

LEGEND: # = mrem/hr ( $\gamma$ ) whole body  
#E = mrem/hr ( $\beta + \eta + \gamma$ ) extremity on contact

$\triangle$  # = mrem/hr neutron  
# = air sample number

$\odot$  # = swipe number  
 $\odot$  #/ $\alpha$  or  $\beta$  = direct cont. measurement in  $\text{dpm}/100 \text{ cm}^2$   
**2-25-04**

### INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360	5833/5847	3-13-04
FIDLER	5872/3964	1-14-05
	N/A	

Completed by: (Signature) <i>H. Reynolds</i>	HP #	Date: <b>2-24-04</b>
Completed by: (Print Name) <b>H.W. REYNOLDS</b>		
Counted by: (Signature) <i>SEE</i>	HP #	Date:
Counted by: (Print Name) <b>ATTACHED</b>		
Reviewed/Approved by: (Signature) <i>[Signature]</i>	HP #	Date: <b>2-26-04</b>
Reviewed/Approved by: (Print Name)	<b>R. Case</b>	

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm <sup>2</sup> )				
Sample #	βγ	Alpha	Tritium	Comments
1-15	SEE ATTACHED	N/A	N/A	CONCRETE
N/A				

Removable Contamination				
Swipes (dpm/100cm <sup>2</sup> )				
Sample #	βγ	Alpha	Tritium	Comments
N/A				

COMMENTS: SWIPES SCREENED WITH 2360 BEFORE SENDING TO COUNT ROOM.

NOTES:

1. See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
2. To request RO Count Room analysis for βγ, 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.

# Smear Analysis

Unit Type: LB4100/W  
 Counting Unit ID: Aqua  
 Data file name: SMEAR009  
 Batch Ended: 2/24/04 11:26

Crosstalk correction performed.

Recalibration Date: 03/18/05  
 Serial Number: 26966-1

Batch ID: REYNOLDS 04-TF-0065 (15) JC

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	$\sigma$	flags	DPM	$\sigma$	flags
A1	1	1.63	2.02		1.40	2.16	
A2	2	0.00	2.08		1.12	2.08	
A3	3	0.00	1.96		0.15	1.70	
A4	4	0.00	2.00		2.50	2.37	
B1	5	0.00	2.01		0.40	2.33	
B2	6	0.00	2.05		3.81	2.63	
B3	7	0.00	1.88		5.70	3.19	
B4	8	0.00	1.91		2.55	2.54	
C1	9	0.00	2.07		0.23	2.14	
C2	10	0.00	2.07		1.78	2.48	
C3	11	1.46	1.94		0.00	1.20	
C4	12	0.00	1.89		0.00	1.17	
D1	13	1.45	2.11		0.00	1.23	
D2	14	0.00	2.51		4.00	2.69	
D3	15		1.96		1.18	2.88	

B > 277

*JH*

*JH*

*J. Collins*

