

3006-0605030012



Environmental
Restoration
Program

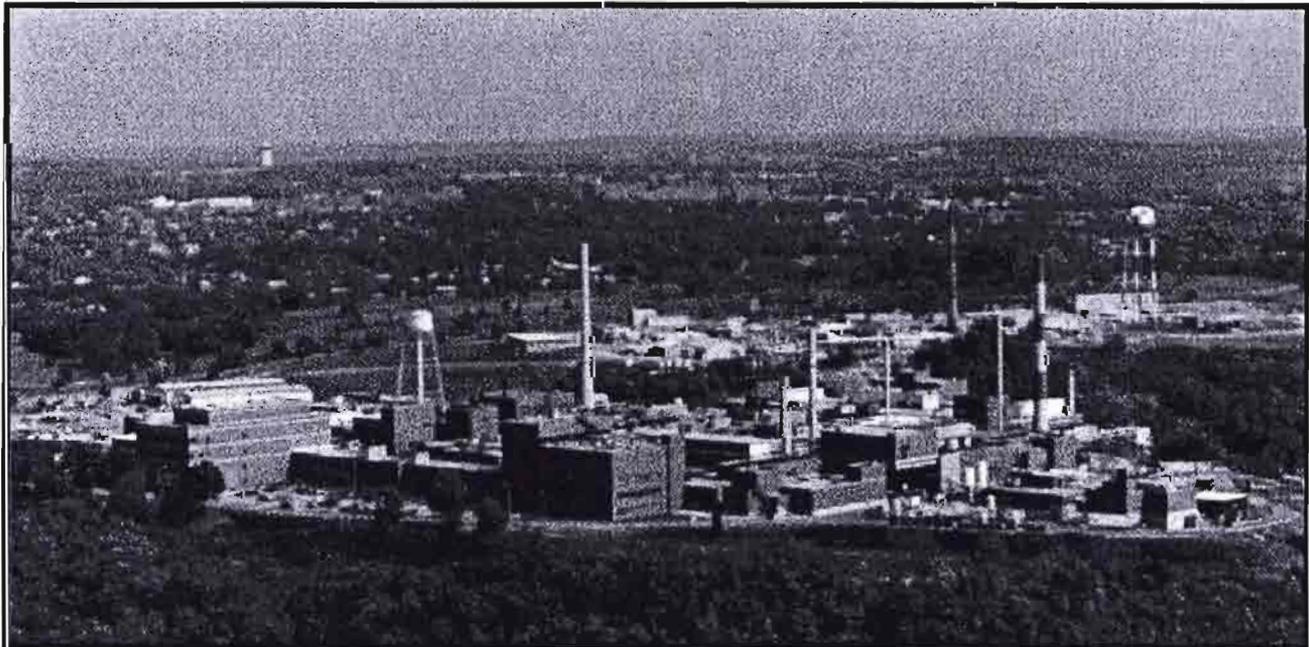


OhioEPA

Miamisburg Closure Project CLOSEOUT REPORT

Building 104 (Demolition)

Final, Rev. 1
August 2005





CH2MHILL

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

SMO-246-05
August 8, 2005

Mr. William J. Taylor, Director
Miamisburg Closure Project
U. S. Department of Energy
175 Tri-County Parkway
Springdale, OH 45246

ATTENTION: Paul Lucas

SUBJECT: **Contract No. DE-AC24-03OH20152:** Deliverable #36 Building Data Package; Section C.2.1.1 Facility Demolition; Building 104 Closeout Report, Final, Revision 1

Dear Mr. Taylor:

Attached are the following Final documents for your records:

- ✓ • Response to Comment
- Building 104 Closeout Report, Final, Revision 1 (showing changes)
- ✓ • Building 104 Closeout Report, Final, Revision 1 (changes accepted)

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

Sincerely,

John Lehew
Site Manager

JL/ms
Enclosures

cc: T. Fischer, USEPA, (1) w/attachments
B. Nickel, OEPA, (1) w/attachments
R. Vandegrift, ODH, (1) w/attachments
M. Wojciechowski, Tetra Tech, (1) w/attach
G. Gorsuch, DOE/MCP, (1) w/attachments
R. Tormey, DOE/OH, (1) w/attachments
G. Desai, DOE/HQ, (1) w/attachments
F. Bullock, MMCIC, (2) w/attachments
Public Reading Room, (4) w/attachments
C. Watson, (1) w/attachments
CERCLA Records, (1) w/attachments
ER Records, (1) w/attachments

DCC (1) w/attachments
J. Lehew, w/o attachments
K. Armstrong, w/o attachments
D. Rakel, w/o attachments
D. Kramer, w/o attachments
B. Wier, w/o attachments
MOAT Coordinator, w/o attachments
W. Webb, w/o attachments
M. McDougal, w/o attachments
File, w/o attachments

Response to Comments

On Building 104 Closeout Report, Final, July 2005

USEPA COMMENTS (e-mail dated July 19, 2005)

No comments.

OEPA COMMENTS (e-mail dated July 14, 2005)

Comment 1. Page 3, Section 3.0, Actions Taken; The verbiage should be amended to reflect that four samples have been taken and all results are below the appropriate cleanup objectives.

Response 1. The fourth paragraph of Section 3.0, Actions Taken, on Pages 3 and 4; The verbiage is amended to read as follows: No confirmatory radiological survey of the building exterior surfaces was performed due to the short period of time between performing the MARSSIM radiological survey and the demolition of the structure. During the demolition of the building slab, foundation/footers, loading dock, loading dock ramp and adjacent asphalt pad, obsolete utility poles, and pipe stanchions radiological screening was performed on concrete surfaces in contact with soils. As part of the demolition activities soil contact surfaces of foundation/footers were debris pile surveyed. After demolition of below grade structures, a post-demolition walkover survey was performed and soil samples were taken at four separate locations within the perimeter of Building 104, including the location of Borehole 47 (the Borehole 47 location had two previous borehole sample results that showed elevated Thorium 232 results of 2.9 pCi/g and 3.3 pCi/g; respectively. Reference BDP Table 1: Summary of Environmental Concerns and Findings, Soil Contamination Section). The results of the soil samples were all below Cleanup Objective levels (reference Radiological Survey Data Sheet 05-TF-0210 for the survey results). Additionally, the Borehole 47 location will be included in the residual risk evaluation and remediation activities for Parcel 8. Radiological surveys results associated Building 104 demolition activities are provided in Appendix B.

Building 104

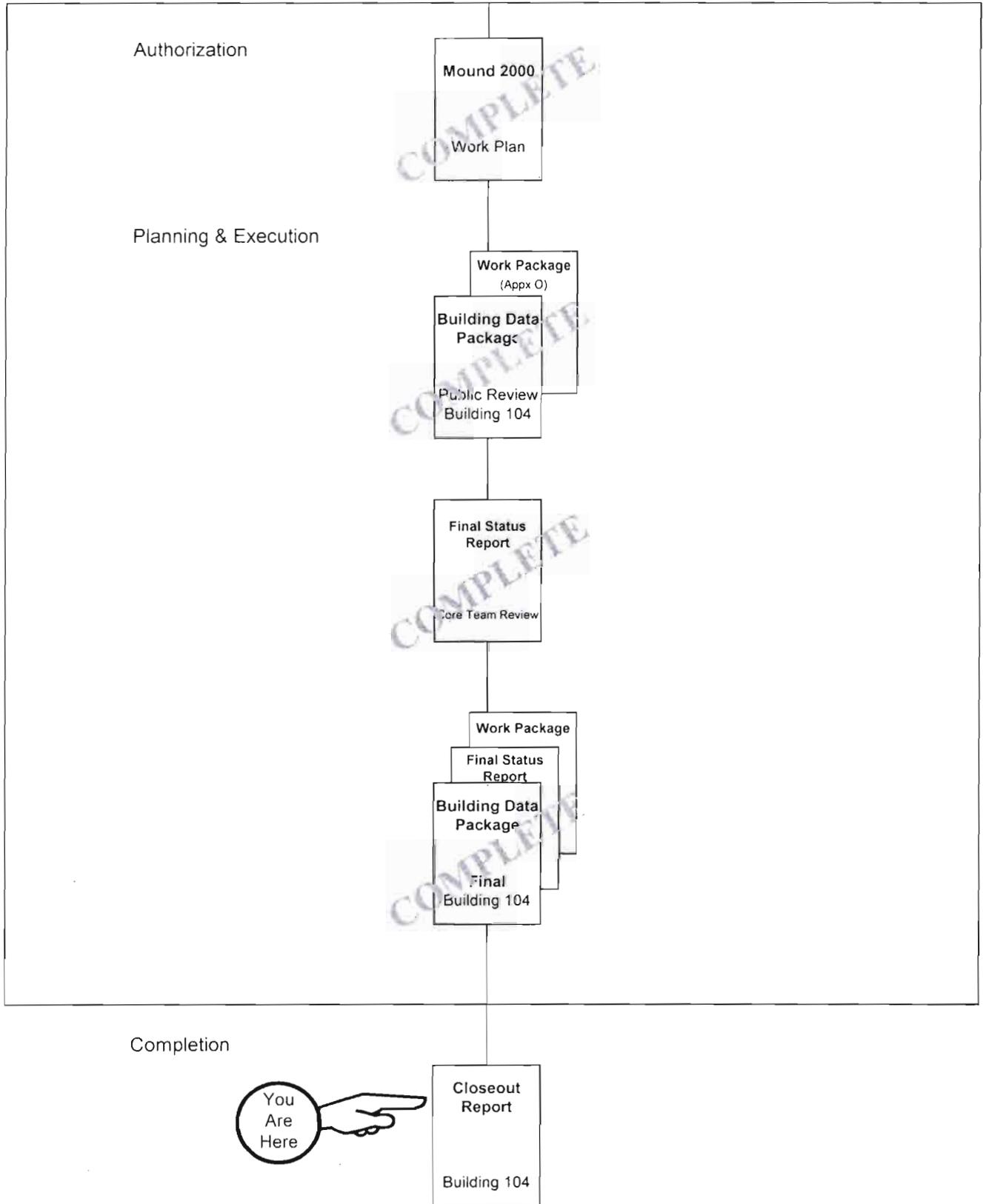


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1.0 PURPOSE

This is the final report documenting completion of the demolition of Building 104 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 Building 104 superstructure, floor slab, foundation walls/footers to three feet below grade, loading dock, loading dock ramp and adjacent asphalt pad, obsolete utility poles, pipe stanchions adjacent to Building 104 building, and final site restoration was accomplished per the Work Package for Building 104 Demolition #BOSS-40464. A copy of the Work Package was included in Appendix O of the Building Data Package (BDP) for Building 104. The scope of work relating to this building is considered complete.

2.0 BACKGROUND

2.1 Building 104

Constructed in 1991 as the Test Fire Maintenance Facility, Building 104 was located in the west central portion of the site (Figure 1). The facility was a 4,025 square-foot one-story steel frame Butler Brand building with corrugated steel siding and roof. The building was constructed with reinforced concrete footers and a 6-inch thick reinforced concrete slab-on-grade. The interior wall, which separated the shop from the office area, was constructed of grout-filled concrete block. A concrete loading dock and ramp was located at the east end of the building. There were no room additions to Building 104 altering the original footprint.

At the time of construction, Building 104 contained offices, a lavatory, an electronics and small parts assembly room, a storage area, and a fabrication/maintenance shop. Building 104 continued to function as a maintenance area until the mid-1990s when the building was made available to the Miamisburg Mound Community Improvement Corporation (MMCIC) as a "user facility" and leased to a commercial entity. In 2002, the building was returned to site use as an office area and was still used in that capacity until March 2005, when personnel were moved out of the building in preparation for Safe Shutdown activities

Table 1 details the processes and functions that have been housed in Building 104.

Table 1: Processes and Functions Housed in Building 104

Timeframe	Function or Process
1991 to mid 1990s	Offices, electronics and small parts assembly room, storage area, and fabrication/maintenance shop
Mid 1990s to 2002	Department of Energy (DOE) leased Building 104 to Miamisburg Mound Community Improvement Corporation (MMCIC) as a "user facility"
2002 to March 2005	Building returned to site contractor for use as office area

Building 104 used a heat pump was utilized for heating and cooling. Electrical service was 480 volts. The building had potable and service water, a fire sprinkler system, sanitary services, and storm drains.

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, three are at or near Building 104, as identified in Table 2. The PRS locations are shown in Appendix A, Figure 2 and PRS recommendation sheets are provided in Appendix C.

Table 2: PRSs in Proximity to Building 104

PRS	CERCLA or Bldg. Related	Binning Status	Comments
59	CERCLA	NFA	Contaminated Soil Box Storage Area
300	CERCLA	NFA	Area 19, Underground Waste Transfer Line
441*	CERCLA	RA	Soil Staging Area & Expansion

* The Core Team binned PRS 441 as an RA on 1 March 2005; the recommendation sheet is not currently available.

3.0 ACTIONS TAKEN

The Building 104 BDP was submitted for simultaneous Core Team and public review on 24 March 2005, and the 30-day public review period concluded on 24 April 2005.

A Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) study of Building 104 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 104 met applicable surface release criteria.

Demolition of Building 104 commenced on 22 April 2005. Demolition activities (including slab, dock pad, foundation/footers, retaining wall, and sidewalks) and final site restoration were completed on 21 May 2005. Photographs taken before, during, and after demolition are provided in Appendix A.

No confirmatory radiological survey of the building exterior surfaces was performed due to the short period of time between performing the MARSSIM radiological survey and the demolition of the structure. During the demolition of the building slab, foundation/footers, loading dock, loading dock ramp and adjacent asphalt pad, obsolete utility poles, and pipe stanchions radiological screening was performed on concrete surfaces in contact with soils.

As part of the demolition activities soil contact surfaces of foundation/footers were debris pile surveyed. After demolition of below grade structures, a post-demolition walkover survey was performed and soil samples were taken at four separate locations within the perimeter of Building 104, including the location of Borehole 47 (the Borehole 47 location had two previous borehole sample results that showed elevated Thorium 232 results of 2.9 pCi/g and 3.3 pCi/g; respectively. Reference BDP Table 1: Summary of Environmental Concerns and Findings, Soil Contamination Section). The results of the soil samples were all below Cleanup Objective levels (reference Radiological Survey Data Sheet 05-TF-0210 for the survey results). Additionally, the Borehole 47 location will be included in the residual risk evaluation and remediation activities for Parcel 8. Radiological surveys results associated Building 104 demolition activities are provided in Appendix B.

Construction and concrete building debris was loaded into haulers and taken to a local sanitary landfill. Recyclable metal debris was loaded into haulers and taken to a local metal recycler.

This Closeout Report documents the completion of the demolition and removal of Building 104. All preparation, demolition activities, and final site restoration were performed in accordance with the detailed work plan.

Table 3: Materials Disposition

Building 104 Material	Quantity	Disposal Method	Destination
Construction Debris (Building cleanout)	30 cubic yards	Landfill	Stoney Hollow, Dayton, OH
Construction Debris Slab	67 cubic yards	Landfill	Stoney Hollow, Dayton, OH
Metals	360 cubic yards	Recycle	Metal Shredders Inc., Dayton, OH

4.0 PROBLEMS ENCOUNTERED

Building 104 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 4 lists the personnel organization for the demolition.

Table 4: 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 1075 Mound Road Miamisburg, OH 45343 847-8350, ext. 304	Frank Schmaltz	DOE/ MCP Project Manager responsible for project oversight and success.
CH2M Hill Mound, Inc. 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

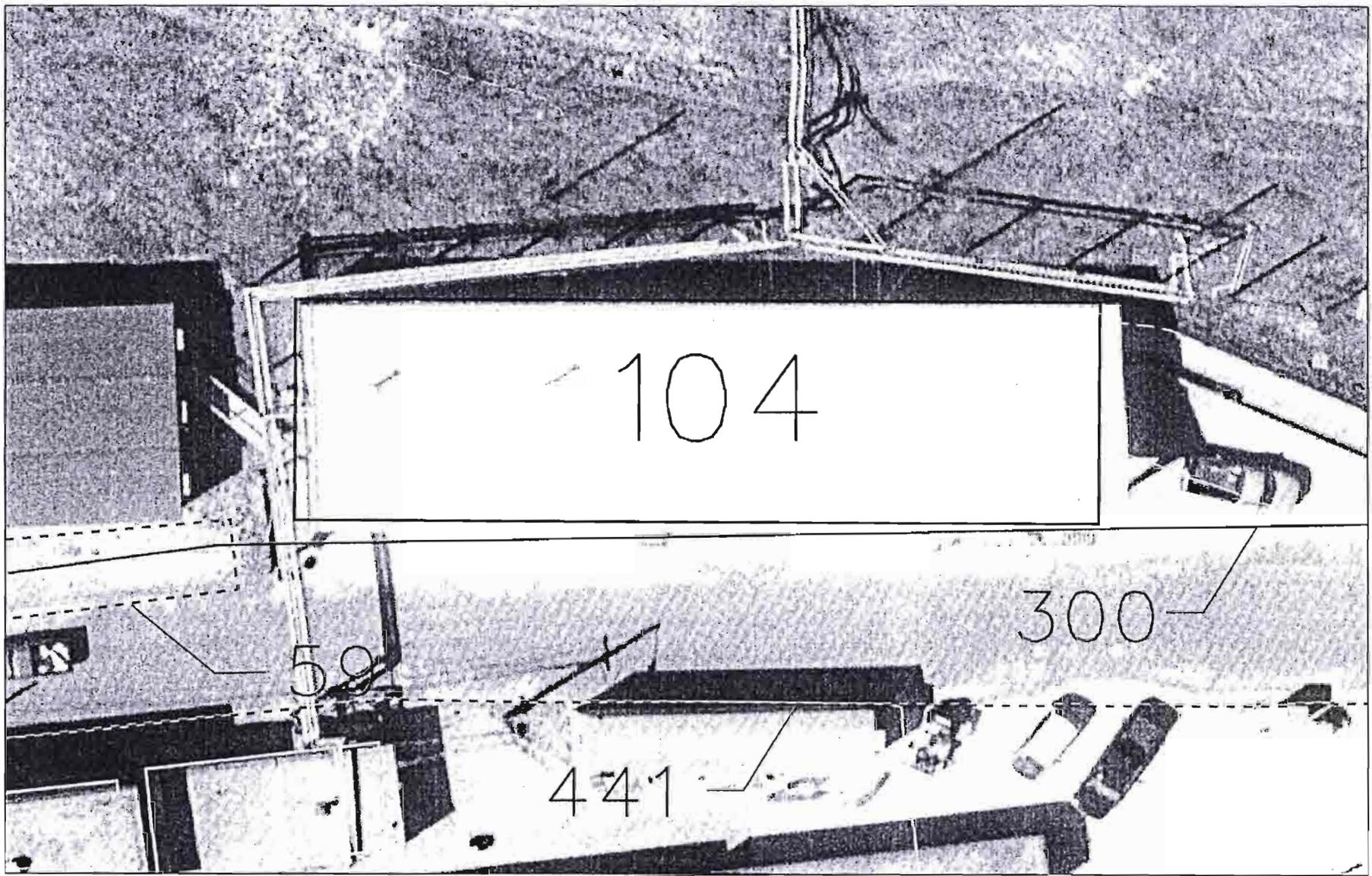
Under the new site contract, CH2M Hill Mound, Inc. has elected to cluster financial data for multiple buildings together. Building 104 is the only building in Cluster 104. The total cluster costs are presented in Table 5.

Table 5: Cluster 104 Total Costs

Activity	Cost
Work Planning	\$ 7K
Facility Prep	\$18K
Demolition	\$20K
Total	\$42K

APPENDIX A

Figures



- PRS Point
- PRS Area
- ~ PRS Line



MOUND
 Environmental
 Restoration
 Geographic
 Information
 System

SHEET	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
ISSUE																					
SHEET	1	2	3	4	5	6															
ISSUE																					
PART CLASSIFICATION																					
UNCLASSIFIED															vicinity.dgn		JOB NUMBER				
ISS TYPE	STE	PRNG	ER-GIS	CAOCC	SCALE			SHEET 1 of 1													
STATUS		ND-REL		-05/12/03		ORGN		NSTATION / W													

Figure 2:
 Building 104
 and Vicinity

03/02/05	SSP					
DATE	BY	CHK	ENG	LMCC	APVD	#

A2/b

Figure 3 – Predemolition Photos of Building 104

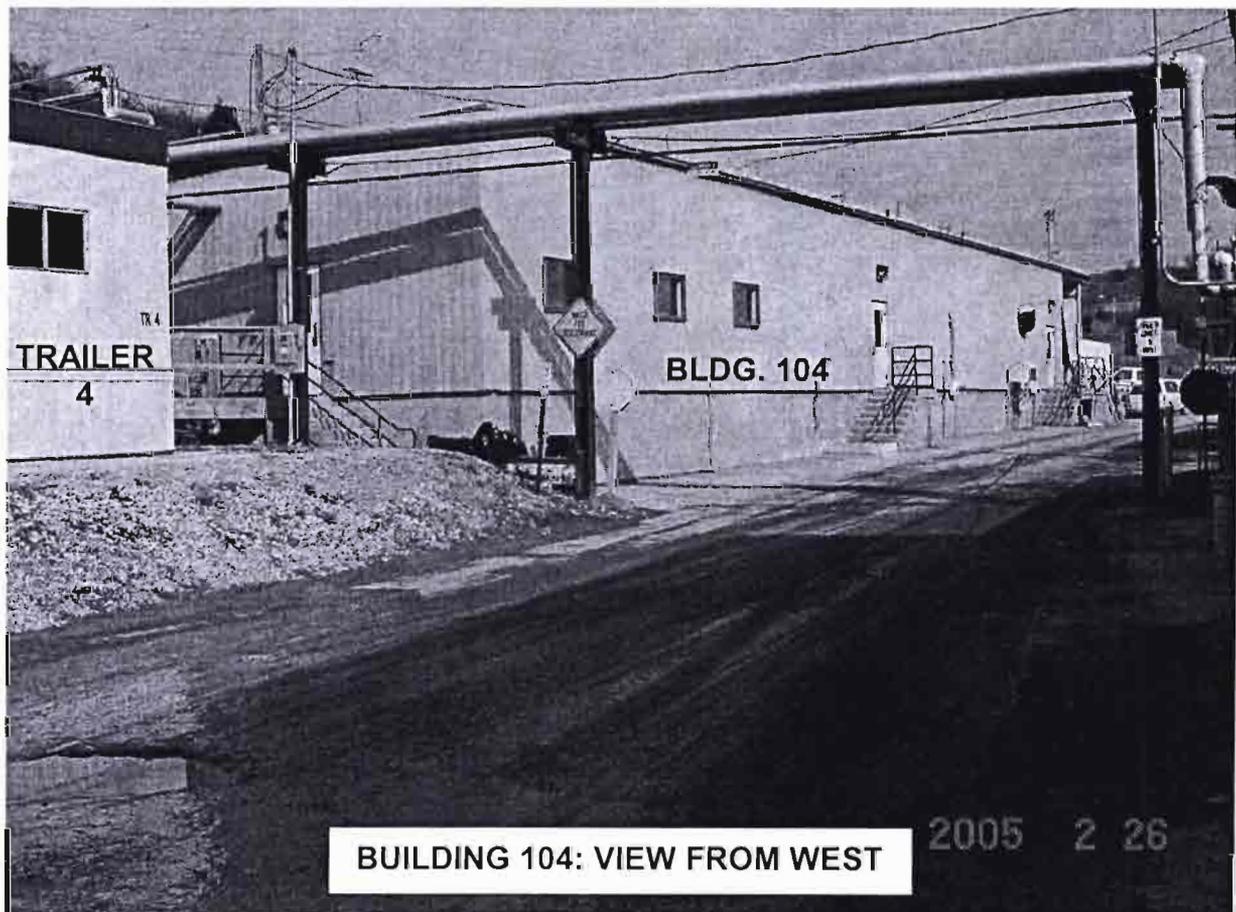
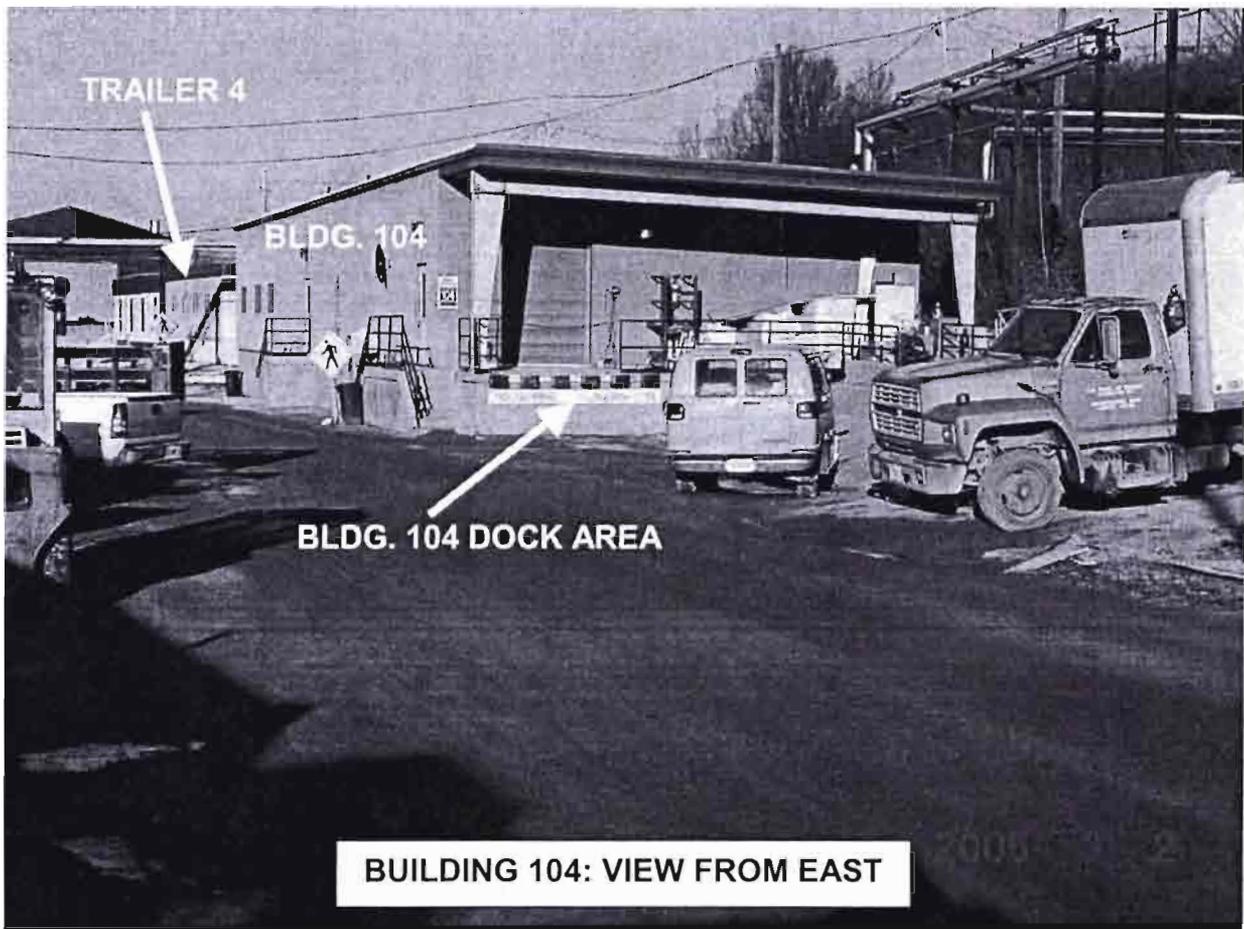


Figure 4 – Building 104 Demolition Photos

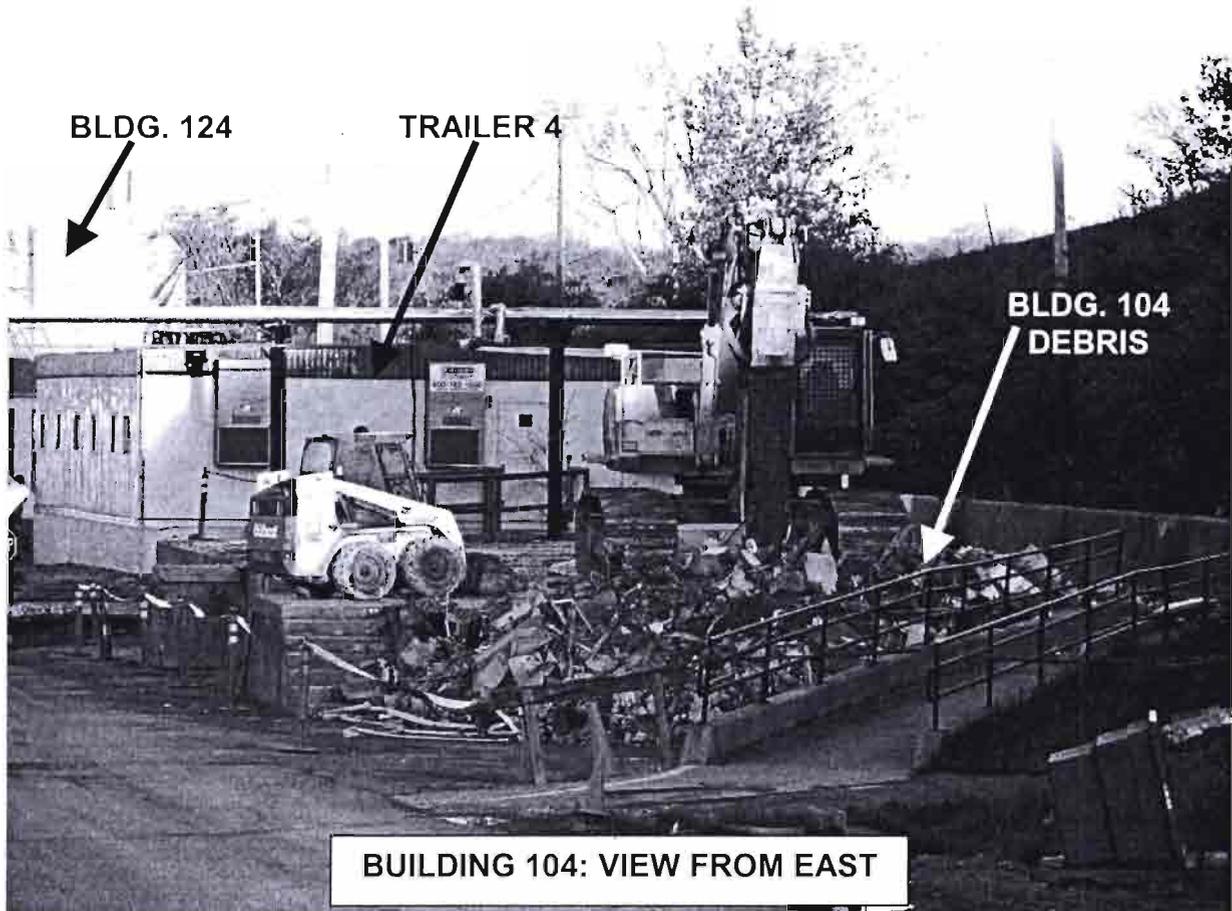
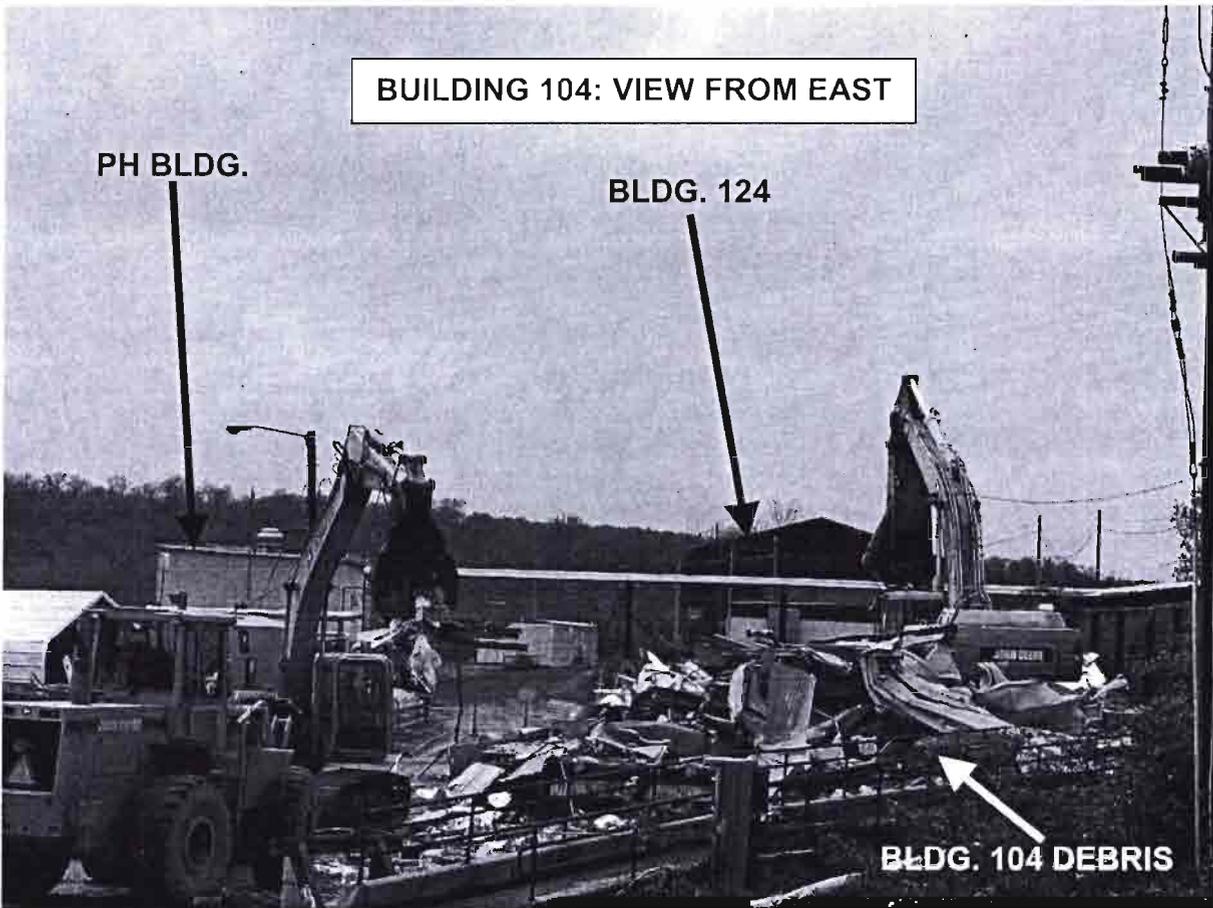
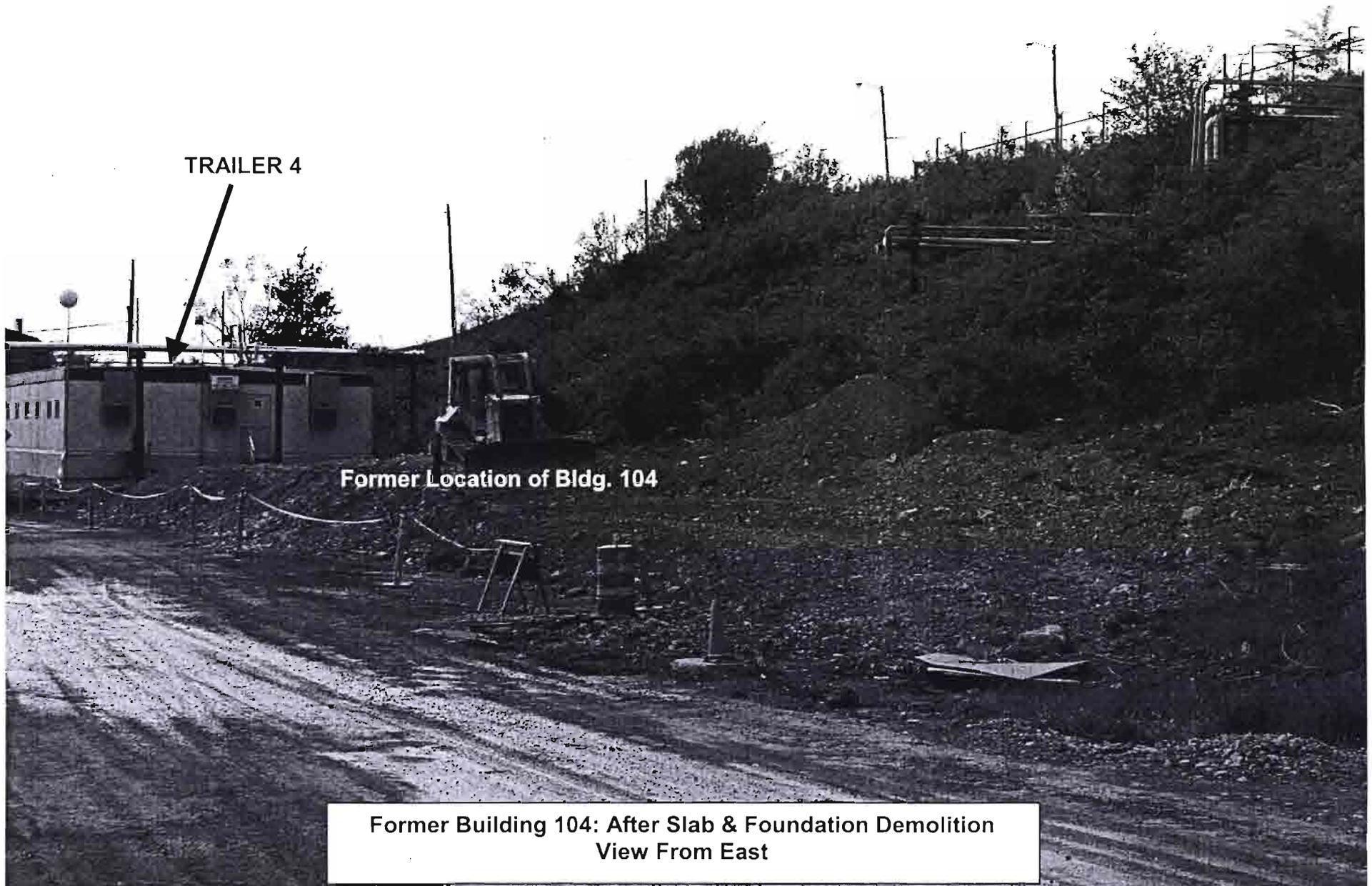


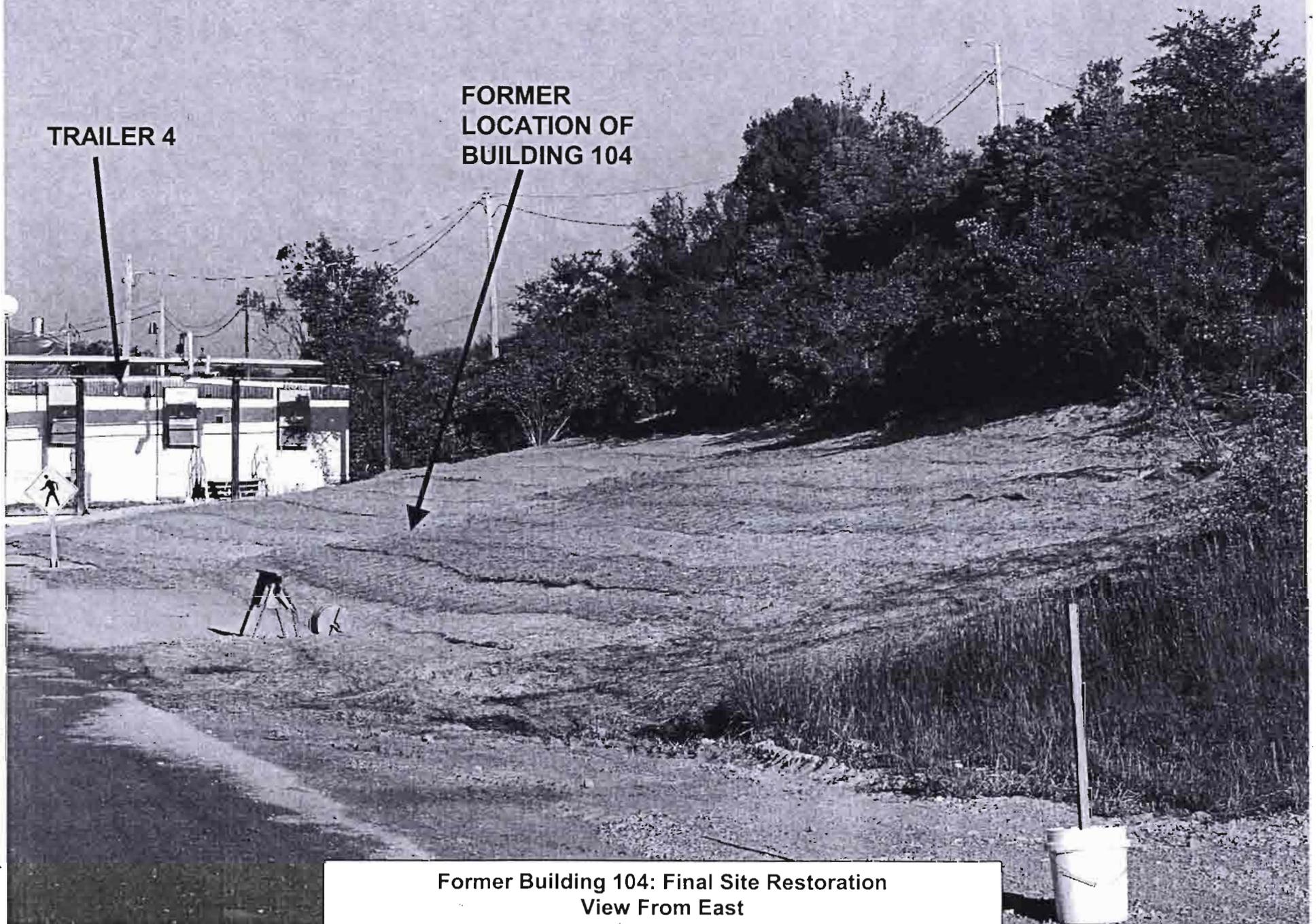
Figure 5 – Building 104 Post Demolition Photo



A 5/6

Former Building 104: After Slab & Foundation Demolition
View From East

Figure 6 – Final Site Restoration of Former Location of Building



APPENDIX B

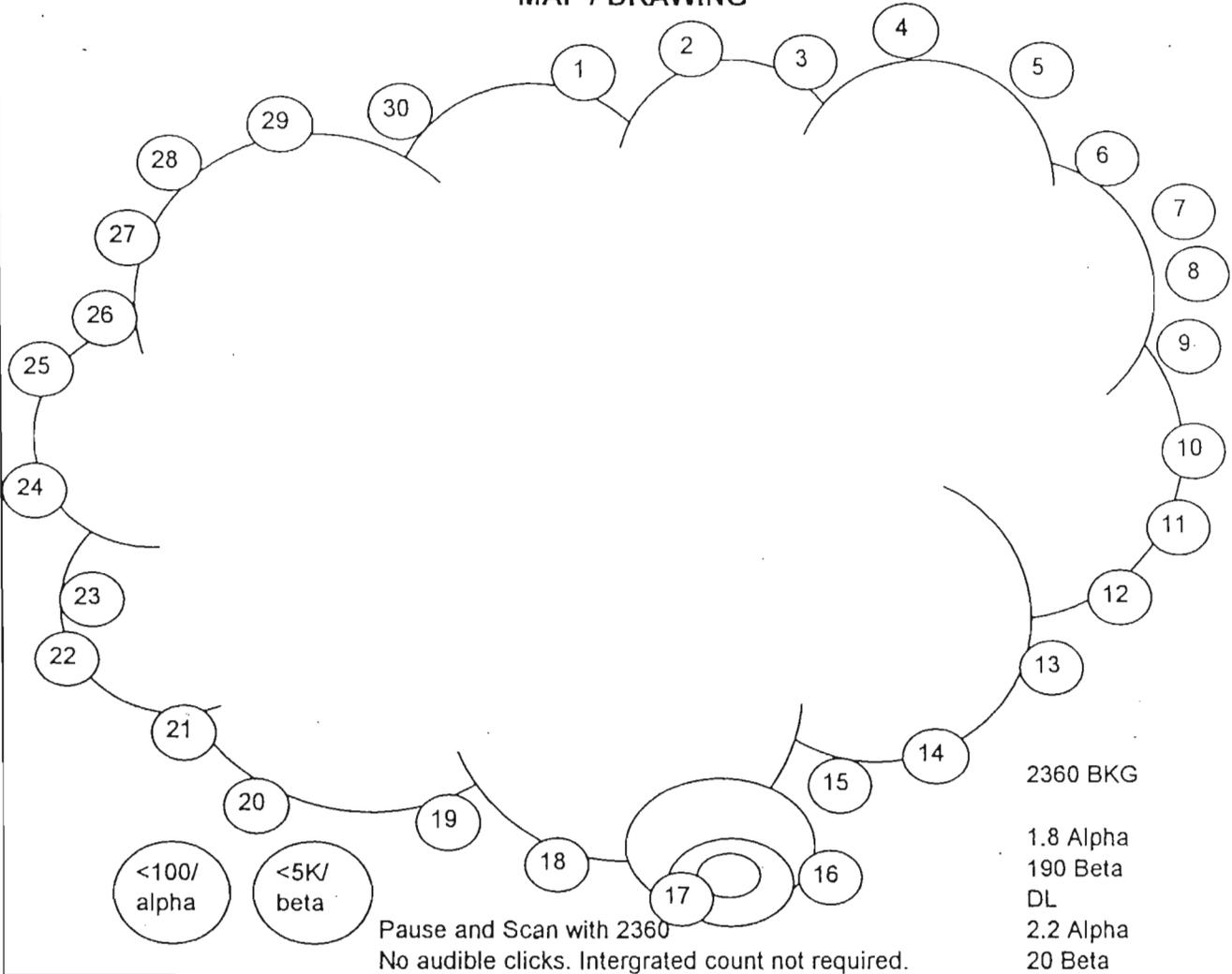
Post-Final Status Survey Report Radiological Surveys

A post-demolition walkover survey and soil samples were taken within the perimeter of Building 104, including the location of Borehole 47 (the Borehole 47 location had two sample results that showed elevated Thorium 232 results of 2.9 pCi/g and 3.3 pCi/g; respectively). Reference RSDS 05-TF-0210 for the survey results.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Across from Powerhouse	SURVEY NO 05-TF-0188
PURPOSE: Characterization survey of concrete debris pile from bldg 104	RWP NO. N/A
	DATE: 5/2/2005
	TIME: 9:45

MAP / DRAWING



2360 BKG
1.8 Alpha
190 Beta
DL
2.2 Alpha
20 Beta

LEGEND: # = mrem/hr (γ) whole body
#E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
K = factor of 1000
- - - - - = radiological boundary

(triangle) - mrem/hr neutron
(square) - air sample number
(circle) - swipe number
#/ α or β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360/4389	5765/5802	3/1/2006
NA		

Completed by: (Signature) <i>Joe Worley / Larry Oeffner, Jr.</i>	HP# 7176/7836	Date 5-3-05
Completed by: (Printed Name) Joe Worley/ Larry Oeffner, Jr.		
Counted by: (Signature) See attached	HP#	Date
Counted by: (Printed Name)		
Reviewed/Approved by: (Signature)	HP#	Date
Reviewed/Approved by: (Print Name)		

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR030
 Batch Ended: 5/2/05 10:28

Crosstalk correction performed.

Recalibration Date: 11/03/05
 Serial Number: 26966-1

Batch ID: 05-TF-0188 WORLEY (30) AG

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.17		0.00	1.83	
A2	2	0.00	2.23		1.79	2.20	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.05		1.15	2.16	
B1	5	0.00	1.92		0.00	1.64	
B2	6	0.00	2.07		0.00	2.08	
B3	7	0.00	1.95		0.10	2.17	
B4	8	0.00	1.89		0.00	1.65	
C1	9	0.00	2.37		0.50	2.73	
C2	10	0.00	2.18		0.00	2.37	
C3	11	3.81	2.96		1.18	2.65	
C4	12	1.51	2.14		6.11	3.60	
D1	13	0.00	2.21		0.30	2.52	
D2	14	0.00	2.20		0.01	1.80	
D3	15	0.00	1.96		2.78	2.86	
D4	16	0.00	2.16		0.00	1.98	
A1	17	0.00	2.17		0.00	1.83	
A2	18	0.00	2.24		3.04	2.54	
A3	19	0.00	2.18		0.48	1.76	
A4	20	1.40	2.04		0.00	1.78	
B1	21	0.00	1.97		0.97	2.28	
B2	22	0.00	2.02		0.00	1.26	
B3	23	1.51	1.99		3.60	3.04	
B4	24	0.00	1.93		2.69	2.56	
C1	25	0.00	2.39		1.84	3.04	
C2	26	0.00	2.15		0.00	1.45	
C3	27	0.00	2.16		5.42	3.48	
C4	28	0.00	2.06		0.00	1.85	
D1	29	0.00	2.23		3.15	3.23	
D2	30	2.02	2.24		0.98	2.19	

MO

MO

B3/14

3074

MO

02 May 2005 11:02

ALPHA/BETA - 1.09

4 of 4

Protocol #: 2

PW H3 #403727

Page #1
User : 2138

Time: 2.00

Data Mode: DPM

Nuclide: SMGLS02

Quench Set: SMGLS02

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 18.6		0	0.0	7.31
Region B:	2.0 - 18.6		0	0.0	7.22
Region C:	40.0 - 2000		0	0.0	10.77

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

~~05-R/SW-0323 M. SIZEMORE (19) AG~~ 05-TF-0188 Worley [30]AG

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

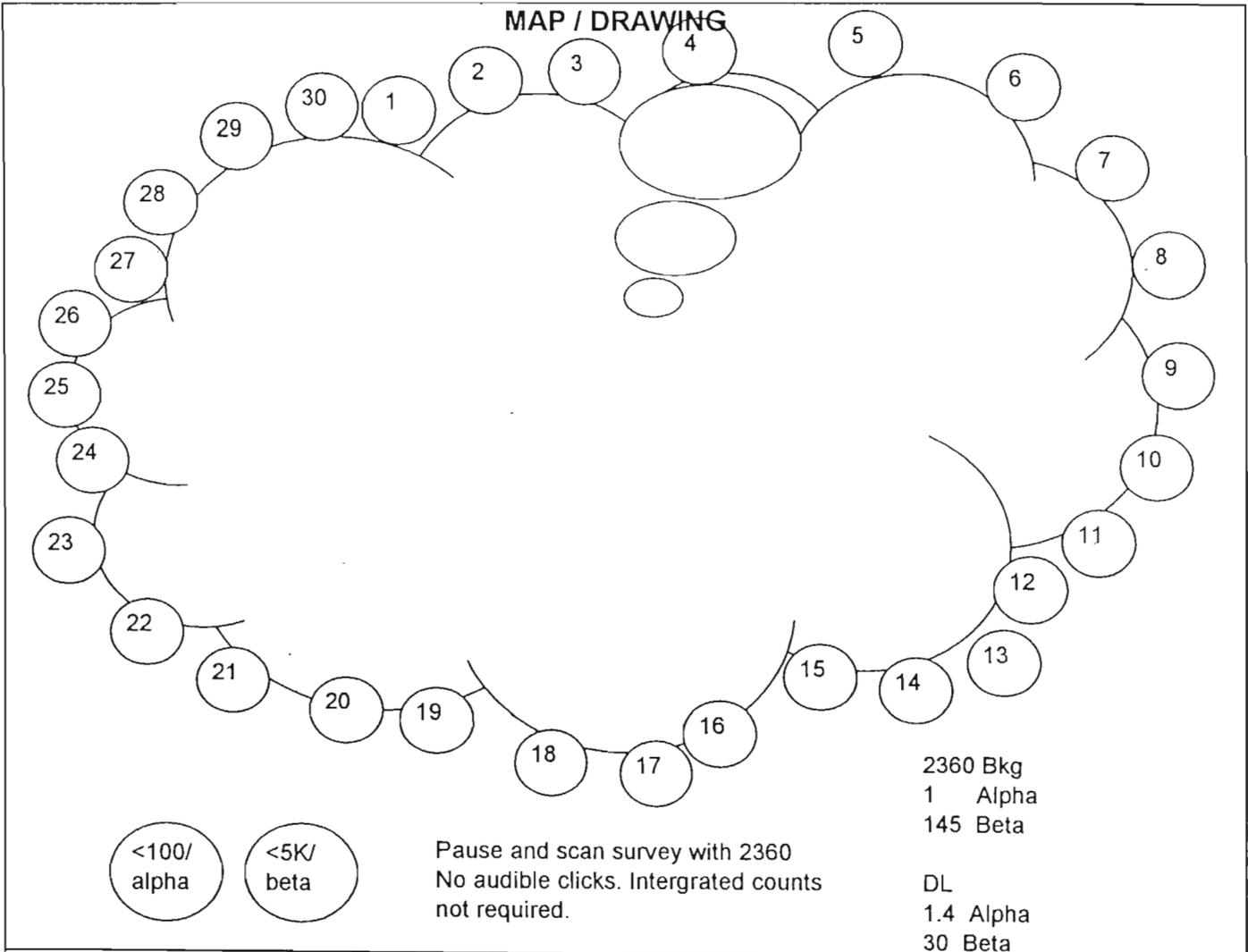
S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
-1	10.00	7.31	7.22	1	B	700.21		0.00	10.77
0	2.00	526.95	514.01	0		599.78	1109.38	106.59	0.73
1	2.00	0.00	0.00	8		615.43	0.00	0.00	0.73
2	2.00	0.00	0.00	8		621.67	0.00	0.00	1.96
3	2.00	0.00	0.00	0		653.33	0.00	0.00	0.00
4	2.00	2.19	1.97	0		621.88	4.53	9.68	0.00
5	2.00	0.00	0.00	0		641.32	0.00	0.00	0.00
6	2.00	3.19	2.20	0		647.27	6.45	9.90	2.03
7	2.00	0.00	0.00	0		613.34	0.00	0.00	0.00
8	2.00	2.19	1.92	0		646.10	4.43	9.48	0.00
9	2.00	0.19	0.00	0		626.78	0.39	8.71	1.23
10	2.00	2.33	2.43	0		627.95	4.80	9.69	0.00
11	2.00	1.69	0.82	0		625.34	3.48	9.42	0.00
12	2.00	1.69	1.47	0		618.90	3.50	9.48	0.73
13	2.00	0.00	0.00	17		575.20	0.00	0.00	0.00
14	2.00	0.19	0.28	0		655.57	0.38	8.50	3.23
15	2.00	0.00	0.00	0		532.60	0.00	0.00	0.00
16	2.00	1.69	1.78	0		577.85	3.63	9.82	0.00
17	2.00	2.36	1.78	0		632.87	4.82	9.66	0.00
18	2.00	0.00	0.00	0		619.81	0.00	0.00	2.23
19	2.00	0.00	0.00	0		609.21	0.00	0.00	0.00
20	2.00	2.19	1.64	11		474.59	5.25	11.22	1.73
21	2.00	2.25	1.54	0		610.05	4.69	9.80	0.73
22	2.00	3.69	3.78	0		650.19	7.44	10.08	0.00
23	2.00	0.19	0.28	0		620.33	0.40	8.76	0.00
24	2.00	3.95	3.17	0		653.54	7.93	10.16	0.73
25	2.00	2.19	2.02	0		591.38	4.65	9.94	0.00
26	2.00	3.69	2.92	0		648.88	7.45	10.09	1.23
27	2.00	3.19	3.02	0		593.50	6.76	10.37	0.00
28	2.00	2.58	2.67	5		602.43	5.42	10.02	0.73
29	2.00	0.69	0.00	0		633.94	1.41	8.89	2.23
30	2.00	2.69	2.78	0		601.13	5.66	10.08	3.73

Handwritten signature

B 4/14

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Across from Powerhouse	SURVEY NO. 05-TF-0190
PURPOSE: Characterization survey of concrete debris from bldg 104	RWP NO. N/A
	DATE: 5/3/2005
	TIME: 8:20



LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr ($\beta + \eta + \gamma$) extremity on contact
- K = factor of 1000
- = radiological boundary
- # (triangle) = mrem/hr neutron
- # (square) = air sample number
- # (circle) = swipe number
- #/alpha (circle) or /beta = direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
2360/4389	5765/5802	3/1/2006
NA		

Completed by: (Signature) <i>Joe Worley/Larry Oeffner</i>	HP# 7196/7836	Date 5-3-05
Completed by: (Printed Name) Joe Worley/Larry Oeffner, Jr.		
Counted by: (Signature) See attached	HP#	Date
Counted by: (Printed Name)		
Reviewed/Approved by: (Signature) <i>RmCoblentz</i>	HP# 7707	Date 5-10-05
Reviewed/Approved by: (Print Name) RmCoblentz		

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMEAR007
 Batch Ended: 5/3/05 9:10

Crosstalk correction performed.

Recalibration Date: 11/03/05
 Serial Number: 26966-1

Batch ID: 05-TF-0190 (30) WORLEY 05/03/05 TAS

Detector ID	Sample ID	Alpha Activity		
		DPM	σ	flags
A1	1	0.00	2.16	
A2	2	0.00	2.26	
A3	3	0.00	2.20	
A4	4	1.40	2.06	
B1	5	0.00	1.94	
B2	6	1.49	2.09	
B3	7	0.00	1.98	
B4	8	0.00	1.89	
C1	9	1.84	2.34	
C2	10	3.05	3.01	
C3	11	0.00	2.08	
C4	12	0.00	2.05	
D1	13	0.00	2.20	
D2	14	0.00	2.20	
D3	15	0.00	1.96	
D4	16	2.29	3.03	
A1	17	0.00	2.16	
A2	18	0.00	2.23	
A3	19	0.00	2.16	
A4	20	0.00	2.05	
B1	21	0.00	1.99	
B2	22	0.00	2.05	
B3	23	0.00	1.93	
B4	24	0.00	1.90	
C1	25	0.00	2.34	
C2	26	0.00	2.20	
C3	27	0.00	2.10	
C4	28	0.00	2.07	
D1	29	0.00	2.26	
D2	30	2.02	2.20	

MO

Detector ID	Sample ID	Beta Activity		
		DPM	σ	flags
A1	1	0.00	1.33	
A2	2	4.30	2.83	
A3	3	1.70	2.15	
A4	4	0.99	2.16	
B1	5	0.00	1.98	
B2	6	0.90	2.39	
B3	7	2.55	2.78	
B4	8	0.00	1.65	
C1	9	0.00	1.97	
C2	10	0.00	1.45	
C3	11	0.00	1.39	
C4	12	0.00	1.35	
D1	13	0.00	2.08	
D2	14	0.01	1.80	
D3	15	2.78	2.86	
D4	16	3.12	3.07	
A1	17	0.00	1.33	
A2	18	1.79	2.20	
A3	19	0.00	1.27	
A4	20	1.15	2.16	
B1	21	2.09	2.54	
B2	22	0.00	1.72	
B3	23	0.00	1.80	
B4	24	0.43	2.00	
C1	25	0.00	1.97	
C2	26	0.97	2.72	
C3	27	0.00	1.90	
C4	28	0.00	2.23	
D1	29	5.99	3.81	
D2	30	0.00	1.80	

MO

B7/14

30FY

Time: 2.00

Data Mode: DPM

Nuclide: SMGLS02

Quench Set: SMGLS02

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 18.6		0	0.0	9.24
Region B:	2.0 - 18.6		0	0.0	8.77
Region C:	40.0 - 2000		0	0.0	8.35

Quench Indicator: tSIE/AEC

* Ext Std Terminator: Count

~~05-TE-0160~~ J.WORLEY (30) AG

* 05-TF-0190 ^{83D} 6-31-06

Luminescence Correction On

Coincidence Time(ns): 18

Delay Before Burst(ns): Normal

Protocol Data Filename: C:\DATA\PROT3.DAT

Count Data Filename: C:\DATA\SDATA3.DAT

Spectrum Data Drive & Path: C:\DATA

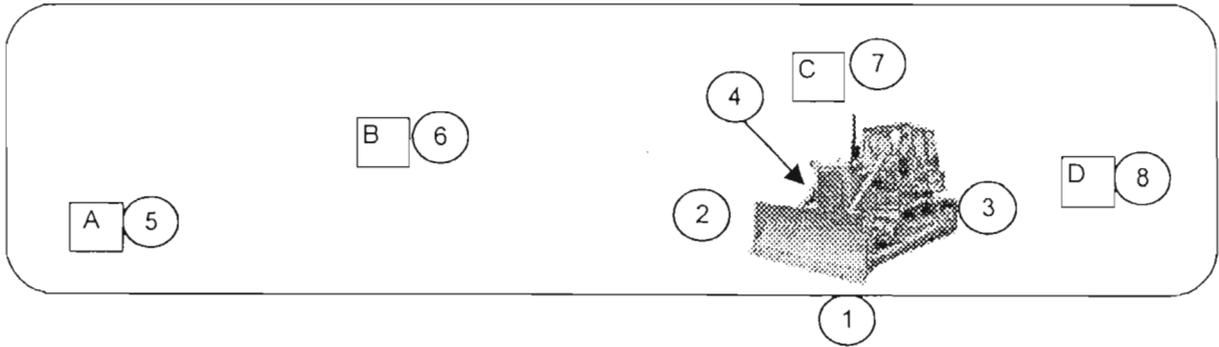
S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.24	8.77	0	B	702.9		0.00	8.35
0	2.00	434.06	400.37	0		601.7	809.69	70.78	1.65
1	2.00	0.00	0.00	6		637.6	0.00	0.00	1.15
2	2.00	3.58	1.90	0		627.8	6.54	9.90	1.65
3	2.00	0.26	0.00	82		478.0	0.56	27.15	0.15
4	2.00	3.26	2.55	0		612.5	6.03	9.91	0.00
5	2.00	7.03	6.23	0		595.0	13.18	11.31	0.65
6	2.00	5.26	2.19	0		636.4	9.54	10.38	0.00
7	2.00	1.96	0.00	0		570.0	3.75	9.79	3.65
8	2.00	7.81	3.79	0		654.7	13.96	11.01	1.15
9	2.00	4.45	1.46	0		555.0	8.64	10.83	0.00
10	2.00	12.76	10.44	2		536.0	25.18	13.69	3.97
11	2.00	5.76	2.81	0		581.5	10.94	11.03	2.65
12	2.00	3.76	1.32	0		562.4	7.26	10.51	0.65
13	2.00	0.00	0.00	0		620.5	0.00	0.00	1.42
14	2.00	0.00	0.00	0		552.6	0.00	0.00	1.15
15	2.00	5.26	3.01	0		617.2	9.69	10.54	0.65
16	2.00	2.72	0.00	0		656.3	4.85	9.38	0.00
17	2.00	0.00	0.00	0		614.1	0.00	0.00	0.15
18	2.00	0.00	0.00	0		579.8	0.00	0.00	0.15
19	2.00	0.00	0.00	0		613.1	0.00	0.00	0.00
20	2.00	0.00	0.00	0		649.4	0.00	0.00	0.65
21	2.00	3.22	2.35	0		635.7	5.83	9.71	0.00
22	2.00	0.00	0.00	0		562.9	0.00	0.00	0.00
23	2.00	3.26	1.38	0		619.0	6.00	9.86	0.15
24	2.00	7.42	4.49	0		654.6	13.26	10.89	2.65
25	2.00	6.76	5.21	0		637.6	12.25	10.84	0.00
26	2.00	3.49	1.42	0		593.0	6.57	10.15	6.15
27	2.00	2.83	1.40	4		559.8	5.09	10.13	0.00
28	2.00	7.26	6.20	3		546.8	14.20	11.88	0.00
29	2.00	3.76	1.58	17		568.6	7.22	11.47	1.15
30	2.00	1.76	0.94	5		558.1	3.41	9.81	3.17

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	Bldg. 104 Pad	SURVEY NO	05-TF-0210
PURPOSE:	Fidler, soil sample and dozer survey	RWP NO.	N/A
		DATE:	5/11/05
		TIME:	10:30

MAP / DRAWING

BLDG #104 PAD



ROAD

Background Fidler readings on out channel approximately 5000 cpm
 Readings of soil (locations A,B,C) approximately 2000 cpm above background
 Soil samples taken, and sent to gamma spec.
FIDLER USED AS INDICATOR ONLY

A indicates soil sample location

LEGEND: # = mrem/hr (γ) whole body
 #E = mrem/hr ($\beta+\eta+\gamma$) extremity on contact
 K = factor of 1000
 - - - - - = radiological boundary

- mrem/hr neutron # - swipe number
#/a - air sample number #/a or β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360/4389	5677/5715	12/13/05
Lud 3030	5816	7/12/05
Bicron Fidler	3951/3998	11/4/05

Completed by: (Signature)	HP# 7836 7244	Date 5-16-05
Completed by: (Printed Name)	L. Oeffner Jr. / Jamie Collins	
Counted by: (Signature)	HP#	Date
Counted by: (Printed Name)	See attached	
Reviewed/Approved by: (Signature)	HP# 7707	Date 5-18-05
Reviewed/Approved by: (Print Name)	Rn Coblenz	

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	0	0	N/A	dozer blade
2	0	0		dozer blade
3	2	2		dozer track
4	0	0		dozer track
5	17	0		outside sample container
6	0	0		outside sample container
7	0	0		outside sample container
8	41	0	▼	outside sample container
N A				

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample #	β/γ	Alpha	Tritium	Comments
N A				

COMMENTS: None

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.

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05862
File ID: 1SC01853.s0
Priority: Yes

Description\Location

Bldg 104 Sample #1 (Soil sample location #5)
Long Count

Collector: 7836
Date Received: 05/11/05
Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0	0.06
Cs-137	*	0.01	0.04
Pb-210		0.5	0.47
Ra-226		1.25	0.51
Ac-227 (D)	*	0.02	0.22
Th-230	*	0	5.45
Th-232 (D)		0.18	0.14
Pu-238	*	0.38	9.76
Am-241	*	0.02	0.05

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>

Σ_{DOT} 0.02 nCi/g

Instrument type: High Purity Germanium

Σ_{DOT} 2nCi/g limit, total activity.

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

- Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05 Counted By: 5288 Analyzed By: 5288 Initials

CS

B11/14

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05863
File ID: ISC01854.s0
Priority: Yes

Description\Location

Bldg 104 Sample #2 (soil sample location #6)
Long Count

Collector: 7836

Date Received: 05/11/05

Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0	0.06
Cs-137	*	0.01	0.04
Pb-210		0.94	0.54
Ra-226		1.56	0.57
Ac-227 (D)	*	0.13	0.29
Th-230	*	0	6.55
Th-232 (D)		0.39	0.15
Pu-238	*	0	11.48
Am-241	*	0	0.07

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>

Σ
DOT 0.02 nCi/g

Instrument type: High Purity Germanium

Σ DOT 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.

Sample is Assumed to be in secular equilibrium.

- Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05

Counted By: 5288

Analyzed By: 5288

Initials

GP

B12/14

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05864
File ID: ISC01855.s0
Priority: Yes

Description\Location

Bldg 104 Sample #3 (soil sample location #7)
Long Count

Collector: 7836

Date Received: 05/11/05

Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0.02	0.06
Cs-137	*	0.01	0.05
Pb-210		0.96	0.45
Ra-226		1.45	0.7
Ac-227 (D)	*	0.07	0.22
Th-230	*	0	6.53
Th-232 (D)		0.38	0.16
Pu-238	*	1.85	11.58
Am-241	*	0.04	0.06

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>

\sum_{DOT} 0.02 nCi/g

Instrument type: High Purity Germanium

\sum_{DOT} 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.

Sample is Assumed to be in secular equilibrium.

- Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05

Counted By: 5288

Analyzed By: 5288

Initials

CS

B 13/14

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05865
File ID: ISC01856.s0
Priority: Yes

Description\Location

Bldg 104 Sample #4 (soil sample location #8)
Long Count

Collector: 7836

Date Received: 05/11/05

Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0	0.07
Cs-137	*	0.01	0.04
Pb-210		0.77	0.55
Ra-226		1.43	0.62
Ac-227 (D)	*	0.06	0.21
Th-230	*	0	6.05
Th-232 (D)		0.3	0.15
Pu-238	*	0	11.3
Am-241	*	0	0.06

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>

Σ_{DOT} 0.02 nCi/g

Instrument type: High Purity Germanium

Σ_{DOT} 2nCi/g limit, total activity.

(D) Denotes identification by daughter emissions.

Sample is Assumed to be in secular equilibrium.

- Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05

Counted By: 5288

Analyzed By: 5288

Initials

GP

B14/14

APPENDIX C

PRS Recommendation Sheets

Recommendation pages are not generated for PRSs that require Further Assessment (FA) or that are unbinned. The Core Team binned PRS 441 as a Removal Action on 1 March 2005; however the recommendation sheet is not currently available.

**MOUND PLANT
PRS 59
WASTE STORAGE SITE-SOIL BOXES STAGED SOUTH OF
WD BUILDING**

RECOMMENDATION:

PRS 59 was identified as a storage area for boxes containing plutonium contaminated soil during a US EPA 1988 Preliminary Review/Visual Site Inspection. Procedures were in place to prevent the transfer of contamination from the immediate work site to storage areas. In 1984 plutonium was detected at 133.9 pCi/g at one location in Area 14 near PRS 59. In 1994 four locations were sampled in the area of PRS 59 as part of the cleanup verification at Area 14. No plutonium was detected above the guideline criteria of 25 pCi/g. In addition, all thorium results were below the regulatory limits of 5/15 pCi/g.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 59.

CONCURRENCE:

DOE/MEMP:	<u>Arthur W. Kleinrath</u>	<u>5/13/97</u>
	Arthur W. Kleinrath, Remedial Project Manager	(date)
USEPA:	<u>Timothy J. Fischer</u>	<u>5/13/97</u>
	Timothy J. Fischer, Remedial Project Manager	(date)
OEPA:	<u>Brian K. Nickel</u>	<u>5/13/97</u>
	Brian K. Nickel, Project Manager	(date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 7/15/97 to 8/17/97

- No comments were received during the comment period.
- Comment responses can be found on page 1, 2 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 11/26/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

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

OEPA:

Brian K. Nickel 12/17/96
Brian K. Nickel, Project Manager (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.



Environmental
Restoration
Program

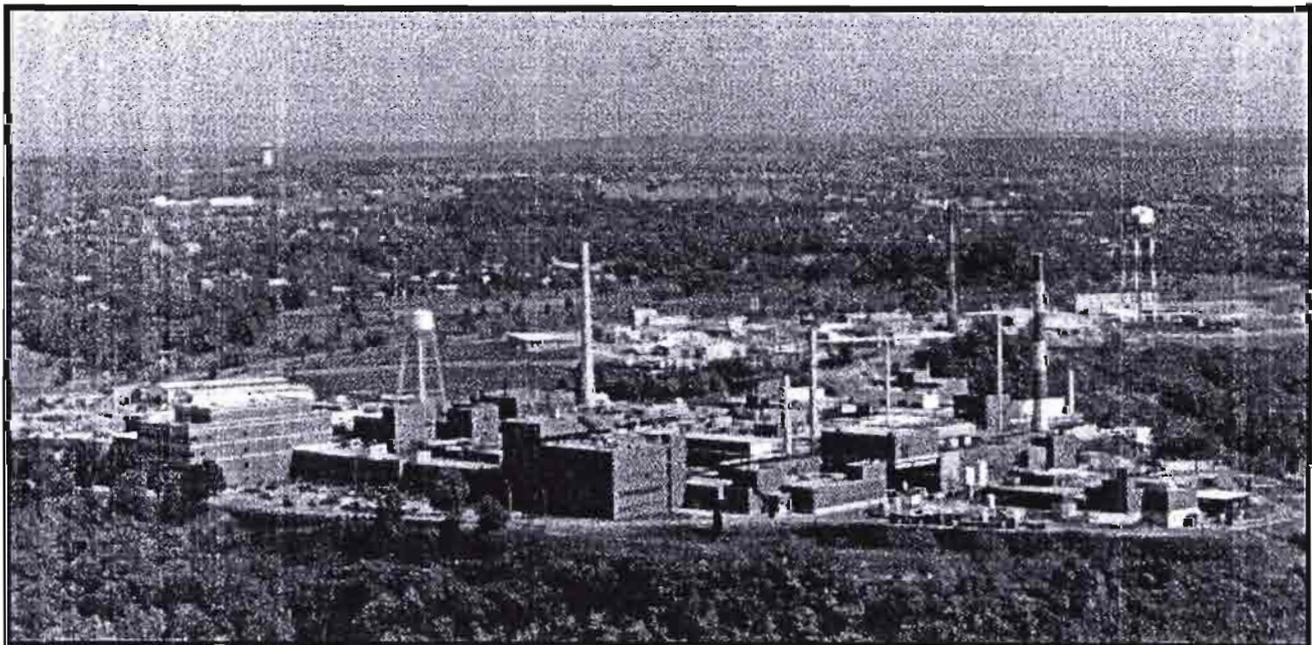


Miamisburg Closure Project CLOSEOUT REPORT

Building 104

(Demolition)

Final Rev. 1
July/August 2005



Building 104

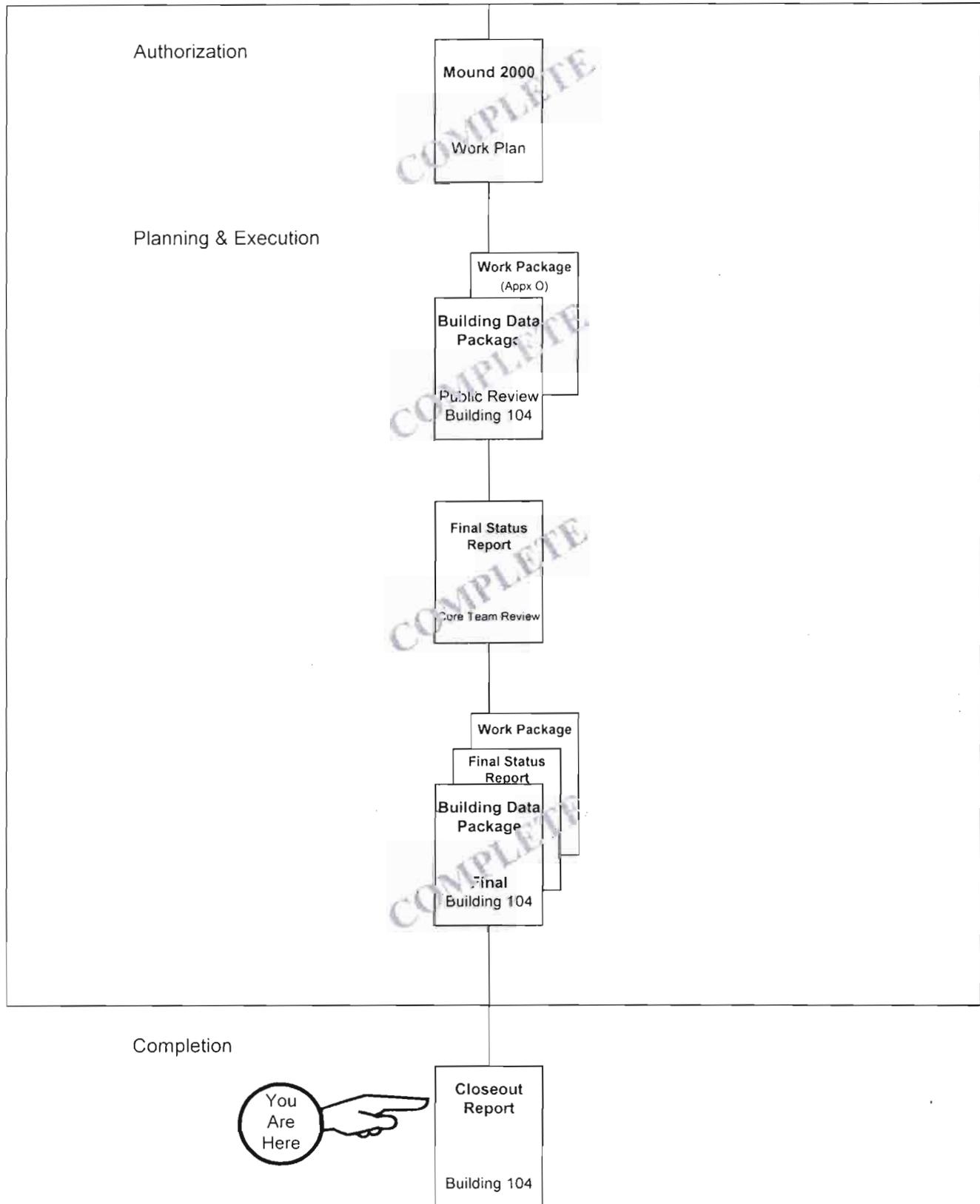


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	Figure 6:..... Final Site Restoration of Former Location of Building 104
Appendix B	Post-Final Status Survey Report Radiological Surveys
Appendix C	PRS Recommendation Sheets

1.0 PURPOSE

This is the final report documenting completion of the demolition of Building 104 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 Building 104 superstructure, floor slab, foundation walls/footers to three feet below grade, loading dock, loading dock ramp and adjacent asphalt pad, obsolete utility poles, pipe stanchions adjacent to Building 104 building, and final site restoration was accomplished per the Work Package for Building 104 Demolition #BOSS-40464. A copy of the Work Package was included in Appendix O of the Building Data Package (BDP) for Building 104. The scope of work relating to this building is considered complete.

2.0 BACKGROUND

2.1 Building 104

Constructed in 1991 as the Test Fire Maintenance Facility, Building 104 was located in the west central portion of the site (Figure 1). The facility was a 4,025 square-foot one-story steel frame Butler Brand building with corrugated steel siding and roof. The building was constructed with reinforced concrete footers and a 6-inch thick reinforced concrete slab-on-grade. The interior wall, which separated the shop from the office area, was constructed of grout-filled concrete block. A concrete loading dock and ramp was located at the east end of the building. There were no room additions to Building 104 altering the original footprint.

At the time of construction, Building 104 contained offices, a lavatory, an electronics and small parts assembly room, a storage area, and a fabrication/maintenance shop. Building 104 continued to function as a maintenance area until the mid-1990s when the building was made available to the Miamisburg Mound Community Improvement Corporation (MMCIC) as a "user facility" and leased to a commercial entity. In 2002, the building was returned to site use as an office area and was still used in that capacity until March 2005, when personnel were moved out of the building in preparation for Safe Shutdown activities

Table 1 details the processes and functions that have been housed in Building 104.

Table 1: Processes and Functions Housed in Building 104

Timeframe	Function or Process
1991 to mid 1990s	Offices, electronics and small parts assembly room, storage area, and fabrication/maintenance shop
Mid 1990s to 2002	Department of Energy (DOE) leased Building 104 to Miamisburg Mound Community Improvement Corporation (MMCIC) as a "user facility"
2002 to March 2005	Building returned to site contractor for use as office area

Building 104 used a heat pump was utilized for heating and cooling. Electrical service was 480 volts. The building had potable and service water, a fire sprinkler system, sanitary services, and storm drains.

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, three are at or near Building 104, as identified in Table 2. The PRS locations are shown in Appendix A, Figure 2 and PRS recommendation sheets are provided in Appendix C.

Table 2: PRSs in Proximity to Building 104

PRS	CERCLA or Bldg. Related	Binning Status	Comments
59	CERCLA	NFA	Contaminated Soil Box Storage Area
300	CERCLA	NFA	Area 19, Underground Waste Transfer Line
441*	CERCLA	RA	Soil Staging Area & Expansion

* The Core Team binned PRS 441 as an RA on 1 March 2005; the recommendation sheet is not currently available.

3.0 ACTIONS TAKEN

The Building 104 BDP was submitted for simultaneous Core Team and public review on 24 March 2005, and the 30-day public review period concluded on 24 April 2005.

A Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) study of Building 104 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 104 met applicable surface release criteria.

Demolition of Building 104 commenced on 22 April 2005. Demolition activities (including slab, dock pad, foundation/footers, retaining wall, and sidewalks) and final site restoration were completed on 21 May 2005. Photographs taken before, during, and after demolition are provided in Appendix A.

No confirmatory radiological survey of the building exterior surfaces was performed due to the short period of time between performing the MARSSIM radiological survey and the demolition of the structure.

During the demolition of the building slab, foundation/footers, loading dock, loading dock ramp and adjacent asphalt pad, obsolete utility poles, and pipe stanchions radiological

screening was performed on concrete surfaces in contact with soils. As part of the demolition activities soil contact surfaces of foundation/footers were debris pile surveyed. After demolition of below grade structures, a post-demolition walkover survey was performed and soil samples were taken at four separate locations within the perimeter of Building 104, including the location of Borehole 47 (the Borehole 47 location had two previous borehole sample results that showed elevated Thorium 232 results of 2.9 pCi/g and 3.3 pCi/g; respectively. Reference BDP Table 1: Summary of Environmental Concerns and Findings, Soil Contamination Section). The results of the soil samples were all below Cleanup Objective levels (reference Radiological Survey Data Sheet 05-TF-0210 for the survey results). Additionally, the Borehole 47 location will be included in the residual risk evaluation and remediation activities for Parcel 8. Radiological surveys results associated Building 104 demolition activities are provided in Appendix B.

Construction and concrete building debris was loaded into haulers and taken to a local sanitary landfill. Recyclable metal debris was loaded into haulers and taken to a local metal recycler.

This Closeout Report documents the completion of the demolition and removal of Building 104. All preparation, demolition activities, and final site restoration were performed in accordance with the detailed work plan.

Table 3: Materials Disposition

Building 104 Material	Quantity	Disposal Method	Destination
Construction Debris (Building cleanout)	30 cubic yards	Landfill	Stoney Hollow, Dayton, OH
Construction Debris Slab	67 cubic yards	Landfill	Stoney Hollow, Dayton, OH
Metals	360 cubic yards	Recycle	Metal Shredders Inc., Dayton, OH

4.0 PROBLEMS ENCOUNTERED

Building 104 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 4 lists the personnel organization for the demolition.

Table 4: 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 1075 Mound Road Miamisburg, OH 45343 847-8350, ext. 304	Frank Schmaltz	DOE/ MCP Project Manager responsible for project oversight and success.
CH2M Hill Mound, Inc. 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 104 is the only building in Cluster 104. The total cluster costs are presented in Table 5.

Table 5: Cluster 104 Total Costs

Activity	Cost
Work Planning	\$ 7K
Facility Prep	\$18K
Demolition	\$20K
Total	\$42K

APPENDIX A

Figures

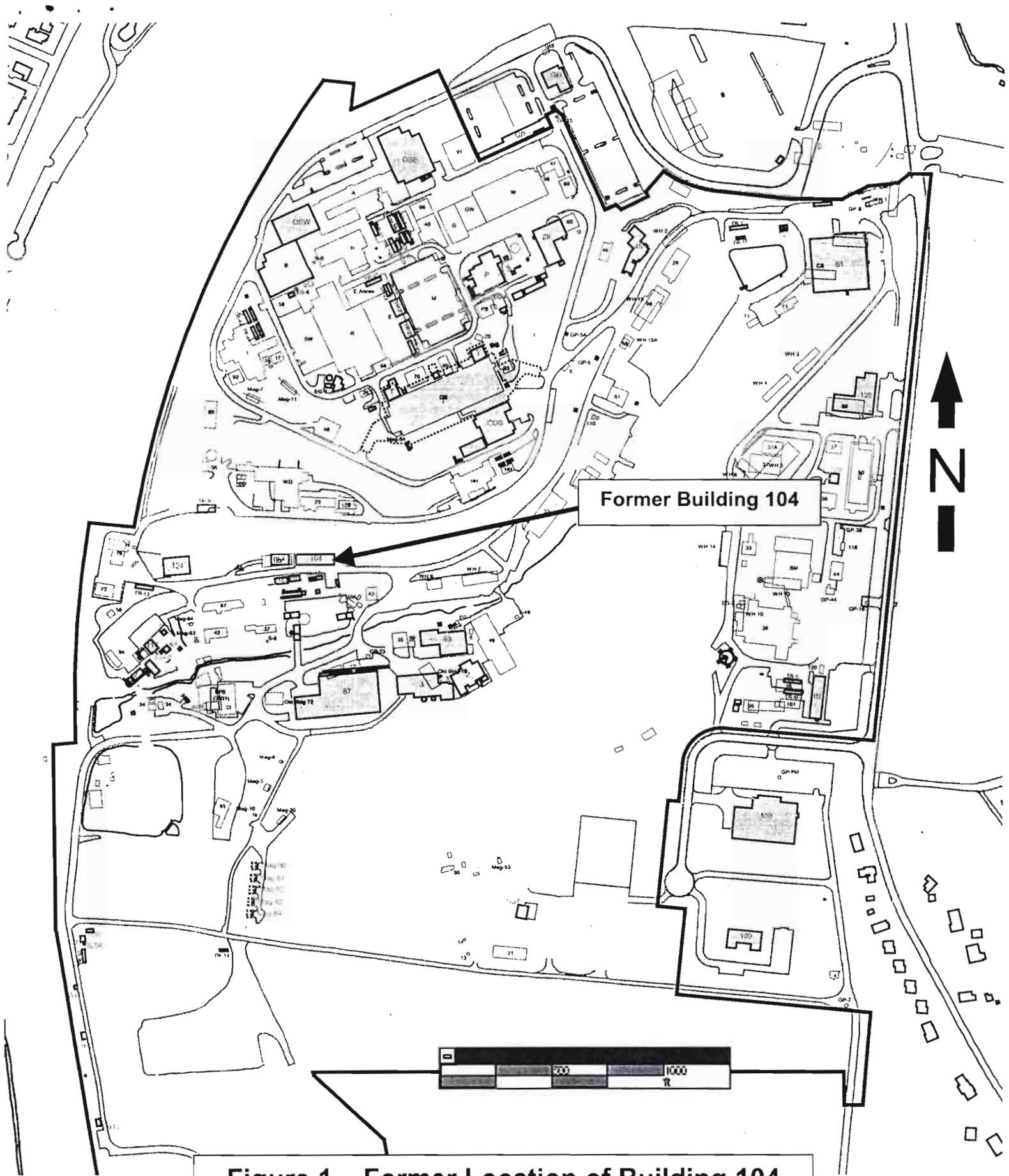


Figure 1 – Former Location of Building 104

Figure 3 – Predemolition Photos of Building 104

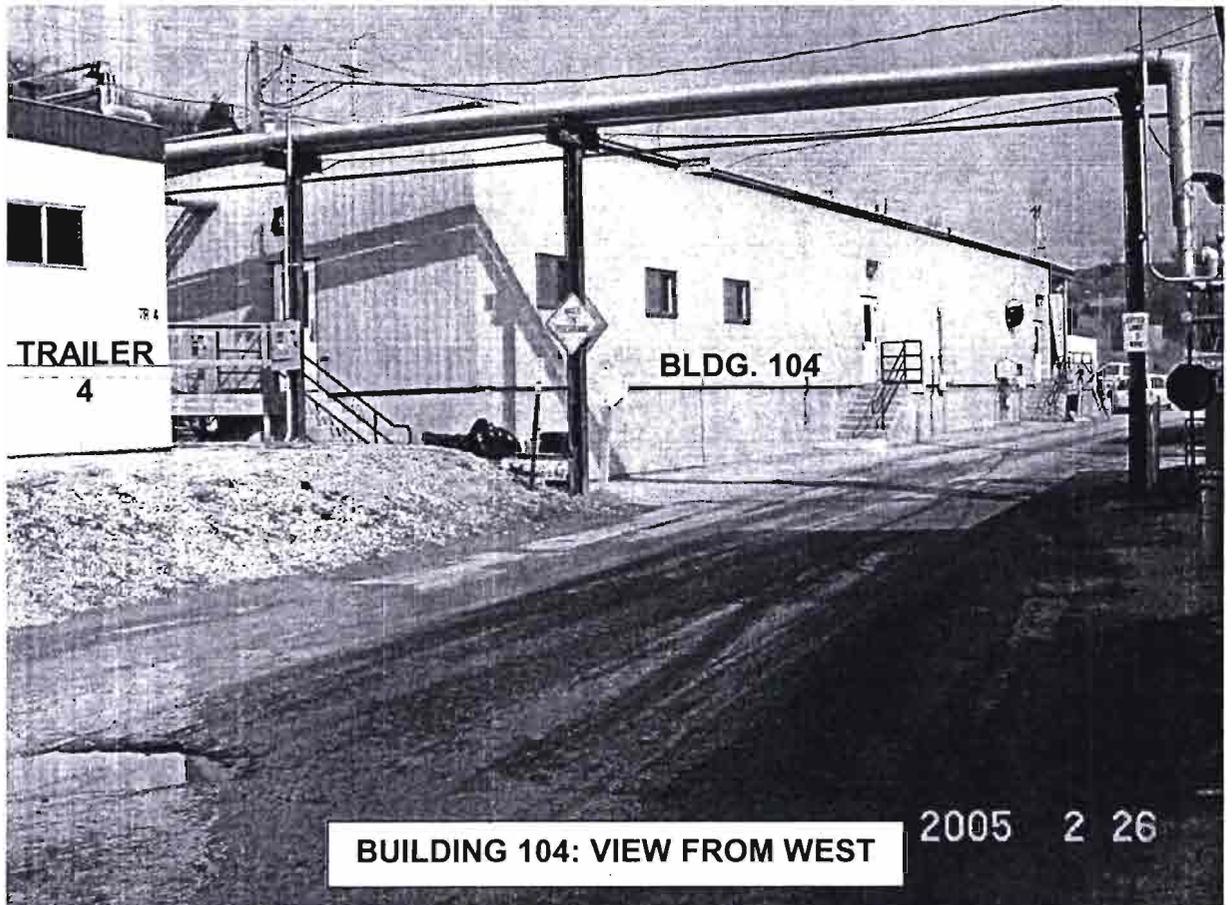
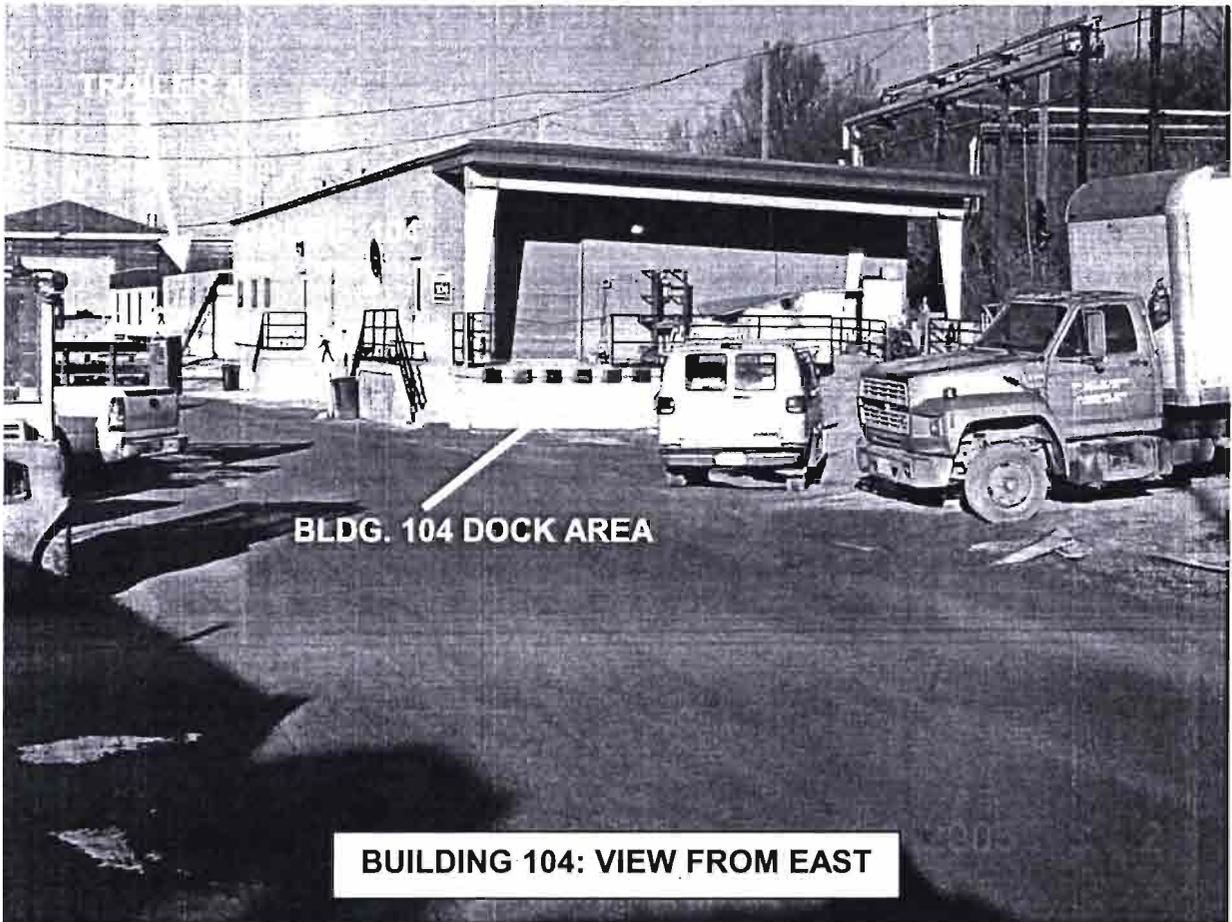


Figure 4 – Building 104 Demolition Photos

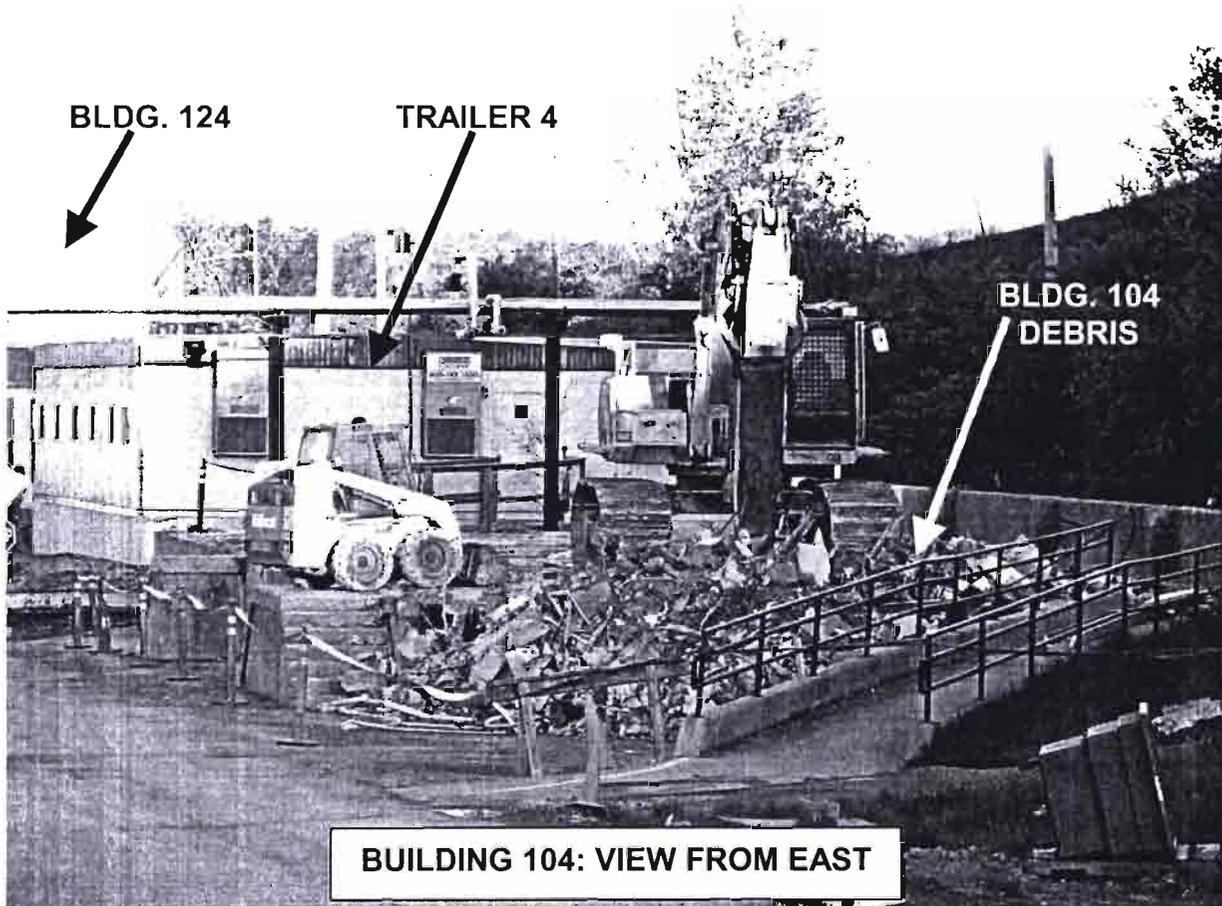
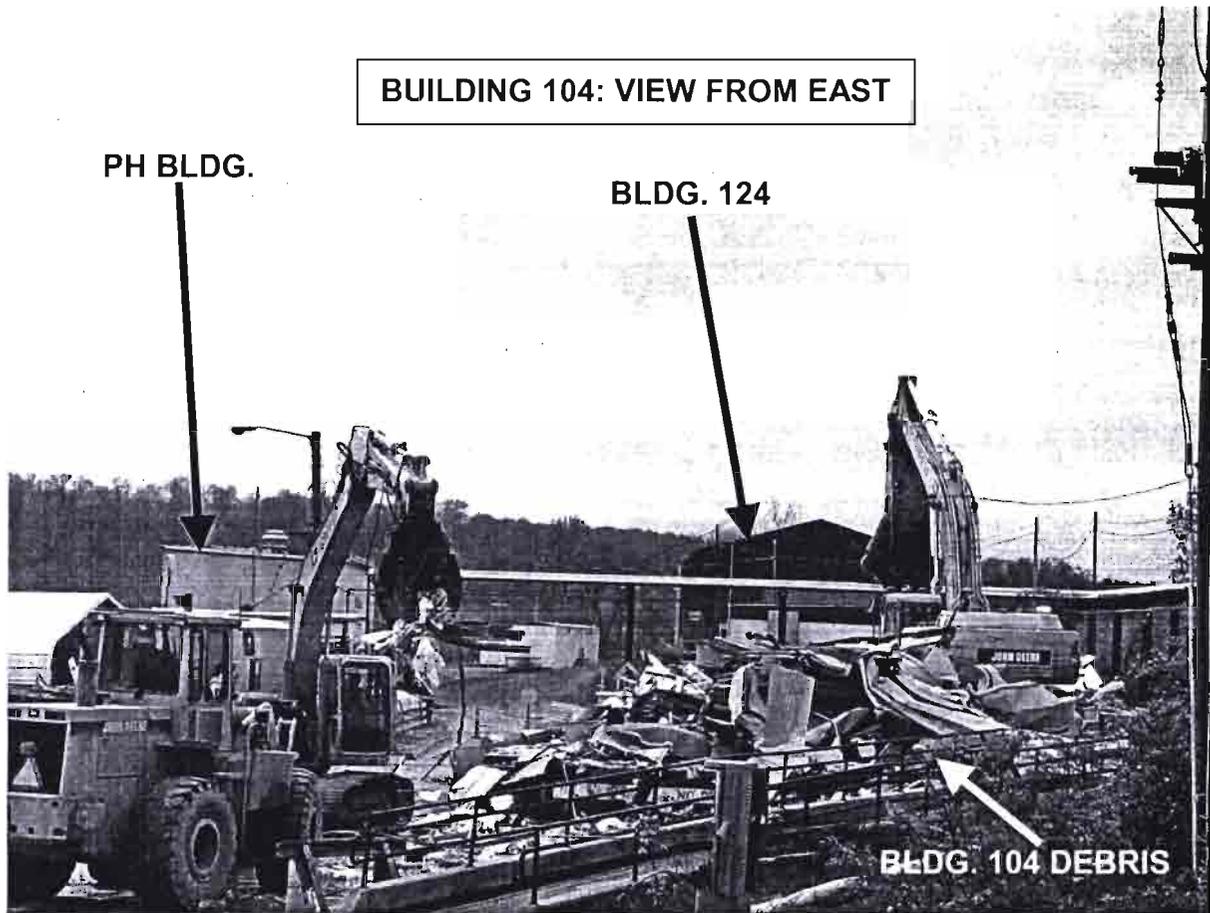
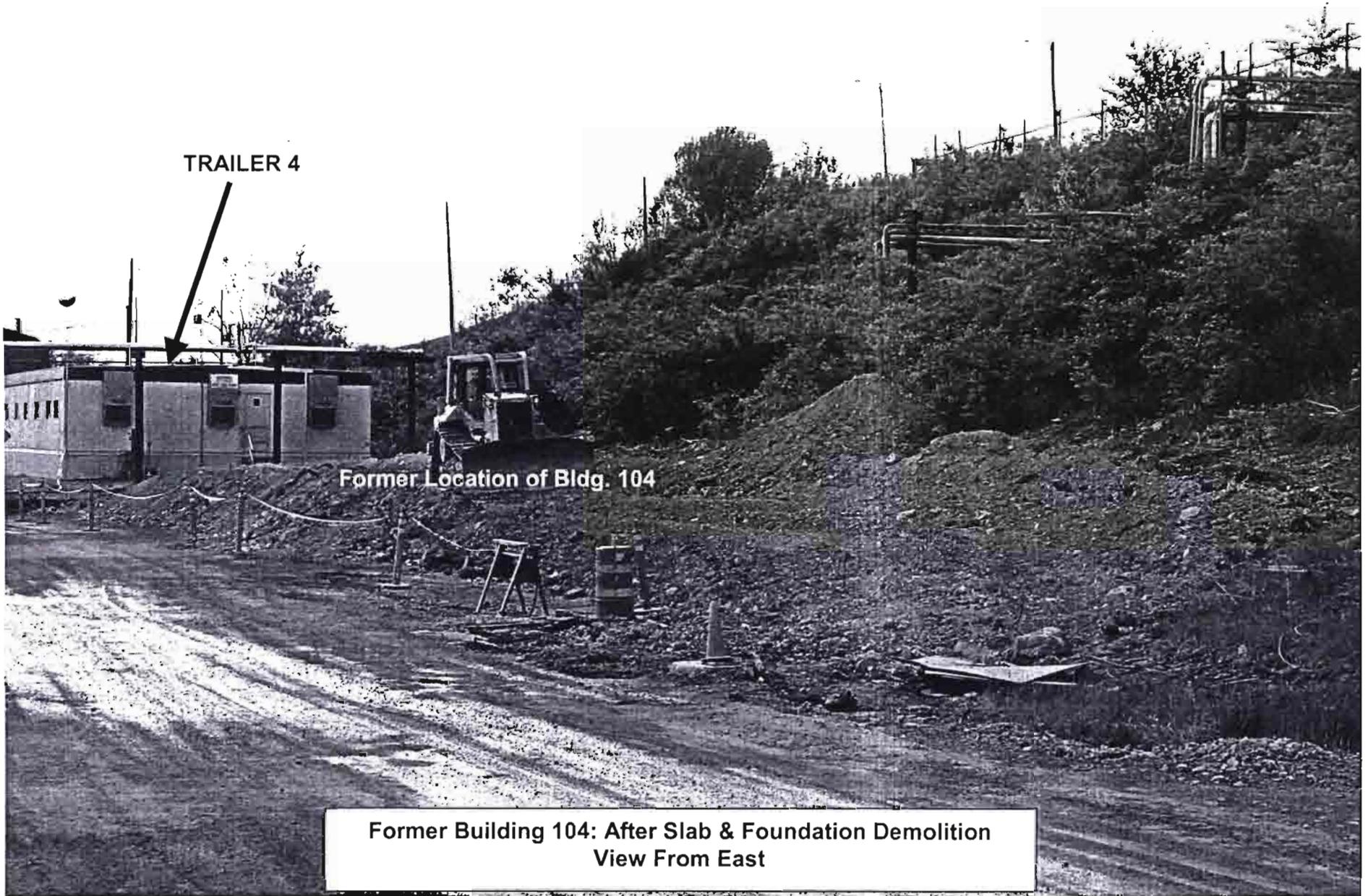


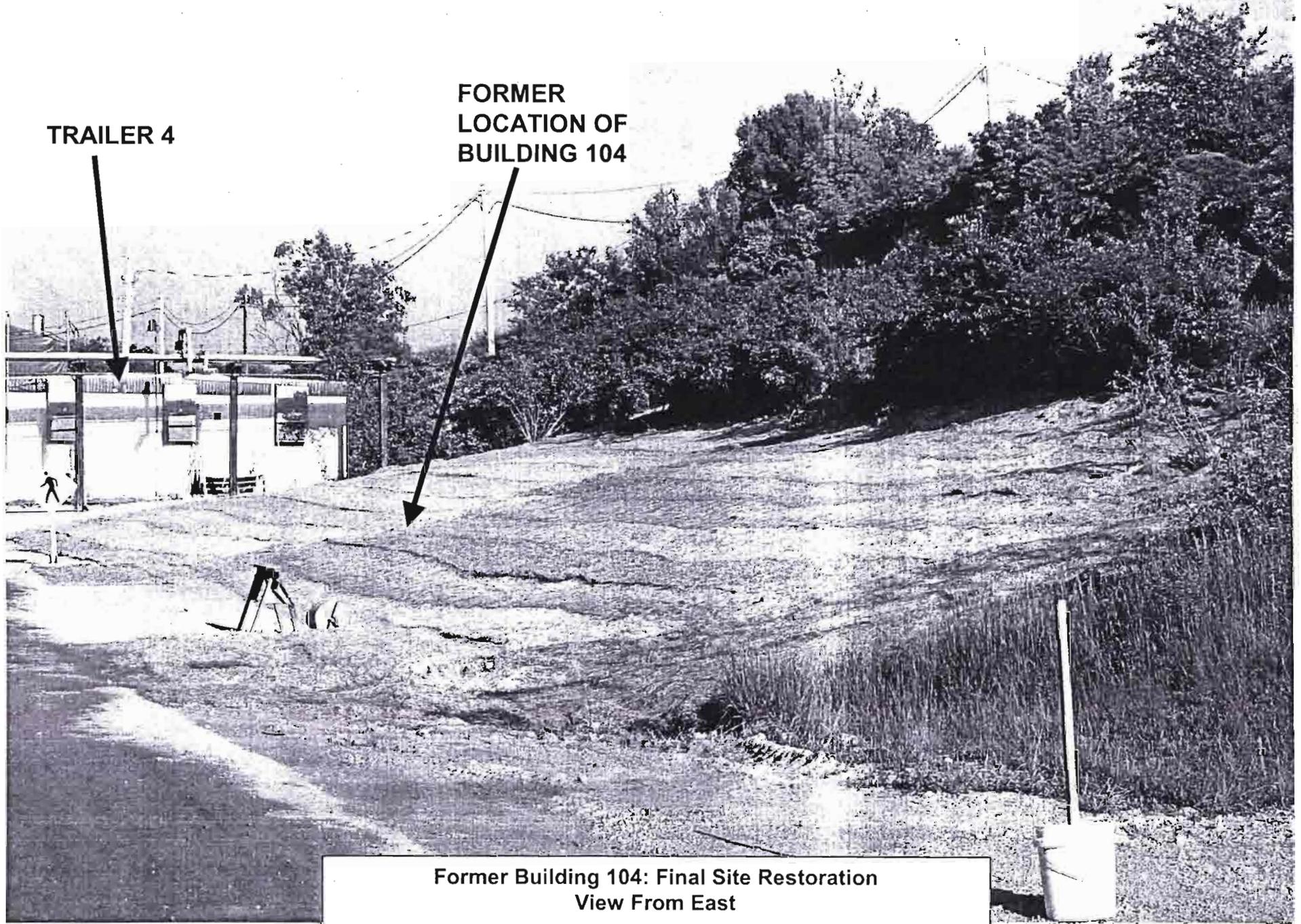
Figure 5 – Building 104 Post Demolition Photo



Former Building 104: After Slab & Foundation Demolition
View From East

A5/6

Figure 6 – Final Site Restoration of Former Location of Building



A6/6

**Former Building 104: Final Site Restoration
View From East**

APPENDIX B

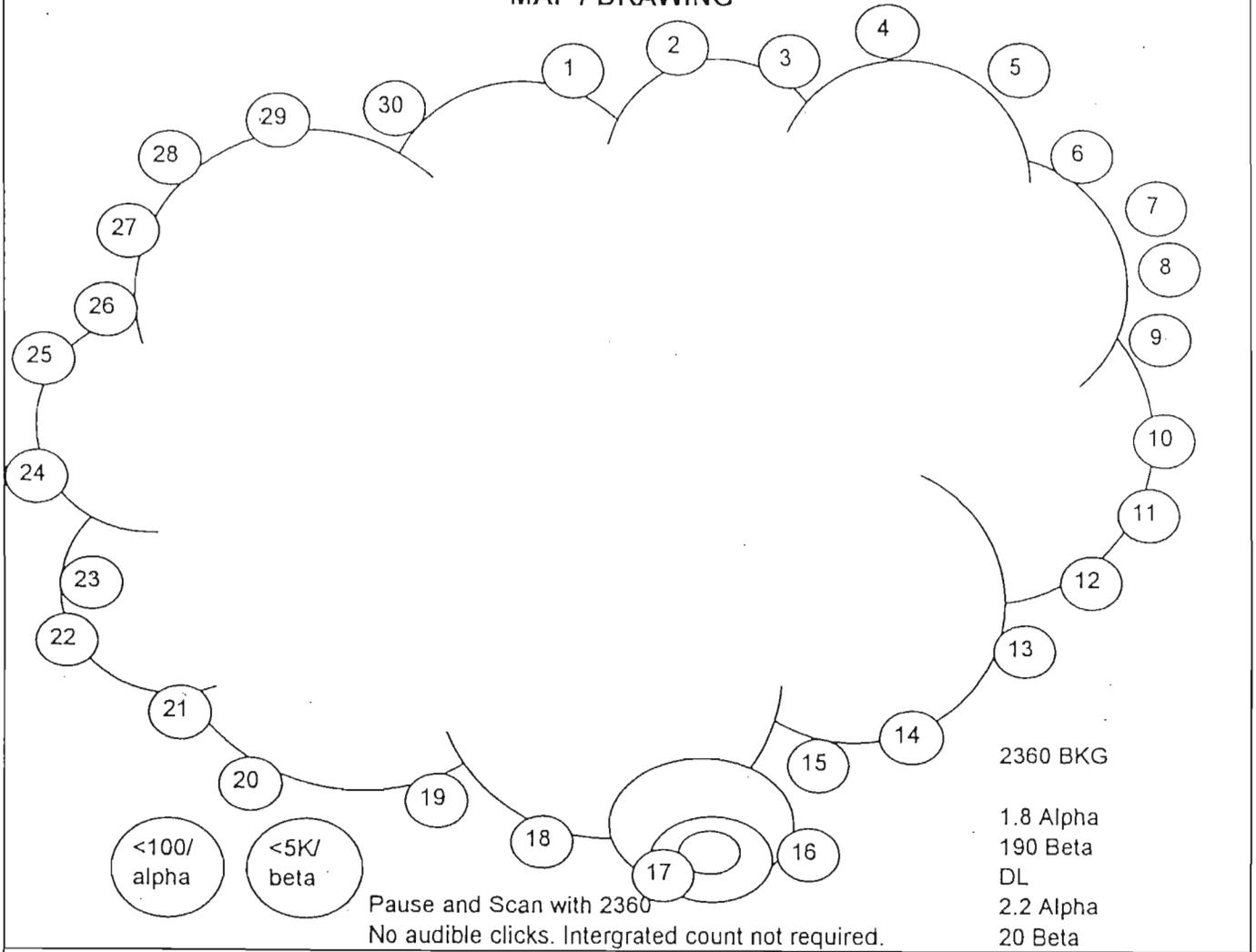
Post-Final Status Survey Report Radiological Surveys

A post-demolition walkover survey and soil samples were taken within the perimeter of Building 104, including the location of Borehole 47 (the Borehole 47 location had two sample results that showed elevated Thorium 232 results of 2.9 pCi/g and 3.3 pCi/g; respectively). Reference RSDS 05-TF-0210 for the survey results.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	Across from Powerhouse	SURVEY NO.	05-TF-0188
PURPOSE:	Characterization survey of concrete debris pile from bldg 104	RWP NO.	N/A
		DATE:	5/2/2005
		TIME:	9:45

MAP / DRAWING



LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr ($\beta + \gamma$) extremity on contact
- K = factor of 1000
- = radiological boundary
- Δ # - mrem/hr neutron
- \square # - air sample number
- \circ # - swipe number
- \circ #/ α or β - direct contamination measurement in dpm/100cm²

INSTRUMENTS USED		
Instrument	Serial Number	Cal. Due Date
2360/4389	5765/5802	3/1/2006
NA		

Completed by: (Signature)	HP#	Date
<i>Joe Worley</i>	7176/7836	5-3-05
Completed by: (Printed Name)	Joe Worley/ Larry Oeffner, Jr.	
Counted by: (Signature)	HP#	Date
See attached		
Counted by: (Printed Name)		
Reviewed/Approved by: (Signature)	HP#	Date
Reviewed/Approved by: (Print Name)		

B1/14

Smear Analysis

Unit Type: LB4100/W
 Counting Unit ID: Aqua
 Data file name: SMPEAR030
 Batch Ended: 5/2/05 10:28

Crosstalk correction performed.

Recalibration Date: 11/03/05
 Serial Number: 26966-1

Batch ID: 05-TF-0188 WORLEY (30) AG

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.00	2.17		0.00	1.83	
A2	2	0.00	2.23		1.79	2.20	
A3	3	0.00	2.16		0.00	1.27	
A4	4	0.00	2.05		1.15	2.16	
B1	5	0.00	1.92		0.00	1.64	
B2	6	0.00	2.07		0.00	2.08	
B3	7	0.00	1.95		0.10	2.17	
B4	8	0.00	1.89		0.00	1.65	
C1	9	0.00	2.37		0.50	2.73	
C2	10	0.00	2.18		0.00	2.37	
C3	11	3.81	2.96		1.18	2.65	
C4	12	1.51	2.14		6.11	3.60	
D1	13	0.00	2.21		0.30	2.52	
D2	14	0.00	2.20		0.01	1.80	
D3	15	0.00	1.96		2.78	2.86	
D4	16	0.00	2.16		0.00	1.98	
A1	17	0.00	2.17		0.00	1.83	
A2	18	0.00	2.24		3.04	2.54	
A3	19	0.00	2.18		0.48	1.76	
A4	20	1.40	2.04		0.00	1.78	
B1	21	0.00	1.97		0.97	2.28	
B2	22	0.00	2.02		0.00	1.26	
B3	23	1.51	1.99		3.60	3.04	
B4	24	0.00	1.93		2.69	2.56	
C1	25	0.00	2.39		1.84	3.04	
C2	26	0.00	2.15		0.00	1.45	
C3	27	0.00	2.16		5.42	3.48	
C4	28	0.00	2.06		0.00	1.85	
D1	29	0.00	2.23		3.15	3.23	
D2	30	2.02	2.24		0.98	2.19	

MO

MO

B3/14

3 of 4

MO

02 May 2005 11:02

ALPHA/BETA - 1.09

4 of 4

Page #1

Protocol #: 2

PW H3 #403727

User : 2138

Time: 2.00

Data Mode: DPM

Nuclide: SMGLS02

Quench Set: SMGLS02

Background Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 18.6		0	0.0	7.31
Region B:	2.0 - 18.6		0	0.0	7.22
Region C:	40.0 - 2000		0	0.0	10.77

Quench Indicator: tSIE/AEC

Ext Std Terminator: Count

~~05-R/SW-0323 M. SIZEMORE (19) AG~~ 05-TF-0188 Worley [30]AG

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

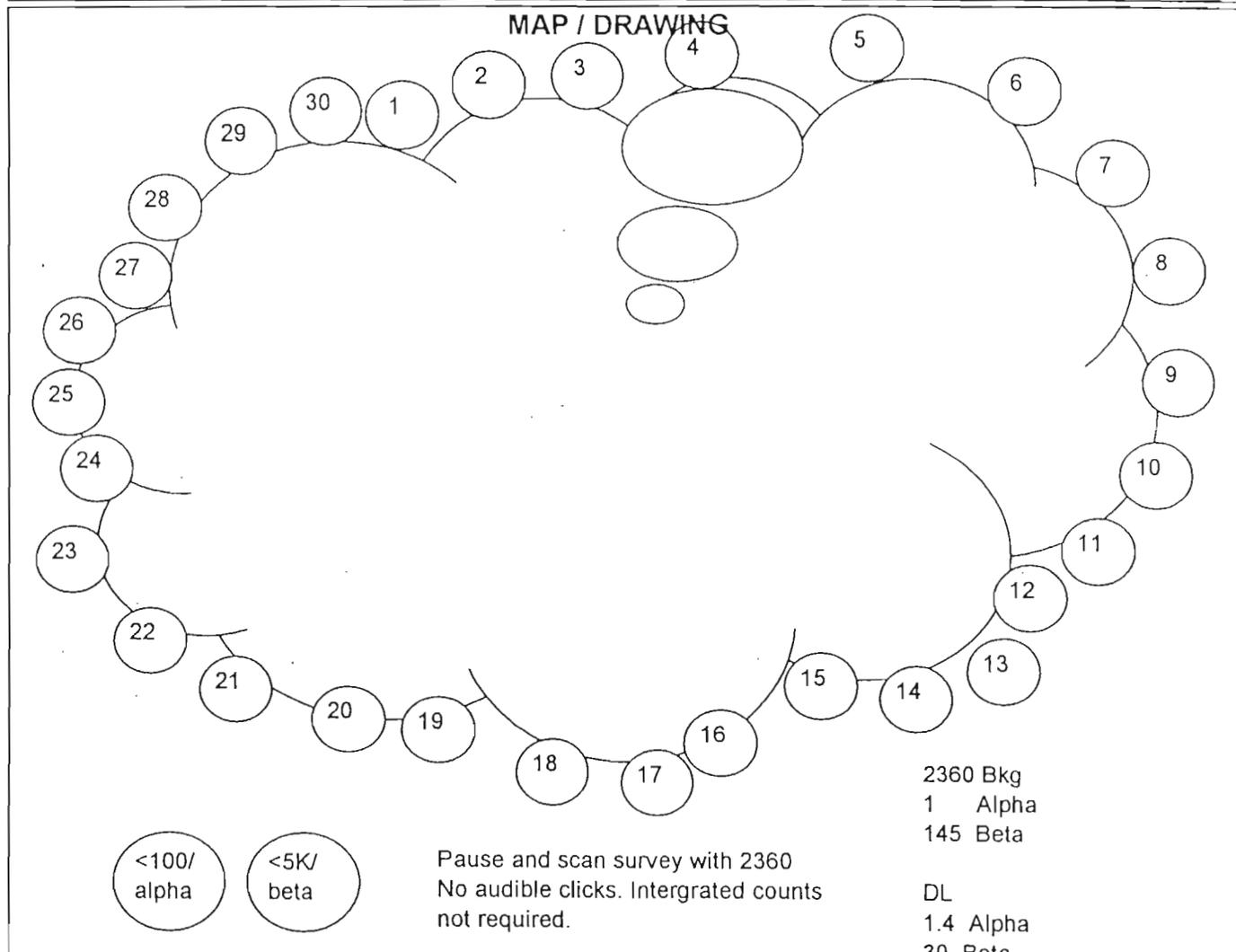
S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2SIGMA	CPMC
-1	10.00	7.31	7.22	1	B	700.21		0.00	10.77
0	2.00	526.95	514.01	0		599.78	1109.38	106.59	0.73
1	2.00	0.00	0.00	8		615.43	0.00	0.00	0.73
2	2.00	0.00	0.00	8		621.67	0.00	0.00	1.96
3	2.00	0.00	0.00	0		653.33	0.00	0.00	0.00
4	2.00	2.19	1.97	0		621.88	4.53	9.68	0.00
5	2.00	0.00	0.00	0		641.32	0.00	0.00	0.00
6	2.00	3.19	2.20	0		647.27	6.45	9.90	2.03
7	2.00	0.00	0.00	0		613.34	0.00	0.00	0.00
8	2.00	2.19	1.92	0		646.10	4.43	9.48	0.00
9	2.00	0.19	0.00	0		626.78	0.39	8.71	1.23
10	2.00	2.33	2.43	0		627.95	4.80	9.69	0.00
11	2.00	1.69	0.82	0		625.34	3.48	9.42	0.00
12	2.00	1.69	1.47	0		618.90	3.50	9.48	0.73
13	2.00	0.00	0.00	17		575.20	0.00	0.00	0.00
14	2.00	0.19	0.28	0		655.57	0.38	8.50	3.23
15	2.00	0.00	0.00	0		532.60	0.00	0.00	0.00
16	2.00	1.69	1.78	0		577.85	3.63	9.82	0.00
17	2.00	2.36	1.78	0		632.87	4.82	9.66	0.00
18	2.00	0.00	0.00	0		619.81	0.00	0.00	2.23
19	2.00	0.00	0.00	0		609.21	0.00	0.00	0.00
20	2.00	2.19	1.64	11		474.59	5.25	11.22	1.73
21	2.00	2.25	1.54	0		610.05	4.69	9.80	0.73
22	2.00	3.69	3.78	0		650.19	7.44	10.08	0.00
23	2.00	0.19	0.28	0		620.33	0.40	8.76	0.00
24	2.00	3.95	3.17	0		653.54	7.93	10.16	0.73
25	2.00	2.19	2.02	0		591.38	4.65	9.94	0.00
26	2.00	3.69	2.92	0		648.88	7.45	10.09	1.23
27	2.00	3.19	3.02	0		593.50	6.76	10.37	0.00
28	2.00	2.58	2.67	5		602.43	5.42	10.02	0.73
29	2.00	0.69	0.00	0		633.94	1.41	8.89	2.23
30	2.00	2.69	2.78	0		601.13	5.66	10.08	3.73

Handwritten signature

B4/14

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) Across from Powerhouse	SURVEY NO. 05-TF-0190
PURPOSE: Characterization survey of concrete debris from bldg 104	RWP NO. N/A
	DATE: 5/3/2005
	TIME: 8:20



LEGEND:

- # = mrem/hr (γ) whole body
- #E = mrem/hr ($\beta + \gamma$) extremity on contact
- K = factor of 1000
- = radiological boundary
- # (triangle) = mrem/hr neutron
- # (square) = air sample number
- # (circle) = swipe number
- #/ α or β (circle) = direct contamination measurement in dpm/100cm²

INSTRUMENTS USED		
Instrument	Serial Number	Cal. Due Date
2360/4389	5765/5802	3/1/2006
NA		

Completed by: (Signature) <i>Joe Worley / Larry Oeffner</i>	HP# 7196/7836	Date 5-3-05
Completed by: (Printed Name) Joe Worley/Larry Oeffner, Jr.		
Counted by: (Signature) See attached	HP#	Date
Counted by: (Printed Name)		
Reviewed/Approved by: (Signature) <i>R. M. Coblenz</i>	HP# 7707	Date 5-10-05
Reviewed/Approved by: (Print Name) R. M. Coblenz		

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5 - 18.6		0	0.0	9.24
Region B:	2.0 - 18.6		0	0.0	8.77
Region C:	40.0 - 2000		0	0.0	8.35

Quench Indicator: tSIE/AEC
 * Ext Std Terminator: Count
~~05-TE-0160~~ J.WORLEY (30) AG * 05-TF-0190 ^{83D} 6-31-06
 Luminescence Correction On
 Coincidence Time(ns): 18
 Delay Before Burst(ns): Normal
 Protocol Data Filename: C:\DATA\PROT3.DAT
 Count Data Filename: C:\DATA\SDATA3.DAT
 Spectrum Data Drive & Path: C:\DATA

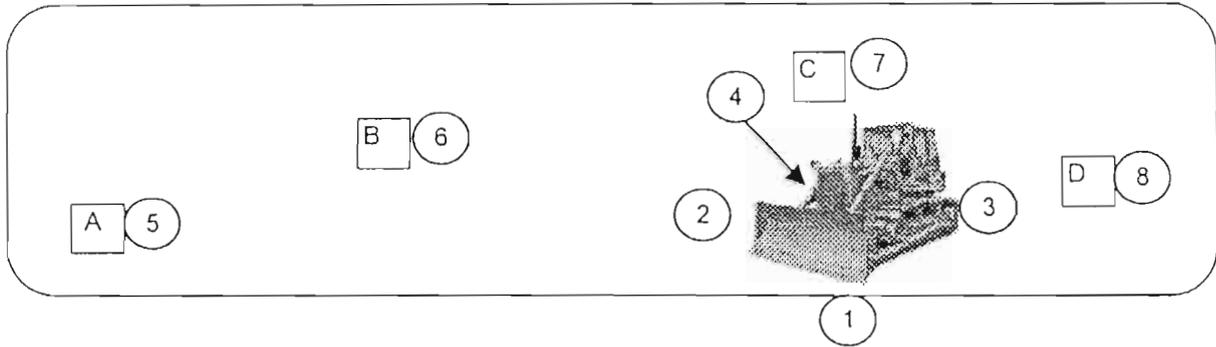
S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	9.24	8.77	0	B	702.9		0.00	8.35
0	2.00	434.06	400.37	0		601.7	809.69	70.78	1.65
1	2.00	0.00	0.00	6		837.6	0.00	0.00	1.15
2	2.00	3.58	1.90	0		627.8	6.54	9.90	1.65
3	2.00	0.26	0.00	82		478.0	0.56	27.15	0.15
4	2.00	3.26	2.55	0		612.5	6.03	9.91	0.00
5	2.00	7.03	6.23	0		595.0	13.18	11.31	0.65
6	2.00	5.26	2.19	0		636.4	9.54	10.38	0.00
7	2.00	1.96	0.00	0		570.0	3.75	9.79	3.65
8	2.00	7.81	3.79	0		654.7	13.96	11.01	1.15
9	2.00	4.45	1.46	0		555.0	8.64	10.83	0.00
10	2.00	12.76	10.44	2		536.0	25.18	13.69	3.97
11	2.00	5.78	2.81	0		581.5	10.94	11.03	2.65
12	2.00	3.76	1.32	0		562.4	7.26	10.51	0.65
13	2.00	0.00	0.00	0		620.5	0.00	0.00	1.42
14	2.00	0.00	0.00	0		552.6	0.00	0.00	1.15
15	2.00	5.26	3.01	0		617.2	9.69	10.54	0.65
16	2.00	2.72	0.00	0		656.3	4.85	9.38	0.00
17	2.00	0.00	0.00	0		614.1	0.00	0.00	0.15
18	2.00	0.00	0.00	0		579.8	0.00	0.00	0.15
19	2.00	0.00	0.00	0		613.1	0.00	0.00	0.00
20	2.00	0.00	0.00	0		649.4	0.00	0.00	0.65
21	2.00	3.22	2.35	0		635.7	5.83	9.71	0.00
22	2.00	0.00	0.00	0		562.9	0.00	0.00	0.00
23	2.00	3.26	1.38	0		619.0	6.00	9.86	0.15
24	2.00	7.42	4.49	0		654.6	13.26	10.89	2.65
25	2.00	6.76	5.21	0		637.6	12.25	10.84	0.00
26	2.00	3.49	1.42	0		593.0	6.57	10.15	6.15
27	2.00	2.63	1.40	4		559.6	5.09	10.13	0.00
28	2.00	7.26	6.20	3		546.8	14.20	11.86	0.00
29	2.00	3.76	1.58	17		568.6	7.22	11.47	1.15
30	2.00	1.76	0.94	5		558.1	3.41	9.81	3.17

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM)	Bldg. 104 Pad	SURVEY NO.	05-TF-0210
PURPOSE:	Fidler, soil sample and dozer survey	RWP NO.	N/A
		DATE.	5/11/05
		TIME:	10:30

MAP / DRAWING

BLDG #104 PAD



ROAD

Background Fidler readings on out channel approximately 5000 cpm
 Readings of soil (locations A,B,C) approximately 2000 cpm above background
 Soil samples taken, and sent to gamma spec.
 FIDLER USED AS INDICATOR ONLY

A indicates soil sample location

LEGEND: # = mrem/hr (γ) whole body
 #E = mrem/hr ($\beta + \eta + \gamma$) 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/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
Lud 2360/4389	5677/5715	12/13/05
Lud 3030	5816	7/12/05
Bicron Fidler	3951/3998	11/4/05

Completed by: (Signature)	HP# 7836 7244	Date 5-16-05
Completed by: (Printed Name)	L. Oeffner Jr. / Jamie Collins	
Counted by: (Signature)	HP#	Date
Counted by: (Printed Name)	See attached	
Reviewed/Approved by: (Signature)	HP# 7707	Date 5-18-05
Reviewed/Approved by: (Print Name)	RmCoblentz	

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RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	0	0	N/A	dozer blade
2	0	0		dozer blade
3	2	2		dozer track
4	0	0		dozer track
5	17	0		outside sample container
6	0	0		outside sample container
7	0	0		outside sample container
8	41	0	▼	outside sample container
N A				

Removable Contamination				
Swipes (dpm/100cm ²)				
Sample #	β/γ	Alpha	Tritium	Comments
N A				

COMMENTS: None

NOTES:

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

ML-9620A (4-98)

B 10/14

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05862
File ID: ISC01853.s0
Priority: Yes

Description\Location

Bldg 104 Sample #1 (Soil sample location #5)
Long Count

Collector: 7836

Date Received: 05/11/05

Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0	0.06
Cs-137	*	0.01	0.04
Pb-210		0.5	0.47
Ra-226		1.25	0.51
Ac-227 (D)	*	0.02	0.22
Th-230	*	0	5.45
Th-232 (D)		0.18	0.14
Pu-238	*	0.38	9.76
Am-241	*	0.02	0.05

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>

Σ_{DOT} 0.02 nCi/g

Instrument type: High Purity Germanium

Σ_{DOT} 2nCi/g limit, total activity.

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

* Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05 Counted By: 5288 Analyzed By: 5288 Initials

CS

B11/14

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05863
File ID: ISC01854.s0
Priority: Yes

Description\Location

Bldg 104 Sample #2 (soil sample location#6)
Long Count

Collector: 7836
Date Received: 05/11/05
Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0	0.06
Cs-137	*	0.01	0.04
Pb-210		0.94	0.54
Ra-226		1.56	0.57
Ac-227 (D)	*	0.13	0.29
Th-230	*	0	6.55
Th-232 (D)		0.39	0.15
Pu-238	*	0	11.48
Am-241	*	0	0.07

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>

Σ_{DOT} 0.02 nCi/g

Instrument type: High Purity Germanium

Σ_{DOT} 2nCi/g limit, total activity.

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

- Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05 Counted By: 5288 Analyzed By: 5288 Initials LP

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05864
File ID: 1SC01855.s0
Priority: Yes

Description\Location

Bldg 104 Sample #3 (soil sample location #7)
Long Count

Collector: 7836

Date Received: 05/11/05

Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0.02	0.06
Cs-137	*	0.01	0.05
Pb-210		0.96	0.45
Ra-226		1.45	0.7
Ac-227 (D)	*	0.07	0.22
Th-230	*	0	6.53
Th-232 (D)		0.38	0.16
Pu-238	*	1.85	11.58
Am-241	*	0.04	0.06

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>

Σ
DOT 0.02 nCi/g

Instrument type: High Purity Germanium

Σ DOT 2nCi/g limit, total activity.

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

- Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05

Counted By: 5288

Analyzed By: 5288

Initials

CS

SOIL ANALYSIS REPORT

Field Sample ID:
Lab Sample ID: GL05865
File ID: 1SC01856.s0
Priority: Yes

Description\Location

Bldg 104 Sample #4 (soil sample location #8)
Long Count

Collector: 7836
Date Received: 05/11/05
Date Collected: 05/11/05

<u>Radionuclide</u>		<u>Activity (pCi/g)</u>	<u>MDA</u>
Co-60	*	0	0.07
Cs-137	*	0.01	0.04
Pb-210		0.77	0.55
Ra-226		1.43	0.62
Ac-227 (D)	*	0.06	0.21
Th-230	*	0	6.05
Th-232 (D)		0.3	0.15
Pu-238	*	0	11.3
Am-241	*	0	0.06

Other Nuclides

<u>Radionuclide</u>	<u>Activity (pCi/g)</u>	<u>MDA</u>
.....
.....
.....

\sum_{DOT} 0.02 nCi/g

Instrument type: High Purity Germanium

\sum_{DOT} 2nCi/g limit, total activity.

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

- Indicates activity < MDA. MDA used in limits calculation

Comments:

Date: 05/12/05 Counted By: 5288 Analyzed By: 5288

Initials

GP

B14/14

APPENDIX C

PRS Recommendation Sheets

Recommendation pages are not generated for PRSs that require Further Assessment (FA) or that are unbinned. The Core Team binned PRS 441 as a Removal Action on 1 March 2005; however the recommendation sheet is not currently available.

**MOUND PLANT
PRS 59
WASTE STORAGE SITE-SOIL BOXES STAGED SOUTH OF
WD BUILDING**

RECOMMENDATION:

PRS 59 was identified as a storage area for boxes containing plutonium contaminated soil during a US EPA 1988 Preliminary Review/Visual Site Inspection. Procedures were in place to prevent the transfer of contamination from the immediate work site to storage areas. In 1984 plutonium was detected at 133.9 pCi/g at one location in Area 14 near PRS 59. In 1994 four locations were sampled in the area of PRS 59 as part of the cleanup verification at Area 14. No plutonium was detected above the guideline criteria of 25 pCi/g. In addition, all thorium results were below the regulatory limits of 5/15 pCi/g.

Therefore, NO FURTHER ASSESSMENT is recommended for PRS 59.

CONCURRENCE:

DOE/MEMP:	<u>Arthur W. Kleinrath</u>	<u>5/13/97</u>
	Arthur W. Kleinrath, Remedial Project Manager	(date)
USEPA:	<u>Timothy J. Fischer</u>	<u>5/13/97</u>
	Timothy J. Fischer, Remedial Project Manager	(date)
OEPA:	<u>Brian K. Nickel</u>	<u>5/13/97</u>
	Brian K. Nickel, Project Manager	(date)

SUMMARY OF COMMENTS AND RESPONSES:

Comment period from 7/15/97 to 8/17/97

- No comments were received during the comment period.
- Comment responses can be found on page 1, 2 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 11/26/96
Arthur W. Kleinrath, Remedial Project Manager (date)

USEPA:

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

OEPA:

Brian K. Nickel 12/17/96
Brian K. Nickel, Project Manager (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.