BWX Technologies, Inc.
Babcock & Wilcox, a McDermott company

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

ESC-162/99
September 22, 1999

99-TC/09-22

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

ATTENTION: Dewain Eckman

SUBJECT: Contract No. DE-AC24-97OH20044
BUILDING 43: RELEASE OF FINAL ON-SCENE COORDINATOR REPORT

REFERENCE: Statement of Work Requirement C 7.1 -- Regulator Data Requests

Dear Mr. Provencher:

The attached Final On-Scene Coordinator Report for Building 43 has been authorized for release to USEPA, OEPA, and ODH by Ron Church of MEMP.

Please advise if additional copies are required for distribution within DOE. If you require further information, please contact Dave Rakel at extension 4203.

Sincerely,

Linda R. Bauer, Ph.D.
Manager, Environmental Safeguards & Compliance

LRB/nmg

Enclosures as stated

cc: Tim Fischer, USEPA, (1) w/attachments
Dave Meredith, TechLaw, (1) w/attachments
Brian Nickel, OEPA, (1) w/attachments
Ruth Vandegrift, ODH, (1) w/attachments
Art Kleinrath, MEMP, (1) w/attachments
Terrence Tracy, DOE/HQ, (1) w/attachments
Joe Bartee, BWO, (2) w/attachments
Administrative Record, (5) w/attachments
Public Reading Room, (2) w/attachments
DCC

3005-9909300002

ON SCENE COORDINATOR (OSC) REPORT

BUILDING 43

REMOVAL ACTION

MOUND PLANT
MIAMISBURG, OHIO

September 1999

Final

(Revision 0)

Department of Energy

Babcock & Wilcox of Ohio

ON SCENE COORDINATOR REPORT

BUILDING 43 REMOVAL ACTION

MOUND PLANT
MIAMISBURG, OHIO

September 1999

PREPARED BY:

Babcock & Wilcox of Ohio, Inc.
P.O. Box 3030
Miamisburg, Ohio 45343-3000

Contract # DE-AC24-97OH20044

for the

U.S. DEPARTMENT OF ENERGY

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EXECUTIVE SUMMARY

Building 43 served as a laboratory for the development of energetic thermite materials and detonators. The Core Team, consisting of representatives of DOE/MEMP, USEPA, and OEPA recommended a RESPONSE ACTION for Building 43. The objective identified for this removal action was the dismantlement, demolition, and removal of Building 43. This removal action achieved its objective.

Art Kleinrath, On-Scene Coordinator
U.S. Department of Energy
Miamisburg, Ohio

Tim Fischer, Remedial Project Manager
U.S. EPA
Chicago, Illinois

Brian Nickel, Project Manager
Ohio EPA
Dayton, Ohio

1 SUMMARY OF EVENTS

1.1 SITE CONDITIONS AND BACKGROUND

Building 43 was constructed in 1970 in an area know as the lower valley to replace and enlarge the explosive processing facility maintained by Building 1. This need became obsolete; Building 43 then served as a laboratory for the development of energetic thermite materials and detonators. Figure 1 shows the location of Building 43.

Building 43 is a one-story, 1516 square-foot, reinforced concrete structure. The roof is of built-up membrane (asphalt). Figure A-1 is a photograph of Building 43.

On November 19, 1997, the Core Team consisting of representatives of DOE/MEMP, USEPA, and OEPA recommended a RESPONSE ACTION for Building 43.[1] This recommendation was available for public review and comment from January 15 to February 15, 1998. On October 21, 1998, the Core Team signed the Action Memorandum[2] for Building 43. This was available for public review and comment from October 28 to November 30, 1998.

Since the DOE is the sole responsible party for the cleanup of contamination in Building 43, no other Potentially Responsible Parties (PRPs) were sought to clean up the site.

1.2 ORGANIZATION OF THE RESPONSE

Table 1 lists the groups responding to this Action, and their responsibilities.

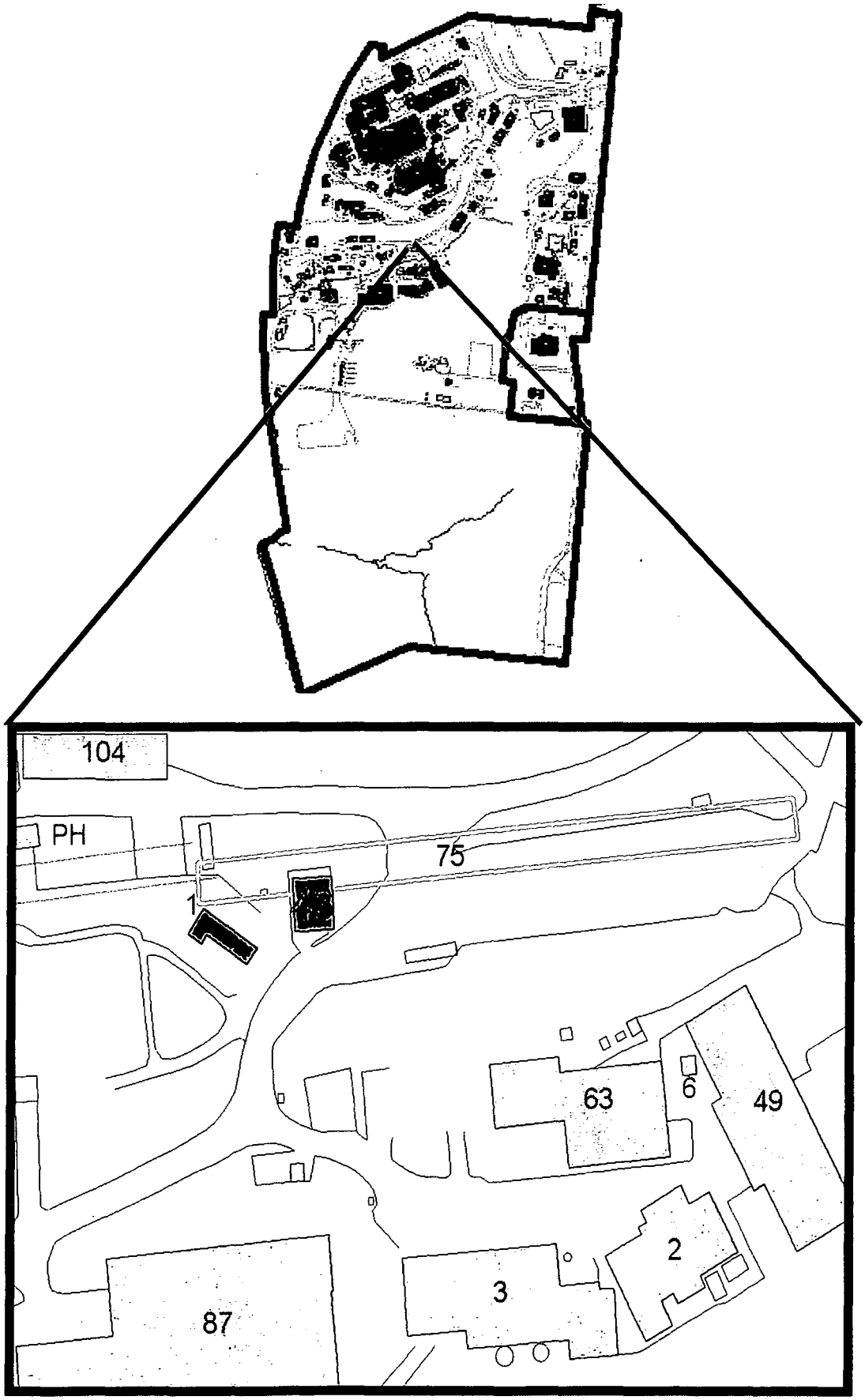


Figure 1. Location of Building 43

Table 1. Organization of the Response

Agencies or Parties Involved	Contact	Description of Participation
US EPA SFR-5J 77 W. Jackson Chicago, IL 60604 312-886-2000	Tim Fischer	Federal agency responsible for response oversight.
Ohio EPA 401 E. Fifth St. Dayton, OH 45402-2911 937-285-6357	Brian Nickel	State agency responsible for response oversight.
DOE-MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-4020	Art Kleinrath	Lead agency for the response.
BWO 1 Mound Road Miamisburg, OH 45343-3030 937-865-4020	Joe Bartee	Performed planning and field work for the response. Provided the OSC with technical assistance, administrative support, photo (see Appendix A) and site documentation, and preparation of OSC report.

1.3 OBJECTIVES

The Action Memorandum/Engineering Evaluation/Cost Analysis[2] identified the objective of this removal action as the dismantlement, demolition, and removal of Building 43. No verification sampling was required to verify the completion of the removal action. The photographs in Appendix A document the completion of the removal action.

1.4 CHRONOLOGICAL NARRATIVE OF RESPONSE ACTIONS

The following is a chronological narrative of events, as they occurred for the Building 43 Removal Action.

1970:	Building 43 was constructed.
November 1989:	Mound Plant is placed on the National Priorities List (NPL).
November 1997:	Core Team designates Building 43 for RESPONSE ACTION.
January 1998:	The RESPONSE ACTION recommendation starts formal public review period.
August 1998:	The "Work Plan for Removal of Buildings 1 and 43" was completed. The demolition of Building 43 was planned as a CERCLA removal action. The demolition of Building 1 was planned as a non-CERCLA demolition project. The proximity of the buildings and similarity in field work lead to the decision to demolish these buildings under one Work Plan.
October 1998:	Action Memo/Engineering Evaluation/Cost Analysis for Building 43 released for formal public review and comment.
December 1998:	The demolition project area was fenced off. Asbestos abatement was completed. The domestic and fire water systems were isolated. Glycol was drained from sprinkler system. Lock Out/Tag Out of electrical services was completed.

January 1999: Removed the telephone line and electrical feeder to the building. Demolition of Building 43 started on January 19, 1999. By January 21, Building 43 was demolished. See Photo A-5 in Appendix A.

February 1999: The slab for Building 43 was removed. As noted in the Building Data Package[1], an oil stain was observed on the floor in Room #4. The soil beneath the slab was not stained. As stated in the Action Memo[2], verification sampling was not required for this removal action. The commitment was made in the Action Memo[2] to document the results of routine or charazterization data in this OSC report. Soil samples were taken from the approximate location of the building corners. The results (soil analysis reports) are included in Appendix B and will be added to the PRS 75 package.

1.5 RESOURCES COMMITTED

Table 2 summarizes the disposition of materials from the demolition of Building 43. The cost summary for the removal action is in Table 3.

Table 2. Materials and Disposition

Waste Type	Volume (cy)	Destination
Asbestos	20	Koogler, Stony Hollow
Light Ballasts	0.1	Laidlaw Environmental
Glycol	0.07	Laidlaw Environmental
Construction Debris	60	Koogler, Stony Hollow
Scrap Metal for Recycle	160	Franklin Iron & Metal
Concrete Debris (non-rad)	300	Spoils area at Mound
Total	1030.38	

Table 3. Removal Project Cost Summary

Activity	Cost ($)
Work Planning	28,000
Safe Shutdown	42,700
Characterization	4,700
Decontamination & Decommissioning	42,000
Total	$117,400

2 EFFECTIVENESS OF THE REMOVAL ACTION

2.1 ACTIONS TAKEN BY MOUND PERSONNEL

BWO personnel planned and performed the site demolition and dismantlement, on-site transportation and staging of debris and site restoration. The objectives of the removal action were achieved.

2.2 ACTIONS TAKEN BY LOCAL, STATE, AND FEDERAL AGENCIES

DOE/MEMP was the lead agency for the removal action. US EPA, and OEPA had oversight responsibility for the removal action.

2.3 ACTIONS TAKEN BY CONTRACTORS

Not applicable for this action.

3 DIFFICULTIES ENCOUNTERED

3.1 ITEMS THAT AFFECTED THE RESPONSE

Not applicable for this removal action.

3.2 ISSUES OF INTERGOVERNMENTAL COORDINATION

There were no issues of intergovernmental coordination.

4 RECOMMENDATIONS

4.1 MEANS TO PREVENT A RECURRENCE OF THE DISCHARGE OR RELEASE

This removal action was part of the remediation and closure of the Mound Plant. Building 43 was removed.

5 REFERENCES

The following reports and documents are pertinent to the removal action and can be found in the CERCLA public reading room at the Miamisburg Senior Adult Center, 305 Central Avenue, Miamisburg or by contacting Arthur Kleinrath, On-Scene Coordinator for Building 43 Removal Action, at 937-865-3597.

1. "Building Data Package Building 43," Final March, 1998.

2. "Action Memorandum/Engineering Evaluation/Cost Analysis, Building 43," Final, October 1998.

APPENDIX A

PHOTOGRAPH DOCUMENTATION

A-1. Building 43
A-2. Start of Demolition
A-3. Demolition in Progress
A-4. Building 43 Demolition
A-5. Building 43 Demolition, Concrete Removal

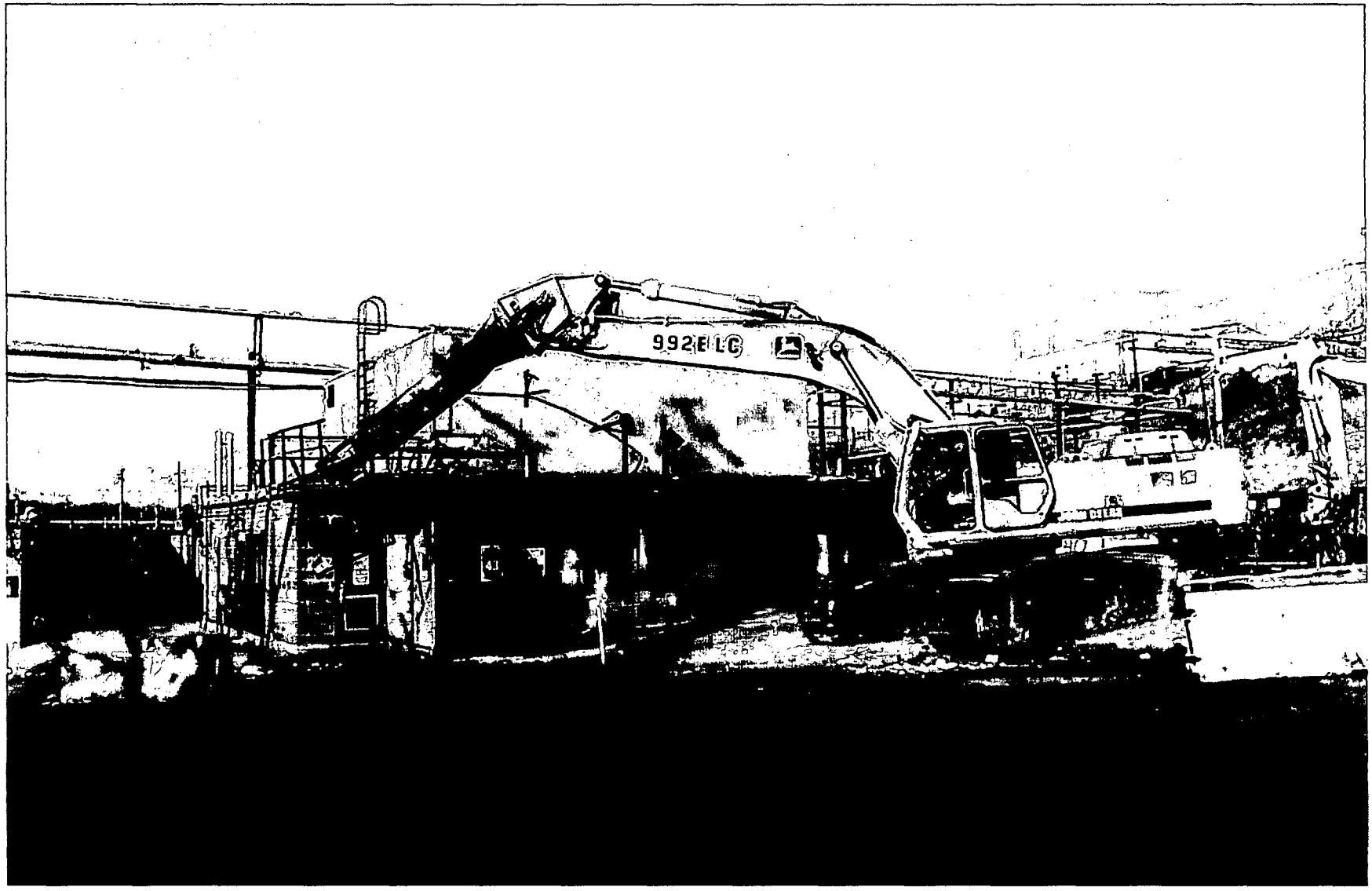


Figure A-2. Start of Demolition

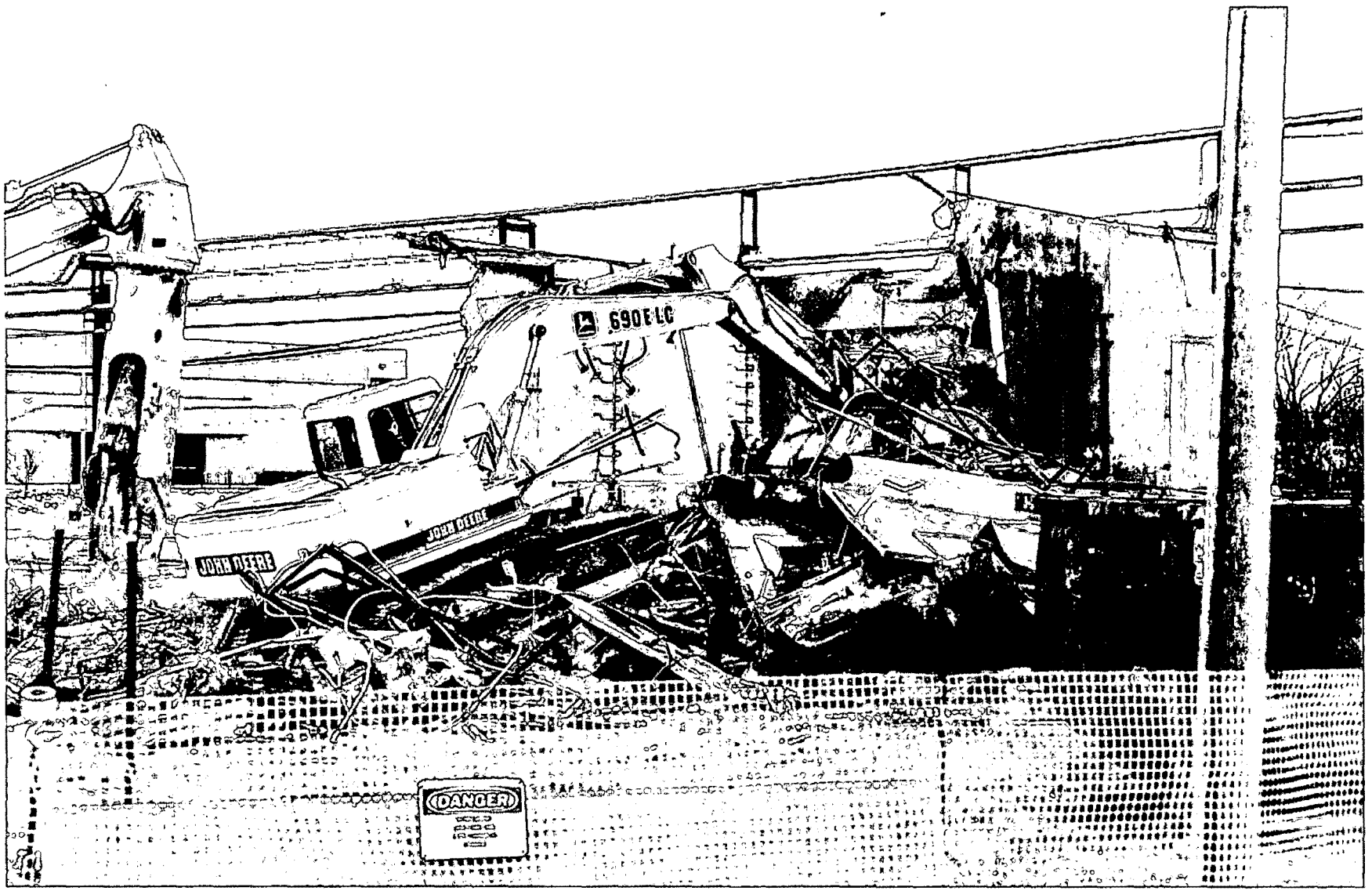


Figure A-3. Demolition in Progress

Figure A-4. Building 43 Demolition

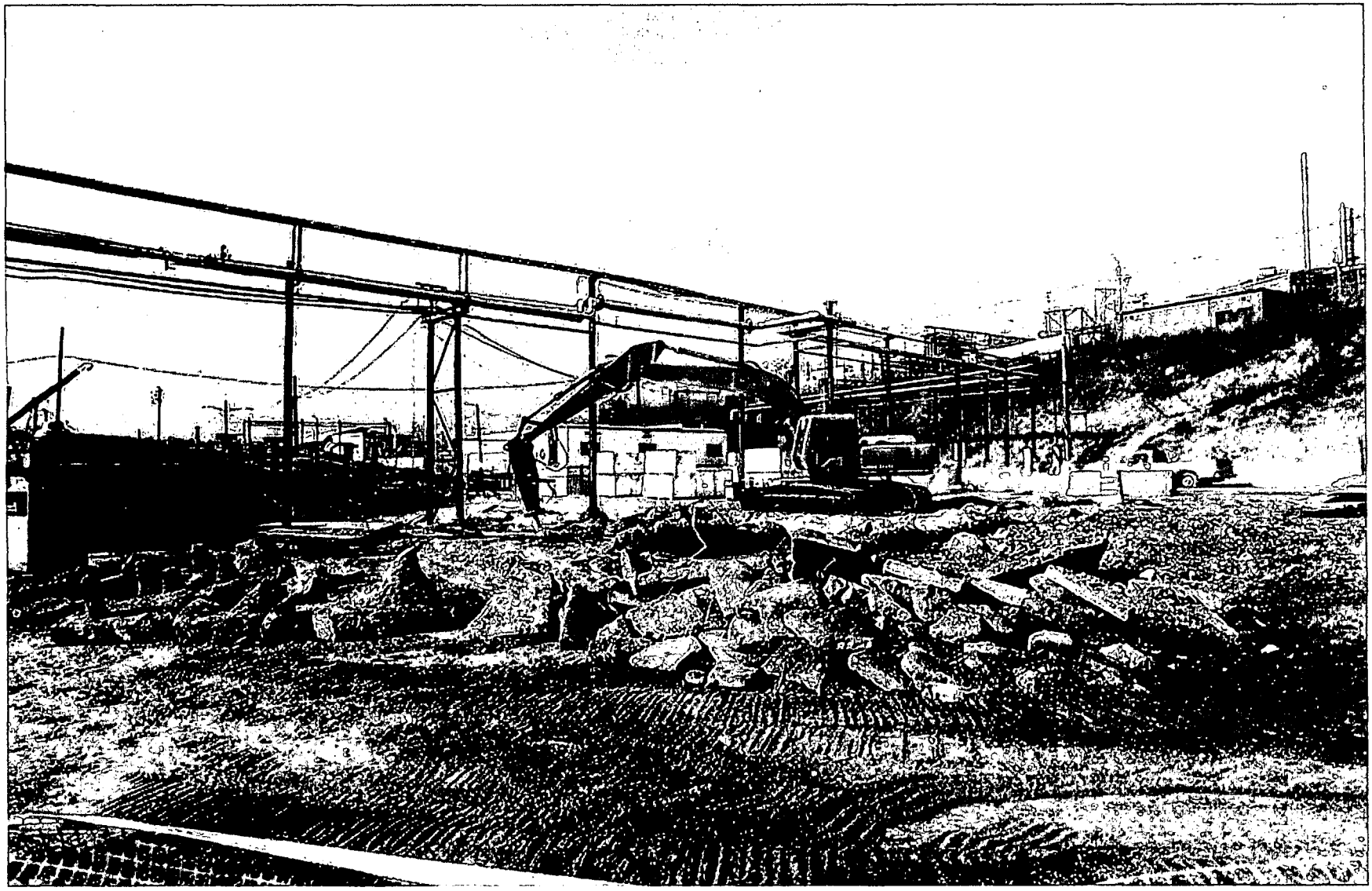


Figure A-5. Building 43 Demolition, Concrete Removal

APPENDIX B

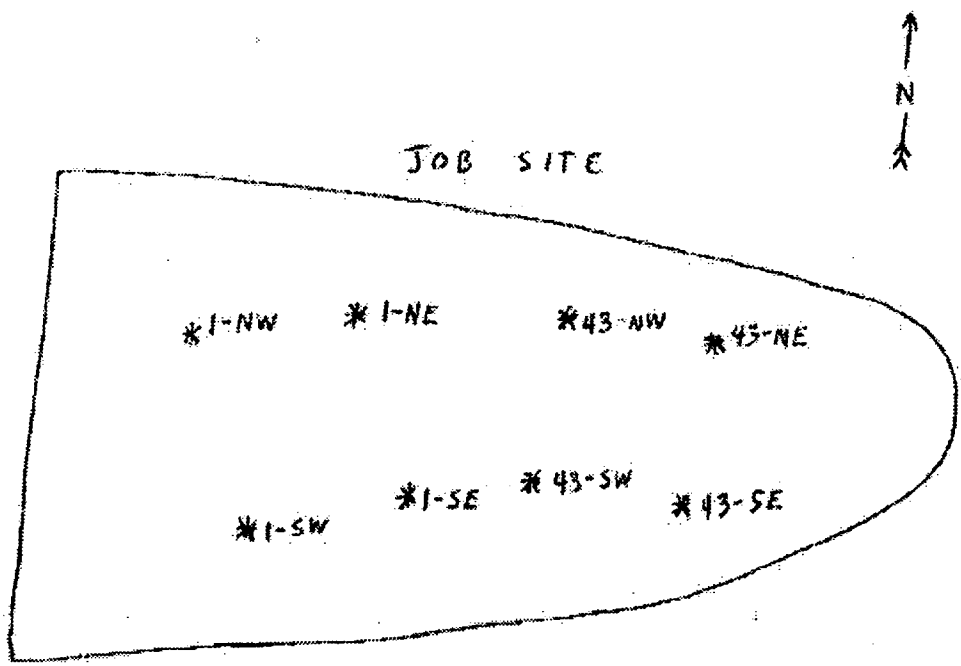
SAMPLING RESULTS

RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 10

LOCATION: (BLDG/AREA/ROOM) BLDG. 1 + 43 SITE	SURVEY NO. 99-TF-84
PURPOSE: SOIL SAMPLE LOCATION I.D.	RWP NO. N/A
	DATE: 021099
	TIME: 1400

MAP/DRAWING



SEE ATTACHMENTS FOR GAMMA SPEC. RESULTS

COPY

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
	N/A	

[redacted]

ITP# 4992	Date: 021099
[redacted]	
NP#	Date:
MENTS	
NP# 2057	Date: 2-15-99
[redacted]	

ML-9620 (2-98)

99-TF-84

Page ___ of ___

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

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

COPY

COMMENTS: SAMPLES WERE POST DEMOLITION, AT APPROXIMATE LOCATIONS OF EACH CORNER OF EACH BUILDING ≤ 12" DEPTH.

NOTES:

1. See MD-80056-10002 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 reported, 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.

MI-9620 (4-98)

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03258
FILE ID: GRD00152.S0
PRIORITY:

Description\Location:
BD-43 NE 99TF84

Collector: [redacted]4992

Date Received: 2/10/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.01	0.02	45,000
Cs-137	*	0.00	0.01	45,000
Pb-210		0.56	0.25	45,000
Ra-226		0.83	0.16	800
Ac-227 (D)	*	0.07	0.08	40
Th-230	*	1.18	2.51	800
Th-232 (D)		0.40	0.04	130
Pu-238	*	6.83	25.05	500
Am-241		0.06	0.03	500

Other Nuclides:

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

Σ DOT 0.03 nCi/g

Σ Respirator 0.06

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT > 2 nCi/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 calculations.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/11/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03789
FILE ID: GED00153.S0
PRIORITY:

Description\Location: BD-43 SE 99TF84

Collector: [redacted] 4992

Date Received: 2/10/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.01	45,000
Cs-137		0.02	0.01	45,000
Pb-210		0.41	0.22	45,000
Ra-226		0.38	0.12	800
Ac-227 (D)	*	0.03	0.07	40
Th-230	*	0.51	2.17	800
Th-232 (D)		0.17	0.04	130
Pu-238	*	0.00	23.84	500
Am-241	*	0.01	0.02	500

Other Nuclides:

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

Σ DOT 0.03 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

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

* Indicates activity < MDA. MDA used in finally calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/11/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03290
FILE ID: F9890464.S0
PRIORITY:

Description\Location:
BD-43 NW 99TF84

Collector [redacted]992

Date Received: 2/10/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.01	45,000
Cs-137	*	0.01	0.01	45,000
Pb-210		0.49	0.24	45,000
Ra-226		0.59	0.16	800
Ac-227 (D)	*	0.07	0.07	40
Th-230	*	1.97	2.57	800
Th-232 (D)		0.22	0.04	130
Pu-238	*	7.49	24.85	500
Am-241	*	0.00	0.03	500

Other Nuclides:

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

Σ DOT 0.03 nCi/g

Σ Respirator 0.06

Σ Respirator: <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4

Σ DOT: 2 nCi/g limit, total activity.

(D) Daughter identification by daughter emissions.
Sample is assumed to be in secular equilibrium.

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/11/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03291
FILE ID: F9800465.S0
PRIORITY:

Description\Location:
BD-43 SW 99TF84

Collector: [redacted] 4992

Date Received: 2/10/99 **Date Collected:**

Radionuclide	Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60 *	0.00	0.01	45,000
Cs-137 *	0.01	0.01	45,000
Pb-210	0.56	0.21	45,000
Ra-226	0.48	0.15	800
Ac-227 (D) *	0.04	0.07	40
Th-230	2.42	2.32	800
Th-232 (D)	0.20	0.03	130
Pu-238	27.30	23.32	500
Am-241 *	0.00	0.02	500

Other Nuclides:

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

Σ DOT 0.03 nCi/g

Σ Respirator 0.06

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

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

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/11/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03307
FILE ID: GEA00023.S0
PRIORITY:

Description\Location: BD-1 NE 99TF84

Collector: [redacted] 4992

Date Received: 2/10/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.02	45,000
Cs-137		0.03	0.01	45,000
Pb-210		0.66	0.19	45,000
Ra-226		0.58	0.14	800
Ac-227 (D)	*	0.05	0.08	40
Th-230	*	0.00	2.44	800
Th-232 (D)		0.24	0.04	130
Pu-238	*	0.00	24.79	500
Am-241	*	0.00	0.02	500

Other Nuclides:

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

Σ DOT 0.03 uCi/g

Σ Respirator 0.06

Σ Respirator: < 1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT: 2 uCi/g fixed, total activity.

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

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/11/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03388
FILE ID: GED00154.S0
PRIORITY:

Description\Location:
DD-1 SE 99TF84

Collector: [redacted] 4992

Date Received: 2/10/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.01	45,000
Cs-137		0.04	0.01	45,000
Pb-210		0.44	0.20	45,000
Ra-226		0.43	0.12	800
Ac-227 (D)	*	0.03	0.06	40
Th-230	*	0.29	2.32	800
Th-232 (D)		0.22	0.04	130
Pu-238	*	0.00	23.05	500
Am-241	*	0.00	0.03	500

Other Nuclides:

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

Σ DOT 0.03 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

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

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/11/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03308
FILE ID: GED00154.S0
PRIORITY:

Description\Location:
BD-1 SE 99TF84

Collector: [redacted] 4992

Date Received: 2/10/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.01	45,000
Cs-137		0.04	0.01	45,000
Pb-210		0.44	0.20	45,000
Ra-226		0.43	0.12	800
Ac-227 (D)	*	0.03	0.06	40
Th-230	*	0.29	2.32	800
Th-232 (D)		0.22	0.04	130
Pu-238	*	0.00	23.05	500
Am-241	*	0.00	0.03	500

Other Nuclides:

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

Σ DOT 0.03 nCi/g

Σ Respirator 0.05

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity

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

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/11/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

SOIL ANALYSIS REPORT

FIELD SAMPLE ID:
LAB SAMPLE ID: HPG03310
FILE ID: F9800466.S0
PRIORITY:

Description\Location: BD-1 SW 99TP84

Collector: [redacted] 4992

Date Received: 2/10/99 **Date Collected:**

Radionuclide		Activity (pCi/g)	MDA	MD-10438 Limit (pCi/g)
Co-60	*	0.00	0.01	45,000
Cs-137	*	0.01	0.01	45,000
Pb-210		0.57	0.23	45,000
Ra-226		0.65	0.14	800
Ac-227 (D)	*	0.04	0.07	40
Th-230	*	2.19	2.32	800
Th-232 (D)		0.28	0.02	130
Pu-238	*	6.51	24.54	500
Am-241	*	0.02	0.02	500

Other Nuclides:

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

Σ DOT 0.03 nCi/g

Σ Respirator 0.06

Σ Respirator <1 indicates soil levels below limit.
Values > or = 1 indicate soil levels exceed limit. Limits based on MD-10438 table 4.

Σ DOT 2 nCi/g limit, total activity.

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

* Indicates activity < MDA. MDA used in limits calculation.

Instrument type: High Purity Germanium

COPY

Comments:

Date: 2/12/99 Counted By: 5890 Analyzed By: 5390 INITIALS [redacted]

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