3005-9809140002

Test Fire Valley Project

Final
CLOSE OUT REPORT

Demolition of Magazines 5, 8, 10, & 20

Mound Plant

Miamisburg, Ohio

August 1998

Babcock & Wilcox of Ohio, Inc.

Department Of Energy

3005-980914000 2

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-206/98
September 14, 1998

98-TC/09-14

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
FINAL CLOSE OUT REPORTS ON DEMOLITION OF GUARD POST 5 AND MAGAZINES 5, 8, 10, AND 20

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

Dear Mr. Folker:

Attached are the Final Close Out Reports on the demolition of Guard Post 5 and Magazines 5, 8, 10, and 20. These reports provide summary information on the successful demolition of these buildings and complete these efforts.

The release of these documents to USEPA, OEPA, ODH, and the public reading room has been authorized by Paul Lucas of MEMP.

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

Sincerely,

Daniel A. Rakel for

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

LRB/nmg

Enclosures as stated

cc: T. Fischer, USEPA, (1) w/attachment
J. Raines, TechLaw, (1) w/attachment
B. Nickel, OEPA, (1) w/attachment
K. Fox, OEPA, (1) w/attachment
R. Vandergrift, ODH, (1) w/attachment
T. Tracy, DOE/HQ, (1) w/attachment
S. Cheng, DOE/MEMP, (1) w/attachment
A. Kleinrath, DOE/MEMP, (1) w/attachment
O. Vincent, DOE/MEMP, (1) w/attachment
J. Bartee, B&W, (1) w/attachment
G. Coons, B&W, (1) w/attachment
Public Reading Room, (5) w/attachment
DCC, w/o attachment

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EXECUTIVE SUMMARY

This is the final report documenting the demolition of Magazines 5, 8, 10, and 20 by Babcock & Wilcox of Ohio as initially defined in the Building Data Packages (BDPs). The BDP for Magazines 5, 10, and 20 was introduced in May of 1997. The BDP for Magazine 8 was introduced in April of 1998. Demolition of all magazines occurred in June 1998. This document serves as a record of the demolition action and reports the final costs, schedule, waste disposition information, method of demolition, and any unusual findings. Photographs, selected sampling data, and references to other related documents are also included.

All magazines were single story, slab-on-grade, reinforced concrete structures covered with approximately two feet of earth. Concrete canopies protected the entrances to the storage cells. Roadways ended at the magazine entrances. Entrance doors were made of steel. Magazine 5 had a central cooling system. Magazines 8, 10 and 20 had no heating or cooling systems.

The magazines were used for the purpose of storing large quantities of containerized explosives. Detonators, high explosive powders, detonator cords, pyrotechnic powders, hexanitrostilbene, and primary explosives were stored in the drums on the floors or on shelves.

Additional descriptive information is as follows:

Magazine	Facility Area	Number of Storage Cells	Date Constructed
5	314 square feet	1	1961
8	100 square feet	1	1949
10	66 square feet	2	1956
20	303 square feet	3	1963

Magazines 5, 8, 10, and 20 were serviced by 110 volt electrical power. All magazines had a security alarm system. There is no history of radioactive or chemical contamination associated with the magazines or surrounding areas. Sampling activities do not reveal detection of contamination in the demolition areas.

The Test Fire Valley Project demolished the structures and concrete pads per the *Work Plan for Removal of Magazines 5, 8, 10, and 20 - Test Fire Valley Project*, Final, Revision 0, 4/14/98. In general, preparation and demolition activities included structure characterization, safe shutdown, utilities isolation, site access control, interior decontamination and demolition requirements (to include contaminant abatement), structure demolition, and debris removal. Specifically, the demolition consisted of removing all electrical conduit, removing electrical grounding systems, removing steel entrance doors, scraping all soil from around and above the structures, and breaking apart the concrete using heavy duty equipment. Some underground electrical conduit was removed just below the surface at each magazine.

Magazines 5, 8, 10, and 20 superstructures, slabs, and foundations were successfully demolished. Approximately 600 cubic yards of construction debris (non-radioactively contaminated) were removed from the magazine demolition sites as noted in Table 2. All affected soil remained at the demolition sites and was used for final grading.

Soil verification sampling was not required. Radiological characterization of the concrete was required prior to removing it from the demolition sites. Radiological survey data is found in Appendix B.

The demolitions of Magazines 5, 8, 10, and 20 are defined as standard construction demolition and are not addressed as a removal under CERCLA, nor designated as HAZWOPER. It is recommended to the Department of Energy that the scope of work relating to these structures be considered complete.

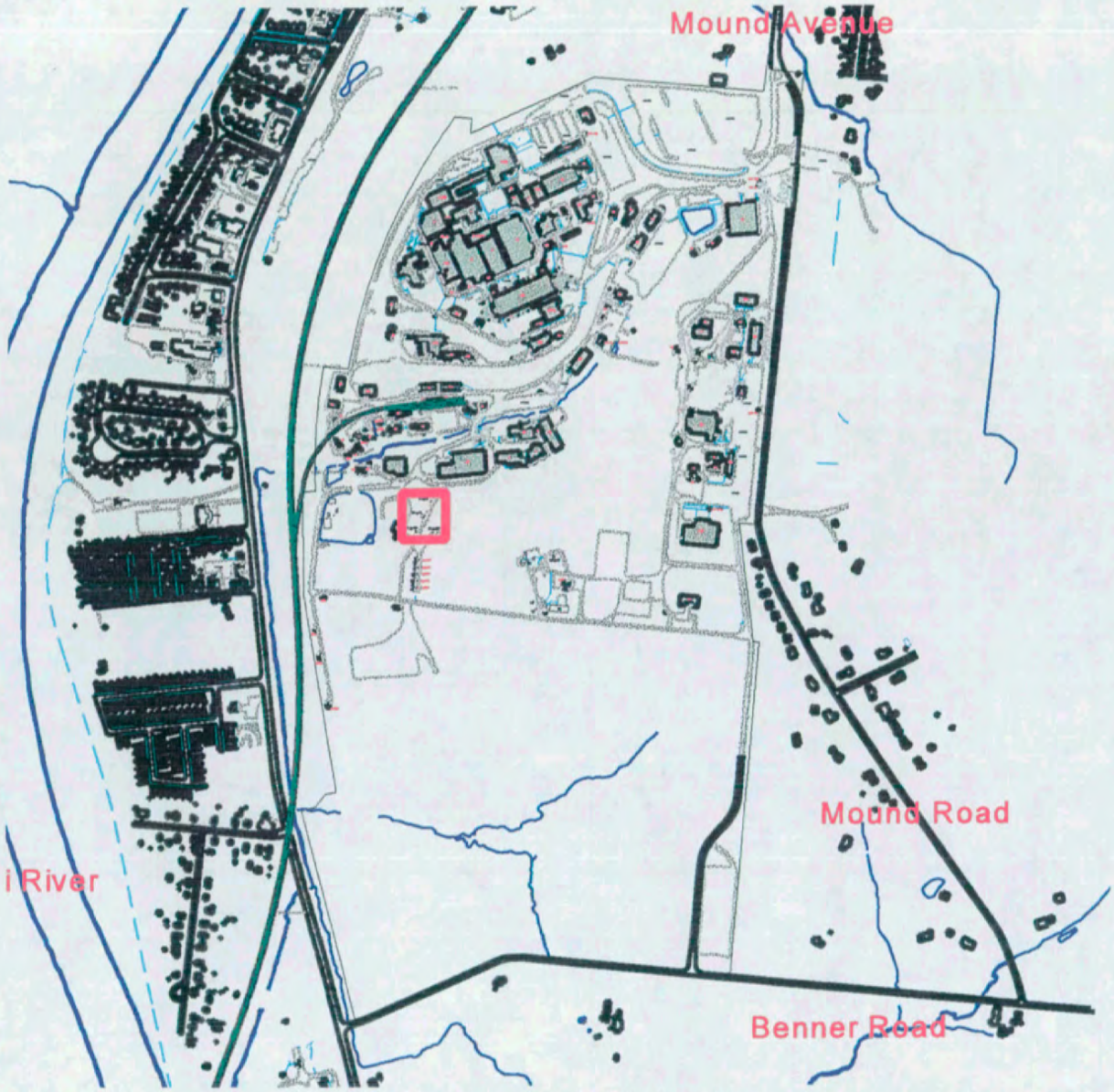


Figure 1. Mound Plant Site Location
(Magazines 5, 8, 10, & 20 are located in red box.)

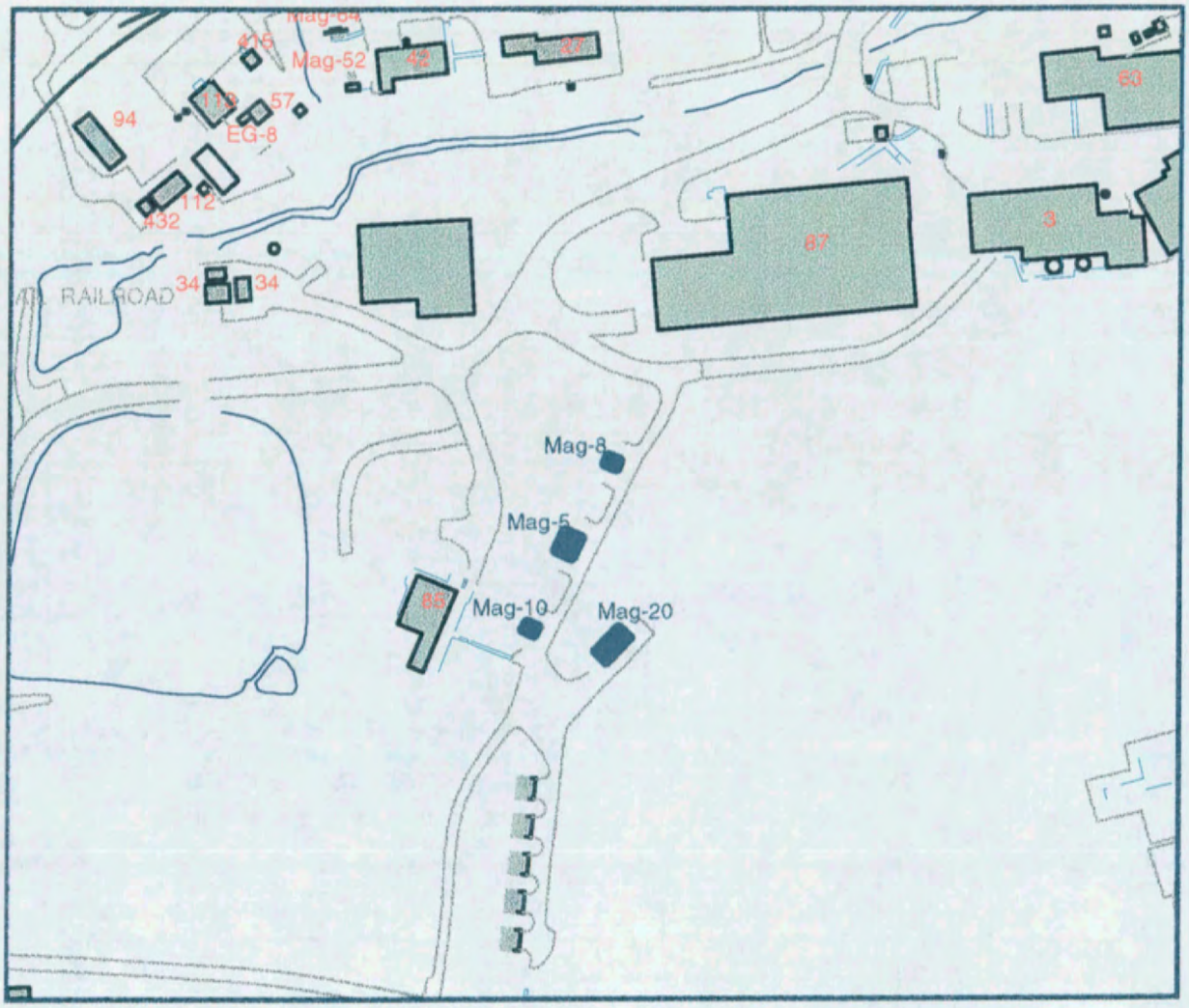


Figure 2. Demolition Site Locations

1.0 SUMMARY OF EVENTS

1.1 Objectives Of Demolition Activities

Magazines 5, 8, 10 and 20 were removed in support of the Mound Plant Exit Project. The removals were accomplished as non-CERCLA demolitions, as noted by the Building Data Packages and detailed in the *Work Plan for Removal of Magazines 5, 8, 10, and 20 - Test Fire Valley Project*, Final, Revision 0, 4/14/98. The work plan gives details of the planning and conduct of the demolition operations. Note Figures 1 and 2 for Mound Plant and Magazine locations.

1.2 Personnel Organization For The Demolition

See Table 1, Personnel Organization For The Demolition.

Table 1. Personnel Organization For The Demolition

Agencies/Parties Involved	Contact	Description of Participation
USEPA 77 W. Jackson Blvd. Chicago, IL 60604	Tim Fischer 312-886-5787	Federal agency responsible for Mound Plant over site.
OEPA 410 E. Fifth Street Dayton, OH 45402	Brian Nickel 937-285-6468	State agency responsible for Mound Plant over site.
DOE/MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343	Ron Church 937-865-3548	DOE Project Manager responsible for project oversight and success.
Babcock & Wilcox of Ohio Test Fire Valley Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343	Joe Bartee 937-865-4812	Provide the DOE Project Manager with technical assistance, administrative support, sampling, photo and site documentation, site safety, and report preparation.
Babcock & Wilcox of Ohio General Superintendent & Equipment Mgr. P.O. Box 3030 1 Mound Road Miamisburg, OH 45343	Rich Higgins 937-865-4400	Provide the personnel and equipment necessary for the demolition.

1.3 Chronological Narrative of Key Demolition Activities

5/11/98	Received start work authorization from DOE/MEMP.
5/18/98	Electrical assessment work began.
5/28/98	All electrical work completed.
6/1/98	Earth removal from Magazines 8 and 10 began.
6/2/98	Debris from Magazines 8 and 10 removed.
6/3/98	Demolition of Magazines 8 and 10 completed. Earth removal from Magazines 5 and 20 began.
6/8/98	Debris from Magazines 5 and 20 removed.
6/10/98	Demolition of Magazines 5 and 20 completed.
6/18/98	Final grading of the areas and seeding completed.

1.4 Listing of Waste Materials Generated And Resources Committed

The following Table 2 is a summary of waste materials removed from the Magazine 5, 8, 10, and 20 demolition project. Table 3 lists the demolition total cost summary.

Table 2. Materials and Disposition

Waste Type	Volume (Cy)	Destination
Asbestos	1.5	Stony Hollow
Scrap metal for recycle	20.0	Franklin Meta
Concrete debris	580.0	Mound Spoils Area
TOTAL	601.5	

Note: All soil remained at the demolition site and was used for final grading.

Table 3. Demolition Project Total Cost Summary

Project Costs	Cost ($)
Labor	45,748.
Materials & Supplies	258.
Purchased Services	351.
Waste Allocations	7,758.
Total Cost and Ceiling	**Cost ($)**
Total Project Cost	54,115.
Project Ceiling	232,182.

2.0 EFFECTIVENESS OF THE DEMOLITION

Magazines 5, 8, 10, and 20 were successfully demolished by Babcock & Wilcox of Ohio per the work plan and the site was restored to the original grade. No debris was left at the site. All field work and laboratory analysis of concrete sampling was accomplished by Babcock & Wilcox of Ohio personnel.

3.0 RECOMMENDATION

The Magazines 5, 8, 10, and 20 superstructures, slabs, and foundations were demolished and the debris removed in accordance with documentation provided to the Mound 2000 Core Team. It is recommended to the Department of Energy that the scope of work relating to these magazines be considered complete.

4.0 REFERENCE LIST OF SUPPLEMENTARY DOCUMENTS

1) *Mound Plant Building Data Package For Magazines 5, 6, 7, 10, 11, 20, 53 & 54*, Final, Revision 1, 11/5/98.

2) *Mound Plant Building Data Package For Magazine 8*, Final, Revision 1, 6/3/98.

3) *Work Plan for Removal of Magazines 5, 8, 10, and 20 - Test Fire Valley Project*, Final, Revision 0, 4/14/98.

4) *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach*

5) Job Safety and Health Analysis

6) Concrete Sample Data

Mark Becker, Public Relations of Babcock & Wilcox of Ohio (937) 865-4450, may be reached to request access to the supplemental documents.

Appendix A

Photographs

Magazines 5 & 8

Magazines 10 & 20

Magazine 5 Demolition

Magazine 5 After Soil Removal

Magazine 10 Demolition

Demolition Site After Final Grading and Seeding

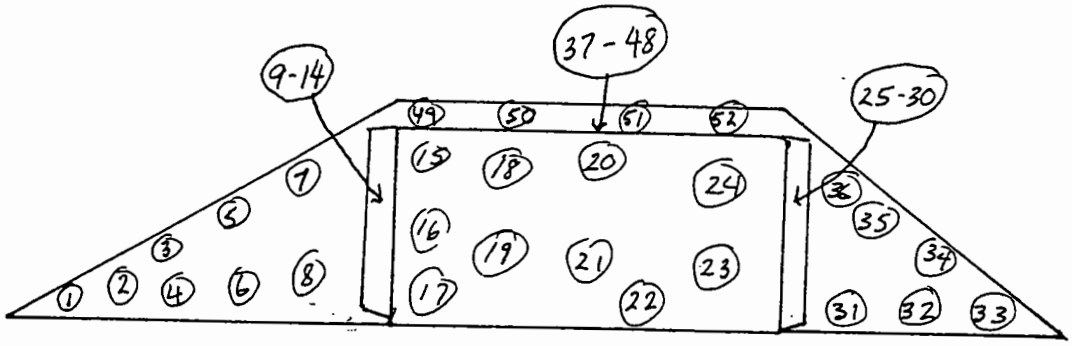
Appendix B

Radiological Survey Data Sheets

RADIOLOGICAL SURVEY DATA SHEET 20-10

LOCATION: (BLDG./AREA/ROOM) TEST FIRE BUNKER(S) #~~8~~ 5	SURVEY NO. 98-TF-641
PURPOSE: POST SOIL REMOVAL EVALUATION OF CONCRETE	RWP NO. N/A
	DATE: 060298
	TIME: 1430

MAP/DRAWING



BUNKER #~~8~~ 5
PER 060398

COPY

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

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date

Completed by: (Signature) PERyan	[redacted]	Date: 060298
Completed by: (Print Name) P E RYAN		
Counted by: (Signature) Shirley Brown	[redacted]	Date: 6/2/98
Counted by: (Print Name) SHIRLEY BROWN		
Reviewed/Approved by: (Signature) R Johnson	[redacted]	Date: 6/24/98
Reviewed/Approved by: (Print Name) R JOHNSON		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
1	SEE	ATTACHMENTS		BUNKER #85
↕				↕
52	FOR	RESULTS		BUNKER #85

NFE

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

N/A

COMMENTS: SEE PAGE #1 FOR SWIPE LOCATIONS

NOTES:
See MD-80036 10002 for calculations of WB, extremity and skin dose rates.
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.
Annotate special sample type (e.g., soil, water), special identifiers or otherwise in Comments. If not needed, mark N/A.

Sample Data Interpretation

Alpha and Beta Activity

When reviewing Alpha Activity and Beta Activity results, the actual activity value present is the left hand column of numbers identified as DPM. These values as read from the Count Room results in DPM are already are already corrected for background and counting statistics errors.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR035
Batch Ended: 6/2/98 13:58
Cal. Due Date: 3/9/99
Serial Number: 26966-3

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

COPY

Batch ID: T 98-TF-641 RYAN

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.33	2.10	<MDA	5.80	3.36	<AL
A2	2	0.00	2.13	<MDA	0.00	1.51	<MDA
A3	3	0.00	1.99	<MDA	1.81	2.32	<MDA
A4	4	0.00	2.02	<MDA	1.92	2.33	<MDA
B1	5	1.84	2.21	<AL	0.00	2.13	<MDA
B2	6	1.64	2.15	<MDA	0.07	2.04	<MDA
B3	7	1.65	1.98	<AL	0.00	1.44	<MDA
B4	8	0.00	2.01	<MDA	1.75	2.28	<MDA
D1	9	3.84	2.94	<AL	0.20	2.00	<MDA
D2	10	1.70	2.06	<AL	0.00	1.47	<MDA
D3	11	1.55	1.91	<AL	2.97	2.62	<AL
D4	12	1.56	1.95	<AL	2.84	2.56	<MDA
A1	13	1.35	2.05	<MDA	0.41	2.01	<MDA
A2	14	1.78	2.15	<AL	1.93	2.46	<MDA
A3	15	0.00	1.97	<MDA	0.00	1.43	<MDA
A4	16	0.00	2.01	<MDA	0.63	1.94	<MDA
B1	17	1.84	2.21	<AL	0.00	2.13	<MDA
B2	18	1.64	2.17	<MDA	2.80	2.80	<MDA
B3	19	0.00	2.00	<MDA	1.61	2.32	<MDA
B4	20	5.53	3.43	<AL	3.91	2.91	<AL
D1	21	0.00	2.09	<MDA	0.43	2.00	<MDA
D2	22	0.00	2.06	<MDA	0.00	1.47	<MDA
D3	23	0.00	1.93	<MDA	5.63	3.18	<AL
D4	24	0.00	1.93	<MDA	0.47	1.87	<MDA
A1	25	3.32	2.86	<AL	1.59	2.42	<MDA
A2	26	0.00	2.13	<MDA	0.00	1.51	<MDA
A3	27	0.00	1.98	<MDA	0.51	1.93	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR035
Batch Ended: 6/2/98 13:58
Cal. Due Date: 3/9/99
Serial Number: 26966-3

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

Batch ID: T 98-TF-641 RYAN

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A4	28	1.69	2.03	<AL	3.08	2.67	<AL
B1	29	0.00	2.21	<MDA	0.00	2.13	<MDA
B2	30	0.00	2.16	<MDA	1.59	2.45	<MDA
B3	31	1.65	1.99	<AL	0.19	1.93	<MDA
B4	32	0.00	2.00	<MDA	0.00	1.40	<MDA
D1	33	0.00	2.09	<MDA	0.43	2.00	<MDA
D2	34	1.67	2.08	<AL	1.80	2.40	<MDA
D3	35	1.58	1.90	<AL	0.42	1.91	<MDA
D4	36	0.00	1.93	<MDA	0.47	1.87	<MDA
A1	37	1.34	2.08	<MDA	3.10	2.77	<AL
A2	38	0.00	2.15	<MDA	2.09	2.46	<MDA
A3	39	0.00	1.97	<MDA	0.00	1.43	<MDA
A4	40	0.00	2.01	<MDA	0.63	1.94	<MDA
B1	41	1.84	2.21	<AL	0.00	2.13	<MDA
B2	42	1.64	2.15	<MDA	0.07	2.04	<MDA
B3	43	1.64	2.00	<AL	1.48	2.32	<MDA
B4	44	0.00	2.01	<MDA	0.47	1.89	<MDA
D1	45	1.75	2.11	<AL	2.97	2.74	<MDA
D2	46	1.67	2.08	<AL	1.80	2.40	<MDA
D3	47	0.00	1.90	<MDA	0.00	1.42	<MDA
D4	48	0.00	1.95	<MDA	2.95	2.56	<AL
A1	49	0.00	2.10	<MDA	5.97	3.36	<AL
A2	50	3.87	3.00	<AL	1.76	2.46	<MDA
A3	51	1.72	1.98	<AL	0.40	1.93	<MDA
A4	52	0.00	2.01	<MDA	0.63	1.94	<MDA

Sample Data Interpretation

Tritium Activity

When reviewing tritium activity results, the actual activity value present is the DPM1 column. These values, as read from the Count Room results in the DPM1 column, are already corrected for background and counting statistics. The actual tritium counts per minute are determined by scintilation counter in the CPMA and CPMB columns, and then corrected for background and counting statistics to provide the results in disintegrations per minute in the DPM1column.

2 Jun 1998 18:43 ALPHA/BETA - 1.08 Page #1
rotocol #: 2 Pw H3 20cc #405828 User : 5268

ime: 2.00
ata Mode: DPM Nuclide: SMVIAL Quench Set: SMVIAL
ackground Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
egion A:	0.5	- 18.6	0	0.0	7.29
egion B:	2.0	- 18.6	0	0.0	7.13
egion C:	40.0	- 2000	0	0.0	10.10

uench Indicator: tSIE/AEC
Ext Std Terminator: Count
B-TF-641 - RYAN(30-10 A1-52)
uminescence Correction On
oincidence Time(ns): 18
elay Before Burst(ns): Normal
rotocol Data Filename: c:\data\PROT1.DAT
ount Data Filename: c:\data\SDATA2.DAT
pectrum Data Drive & Path: c:\data

COPY

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	7.29	7.13	1	B	616.97		0.00	10.10
0	2.00	1597.59	1477.68	0		621.86	3529.44	296.03	0.00
1	2.00	1.71	1.65	0		569.58	3.97	10.62	0.00
2	2.00	0.00	0.00	0		521.13	0.00	0.00	0.00
3	2.00	0.00	0.00	0		537.18	0.00	0.00	0.90
4	2.00	0.00	0.00	0		496.58	0.00	0.00	0.90
5	2.00	0.00	0.00	0		404.43	0.00	0.00	0.00
6	2.00	0.00	0.00	0		364.64	0.00	0.00	0.00
7	2.00	0.00	0.00	0		547.48	0.00	0.00	0.00
8	2.00	0.00	0.00	0		537.34	0.00	0.00	0.00
9	2.00	0.00	0.00	0		376.74	0.00	0.00	0.00
10	2.00	0.00	0.00	7		354.82	0.00	0.00	0.00
11	2.00	0.00	0.00	38		280.75	0.00	0.00	0.10
12	2.00	0.00	0.00	0		553.92	0.00	0.00	0.00
13	2.00	2.38	2.15	0		548.28	5.64	11.19	0.00
14	2.00	0.00	0.00	0		433.45	0.00	0.00	1.40
15	2.00	0.00	0.00	0		558.37	0.00	0.00	0.90
16	2.00	0.00	0.00	0		524.75	0.00	0.00	0.00
17	2.00	0.00	0.00	0		459.91	0.00	0.00	0.00
18	2.00	0.00	0.00	9		515.39	0.00	0.00	0.00
19	2.00	0.00	0.00	0		424.66	0.00	0.00	0.00
20	2.00	0.00	0.00	14		390.32	0.00	0.00	1.90
21	2.00	0.00	0.00	0		476.77	0.00	0.00	0.00
22	2.00	0.00	0.00	0		584.70	0.00	0.00	0.97
23	2.00	0.00	0.00	9		357.38	0.00	0.00	0.00
24	2.00	0.00	0.00	0		295.23	0.00	0.00	0.00
25	2.00	0.00	0.00	0		477.86	0.00	0.00	0.00
26	2.00	0.71	0.87	0		418.85	1.98	12.12	0.00
27	2.00	0.00	0.00	14		213.91	0.00	0.00	1.90
28	2.00	2.36	1.52	0		498.76	5.89	11.76	0.00
29	2.00	0.00	0.00	0		405.87	0.00	0.00	0.00
30	2.00	0.00	0.00	9		438.00	0.00	0.00	0.40
31	2.00	0.00	0.00	0		583.57	0.00	0.00	2.40
32	2.00	0.00	0.00	0		530.08	0.00	0.00	0.00
33	2.00	0.00	0.00	0		571.69	0.00	0.00	0.00
34	2.00	0.00	0.00	0		598.59	0.00	0.00	0.00

me: 2.00
ta Mode: DPM Nuclide: SMVIAL Quench Set: SMVIAL
ckground Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
gion A:	0.5 -	18.6	0	0.0	0.00
gion B:	2.0 -	18.6	0	0.0	0.00
gion C:	40.0 -	2000	0	0.0	0.00

ench Indicator: tSIE/AEC
Ext Std Terminator: Count
-TF-641 - RYAN(30-10 A1-52)
minescence Correction On
incidence Time(ns): 18
ay Before Burst(ns): Normal
otocol Data Filename: c:\data\PROT1.DAT
unt Data Filename: c:\data\SDATA2.DAT
ctrum Data Drive & Path: c:\data

COPY

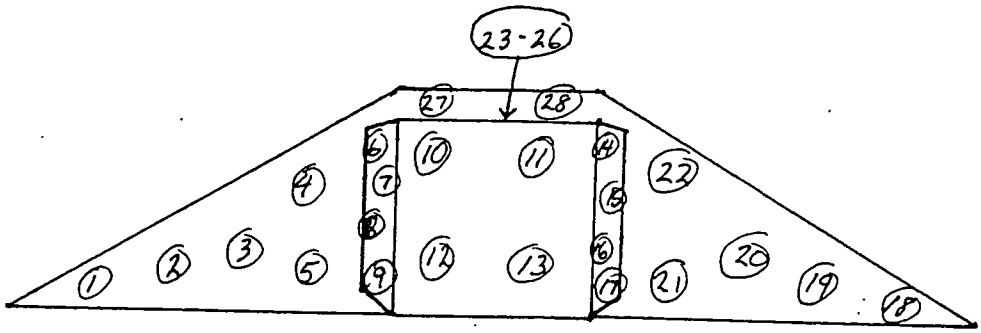
S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
MISSING TUBE(S)								
35	2.00	5.00	5.00	10	526.08	12.07	7.69	8.50
36	2.00	6.34	5.84	0	509.78	15.55	8.82	8.77
37	2.00	3.00	3.00	17	441.83	7.98	6.54	10.74
38	2.00	5.00	4.63	10	374.38	15.09	9.61	8.00
39	2.00	5.50	5.28	9	295.31	20.43	12.42	10.00
40	2.00	4.32	4.32	11	213.45	23.75	16.25	8.50
41	2.00	3.00	2.67	33	355.46	9.41	7.72	13.50
42	2.00	5.00	5.00	10	448.17	13.15	8.37	14.50
43	2.00	1.50	1.50	60	137.78	16.92	29.88	10.50
44	2.00	9.00	8.20	0	611.87	19.97	9.53	6.59
45	2.00	10.82	9.32	0	558.88	25.27	11.03	7.00
46	2.00	8.00	7.88	0	514.45	19.54	9.88	10.00
47	2.00	6.50	5.50	0	622.48	14.29	8.00	8.50
48	2.00	4.45	4.33	11	518.06	10.83	7.31	10.97
49	2.00	5.08	5.08	0	464.88	13.03	8.23	12.00
50	2.00	4.46	4.17	0	606.57	9.94	6.70	8.00
51	2.00	5.10	4.30	0	615.02	11.29	7.12	11.00
52	2.00	8.50	8.23	0	599.06	19.07	9.37	10.00

✓

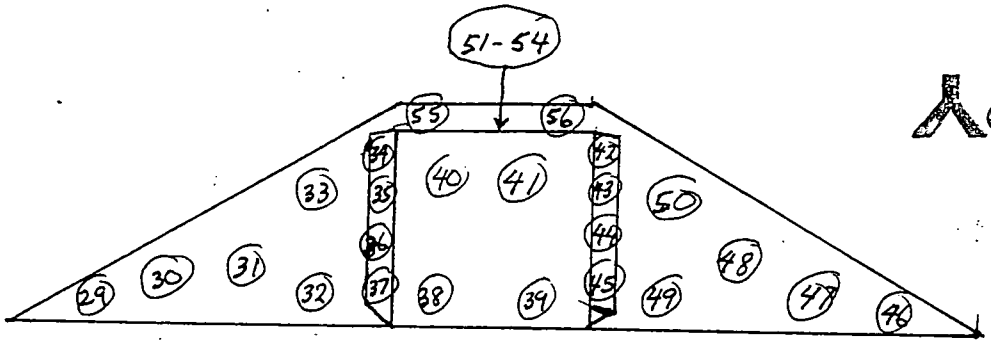
RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) TEST FIRE BUNKERS ~~5~~ 8 + 10	SURVEY NO. 98-TF-636
PURPOSE: POST SOIL REMOVAL EVALUATION OF CONCRETE	RWP NO. N/A
	DATE: 060198
	TIME: 1400

MAP/DRAWING



BUNKER # ~~5~~ 8 PER 060198



BUNKER # 10

COPY

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact
△# = mrem/hr neutron
[#] = air sample number
(#) = swipe number
(#/α) or /β = direct cont. measurement in dpm/100cm^2

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date

Completed by: (Signature) PERyan	HP# [redacted]	Date: 060198
Completed by: (Print Name) P E RYAN		
Counted by: (Signature) Smith-Brown	HP# [redacted]	Date: 6/1/98
Counted by: (Print Name) SMITH-BROWN		
Reviewed/Approved by: (Signature) [illegible]	HP# [redacted]	Date: 6/24/98
Reviewed/Approved by: (Print Name) K Johnson		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

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

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
36	SEE ATTACHMENTS			BUNKER # 10
37				
38				
39				
40				
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				BUNKER # 10
	N/A			

COMMENTS: SEE PAGE 1 FOR SWIPE LOCATIONS

COPY

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.

Sample Data Interpretation

Alpha and Beta Activity

When reviewing Alpha Activity and Beta Activity results, the actual activity value present is the left hand column of numbers identified as DPM. These values as read from the Count Room results in DPM are already are already corrected for background and counting statistics errors.

3 of 6

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR028
Batch Ended: 6/1/98 14:38
Cal. Due Date: 3/9/99
Serial Number: 26966-3

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

COPY

Batch ID: T 98-TF-636 TEST FIRE-RYAN

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	3.29	2.91	<AL	9.67	4.09	<AL
A2	2	0.00	2.14	<MDA	0.72	2.04	<MDA
A3	3	1.71	1.99	<AL	1.69	2.32	<MDA
A4	4	0.00	2.00	<MDA	0.00	1.44	<MDA
B1	5	0.00	2.22	<MDA	1.37	2.55	<MDA
B2	6	1.65	2.14	<MDA	0.00	1.51	<MDA
B3	7	1.64	2.00	<AL	1.48	2.32	<MDA
B4	8	1.63	2.01	<AL	0.35	1.89	<MDA
D1	9	1.80	2.09	<AL	0.00	1.50	<MDA
D2	10	1.67	2.08	<AL	1.80	2.40	<MDA
D3	11	0.00	1.90	<MDA	0.00	1.42	<MDA
D4	12	0.00	1.94	<MDA	1.71	2.24	<MDA
A1	13	1.35	2.05	<MDA	0.41	2.01	<MDA
A2	14	0.00	2.13	<MDA	0.00	1.51	<MDA
A3	15	0.00	2.00	<MDA	4.40	2.96	<AL
A4	16	1.69	2.02	<AL	1.79	2.33	<MDA
B1	17	0.00	2.21	<MDA	0.00	2.13	<MDA
B2	18	0.00	2.14	<MDA	0.00	1.51	<MDA
B3	19	0.00	1.99	<MDA	0.32	1.93	<MDA
B4	20	0.00	2.01	<MDA	1.75	2.28	<MDA
D1	21	0.00	2.09	<MDA	0.43	2.00	<MDA
D2	22	0.00	2.06	<MDA	0.00	1.47	<MDA
D3	23	0.00	1.90	<MDA	0.53	1.91	<MDA
D4	24	0.00	1.93	<MDA	0.47	1.87	<MDA
A1	25	0.00	2.05	<MDA	0.58	2.01	<MDA
A2	26	0.00	2.15	<MDA	2.09	2.46	<MDA
A3	27	1.71	1.99	<AL	1.69	2.32	<MDA

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR028
Batch Ended: 6/1/98 14:38
Cal. Due Date: 3/9/99
Serial Number: 26966-3

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

COPY

Batch ID: T 98-TF-636 TEST FIRE-RYAN

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A4	28	1.69	2.01	<AL	0.50	1.94	<MDA
B1	29	4.00	3.09	<AL	0.00	2.13	<MDA
B2	30	1.64	2.16	<MDA	1.44	2.45	<MDA
B3	31	0.00	1.98	<MDA	0.00	1.44	<MDA
B4	32	0.00	2.00	<MDA	0.00	1.40	<MDA
D1	33	0.00	2.10	<MDA	1.76	2.40	<MDA
D2	34	0.00	2.06	<MDA	0.00	1.47	<MDA
D3	35	0.00	1.91	<MDA	1.81	2.29	<MDA
D4	36	1.61	1.93	<AL	0.00	1.40	<MDA
A1	37	1.35	2.06	<MDA	1.76	2.42	<MDA
A2	38	1.79	2.14	<AL	0.56	2.04	<MDA
A3	39	0.00	1.98	<MDA	0.51	1.93	<MDA
A4	40	1.69	2.01	<AL	0.50	1.94	<MDA
B1	41	4.00	3.09	<AL	0.00	1.62	<MDA
B2	42	0.00	2.16	<MDA	1.59	2.45	<MDA
B3	43	1.64	2.00	<AL	1.48	2.32	<MDA
B4	44	0.00	2.01	<MDA	1.75	2.28	<MDA
D1	45	0.00	2.09	<MDA	0.00	1.50	<MDA
D2	46	0.00	2.06	<MDA	0.00	1.47	<MDA
D3	47	0.00	1.90	<MDA	0.00	1.42	<MDA
D4	48	1.61	1.93	<AL	0.00	1.40	<MDA
A1	49	1.35	2.06	<MDA	1.76	2.42	<MDA
A2	50	1.80	2.13	<AL	0.00	1.51	<MDA
A3	51	0.00	1.97	<MDA	0.00	1.43	<MDA
A4	52	1.70	2.00	<AL	0.00	1.44	<MDA
B1	53	0.00	2.20	<MDA	0.00	1.62	<MDA
B2	54	0.00	2.17	<MDA	2.96	2.80	<MDA
B3	55	0.00	1.99	<MDA	0.32	1.93	<MDA
B4	56	0.00	2.01	<MDA	0.47	1.89	<MDA
		✓			✓		

Sample Data Interpretation

Tritium Activity

When reviewing tritium activity results, the actual activity value present is the DPM1 column. These values, as read from the Count Room results in the DPM1 column, are already corrected for background and counting statistics. The actual tritium counts per minute are determined by scintilation counter in the CPMA and CPMB columns, and then corrected for background and counting statistics to provide the results in disintegrations per minute in the DPM1column.

01 Jun 1998 18:41 ALPHA/BETA - 1.08 Page #1
Protocol #: 4 Pw H3 20cc #405828 User : 5268

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

	LL	UL	LCR	2S%	BKG
Region A:	0.5	- 18.6	0	0.0	6.30
Region B:	2.0	- 18.6	0	0.0	6.01
Region C:	40.0	- 2000	0	0.0	7.80

Quench Indicator: tSIE/AEC
Ext Std Terminator: Count
98-TF-636 TEST FIRE-RYAN(30-10 1-56)
Luminescence Correction On
Coincidence Time(ns): 18
Delay Before Burst(ns): Normal
Protocol Data Filename: c:\data\PROT1.DAT
Count Data Filename: c:\data\SDATA4.DAT
Spectrum Data Drive & Path: c:\data

COPY

S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	6.30	6.01	2	B	648.77		0.00	7.80
0	2.00	1483.98	1394.18	0		608.46	3315.40	279.96	2.91
1	2.00	0.00	0.00	0		578.05	0.00	0.00	0.00
2	2.00	0.20	0.49	0		603.06	0.44	8.84	0.00
3	2.00	0.00	0.00	0		593.46	0.00	0.00	1.96
4	2.00	0.70	0.67	0		624.76	1.53	8.95	0.20
5	2.00	0.70	0.52	0		576.94	1.60	9.36	0.00
6	2.00	2.20	2.49	0		548.26	5.20	10.48	2.70
7	2.00	0.00	0.00	0		502.47	0.00	0.00	0.20
8	2.00	1.38	0.87	0		530.43	3.33	10.21	5.70
9	2.00	0.00	0.24	0		534.70	0.00	0.00	1.20
10	2.00	0.00	0.00	0		488.44	0.00	0.00	6.20
11	2.00	0.00	0.00	0		532.60	0.00	0.00	2.70
12	2.00	1.72	2.01	0		520.76	4.18	10.50	6.70
13	2.00	0.00	0.00	0		412.22	0.00	0.00	4.70
14	2.00	1.15	0.94	0		486.91	2.89	10.52	1.20
15	2.00	0.00	0.00	0		515.67	0.00	0.00	0.00
16	2.00	0.00	0.00	0		454.69	0.00	0.00	4.20
17	2.00	0.20	0.00	0		503.17	0.49	9.77	0.00
18	2.00	0.00	0.00	0		475.80	0.00	0.00	1.70
19	2.00	0.00	0.00	0		559.02	0.00	0.00	2.20
20	2.00	4.18	3.11	0		548.57	9.91	11.51	0.00
21	2.00	0.00	0.00	0		599.52	0.00	0.00	3.70
22	2.00	0.00	0.00	0		444.04	0.00	0.00	0.20
23	2.00	0.70	0.83	14		260.39	2.99	17.46	7.54
24	2.00	3.80	3.14	0		512.47	9.34	11.74	2.20
25	2.00	1.70	1.93	0		480.96	4.30	10.92	3.20
26	2.00	0.05	0.00	0		586.34	0.12	8.90	5.20
27	2.00	2.02	1.27	0		598.72	4.56	9.87	4.20
28	2.00	1.09	0.10	0		602.62	2.44	9.34	2.70
29	2.00	0.00	0.00	9		502.61	0.00	0.00	3.70
30	2.00	3.20	2.42	0		604.44	7.17	10.42	1.20
31	2.00	2.20	1.37	0		513.37	5.39	10.86	3.20
32	2.00	0.20	0.41	8		488.99	0.49	9.91	0.00
33	2.00	0.00	0.00	0		561.49	0.00	0.00	0.70
34	2.00	0.00	0.00	0		567.80	0.00	0.00	6.20

✓

01 Jun 1998 20:18 ALPHA/BETA - 1.08 Page #2
Protocol #: 4 Pw H3 20cc #405828 User : 526

S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	1.20	1.01	0	436.33	3.23	11.29	0.00
36	2.00	1.20	1.20	0	527.17	2.89	10.14	0.00
37	2.00	0.00	0.00	0	606.07	0.00	0.00	2.70
38	2.00	1.20	1.33	0	534.39	2.87	10.06	2.70
39	2.00	0.00	0.00	0	365.19	0.00	0.00	3.20
40	2.00	0.00	0.00	10	244.49	0.00	0.00	1.20
41	2.00	1.70	1.78	0	562.80	3.96	10.06	2.70
42	2.00	0.20	0.49	0	491.40	0.49	9.89	2.14
43	2.00	2.39	1.82	0	570.38	5.54	10.35	2.20
44	2.00	0.65	0.94	0	339.35	2.12	13.23	2.20
45	2.00	0.70	0.99	0	558.63	1.63	9.53	2.70
46	2.00	2.47	1.45	0	616.94	5.47	9.94	1.70
47	2.00	0.00	0.00	0	531.09	0.00	0.00	0.20
48	2.00	0.00	0.00	0	571.98	0.00	0.00	0.73
49	2.00	0.70	0.99	0	482.42	1.76	10.29	1.70
50	2.00	0.20	0.00	0	504.37	0.48	9.76	2.16
51	2.00	3.20	3.08	0	559.62	7.49	10.89	2.70
52	2.00	0.00	0.00	0	525.39	0.00	0.00	0.00
53	2.00	4.70	3.97	0	591.80	10.65	11.26	1.20
54	2.00	0.00	0.00	0	581.86	0.00	0.00	0.00
55	2.00	0.20	0.47	0	459.19	0.51	10.21	0.70
56	2.00	0.00	0.00	0	490.59	0.00	0.00	1.70

✓

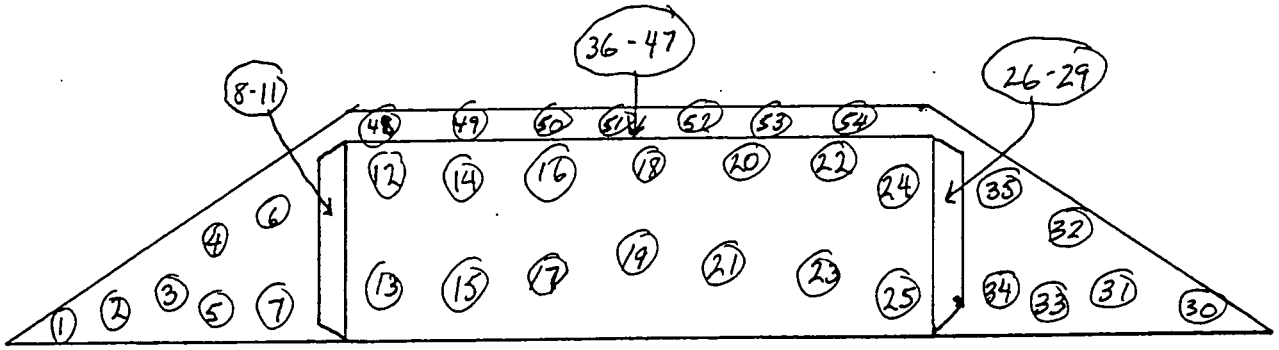
COPY

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) TEST FIRE BUNKER # 20	SURVEY NO. 98-TF-648
PURPOSE: POST SOIL REMOVAL EVALUATION OF CONCRETE	RWP NO. N/A
	DATE: 060398
	TIME: 1330

MAP/DRAWING

COPY



BUNKER # 20

4983

LEGEND: # = mrem/hr (γ) whole body
E = mrem/hr (β+η+γ) extremity on contact

△ # = mrem/hr neutron

[#] = air sample number

(#) = swipe number

(#/α) or /β = direct cont. measurement in dpm/100cm²

INSTRUMENTS USED

Instrument	Serial Number	Cal. Due Date
N/A		

Completed by: (Signature) PERyan	HP# [redacted]	Date: 060398
Completed by: (Print Name) PE RYAN		
Counted by: (Signature) Smith-Brown	HP# [redacted]	Date: 6/3/98
Counted by: (Print Name) SMITH-BROWN		
Reviewed/Approved by: (Signature) [signature]	H[redacted]	Date: 6/15/98
Reviewed/Approved by: (Print Name) K L JOHNSON		

ML-9620 (2-98)

RADIOLOGICAL SURVEY DATA SHEET (cont.)

2 of 6

Removable Contamination				
Swipes (dpm/100cm²)				
Sample #	β/γ	Alpha	Tritium	Comments
#1	SEE ATTACHED FOR RESULTS			BUNKER #20
↕				↕
#54				BUNKER #20
		NES		

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

COMMENTS: SEE PAGE #1 FOR SWIPE LOCATIONS

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.

Sample Data Interpretation

Alpha and Beta Activity

When reviewing Alpha Activity and Beta Activity results, the actual activity value present is the left hand column of numbers identified as DPM. These values as read from the Count Room results in DPM are already are already corrected for background and counting statistics errors.

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR037
Batch Ended: 6/3/98 13:03
Cal. Due Date: 3/9/99
Serial Number: 26966-3

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

Batch ID: T 98-TF-648

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	1.36	2.04	<MDA	0.00	1.49	<MDA
A2	2	3.86	3.00	<AL	3.13	2.81	<AL
A3	3	1.73	1.97	<AL	0.00	1.43	<MDA
A4	4	0.00	2.01	<MDA	0.63	1.94	<MDA
B1	5	0.00	2.24	<MDA	4.14	3.21	<AL
B2	6	3.74	3.02	<AL	2.65	2.80	<MDA
B3	7	1.65	1.98	<AL	0.00	1.44	<MDA
B4	8	0.00	2.01	<MDA	0.47	1.89	<MDA
D1	9	1.81	2.09	<AL	0.00	1.50	<MDA
D2	10	1.67	2.08	<AL	1.80	2.40	<MDA
D3	11	0.00	1.90	<MDA	0.00	1.42	<MDA
D4	12	0.00	1.93	<MDA	0.00	1.40	<MDA
A1	13	0.00	2.05	<MDA	0.58	2.01	<MDA
A2	14	0.00	2.13	<MDA	0.00	1.51	<MDA
A3	15	0.00	1.97	<MDA	0.00	1.43	<MDA
A4	16	1.70	2.00	<AL	0.00	1.44	<MDA
B1	17	0.00	2.21	<MDA	0.00	2.13	<MDA
B2	18	0.00	2.15	<MDA	0.23	2.04	<MDA
B3	19	0.00	1.98	<MDA	0.00	1.44	<MDA
B4	20	1.63	2.01	<AL	0.35	1.89	<MDA
D1	21	0.00	2.09	<MDA	0.43	2.00	<MDA
D2	22	1.67	2.08	<AL	1.80	2.40	<MDA
D3	23	0.00	1.91	<MDA	1.81	2.29	<MDA
D4	24	0.00	1.96	<MDA	5.43	3.10	<AL
A1	25	0.00	2.05	<MDA	0.58	2.01	<MDA
A2	26	1.80	2.13	<AL	0.00	1.51	<MDA
A3	27	0.00	1.98	<MDA	0.51	1.93	<MDA

98-TF-648 3 of 6

COPY

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR037
Batch Ended: 6/3/98 13:03
Cal. Due Date: 3/9/99
Serial Number: 26966-3

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

Batch ID: T 98-TF-648

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A4	28	0.00	2.00	<MDA	0.00	1.44	<MDA
B1	29	0.00	2.24	<MDA	4.14	3.21	<AL
B2	30	1.64	2.17	<MDA	2.80	2.80	<MDA
B3	31	0.00	2.00	<MDA	2.89	2.65	<MDA
B4	32	0.00	2.02	<MDA	3.02	2.61	<AL
D1	33	1.78	2.09	<AL	0.32	2.00	<MDA
D2	34	0.00	2.07	<MDA	0.59	1.99	<MDA
D3	35	0.00	1.91	<MDA	1.81	2.29	<MDA
D4	36	0.00	1.93	<MDA	0.47	1.87	<MDA
A1	37	0.00	2.05	<MDA	0.58	2.01	<MDA
A2	38	0.00	2.13	<MDA	0.00	1.51	<MDA
A3	39	1.71	1.99	<AL	1.69	2.32	<MDA
A4	40	3.67	2.81	<AL	0.00	1.44	<MDA
B1	41	0.00	2.21	<MDA	0.00	2.13	<MDA
B2	42	0.00	2.14	<MDA	0.00	1.51	<MDA
B3	43	0.00	1.98	<MDA	0.00	1.44	<MDA
B4	44	0.00	2.01	<MDA	1.75	2.28	<MDA
D1	45	1.81	2.09	<AL	0.00	1.50	<MDA
D2	46	1.61	2.11	<MDA	7.15	3.59	<AL
D3	47	0.00	1.90	<MDA	0.00	1.42	<MDA
D4	48	1.61	1.93	<AL	0.00	1.40	<MDA
A1	49	1.35	2.05	<MDA	0.41	2.01	<MDA
A2	50	0.00	2.15	<MDA	2.09	2.46	<MDA
A3	51	1.71	1.99	<AL	1.69	2.32	<MDA
A4	52	0.00	2.00	<MDA	0.00	1.44	<MDA
B1	53	0.00	2.21	<MDA	0.00	2.13	<MDA
B2	54	0.00	2.14	<MDA	0.00	1.51	<MDA

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Sample Data Interpretation

Tritium Activity

When reviewing tritium activity results, the actual activity value present is the DPM1 column. These values, as read from the Count Room results in the DPM1 column, are already corrected for background and counting statistics. The actual tritium counts per minute are determined by scintilation counter in the CPMA and CPMB columns, and then corrected for background and counting statistics to provide the results in disintegrations per minute in the DPM1column.

rotocol #: 1 Pw H3 20cc #405828 User : 5268

me: 2.00
ta Mode: DPM Nuclide: SMVIAL Quench Set: SMVIAL
ckground Subtract: 1st Vial

	LL	UL	LCR	2S%	BKG
gion A:	0.5	18.6	0	0.0	5.83
gion B:	2.0	18.6	0	0.0	5.50
gion C:	40.0	2000	0	0.0	9.80

ench Indicator: tSIE/AEC
Ext Std Terminator: Count
-TF-648 TEST FIRE-RYAN(30-10 1-52)
minescence Correction On
ncidence Time(ns): 18
ay Before Burst(ns): Normal
otocol Data Filename: c:\data\PROT1.DAT
nt Data Filename: c:\data\SDATA1.DAT
ctrum Data Drive & Path: c:\data

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S#	TIME	CPMA	CPMB	LUM	FLAG	tSIE	DPM1	2Sigma	CPMC
-1	10.00	5.83	5.50	2	B	628.85		0.00	9.80
0	2.00	1415.76	1316.66	0		612.70	3150.20	267.22	0.20
1	2.00	2.17	2.50	6		572.77	5.01	9.91	0.20
2	2.00	0.44	0.00	15		387.55	1.31	11.40	0.20
3	2.00	0.00	0.00	8		450.23	0.00	0.00	0.00
4	2.00	1.23	0.99	0		553.37	2.91	9.57	5.20
5	2.00	3.17	3.21	0		606.85	7.08	10.10	0.00
6	2.00	0.00	0.00	0		549.06	0.00	0.00	1.70
7	2.00	0.17	0.50	0		612.57	0.37	8.43	0.00
8	2.00	0.00	0.30	21		448.54	0.00	0.00	0.00
9	2.00	0.00	0.00	18		446.86	0.00	0.00	0.00
10	2.00	3.89	2.49	10		520.12	9.49	11.40	0.00
11	2.00	4.67	4.51	0		582.26	10.68	11.08	1.70
12	2.00	2.67	3.00	14		579.28	6.13	11.10	1.20
13	2.00	1.17	0.38	0		510.25	2.87	9.95	0.00
14	2.00	0.00	0.00	53		348.34	0.00	0.00	0.00
15	2.00	0.00	0.00	18		500.47	0.00	0.00	0.20
16	2.00	3.67	3.41	11		470.72	9.38	11.85	0.00
17	2.00	2.17	1.85	17		487.51	5.45	11.91	5.27
18	2.00	1.17	1.07	14		405.54	3.33	11.54	0.20
19	2.00	3.67	1.92	11		468.70	9.40	11.87	1.70
20	2.00	1.81	1.92	17		515.12	4.44	11.40	0.00
21	2.00	0.25	0.05	15		465.32	0.65	9.81	0.00
22	2.00	5.17	4.48	9		544.01	12.29	11.77	0.00
23	2.00	0.67	1.43	20		485.40	1.68	11.09	0.00
24	2.00	1.67	2.00	13		442.75	4.44	11.10	0.00
25	2.00	0.00	0.00	29		337.98	0.00	0.00	3.72
26	2.00	0.00	0.00	43		494.02	0.00	0.00	0.00
27	2.00	0.00	0.00	0		462.51	0.00	0.00	3.20
28	2.00	2.67	3.47	16		453.14	6.98	12.66	0.00
29	2.00	0.67	0.49	0		449.15	1.75	10.32	0.00
30	2.00	0.00	0.00	0		508.14	0.00	0.00	2.20
31	2.00	4.67	3.78	0		579.67	10.71	11.11	1.20
32	2.00	0.00	0.00	0		565.48	0.00	0.00	1.20
33	2.00	0.17	0.31	8		548.66	0.39	8.97	0.70
34	2.00	1.67	1.00	7		541.71	3.97	9.93	0.00

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S#	TIME	CPMA	CPMB	LUM FLAG	tSIE	DPM1	2Sigma	CPMC
35	2.00	0.00	0.00	0	517.49	0.00	0.00	0.00
36	2.00	0.58	0.91	31	336.68	1.89	15.09	0.00
37	2.00	0.17	0.50	0	590.18	0.38	8.60	0.20
38	2.00	1.17	0.55	7	531.27	2.81	9.74	2.20
39	2.00	0.00	0.00	0	528.39	0.00	0.00	0.00
40	2.00	0.00	0.00	0	587.50	0.00	0.00	0.00
41	2.00	0.00	0.00	0	464.03	0.00	0.00	0.00
42	2.00	2.34	2.52	0	529.63	5.64	10.44	1.20
43	2.00	0.67	0.72	0	601.46	1.50	8.80	0.20
44	2.00	2.90	2.85	11	474.43	7.41	11.37	1.25
45	2.00	0.00	0.00	0	566.07	0.00	0.00	0.00
46	2.00	0.00	0.00	11	397.71	0.00	0.00	0.00
47	2.00	1.67	1.50	7	555.26	3.92	9.80	0.00
48	2.00	0.00	0.00	0	529.48	0.00	0.00	0.00
49	2.00	0.07	0.25	0	531.64	0.18	9.06	0.00
50	2.00	0.00	0.00	0	561.51	0.00	0.00	0.00
51	2.00	0.00	0.00	0	527.20	0.00	0.00	0.00
52	2.00	0.67	1.00	0	605.50	1.49	8.77	0.00
53	2.00	3.67	3.90	0	502.09	9.10	11.49	0.20
54	2.00	1.17	0.26	0	584.96	2.66	9.23	0.00

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