300101 – 0008080001

Main Hill Project

CLOSE OUT REPORT

Demolition of PS Building

MOUND PLANT

Miamisburg, Ohio

June 2000

Final

BWXT of Ohio, Inc.

Department of Energy

300101-000808000 1

BWX Technologies, Inc.
a McDermott company

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

ESC-090/00
July 7, 2000

00-TC/07-07

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
FINAL CLOSE OUT REPORT FOR PS BUILDING

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

Dear Mr. Provencher:

Attached is the Final Close Out Report for PS Building. This report provides summary information on the successful completion of this effort.

The release of this document to USEPA, OEPA, ODH, and the public reading room has been authorized by Frank Schmaltz of MEMP.

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

Sincerely,

JSStapleton

Jeffrey S. Stapleton
Manager, Environmental Safeguards & Compliance

JSS/nmg

Enclosures as stated

cc: Tim Fischer, USEPA, (1) w/attachment
Dave Meredith, TechLaw, Inc., (1) w/attachment
Brian Nickel, OEPA, (2) w/attachment
Ruth Vandegrift, ODH, (1) w/attachment
Art Kleinrath, MEMP, (2) w/attachment
Terrence Tracy, DOE/HQ, (2) w/attachment
Budd Thompson, BWXT of Ohio, (2) w/attachment
√Public Reading Room, (5) w/attachment
DCC

Close Out Report for Demolition

Of

PS Building

DOE Mound Plant

Miamisburg, Ohio 45343-3020

Prepared for:

United States Department of Energy

Miamisburg Environmental Management Project

P.O. Box 3020

Miamisburg, Ohio 45343-3020

Prepared by:

BWXT of Ohio

Contract #DE-AC24-97OH20044

June 2000

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EXECUTIVE SUMMARY

This is the final report documenting the demolition of the PS (Paint Shop) Building structure, as initially defined in the Building Data Package (BDP) introduced in March 1999. Demolition was completed in May 1999. This documentation serves as the record of the demolition action and reports final costs, schedule, waste disposition information, method of demolition, and any unusual findings. Photographs and references to other related documents are also included. This demolition effort was considered a standard industrial construction demolition and was not considered a removal under CERCLA and was not designated as a HAZWOPER site.

Constructed in 1963, PS Building was a one-story, 2,288 square-foot metal structure with a metal roof. It contained processes conventional to painting - brush painting and spray painting; sanding, priming, and drying; and, storage of paints and painting supplies. Computer generated signs were also fabricated in PS Building. The Main Hill Project demolished the building but not the concrete pad, as per the Work Plan, dated March 1999.

All preparation and demolition activities were performed in accordance with the Work Plan to include structure characterization, safe shutdown, utilities isolation, site access control, interior decontamination and demolition requirements (to include contaminant abatement), structure demolition, and debris removal. Approximately 415 cubic yards of construction debris were removed from the PS Building demolition site as noted in Table 2.

The PS Building structure was successfully demolished. The remaining slab and foundation of the building are left in place until a later date.

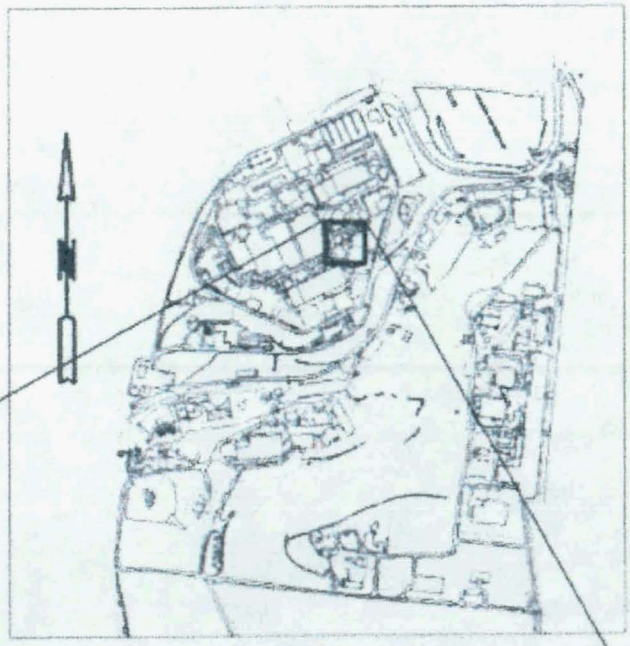
It is recommended to the Department of Energy that the scope of work relating to this structure be considered complete.

Figure 1. Mound Plant Site Depiction and PS Building Location

Mound Plant
PS Building
Paint Shop

Parcel 8

On the map below:
- Building number and location shown in black
- PRS locations and numbers shown in blue
- Surrounding buildings shown in tan
- Fencing shown in red
- Elevation contours shown in brown



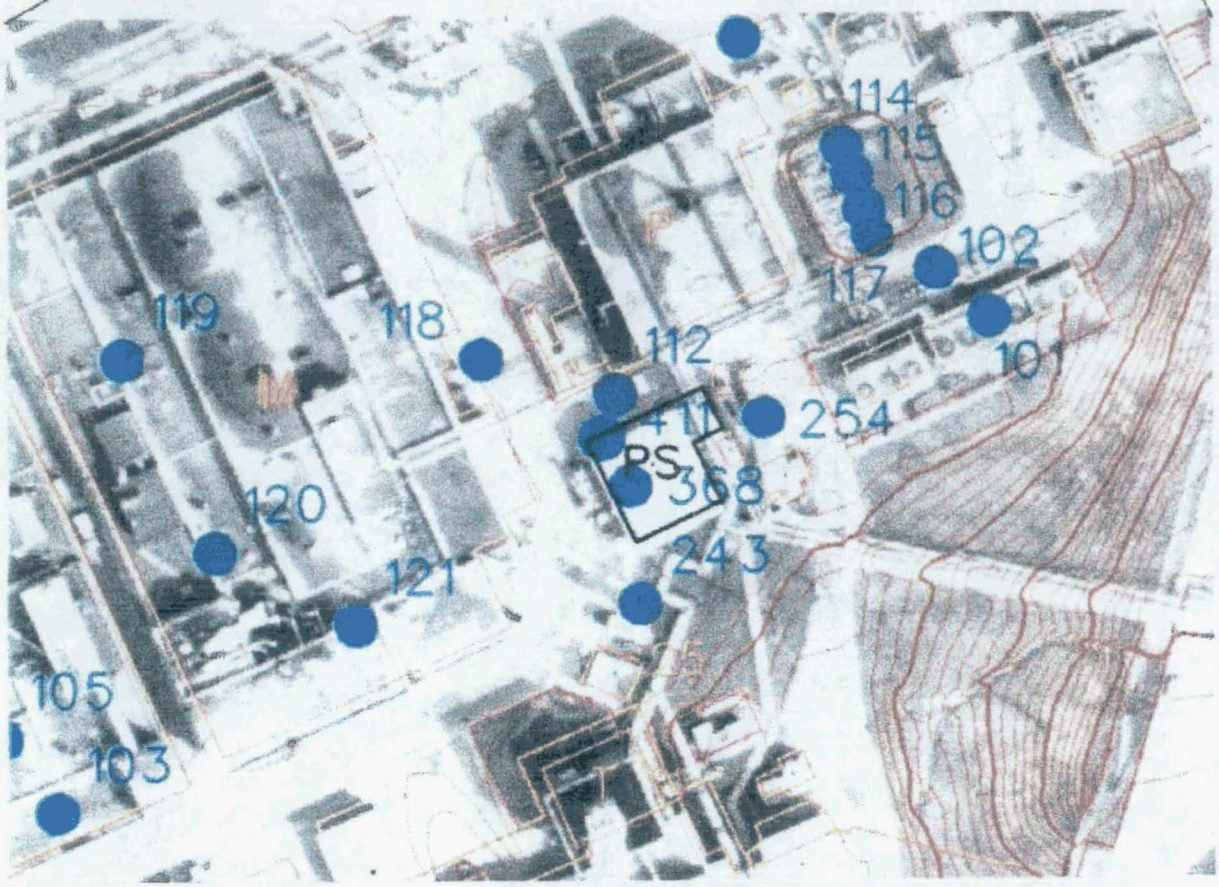


Figure 2. Demolition Site Location

1.0 SUMMARY OF EVENTS

1.1 Objective of The Demolition Activities

The objective of the demolition activities was to remove the PS Building structure in support of the Mound Plant Exit Project. The removal was accomplished as a non-CERCLA demolition as noted by the Building Data Package (BDP) and detailed in the general Job Specific Work Plan, PS Building Demolition, JSWP No. MHNR-99-07, Rev. No. 1, March 1, 1999. This Work Plan is also found as Appendix P of the BDP. The Work Plan gives details of the planning and conduct of demolition operations. Note Figures 1 and 2 for Mound Plant depiction and PS Building location.

1.2 Personnel Organization For The Demolition - See Table 1

1.3 Chronological Summary of Key Demolition Activities

- 01 Oct 98 Started Safe Shutdown activities for PS Building.
- 15 Mar 99 Started utilities isolation.
- 15 Mar 99 Started demolition.
- 15 Mar 99 Started debris removal.
- 25 May 99 Completed Safe Shutdown.
- 25 May 99 Completed utilities isolation.
- 25 May 99 Completed demolition.
- 25 May 99 Completed debris removal.

Table 1. Personnel Organization for the Demolition

Agencies or Parties Involved	Contact	Description of Participation
US EPA HSRM-6J 77 W. Jackson Chicago, IL 60604 312-886-5787	Tim Fischer	Federal agency responsible for Mound Plant oversight.
Ohio EPA 410 E. Fifth Street Dayton, OH 45402-2911 937-285-6468	Brian Nickel	State agency responsible for Mound Plant oversight.
DOE/MEMP P.O. Box 66 1 Mound Road Miamisburg, OH 45343-0066 937-865-3620	Frank Schmaltz	DOE Project Manager responsible for project oversight and success.
BWXT of Ohio SM/PP Hill Project P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4020	Budd Thompson	Provided the DOE/MEMP Project Manager with Technical assistance and administrative support. Accomplished sampling, decontamination, and demolition functions as required. Provided safety support. Accomplished photo at site documentation, and report preparation.
BWXT of Ohio General Superintendent and Equipment Manager P.O. Box 3030 1 Mound Road Miamisburg, OH 45343-3030 937-865-4020	Dave Armstrong	Provided the personnel and equipment necessary for the demolition

1.4 Listing of Resources Committed

Table 2 shows the waste materials generated and their disposition. Table 3 includes the demolition total cost summary.

Table 2. Materials and Disposition

Material	Quantity	Method	Location
Construction Debris (metals)	20 cubic yards	recycled	Franklin Metals
Construction Debris (mix/miscellaneous)	390 cubic yards	land fill	Koogler/ Stoney Hollow
Asbestos	5 cubic yards	land fill	Koogler/ Stoney Hollow

Table 3. Demolition Project Total Cost Summary

Project Costs:	Cost ($)
Labor	129,251.00
Materials & Supplies	9,049.00
Purchased Services	13,988.00
Total Project Cost	152,288.00
Project Ceiling	216,487.00

2.0 EFFECTIVENESS OF THE DEMOLITION

The PS Building structure was successfully demolished. All field work and laboratory analysis was accomplished by BWXT of Ohio personnel. The concrete slab remains in place to be removed in the future with adjacent soils remediation activities.

3.0 RECOMMENDATION

The PS Building structure has been demolished and debris removed in accordance with documentation provided to the Mound 2000 Core Team. (See references below.) It is recommended to the Department of Energy that BWXT of Ohio's contractual obligations for the scope of work relating to this structure be considered complete.

4.0 REFERENCE LIST OF SUPPLEMENTARY DOCUMENTS

Contact Mark Becker, BWXT of Ohio, Public Relations, at (937) 865-4450 to request access to these supplemental documents.

- Building Data Package (BDP) for PS Building, Final, March 3, 1999
- *Job Specific Work Plan, PS Building Demolition*, JSWP No. MHNR-99-07, Rev. No. 1, March 1, 1999.
- Job Safety and Health Analysis, Final, April 20, 1999

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

790 E LC

APPENDIX B

SAMPLING/CHARAZTERIZATION INFORMATION

Radiological surveys for release of the building prior to demolition activities consisted of direct surveys for alpha and beta contamination on the floor. Removable contamination surveys were also performed throughout the building floor for alpha, beta, and tritium contamination. All floor drains and ventilation ducts were surveyed for direct and removable contamination. Dose rate surveys were performed within the building and the 15 foot perimeter surrounding the building. Results of these surveys showed no contamination or radiation above site criteria release levels.

Radiological Characterization Summary for PS Building Structure

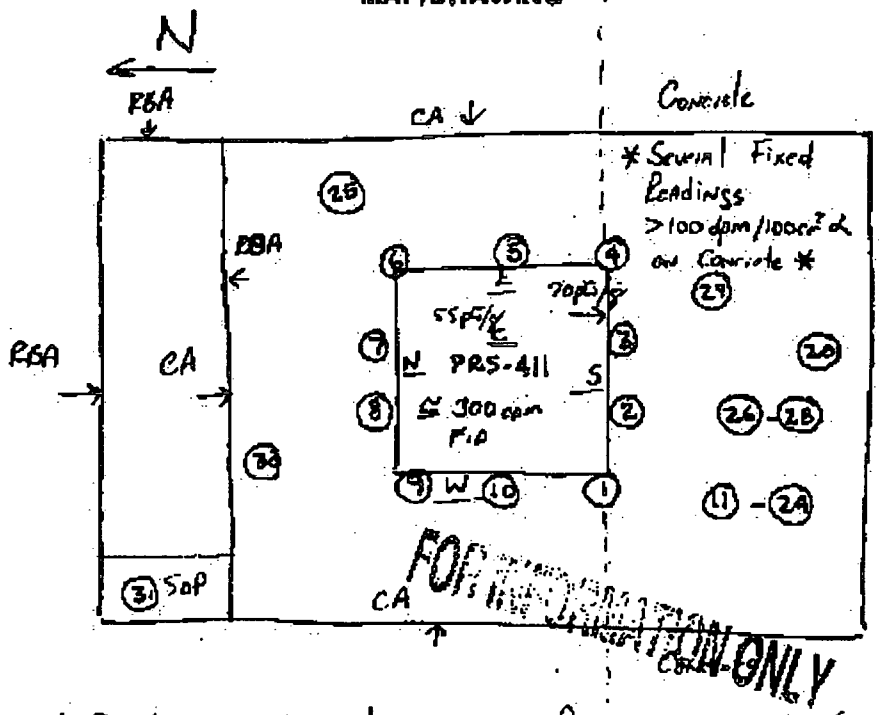
TYPE	RSDS	LOCATION	SURVEY RESULTS (dpm/100 Cm^2)	SURFACE CONTAMINATION GUIDELINES (dpm/100 cm^2) (Note 2)	COMMENTS
Highest Alpha Smearable Activity	All	All	<20	20	
Highest Alpha Fixed Activity	All	All	<100	100	
Highest Beta Smearable Activity	All	All	<1,000	1,000	
Highest Beta Fixed Activity	All	All	<5,000	5,000	
Highest Tritium Smearable Activity	All	All	<10,000	10,000	

Note 1: All RSDS associated with the confirmatory survey were <100 dpm/100 cm^2 alpha, and <5,000 dpm/100 cm^2 beta.
Note 2: Core Team determined values.
RSDS: Data sheet that provides radiological monitoring survey results.

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) PAINT SHOP (PRS 411)	SURVEY NO. 99-LS-088
PURPOSE: F.C.A. REMOVAL Contamination Survey	RWP NO. LS-010-99
	DATE: 05/11/99
	TIME: 1000

MAP/DRAWING



Direct Reading on Asphalt

(< 100 dpm/100cm² α)

(< 5000 dpm/100cm² β/γ)

Personnel Frisk (Chain/Bag)

(< 100 dpm/100cm² α)

(< 5000 dpm/100cm² β/γ)

* FID not calibrated only as indicator *

LEGEND: # – mrem/hr (γ) whole body
E = mrem/hr (β+n+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
NE ELECTRA	5305/5316	09/17/99
BKR FID	3853/3854	N/A

ML-9620 (2-98)

Completed by: (Signature) [signature]	HPS [redacted]	Date: 05/11/99
Completed by: (Print Name) Todd A. Smith / STEVEN R. HAESE		
Counted by: (Signature) Carol Y. Robinson	HPS [redacted]	Date: 5/11/99
Counted by: (Print Name) CAROL Y. ROBINSON		
Reviewed/Approved by: (Signature) Karen S. Kent	HPS [redacted]	Date: 5/12/99
Reviewed/Approved by: (Print Name) Karen S. Kent		

Smear Analysis

Unit Type: [illegible]
Counting Unit ID: [illegible]
Data File name: [illegible]
Batch Ended: 5/11/99 10:28
Cal. Due Date: [illegible]
Serial Number: 26966-3

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

Batch ID: [illegible]

					Beta Activity		
					[illegible]	[illegible]	[illegible]
A1	1	0.70	1.84	<MDA	0.59	2.24	<MDA
A2	2	0.00	2.12	<MDA	0.49	1.97	<MDA
A3	3	0.00	2.04	<MDA	0.00	1.33	<MDA
A4	4	0.00	2.26	<MDA	5.93	3.43	<AL
B1	5	0.00	2.05	<MDA	0.00	1.56	<MDA
B3	6	0.00	2.01	<MDA	0.00	1.54	<MDA
B4	7	0.00	1.93	<MDA	0.00	1.46	<MDA
C1	8	0.00	1.99	<MDA	0.29	1.89	<MDA
C2	9	0.00	1.99	<MDA	0.03	1.86	<MDA
C3	10	0.00	2.14	<MDA	0.00	1.30	<MDA
C4	11	5.18	3.51	<AL	0.54	2.58	<MDA
D1	12	1.54	1.99	<MDA	3.10	2.77	<AL
D2	13	0.00	2.05	<MDA	4.43	3.08	<AL
D3	14	0.00	2.32	<MDA	0.00	1.63	<MDA
D4	15	0.00	2.23	<MDA	0.00	1.42	<MDA
A1	16	0.70	1.97	<MDA	9.02	3.73	<AL
A2	17	0.00	2.13	<MDA	1.82	2.38	<MDA
A3	18	9.66	4.51	<AL	5.71	3.18	<AL
A4	19	0.00	2.25	<MDA	3.20	2.84	<AL
B1	20	4.80	3.48	<AL	7.27	3.77	<AL
B3	21	0.00	2.01	<MDA	0.00	1.54	<MDA
B4	22	0.00	1.96	<MDA	7.20	3.53	<AL
C1	23	0.00	1.98	<MDA	0.00	1.37	<MDA
C2	24	0.00	1.98	<MDA	0.00	1.40	<MDA
C3	25	0.00	2.14	<MDA	0.63	1.81	<MDA
C4	26	1.15	2.12	<MDA	4.62	3.36	<AL
D1	27	0.00	1.97	<MDA	0.00	1.47	<MDA

3 of 3

TS 5/11/99

Smear Analysis

Unit Type: [illegible]
[illegible]
[illegible]
Batch Ended: 5/11/99 10:28
Cal. Due Date: [illegible]
Serial Number: [illegible]

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

[illegible]

D2	28	0.00	2.02	<MDA	0.00	1.49	<MDA
D3	29	0.86	2.33	<MDA	1.45	2.51	<MDA
D4	30	0.00	2.23	<MDA	0.43	1.98	<MDA
A1	31	0.70	1.85	<MDA	1.64	2.48	<MDA

FOR INFORMATION ONLY

4 of 13

5/11/99

5 of 13

PROPERTY/WASTE RELEASE EVALUATION

PRE Number: 053199-LS-01

PART I **Sender/Custodian**
Work Order No. UA

Description of Property/Waste to be Released/Transferred:

AIR MONITORING EQUIPMENT, MISCELLANEOUS HAND TOOLS

Property's Current Location: PAINT SHOP - PRS 411
Property's Destination: PLANT SITE
Property's New Recipient/Custodian: MARK DAUBENMIRE
Property's History/Process Knowledge: REMOVAL OF CONTAMINATE ASPHALT AND SOIL

COPY

Is Property/Waste located in a Radioactive Materials Management Area, Radioactive Materials Area, or been exposed to a source of activation (i.e., neutrons) or has it come in contact with unencapsulated radioactive material? ☒ Yes ☐ No ☐ Unknown

ACKNOWLEDGEMENT: By signing below, the sender/custodian verifies the above information to be true and correct.

Sender/Custodian: (Print Name) MARK DAUBENMIRE
(Signature) Mark Daubenmire H.P. No. [redacted]
Date: 5-10-99 Pager: Ext.: 3441

FOR INFORMATION ONLY

PART II **Radiological Point of Contact**
Check any of the following that applies:
Type of Evaluation: ☐ Specific ☑ Extended (Expires: 05/31/99)

☐ No radiological survey is required due to the property's location, history, and/or characteristics.
☑ Radiological survey for both removable and fixed contamination: ☐ Alpha ☑ Beta/gamma
☐ Radiological survey via spectral analysis

Specific requirements and/or comments:
Perform 100% direct + representative removable [illegible] on accessible areas of equipment/hand tools. Report anomalies to RPOC.

EVALUATED BY:

RPOC (Printed/Signature) [illegible] HP No. [redacted] Date [illegible]

ML-9594 (4-98)

NA800366 , 0.000000 , 19.9541 , 9:20:33AM May/11/1999 , 4 8 of 13
CF-3 , 5890 , 500.000 , PRS411 PAINT SHOP 1 Rec 5/11/99

Sample Filename: C3_01606.S0
Sample Identification: NA800366
Title: PRS411 PAINT SHOP 1 Rec 5/11/99 (NORTH)
Begin Collection Time & Date: 9:20:33AM May/11/1999
Detector Identification: CF-3
User Identification: 5890
Sample Quantity: ~~500~~.000 grams
650 ppm

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	0.000000	19.9541	Use MDA value

FOR INFORMATION ONLY

Density: 1.05263
Efficiency: 0.00355000
Concentration: 0.000000

* Rm 218 * East To Left 24 3rd
Tool Box
DS

NA800367 , 71.9968 , 16.1128 , 9:24:13AM May/11/1999 , 7 of 13
CF-4 , 5890 , 500.000 , PRS411 PAINT SHOP 2 Rec 5/11/99
South

Sample Filename: C4_00090.SO
Sample Identification: NA800367 South
Title: PRS411 PAINT SHOP 2 Rec 5/11/99
Begin Collection Time & Date: 9:24:13AM May/11/1999
Detector Identification: CF-4
User Identification: 5890
Sample Quantity: ~~500.000~~ grams
512 .994

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	71.9968	16.1128	

FOR INFORMATION ONLY

Density: 1.05263
Efficiency: 0.00370700
Concentration: 71.9968

NA800368 , 0.000000 , 20.7440 , 9:32:24AM May/11/1999 , 8 of 13
CF-5 , 5890 , 500.000 , PRS411 PAINT SHOP 3 Rec 5/11/99

Sample Filename: C5_01404.S0
Sample Identification: NA800368
Title: PRS411 PAINT SHOP 3 Rec 5/11/99 EAST
Begin Collection Time & Date: 9:32:24AM May/11/1999
Detector Identification: CF-5
User Identification: 5890
Sample Quantity: ~~500.000~~ grams
581 / 94

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	0.000000	20.7440	Use MDA value

FOR INFORMATIONAL ONLY

Density: 1.05263
Efficiency: 0.00358000
Concentration: 0.000000

NA800369 , 0.000000 , 15.2237 , 9:43:01A May/11/1999 , a 8 of 13
CF-3 , 5890 , 680.000 , PRS411 PAINT SHOP 4 Rec 5/11/99

Sample Filename: C3_01607.S0
Sample Identification: NA800369
Title: PRS411 PAINT SHOP 4 Rec 5/11/99(WEST)
Begin Collection Time & Date: 9:43:01AM May/11/1999
Detector Identification: CF-3
User Identification: 5890
Sample Quantity: 680.000 grams

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	0.000000	15.2237	Use MDA value

FOR [illegible] ONLY

Density: 1.43158
Efficiency: 0.00355000
Concentration: 0.000000

NA800370 , 55.2114 , 11.9005 , 9:44:38AM May/11/1999 , 10 of 13
CF-4 , 5890 , 648.000 , PRS411 PAINT SHOP 5 Rec 5/11/99

Sample Filename: C4_00091.S0
Sample Identification: NA800370
Title: PRS411 PAINT SHOP 5 Rec 5/11/99 (CENTER)
Begin Collection Time & Date: 9:44:38AM May/11/1999
Detector Identification: CF-4
User Identification: 5890
Sample Quantity: 648.000 grams

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	55.2114	11.9005	

FOR [illegible] ONLY

Density: 1.36421
Efficiency: 0.00370700
Concentration: 55.2114

AIR SAMPLE WORKSHEET (ML-9644)

RCT: Todd Smith HP# [redacted]

Location: Paint Shop Date: 5/11/99

Type of Sample: ☐ - CAM ☒ - HI-VOL ☐ - FASH ☐ - GOOSENECK

Type of Filter: ☐ - Glass fiber ☐ - Millipore ☒ - Other

RSDS #: 99-LS-088
Page: 11 of 13
RWP#: LS-010-99

SAMPLE DATA

Instrument # / Calibration Date	Sample ID #	Start Time	Stop Time	A Total Time (min.)	B Average Flow Rate ☐-lpm ☒-dm	C Total Volume = A x B ☐-liters ☒-ft³	Total Volume (cm³) Conversion below
8157 / 8/9/99	1	0745	0945	120 min	12 ← *	[illegible]	40752000
8156 / 8/9/99	2	0745	0945	120 min	18	2160	61128000

cubic feet to cm³ = multiply cubic feet (ft³) by 2.83x10⁴ or liters to cm³ = multiply liters by 1000

CALCULATION OF SAMPLE ALPHA ACTIVITY

Sample ID #	Isotope of Concern	W Sample Activity (dpm) (from count room or field instrument)	X Total volume (cm³) (from calculation above)	Y dpm to uCi conversion factor	Z Radionuclide DAC value (uCi/cm3) (From 10 CFR 835 Attachment A)	Actual DAC Fraction DAC = W + X + Y + Z
1	Pu 238	2.41	40752000	2.22E06 dpm/uCi	3×10^{-12}	.0088
2	Pu 238	0.89	61128000	2.22E06 dpm/uCi	3×10^{-12}	.002
N/A	N/A	N/A	N/A	2.22E06 dpm/uCi	N/A	N/A

Note: cm³ = cc = mL

CALCULATION OF SAMPLE BETA ACTIVITY Isotope of concern:

Sample ID #	W Sample Activity (dpm) (from count room or field instrument)	X Total volume (cm³) (from calculation above)	Y dpm to uCi conversion factor	Z Radionuclide DAC value (uCi/cm3) (From 10 CFR 835 Attachment A)	Actual DAC Fraction DAC = W + X + Y + Z
			2.22E06 dpm/uCi		
N	A	N/A	2.22E06 dpm/uCi	N	A
			2.22E06 dpm/uCi		

TOTAL MAXIMUM SAMPLE ACTIVITY (Add Maximum Alpha and Maximum Beta DAC Fraction) = .0088 DAC

Comments: 7 Day Results.
No Beta Pu 238 Isotope of Concern.

Reviewed by: [signature] / [redacted] 5-19-99
RCT Team Leader HP# Date

Alpha/Beta Analysis

Batch ID: #99-LS-088 High Vol. Air Samples collected 5/11/99 counted on 5/12/99 hp#5801
Batch File: High Vol - 199905121338

Group: D
Device: LB5500
Geometry: High Vol.
Serial Number: 34496

Acquisition Date: 5/12/99
Count Time (min): 20.0
Recalibration Date: 3/22/99

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
[redacted]	4	63.04	13.13	66.71	9.33
[redacted]	5	112.79	20.93	141.90	17.34

Next Day

Rq 13 TS 5/13/99

Alpha/Beta Analysis

Batch ID:	#99-LS-088 High Volume Air Samples collected 5/11/99 counted on 5/18/99 hp#5801		
Batch File:	High Vol - 199905180654		
Group:	D	**Acquisition Date:**	5/18/99
Device:	LB5500	**Count Time (min):**	20.0
Geometry:	High Vol.	**Recalibration Date:**	3/22/99
Serial Number:	34496		

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	4	2.41	2.54	1.26	2.33
2	5	0.89	2.13	1.36	2.33

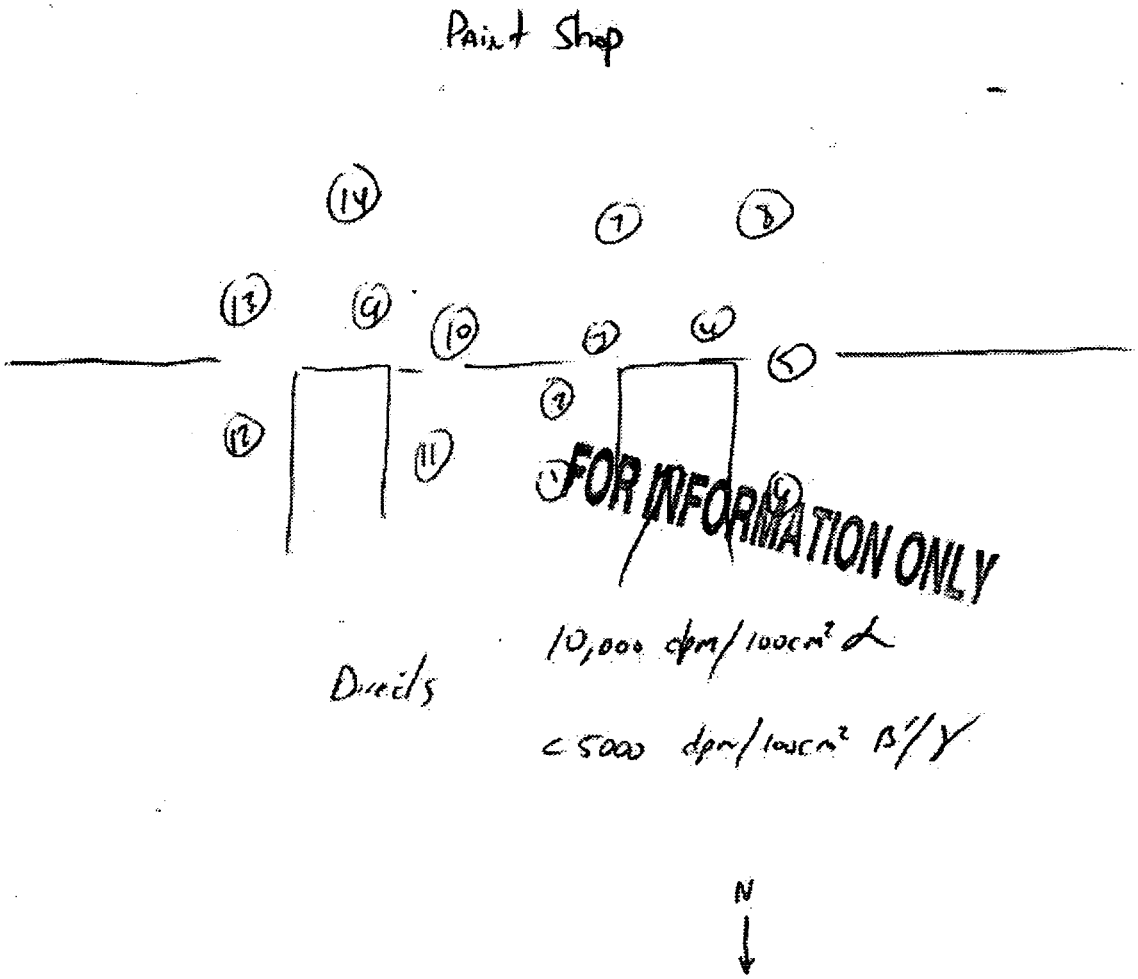
7 Day Results

13 of 13 TS 5/18/99

RADIOLOGICAL SURVEY DATA SHEET

LOCATION: (BLDG./AREA/ROOM) PS Bldg	SURVEY NO. 99-CS-79
PURPOSE: Contamination Survey	RWP NO. CS-009-99
	DATE: 4/28/99
	TIME: 1200

MAP/DRAWING



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
NE Electra	5305/5316	9/17/99
	A	
N		

ML-0520 (2-98)

Completed by: (Signature) Todd Smith	HP# [redacted]	Date: 4/28/99
Completed by: (Print Name) Todd A. Smith		
Counted by: (Signature) Carol Y. Robinson	HP# [redacted]	Date: 4-28-99
Counted by: (Print Name) CAROL Y. ROBINSON		
Reviewed/Approved by: (Signature) Roy L Mowen	HP# [redacted]	Date: 5-3-99
Reviewed/Approved by: (Print Name) ROY L MOWEN		

99-LS-079
p 3 of 3
Rem

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR042
Batch Ended: 4/28/99 12:45
Cal. Due Date: 6/8/99
Serial Number: 26966-3

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

Batch ID: 99-LS-79 SMITH PS-BLDG. (14) CYR

FOR INFORMATION ONLY

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	94.03	12.77	**>AL	0.00	3.25	<MDA
A2	2	5.71	3.58	<AL	0.00	1.46	<MDA
A3	3	0.00	2.04	<MDA	0.00	1.33	<MDA
A4	4	1.54	2.21	<MDA	0.00	1.57	<MDA
B1	5	0.00	2.06	<MDA	3.38	2.88	<AL
B2	6	6.86	3.71	<AL	0.03	1.91	<MDA
B3	7	0.00	2.02	<MDA	1.96	2.53	<MDA
B4	8	0.00	1.93	<MDA	0.65	1.96	<MDA
C1	9	1.59	2.02	<MDA	4.04	2.94	<AL
C2	10	1.56	2.02	<MDA	3.57	2.82	<AL
C3	11	0.00	2.15	<MDA	1.89	2.20	<MDA
C4	12	1.16	2.07	<MDA	0.00	2.25	<MDA
D1	13	0.00	1.97	<MDA	0.00	1.47	<MDA
D2	14	3.42	2.81	<AL	0.00	1.49	<MDA

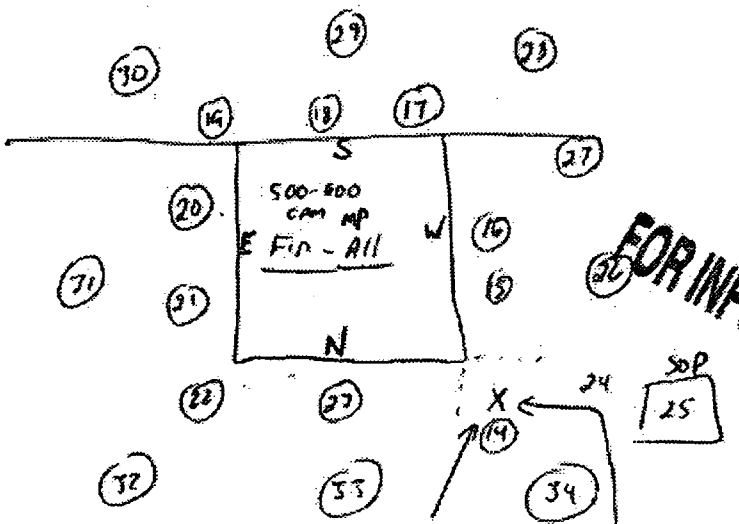
RADIOLOGICAL SURVEY DATA SHEET

Page 1 of 13 TS 5/4/99

LOCATION: (BLDG./AREA/ROOM) Paint Shop	SURVEY NO. 99-LS-084
PURPOSE: Release Items + Concrete	RWP NO. LS-011-99
	DATE: 5/4/99
Contamination Survey	TIME: 1400

MAP/DRAWING

* Personal Frisk
Rex Thompson ∠100 dpm/100cm² α
Barry Lawon both ∠5000 dpm/100cm² β/γ



TS 5/5/99 original

COPY

FOR INFORMATION ONLY

Directs 350 dpm/100cm² α - ∠5000 dpm/100cm² β/γ
60,000 cpm F.D

* FID used as indicator only not calibrated

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
NE Electra	5305/5316	9/7/99
Bicron F.D	3853/3854	N/A
	A	
N		

Completed by: (Signature) [signature] / [signature]	HP# [redacted]	Date: 5/4/99
Completed by: (Print Name) Todd Smith / Steven B. Hasse		
Counted by: (Signature) [signature]	HP# [redacted]	Date: 5/4/99
Counted by: (Print Name) B. Smith Brown		
Reviewed/Approved by: (Signature) Karen S. Kent	HP# [redacted]	Date: 5-12-99
Reviewed/Approved by: (Print Name) Karen S. Kent		

ML-9620 (2-98)

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR092
Batch Ended: 5/4/99 15:12
Cal. Due Date: 6/8/99
Serial Number: 26966-3

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

Batch ID: 99-LW-084 PAIANT SHOP-SMITH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	2.40	2.50	<MDA	0.41	2.24	<MDA
A2	2	1.60	2.21	<MDA	8.25	3.80	<AL
A3	3	0.00	2.06	<MDA	1.67	2.14	<MDA
A4	4	1.53	2.25	<MDA	3.03	2.84	<MDA
B1	5	0.00	2.06	<MDA	3.38	2.88	<AL
B2	6	1.39	1.89	<MDA	0.00	1.41	<MDA
B3	7	3.18	2.82	<AL	4.60	3.23	<AL
B4	8	0.00	1.94	<MDA	1.96	2.36	<MDA
C1	9	1.59	2.02	<MDA	4.04	2.94	<AL
C2	10	5.45	3.39	<AL	0.00	1.40	<MDA
C3	11	0.00	2.16	<MDA	3.15	2.54	<AL
C4	12	0.00	2.05	<MDA	0.00	1.40	<MDA
D1	13	0.00	1.97	<MDA	0.00	1.47	<MDA
D2	14	1.45	2.03	<MDA	0.25	2.01	<MDA
D3	15	0.87	2.32	<MDA	0.10	2.12	<MDA
D4	16	0.00	2.26	<MDA	4.55	3.10	<AL
A1	17	4.10	3.00	<AL	0.00	1.68	<MDA
A2	18	0.00	2.10	<MDA	0.00	1.46	<MDA
A3	19	0.00	2.06	<MDA	1.67	2.14	<MDA
A4	20	5.80	3.79	<AL	5.40	3.43	<AL
B1	21	0.00	2.06	<MDA	3.38	2.88	<AL
B2	22	0.00	1.89	<MDA	0.45	1.91	<MDA
B3	23	0.00	2.01	<MDA	0.00	1.54	<MDA
B4	24	0.00	1.93	<MDA	0.00	1.46	<MDA
C1	25	0.00	2.01	<MDA	2.89	2.64	<MDA
C2	26	3.51	2.78	<AL	0.00	1.40	<MDA
C3	27	0.00	2.16	<MDA	3.15	2.54	<AL

FOR INFORMATION ONLY

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5/6/99

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR092
Batch Ended: 5/4/99 15:12
Cal. Due Date: 6/8/99
Serial Number: 26966-3

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

Batch ID: 99-LW-084 PAIANT SHOP-SMITH

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
C4	28	1.16	2.07	<MDA	0.00	2.25	<MDA
D1	29	0.00	1.99	<MDA	1.89	2.42	<MDA
D2	30	0.00	2.03	<MDA	0.38	2.01	<MDA
D3	31	0.00	2.33	<MDA	1.56	2.51	<MDA
D4	32	1.73	2.23	<MDA	0.00	1.42	<MDA
A1	33	0.70	1.84	<MDA	0.59	2.24	<MDA
A2	34	3.66	2.94	<AL	0.00	1.46	<MDA

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4/00

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TS 5/6/99

PROPERTY/WASTE RELEASE EVALUATION

TS 5/6/99

PRE Number: 080/99-LS-01

PART I Sender/Custodian

Work Order No. N/A

Description of Property/Waste to be Released/Transferred:

SHOVELS, SPRAYER, MISC. TOOLS

Property's Current Location: PRS 411 - PAINT SHOP

Property's Destination: SP TRAILER

Property's New Recipient/Custodian: MARK DAUBENMIRE / JIM JONES

Property's History/Process Knowledge: REMOVED CONTAMINATED SOIL FROM PRS 411 - PAINT SHOP - HOT SPOT

Is Property/Waste located in a Radioactive Materials Management Area, Radioactive Materials Area, or been exposed to a source of activation (i.e., neutrons) or has it come in contact with unencapsulated radioactive material? ☒ Yes ☐ No ☐ Unknown

ACKNOWLEDGEMENT: By signing below, the sender/custodian verifies the above information to be true and correct.

Sender/Custodian: (Print Name) MARK DAUBENMIRE

(Signature) Mark Daubenmire H.P. No. [redacted]

Date: 5-3-99 Pager: — Ext.: 3444

PART II Radiological Point of Contact

Check any of the following that applies:

Type of Evaluation: ☒ Specific ☐ Extended (Expires: _____)

☐ No radiological survey is required due to the property's location, history, and/or characteristics.

☒ Radiological survey for both removable and fixed contamination ☒ Alpha ☒ Beta/gamma

☐ Radiological survey via spectral analysis

FOR DECONTAMINATION ONLY

Specific requirements and/or comments:

Perform representative survey for direct & removable contamination. Do not remove from area until results are back, reviewed and authorized for release by RCT.

EVALUATED BY:

RPOC (Printed/Signature) Karen S. Kent, Karen S. Kent HP No. [redacted] Date 5-4-99

ML-9594 (4-98)

NA800349 , 317.828 , 43.1987 , 3:47:00PM May/4/1999 ,
CF-3 , 5755 , 605.000 , SAMPLE PS EAST COLL. 5/4/99 REC. 5/4/99

Sample Filename:	C3_01600.S0
Sample Identification:	NA800349
Title:	SAMPLE PS EAST COLL. 5/4/99 REC. 5/4/99
Begin Collection Time & Date:	3:47:00PM May/4/1999
Detector Identification:	CF-3
User Identification:	5755 See HPG03589
Sample Quantity:	605.000 grams

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	317.828	43.1987	

FOR INFORMATION ONLY

Density: 1.27368
Efficiency: 0.00355000
Concentration: 317.828

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TS 5/6/99

NA800350 , 244.286 , 20.6550 , 3:51:01PM May/4/1999 ,
CF-4 , 5755 , 602.000 , SAMPLE PS WEST NA800350 Rec. 5/4/99

Sample Filename:	C4_00084.S0
Sample Identification:	NA800350
Title:	SAMPLE PS WEST NA800350 Rec. 5/4/99
Begin Collection Time & Date:	3:51:01PM May/4/1999
Detector Identification:	CF-4
User Identification:	5755 See HP603590
Sample Quantity:	602.000 grams

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	244.286	20.6550	

FOR INFORMATION ONLY

Density: 1.26737
Efficiency: 0.00370700
Concentration: 244.286

TS 5/6/99

NA800351 , 3249.68 , 27.4316 , 3:53:26PM May/4/1999 ,
CF-5 , 5755 , 500.000 , SOIL SAMPLE PS SOUTH NA800351 Rec. 5/4/99

Sample Filename: C5_01399.S0
Sample Identification: NA800351
Title: SOIL SAMPLE PS SOUTH NA800351 Rec. 5/4/99
Begin Collection Time & Date: 3:53:26PM May/4/1999
Detector Identification: CF-5
User Identification: 5755 See HPG03591
Sample Quantity: ~~500~~.000 grams
504 8gH

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	3249.68	27.4316	

FOR INFORMATION ONLY

Density: 1.05263
Efficiency: 0.00358000
Concentration: 3249.68

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TS 5/6/99

NA800352 , 0.000000 , 18.1186 , 4:55:35PM May/4/1999 ,
CF-3 , 5890 , 515.000 , PAINT SHOP NORTH HPG03592 Rec. 5/4/99

Sample Filename:	C3_01601.S0
Sample Identification:	NA800352
Title:	PAINT SHOP NORTH HPG03592 Rec. 5/4/99
Begin Collection Time & Date:	4:55:35PM May/4/1999
Detector Identification:	CF-3
User Identification:	5890
Sample Quantity:	515.000 grams

See HPG03592

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	0.000000	18.1186	Use MDA value

FOR INFORMATION ONLY

Density: 1.08421
Efficiency: 0.00355000
Concentration: 0.000000

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TS 5/6/99

NA800353 , 26.2824 , 14.2586 , 5:04:56PM May/4/1999 ,
CF-4 , 5890 , 659.000 , PAINT SHOP MIDPOINT HPG03593 Rec. 4/5/99

Sample Filename:	C4_00085.SO
Sample Identification:	NA800353
Title:	PAINT SHOP MIDPOINT HPG03593 Rec. 4/5/99
Begin Collection Time & Date:	5:04:56PM May/4/1999
Detector Identification:	CF-4
User Identification:	5890
Sample Quantity:	659.000 grams

See HPG03593

Isotope	Energy (keV)	Concentration (pCi/gram)	MDA (pCi/gram)	Flag
Pu-238	15-20	26.2824	14.2586	

FOR INFORMATION ONLY

Density: 1.38737
Efficiency: 0.00370700
Concentration: 26.2824

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TS 5/6/99

AIR SAMPLE WORKSHEET (ML-9644)

RCT: TODD Smith HP# [redacted]

Location: Paint Shop FCA Removal Date: 5-4-99

Type of Sample: ☐ - CAM ☐ - FASH ☑ - HI-VOL ☐ - GOOSENECK

Type of Filter: ☐ - Glass fiber ☐ - Millipore ☑ - Other

RSDS #: 99-LS-084
Page: 11 of 13
RWP #: LS-0

SAMPLE DATA

Instrument # / Calibration Date	Sample ID #	Start Time	Stop Time	A Total Time (min.)	B Average Flow Rate ☐ lpm ☑ cfm	C Total Volume ☐ liters ☑ ft³	Total Volume (cm³) Conversion below
8156 8-9-99	1	1215	1415	120	18	2160	61128000
8157 8-9-99	2	1215	1415	120	18	2160	61128000
N/A							

cubic feet to cm³ = multiply cubic feet (ft³) by 2.83x10⁴ or liters to cm³ = multiply liters by 1000

CALCULATION OF SAMPLE ALPHA ACTIVITY

Sample ID #	Isotope of Concern	W Sample Activity (dpm) (from count room or field instrument)	X Total volume (cm³) (from calculation above)	Y dpm to uCi conversion factor	Z Radionuclide DAC value (uCi/cm3) (From 10 CFR 835 Attachment A)	Actual DAC Fraction DAC = W÷X÷Y÷Z
1	Pu238	0.59	61128000	2.22E06 dpm/uCi	3 x 10⁻¹²	0.001
2	Pu238	0.59	61128000	2.22E06 dpm/uCi	3 x 10⁻¹²	0.001
	N/A			2.22E06 dpm/uCi		

Note: cm³ = cc = mL

CALCULATION OF SAMPLE BETA ACTIVITY

Isotope of concern:

Sample ID #	W Sample Activity (dpm) (from count room or field instrument)	X Total volume (cm³) (from calculation above)	Y dpm to uCi conversion factor	Z Radionuclide DAC value (uCi/cm3) (From 10 CFR 835 Attachment A)	Actual DAC Fraction DAC = W÷X÷Y÷Z
			2.22E06 dpm/uCi		
		N/A	2.22E06 dpm/uCi		
			2.22E06 dpm/uCi		

TOTAL MAXIMUM SAMPLE ACTIVITY: (Add Maximum Alpha and Maximum Beta DAC Fraction) = 0.001 DAC

Comments: 7 DAY RESULTS

NOTE: HIGHEST NEXT DAY DAC : 0.05

Reviewed by: _____ / _____ / _____
RCT Team Leader HP# Date

FOR INFORMATION ONLY

Alpha/Beta Analysis

Batch ID: #99-LS-084 Air Samples Collected 5/4/99 counted on 5/5/99
Batch File: High Vol - 199905050905

Group: D
Device: LB5500
Geometry: High Vol.
Serial Number: 34496

Acquisition Date: 5/5/99
Count Time (min): 20.0
Recalibration Date: 3/22/99

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
[redacted]	4	20.19	6.13	33.80	5.54
2	5	16.58	5.47	19.23	4.11

FOR INFORMATION ONLY

NEXT DAY Results

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Alpha/Beta Analysis

Batch ID:	#99-LW-084 Haul Road Air Samples for 5/4/99 7 day count counted on 5/11/99 hp#5801		
Batch File:	High Vol - 199905111649		
Group:	D	**Acquisition Date:**	5/11/99
Device:	LB5500	**Count Time (min):**	20.0
Geometry:	High Vol.	**Recalibration Date:**	3/22/99
Serial Number:	34496		

Sample ID	Carrier	Alpha (dpm)	2σ	Beta (dpm)	2σ
1	4	0.59	2.04	5.20	2.68
2	5	0.59	2.04	0.59	2.27

FOR INFORMATION ONLY

7 Day Results

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TD 5/17/99

RADIOLOGICAL SURVEY DATA SHEET

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LOCATION: (BLDG/AREA/ROOM) PS Bldg.	SURVEY NO. 99-PS-078
PURPOSE: Equip used for P.S. Contamination Survey	RWP NO. LS-009-99
	DATE: 4/28/99
	TIME: 0945

MAP/DRAWING

Paint Shop FCA Removal

Saw + Shovel and Ass.

Equip - bar / hudson sprayer - bags

(1)-(19)

Directs

<100 dpm/100cm² α

<5000 dpm/100cm² β-γ

Personal Frisk

Tom + Vern

<100 dpm/100cm² α

<1000 dpm/100cm² β-γ

FOR INFORMATION ONLY

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
NE Electra	SJ05/SJ16	9/17/99
	A	
	N	

Completed by: (Signature) [signature]	HP# [redacted]	Date: 4/28/99
Completed by: (Print Name) Todd A. Smith		
Counted by: (Signature) B Smith-Brown	HP# [redacted]	Date: 4/28/99
Counted by: (Print Name) B SMITH-BROWN		
Reviewed/Approved by: (Signature) Roy L Mowen	HP# [redacted]	Date: 4-28-99
Reviewed/Approved by: (Print Name) ROY L MOWEN		

ML-9620 (2-98)

99-LS-078
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RIT

Smear Analysis

Unit Type: LB4100/W
Counting Unit ID: Blue
Data file name: SMEAR036
Batch Ended: 4/28/99 10:23
Cal. Due Date: 6/8/99
Serial Number: 26966-3

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

Batch ID: 99-LS-078 SMITH

FOR INFORMATION ONLY

Detector ID	Sample ID	Alpha Activity			Beta Activity		
		DPM	σ	flags	DPM	σ	flags
A1	1	0.70	1.85	<MDA	1.64	2.48	<MDA
A2	2	0.00	2.13	<MDA	1.82	2.38	<MDA
A3	3	0.00	2.04	<MDA	0.00	1.33	<MDA
A4	4	0.00	2.21	<MDA	0.00	1.57	<MDA
B1	5	0.00	2.06	<MDA	1.98	2.52	<MDA
B2	6	0.00	1.89	<MDA	0.00	1.41	<MDA
B3	7	1.33	2.02	<MDA	1.86	2.53	<MDA
B4	8	1.03	1.96	<MDA	7.10	3.53	<AL
C1	9	19.07	6.20	<AL	13.06	4.72	<AL
C2	10	1.56	1.99	<MDA	0.00	1.86	<MDA
C3	11	0.00	2.14	<MDA	0.00	1.30	<MDA
C4	12	0.00	2.08	<MDA	1.04	2.58	<MDA
D1	13	0.00	1.97	<MDA	0.00	1.47	<MDA
D2	14	0.00	2.04	<MDA	1.73	2.42	<MDA
D3	15	0.00	2.33	<MDA	1.56	2.51	<MDA
D4	16	0.00	2.23	<MDA	0.00	1.42	<MDA
A1	17	0.00	1.84	<MDA	0.77	2.24	<MDA
A2	18	1.60	2.13	<MDA	1.62	2.38	<MDA
A3	19	0.00	2.06	<MDA	1.67	2.14	<MDA

~~For BWXT of Ohio internal use only.~~

Hierarchy For: Close Out Report for PS Building

Document that directed this document be produced: *Work Plan for Environmental Restoration of the DOE Mound Site, The Mound 2000 Approach*, February 1999, Final

LEVEL 1 LAWS/REGULATIONS (Imposed by Outside Authority)

LEVEL 2 AGREEMENTS

LEVEL 3 MOUND SITE-WIDE DOCUMENTS (POLICY & GUIDANCE FROM BWXT of Ohio)

LEVEL 4 ORGANIZATIONAL/OPERATIONS DOCUMENTS

LEVEL 5 PROCEDURAL/INSTRUCTIONAL DOCUMENTS

LEVEL 6 REPORTS AND PERFORMANCE INDICATORS	Close Out Report

CONFIRMED UNCLASSIFIED/NON-SENSITIVE
REVIEWED BY: JANET NESHEIM/EMCBC
DATE: 06-09-10