
**SITE CLOSEOUT REPORT REV 2 –
APPENDIX D SITE MONITORING DOSIMETRY DATA**

U.S. DEPARTMENT OF ENERGY

**HIGH FLUX BEAM REACTOR STACK (BLDG 705)
DECOMMISSIONING AND DEMOLITION (D&D)
BROOKHAVEN NATIONAL LABORATORY
UPTON, NY
CERCLIS NUMBER NY 789008975**

APPENDIX D
SITE MONITORING-DOSIMETRY DATA

D-1

Respirable Silica

Jan-21					
Date Collected	Sample ID	α -Quartz	Christobalite	Tridymite	Respirable Chrystalline Silica (TLV = 25 $\mu\text{g}/\text{m}^3$) ¹
		Result ($\mu\text{g}/\text{m}^3$)			
1/4/2021	EO010421	<8.2	<8.2	<33	<8.2
1/4/2021	L010421	<8	<8	<32	<8
1/7/2021	EO010721	<5.4	<5.4	<22	<5.4
1/7/2021	L010721	<5.4	<5.4	<22	<5.4
1/9/2021	EO010921	<8.2	<8.2	<33	<8.2
1/9/2021	L010921	<8.2	<8.2	<33	<8.2
1/11/2021	EO011121	<4.3	<4.3	<17	<4.3
1/12/2021	L011121	<4.3	<4.3	<17	<4.3
1/14/2021	L1011421	<5.5	<5.5	<22	<5.5
1/14/2021	EO011421	<5.5	<5.5	<22	<5.5
1/16/2021	EO1011621	<3.5	<3.5	<14	<3.5
1/16/2021	EO2011621	<3.5	<3.5	<14	<3.5
1/16/2021	L1011621	<3.6	<3.6	<14	<3.6
1/16/2021	L2011621	<3.6	<3.6	<14	<3.6
1/19/2021	EO1011921	<5.2	<5.2	<21	<5.2
1/19/2021	EO2011921	<5.2	<5.2	<21	<5.2
1/19/2021	L1011921	<5.2	<5.2	<21	<5.2
1/19/2021	L2011921	<5.2	<5.2	<21	<5.2
1/22/2021	EO1012221	<3.6	<3.6	<15	<3.6
1/22/2021	EO2012221	<3.6	<3.6	<15	<3.6
1/22/2021	L1012221	<3.6	<3.6	<15	<3.6
1/22/2021	L2012221	<3.6	<3.6	<15	<3.6
1/28/2021	EO1012821	<4.8	<4.8	<19	<4.8
1/28/2021	EO2012821	<4.8	<4.8	<19	<4.8
1/28/2021	L1012821	<4.8	<4.8	<19	<4.8
1/28/2021	L2012821	<4.8	<4.8	<19	<4.8

Notes:

¹ American Conference of Government Industrial Hygienists (ACGIH) 8-hr Threshold Limit Value² The exposure protection value of a half-face respirator is 250 ug/m3

Feb-21					
Date Collected	Sample ID	α -Quartz	Christobalite	Tridymite	Respirable Chrystalline Silica (TLV = 25 $\mu\text{g}/\text{m}^3$) ¹
		Result ($\mu\text{g}/\text{m}^3$)			
2/13/2021	EO1021321	<5.6	<5.6	<22	<5.6
2/13/2021	EO2021321	<5.9	<5.9	<24	<5.9
2/13/2021	L1021321	10	<6.1	<24	10
2/13/2021	L2021321	<6.2	<6.2	<25	<6.2
2/18/2021	EO2021821	<4.7	<4.7	<19	<4.7
2/20/2021	EO1022021	<4.7	<4.7	<19	<4.7
2/19/2021	EO1021921	<6.1	<6.1	<24	<6.1

Notes:

¹ American Conference of Government Industrial Hygienists (ACGIH) 8-hr Threshold Limit Value² The exposure protection value of a half-face respirator is 250 ug/m3

Mar-21					
Date Collected	Sample ID	α -Quartz	Christobalite	Tridymite	Respirable Crystalline Silica (TLV = 25 $\mu\text{g}/\text{m}^3$) ¹
		Result ($\mu\text{g}/\text{m}^3$)			
3/4/2021	EO1030421	<7.2	<7.2	<29	<7.2
3/4/2021	L1030421	<7.2	<7.2	<29	<7.2
3/8/2021	EO1030821	<5.9	<5.9	<24	<5.9
3/8/2021	L1030821	<5.9	<5.9	<24	<5.9
3/9/2021	EO1030921	<6	<6	<24	<6
3/9/2021	L1030921	<6	<6	<24	<6
3/10/2021	EO1031021	<4.7	<4.7	<19	<4.7
3/10/2021	EO2031021	<4.7	<4.7	<19	<4.7
3/10/2021	L1031021	<4.7	<4.7	<19	<4.7
3/10/2021	L2031021	<4.7	<4.7	<19	<4.7
3/18/2021	L2031821	<4.8	<4.8	<19	<4.8
3/29/2021	L2032921	<4.9	<4.9	<19	<4.9

Notes:

¹ American Conference of Government Industrial Hygienists (ACGIH) 8-hr Threshold Limit Value² The exposure protection value of a half-face respirator is 250 $\mu\text{g}/\text{m}^3$

Apr-21					
Date Collected	Sample ID	α -Quartz	Christobalite	Tridymite	Respirable Crystalline Silica (TLV = 25 $\mu\text{g}/\text{m}^3$) ¹
		Result ($\mu\text{g}/\text{m}^3$)			
4/9/2021	L2040921	<3.8	<3.8	<15	<3.8
4/13/2021	L2041321	70	<6.3	<25	70
4/14/2021	L2041421	1210	<18	<18	1210
4/17/2021	L2041721	<13.8	<13.8	<55	<13.8
4/19/2021	L1041921	14	<4.5	<18	14
4/20/2021	L2042021	7.5	<4.3	<17	7.5
4/21/2021	L2042121	<5.8	<5.8	<23	<5.8
4/22/2021	L1042221	64	<4.7	<19	64
4/22/2021	L2042221	<4.7	<4.7	<19	<4.7
4/23/2021	L1042321	<4.4	<4.4	<18	<4.4
4/23/2021	L2042321	30	<4.4	<18	30
4/24/2021	L1042421	15	<4.2	<17	15
4/24/2021	L2042421	<4.2	<4.2	<17	<4.2
4/26/2021	L1042621	31	<6	<24	31
4/26/2021	L2042621	<6	<6	<24	<6
4/27/2021	L1042721	26	<4.4	<17	26
4/27/2021	L2042721	33	<4.4	<17	33
4/28/2021	L1042821	5.5	<3.9	<16	5.5
4/28/2021	L2042821	20	<4	<16	20
4/29/2021	L1042921	5.1	<3.8	<15	5.1
4/29/2021	L2042921	4.9	<3.4	<14	4.9

Notes:

¹ American Conference of Government Industrial Hygienists (ACGIH) 8-hr Threshold Limit Value² The exposure protection value of a half-face respirator is 250 $\mu\text{g}/\text{m}^3$

[illegible]

¹ American Conference of Government Industrial Hygienists (ACGIH) 8-hr Threshold Limit Value

² The exposure protection value of a half-face respirator is 250 ug/m3

jp211027407

[illegible]

¹ American Conference of Government Industrial Hygienists (ACGIH) 8-hr Threshold Limit Value

² The exposure protection value of a half-face respirator is 250 ug/m3

¹ American Conference of Government Industrial Hygienists (ACGIH) 8-hr Threshold Limit Value

J3 Resources, Inc.

3113 Red Bluff Road Pasadena, Texas 77503

Phone: (713) 290-0223 – Fax: (832) 831-5669

j3resources.com

**J3 Resources**

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211025461
Project #: 1085-20-01
Receipt Date: 29-Jan-2021
Analysis Date: 2-Feb-2021
Report Date: 3-Feb-2021

Brookhaven Stack Demolition (1/27)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
EO010421	612.5	α-Quartz	< 5.0	< 8.2
		Cristobalite	< 5.0	< 8.2
		Tridymite	< 20	< 33
		Respirable Crystalline Silica	< 5.0	< 8.2
L010421	625	α-Quartz	< 5.0	< 8
		Cristobalite	< 5.0	< 8
		Tridymite	< 20	< 32
		Respirable Crystalline Silica	< 5.0	< 8
EO010921	612.5	α-Quartz	< 5.0	< 8.2
		Cristobalite	< 5.0	< 8.2
		Tridymite	< 20	< 33
		Respirable Crystalline Silica	< 5.0	< 8.2
L010921	612.5	α-Quartz	< 5.0	< 8.2
		Cristobalite	< 5.0	< 8.2
		Tridymite	< 20	< 33
		Respirable Crystalline Silica	< 5.0	< 8.2
EO010721	925	α-Quartz	< 5.0	< 5.4
		Cristobalite	< 5.0	< 5.4
		Tridymite	< 20	< 22
		Respirable Crystalline Silica	< 5.0	< 5.4
L010721	925	α-Quartz	< 5.0	< 5.4
		Cristobalite	< 5.0	< 5.4
		Tridymite	< 20	< 22
		Respirable Crystalline Silica	< 5.0	< 5.4

Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method recommended dust loading of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



These results apply to the sample(s) as received. The analysis has been conducted according to the method(s) listed above. Blank corrections are not applied to data unless requested by the customer. This report is for the exclusive use of the addressed customer and shall not be reproduced, except in full, without written approval of Eurofins J3 Resources, Inc. (J3). Unless otherwise noted, all quality control samples performed within specifications established by the laboratory. J3 is not responsible for reported results that are dependent on volumes provided by non-laboratory personnel. Samples exceeding the method recommended dust loading of 2 mg/filter are fractionated to determine the total respirable crystalline silica mass and concentration. The reported Respirable Crystalline Silica value is based on recovery of polymorphs Quartz, Cristobalite, and/or Tridymite at levels greater than their respective reporting limits. The possible presence of crystalline silica polymorphs at levels less than reporting limits cannot be ruled out. When all polymorph results are below reporting limits, Respirable Crystalline Silica is reported as less than the lowest polymorph reporting limit concentration.

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Analysis Date: 2-Feb-2021
Report Date: 3-Feb-2021

Brookhaven Stack Demolition (1/27)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
EO011121	1150	α-Quartz	< 5.0	< 4.3
		Cristobalite	< 5.0	< 4.3
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	< 5.0	< 4.3
L011121	1150	α-Quartz	< 5.0	< 4.3
		Cristobalite	< 5.0	< 4.3
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	< 5.0	< 4.3
L1011421	912.5	α-Quartz	< 5.0	< 5.5
		Cristobalite	< 5.0	< 5.5
		Tridymite	< 20	< 22
		Respirable Crystalline Silica	< 5.0	< 5.5
EO011421	912.5	α-Quartz	< 5.0	< 5.5
		Cristobalite	< 5.0	< 5.5
		Tridymite	< 20	< 22
		Respirable Crystalline Silica	< 5.0	< 5.5
EO1011621	1422.5	α-Quartz	< 5.0	< 3.5
		Cristobalite	< 5.0	< 3.5
		Tridymite	< 20	< 14
		Respirable Crystalline Silica	< 5.0	< 3.5
EO2011621	1417.5	α-Quartz	< 5.0	< 3.5
		Cristobalite	< 5.0	< 3.5
		Tridymite	< 20	< 14
		Respirable Crystalline Silica	< 5.0	< 3.5

Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method recommended dust loading of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



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Brookhaven Stack Demolition (1/27)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1011621	1405	α-Quartz	< 5.0	< 3.6
		Cristobalite	< 5.0	< 3.6
		Tridymite	< 20	< 14
		Respirable Crystalline Silica	< 5.0	< 3.6
L2011621	1390	α-Quartz	< 5.0	< 3.6
		Cristobalite	< 5.0	< 3.6
		Tridymite	< 20	< 14
		Respirable Crystalline Silica	< 5.0	< 3.6
EO1011921	962.5	α-Quartz	< 5.0	< 5.2
		Cristobalite	< 5.0	< 5.2
		Tridymite	< 20	< 21
		Respirable Crystalline Silica	< 5.0	< 5.2
EO2011921	962.5	α-Quartz	< 5.0	< 5.2
		Cristobalite	< 5.0	< 5.2
		Tridymite	< 20	< 21
		Respirable Crystalline Silica	< 5.0	< 5.2
L1011921	962.5	α-Quartz	< 5.0	< 5.2
		Cristobalite	< 5.0	< 5.2
		Tridymite	< 20	< 21
		Respirable Crystalline Silica	< 5.0	< 5.2
L2011921	962.5	α-Quartz	< 5.0	< 5.2
		Cristobalite	< 5.0	< 5.2
		Tridymite	< 20	< 21
		Respirable Crystalline Silica	< 5.0	< 5.2

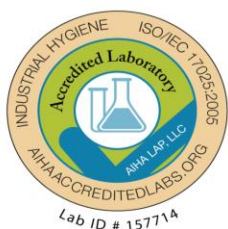
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method recommended dust loading of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



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Analysis Date: 2-Feb-2021
Report Date: 3-Feb-2021

Brookhaven Stack Demolition (1/27)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
EO1012221	1375	α-Quartz	< 5.0	< 3.6
		Cristobalite	< 5.0	< 3.6
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	< 5.0	< 3.6
EO2012221	1375	α-Quartz	< 5.0	< 3.6
		Cristobalite	< 5.0	< 3.6
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	< 5.0	< 3.6
L1012221	1375	α-Quartz	< 5.0	< 3.6
		Cristobalite	< 5.0	< 3.6
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	< 5.0	< 3.6
L2012221	1375	α-Quartz	< 5.0	< 3.6
		Cristobalite	< 5.0	< 3.6
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	< 5.0	< 3.6

Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method recommended dust loading of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



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IH CHAIN OF CUSTODY



J3 Resources

☐ Open Lab Fee

25461

Submitter Name: David Forse	Bill to: FPM Remediations
Company: FPM Remediations	Address: 181 Kenwood Ave
Address: Brookhaven National Lab- Stack Demo	City/State: Oneida / NY Zip: 13421
City/State: Upton/NY Zip: 11973	PO #: 1085-20-01

Project Information

Project Name: Brookhaven Stack Demolition	Project Manager: Dan Ours
Project #: 1085-20-01	Telephone - Office/Cell
Reports - Email Address: m.grifasi@fpm-remediations.com	
Invoice - Email Address: m.grifasi@fpm-remediations.com	Notification By: Email: ☒ Verbal: ☐

Special Instructions:

Turnaround Times - Please Select One

Emergency* ☐	1 Day ☐	2 Day ☐	3 Day ☐	5 Day ☒
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ASBESTOS

PLM - Bulk	PCM - Air	TEM - Air	TEM - Bulk	TEM - Water	TEM - Dust	TEM/PLM Soil/Vermiculite/Ore
EPA 600/R-93/116 ☐ Visual Estimation (<1%) ☐ 400 Point Count 0.25% ☐ 1,000 Point Count 0.1% ☐ Gravimetric Reduction ☐ Matrix Reduction (+/-) ☐ NIOSH 9002 ☐ OSHA ID-191	☐ NIOSH 7400 ☐ ASTM D7201 ☐ ISO 8672 ☐ OSHA ID-160	☐ AHERA ☐ NIOSH 7402 ☐ ASTM D6281 ☐ ISO 10312 ☐ ISO 13794	☐ Gravimetric Reduction (<1%) ☐ Matrix Reduction (+/-) ☐ Qualitative (+/-) ☐ Drop Mount ☐ Filtration	☐ EPA 100.2 Drinking Water ☐ >10 µm fibers ☐ ≥0.5 µm fibers ☐ EPA 100.2 Effluent / WW Received on ice: ☐ Yes ☐ No Temp: _____	☐ ASTM D5755 Microvac ☐ ASTM D6480 Wipe ☐ 600/J-93/167 Carpet - EPA ☐ Bulk Dust Qualitative	☐ ASTM 7521-TEM (+/-) ☐ ASTM 7521-TEM (<1%) ☐ CARB 435-Modified ☐ Soil - PLM Only (+/-) ☐ Vermiculite - TEM (+/-) ☐ Vermiculite-Cincinnati ☐ Erionite ID

METALS

SILICA/PARTICULATES

Flame AA	Graphite Furnace AA - LEAD	ICP	X-Ray Diffraction / Gravimetric
☐ Lead in Paint - SW846 7420/3050B ☐ Lead in Air - NIOSH 7082 ☐ Lead in Wipes - SW846 7420/3050B ☐ Lead in Soil - SW846 7420/3050B ☐ TCLP - SW846-1311/6010B	☐ Drinking Water - EPA 200.9 ☐ Wastewater - SW846-7421 ☐ Soil/Sludge - SW846-7421 ☐ Air - NIOSH 7105	☐ Elements in Air - NIOSH 7300 ☐ Wipe/Soil - SW846-6010B ☐ Effluent - SW846-8010B ☐ Welding Fume - NIOSH 7300M	☒ Respirable Crystalline Silica NIOSH 7500 / OSHA 142 ☐ NIOSH 0500 - Total Particulates ☐ NIOSH 0600 - Respirable Particulates

Total Number of Samples Submitted:	Positive Stop: ☐ YES ☐ NO
---	--

Signatures

Relinquished By: <u>Pal Forse</u>	Date: <u>1-27</u> Time: <u>16:45</u>
Received By: _____	Date: <u>1/28/21</u> Time: <u>11:40am</u>
Relinquished By: _____	Date: _____ Time: _____
Received By: _____	Date: _____ Time: _____

* Emergency TAT requires prior lab notification. All samples analyzed outside normal business hours are charged at Emergency rate.

**TAT's are in Business Days rather than Hours (i.e. 1 Day TAT = End of Next Business Day)

Eurofins J3 Resources, Inc. • 6110 West 34th Street • Houston, Texas 77092 • tel: 713-290-0221 • fax: 713-290-0248

Eurofins J3 Resources, Inc. • 3113 Red Bluff Road • Pasadena, Texas 77503 • tel: 713-290-0223 • fax: 713-290-0248

IH CHAIN OF CUSTODY



Project Name Brookhaven Stack Demolition
Project Number _____

Page 1 of 2

SAMPLE IDENTIFICATION

SAMPLE NUMBER	SAMPLE LOCATION / MATERIAL	VOLUME/CONDITION
EO010421	Equipment Operator - Gary	612.5
EO010421 L010421Per DF/mm	Laborer - John	625
EO010921	Equipment Operator - Gary	612.5
L010921	Laborer - John	612.5
EO010721	Equipment Operator - Gary	925
L010721	Laborer - John	925
EO011121	Equipment Operator - Gary	1150
L011121	Laborer - John	1150
L1011421	Laborer John	912.5
EO011421	Equipment Operator - Darryl	912.5
EO1011621	Equipment Operator - Gary	1422.5
EO2011621	Equipment Operator - Darryl	1417.5
L1011621	Laborer - John	1405
L2011621	Laborer - Chris	1390
EO1011921	Equipment Operator - Gary	962.5
EO2011921	Equipment Operator - Darryl	962.5
L1011921	Laborer - John	962.5
L2011921	Laborer - Chris	962.5
EO1012221	Equipment Operator - Gary	1375
EO2012221	Equipment Operator - Darryl	1375
L1012221	Laborer - John	1375
L2012221	Laborer - Chris	1375
Comments/Special Instructions:		

J3 Resources, Inc.

3113 Red Bluff Road Pasadena, Texas 77503

Phone: (713) 290-0223 – Fax: (832) 831-5669

j3resources.com



J3 Resources

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211026810
Project #: 1085-20-01
Receipt Date: 14-Apr-2021
Analysis Date: 16-Apr-2021
Report Date: 19-Apr-2021

Brookhaven Stack Demolition (4/12)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
EO1012821	1050	α-Quartz	< 5.0	< 4.8
		Cristobalite	< 5.0	< 4.8
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.8
EO2012821	1050	α-Quartz	< 5.0	< 4.8
		Cristobalite	< 5.0	< 4.8
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.8
L1012821	1050	α-Quartz	< 5.0	< 4.8
		Cristobalite	< 5.0	< 4.8
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.8
L2012821	1050	α-Quartz	< 5.0	< 4.8
		Cristobalite	< 5.0	< 4.8
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.8
EO1021321	893	α-Quartz	< 5.0	< 5.6
		Cristobalite	< 5.0	< 5.6
		Tridymite	< 20	< 22
		Respirable Crystalline Silica	< 5.0	< 5.6
EO2021321	850	α-Quartz	< 5.0	< 5.9
		Cristobalite	< 5.0	< 5.9
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	< 5.0	< 5.9

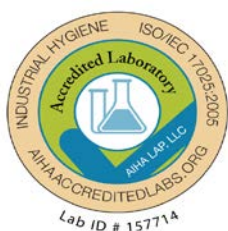
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



These results apply to the sample(s) as received. The analysis has been conducted according to the method(s) listed above. Blank corrections are not applied to data unless requested by the customer. This report is for the exclusive use of the addressed customer and shall not be reproduced, except in full, without written approval of Eurofins J3 Resources, Inc. (J3). Unless otherwise noted, all quality control samples performed within specifications established by the laboratory. J3 is not responsible for reported results that are dependent on volumes provided by non-laboratory personnel. Samples exceeding the method dust loading limit of 2 mg/filter are fractionated to determine the total respirable crystalline silica mass and concentration. The reported Respirable Crystalline Silica value is based on recovery of polymorphs Quartz, Cristobalite, and/or Tridymite at levels greater than their respective reporting limits. The possible presence of crystalline silica polymorphs at levels less than reporting limits cannot be ruled out. When all polymorph results are below reporting limits, Respirable Crystalline Silica is reported as less than the lowest polymorph reporting limit concentration.

J3 Resources, Inc.

3113 Red Bluff Road Pasadena, Texas 77503

Phone: (713) 290-0223 – Fax: (832) 831-5669

j3resources.com



J3 Resources

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211026810
Project #: 1085-20-01
Receipt Date: 14-Apr-2021
Analysis Date: 16-Apr-2021
Report Date: 19-Apr-2021

Brookhaven Stack Demolition (4/12)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1021321	823	α-Quartz	8.2	10.0
		Cristobalite	< 5.0	< 6.1
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	8.2	10.0
L2021321	803	α-Quartz	< 5.0	< 6.2
		Cristobalite	< 5.0	< 6.2
		Tridymite	< 20	< 25
		Respirable Crystalline Silica	< 5.0	< 6.2
EO2021821	1055	α-Quartz	< 5.0	< 4.7
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.7
EO1022021	1055	α-Quartz	< 5.0	< 4.7
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.7
EO1021921	825	α-Quartz	< 5.0	< 6.1
		Cristobalite	< 5.0	< 6.1
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	< 5.0	< 6.1
EO1030421	695	α-Quartz	< 5.0	< 7.2
		Cristobalite	< 5.0	< 7.2
		Tridymite	< 20	< 29
		Respirable Crystalline Silica	< 5.0	< 7.2

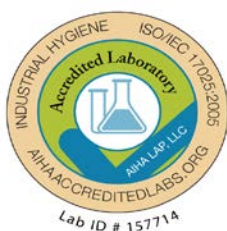
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



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J3 Resources, Inc.

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Phone: (713) 290-0223 – Fax: (832) 831-5669

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J3 Resources

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211026810
Project #: 1085-20-01
Receipt Date: 14-Apr-2021
Analysis Date: 16-Apr-2021
Report Date: 19-Apr-2021

Brookhaven Stack Demolition (4/12)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1030421	695	α-Quartz	< 5.0	< 7.2
		Cristobalite	< 5.0	< 7.2
		Tridymite	< 20	< 29
		Respirable Crystalline Silica	< 5.0	< 7.2
EO1030821	845	α-Quartz	< 5.0	< 5.9
		Cristobalite	< 5.0	< 5.9
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	< 5.0	< 5.9
L1030821	845	α-Quartz	< 5.0	< 5.9
		Cristobalite	< 5.0	< 5.9
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	< 5.0	< 5.9
EO1030921	838	α-Quartz	< 5.0	< 6
		Cristobalite	< 5.0	< 6
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	< 5.0	< 6
L1030921	838	α-Quartz	< 5.0	< 6
		Cristobalite	< 5.0	< 6
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	< 5.0	< 6
EO1031021	1058	α-Quartz	< 5.0	< 4.7
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.7

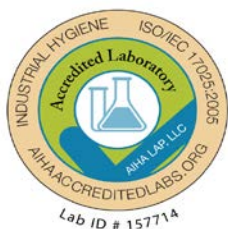
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



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J3 Resources, Inc.

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Phone: (713) 290-0223 – Fax: (832) 831-5669

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J3 Resources

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211026810
Project #: 1085-20-01
Receipt Date: 14-Apr-2021
Analysis Date: 16-Apr-2021
Report Date: 19-Apr-2021

Brookhaven Stack Demolition (4/12)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
EO2031021	1058	α-Quartz	< 5.0	< 4.7
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.7
L1031021	1058	α-Quartz	< 5.0	< 4.7
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.7
L2031021	1058	α-Quartz	< 5.0	< 4.7
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.7
L2031821	1038	α-Quartz	< 5.0	< 4.8
		Cristobalite	< 5.0	< 4.8
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.8

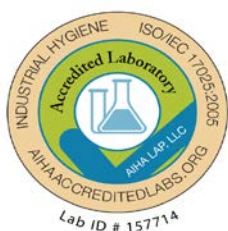
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Duane Salinas

Scott Ward, Ph.D. Lab Director



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J3 Resources

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26810

Submitter Name: David Forse	Bill to: FPM Remediations
Company: FPM Remediations	Address: 181 Kenwood Ave
Address: Brookhaven National Lab- Stack Demo	
City/State: Upton/NY Zip: 11973	City/State: Oneida / NY Zip: 13421
	PO #: 1085-20-01

Project Information

Project Name: Brookhaven Stack Demolition	Project Manager: Dan Ours
Project #: 1085-20-01	Telephone – Office/Cell: 315-336-7721
Reports - Email Address: m.grifasi@fpm-remediations.com	
Invoice - Email Address: m.grifasi@fpm-remediations.com	Notification By: Email: ☒ Verbal: ☐
Special Instructions:	

Turnaround Times – Please Select One

Emergency* ☐	1 Day ☐	2 Day ☐	3 Day ☐	5 Day ☒
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ASBESTOS

PLM - Bulk	PCM - Air	TEM - Air	TEM - Bulk	TEM - Water	TEM - Dust	TEM/PLM Soil/Vermiculite/Ore
EPA 600/R-93/116 ☐ Visual Estimation (<1%) ☐ 400 Point Count 0.25% ☐ 1,000 Point Count 0.1% ☐ Gravimetric Reduction ☐ Matrix Reduction (+/-) ☐ NIOSH 9002 ☐ OSHA ID-191	☐ NIOSH 7400 ☐ ASTM D7201 ☐ ISO 8672 ☐ OSHA ID-160	☐ AHERA ☐ NIOSH 7402 ☐ ASTM D6281 ☐ ISO 10312 ☐ ISO 13794	☐ Gravimetric Reduction (<1%) ☐ Matrix Reduction (+/-) ☐ Qualitative (+/-) ☐ Drop Mount ☐ Filtration	☐ EPA 100.2 Drinking Water ☐ >10 µm fibers ☐ ≥0.5 µm fibers ☐ EPA 100.2 Effluent / VWW Received on ice: ☐ Yes ☐ No Temp: _____	☐ ASTM D5755 Microvac ☐ ASTM D6480 Wipe ☐ 600/J-93/167 Carpet - EPA ☐ Bulk Dust Qualitative	☐ ASTM 7521-TEM (+/-) ☐ ASTM 7521-TEM (<1%) ☐ CARB 435-Modified ☐ Soil - PLM Only (+/-) ☐ Vermiculite - TEM (+/-) ☐ Vermiculite-Cincinnati ☐ Erionite ID

METALS

Flame AA	Graphite Furnace AA - LEAD	ICP	SILICA/PARTICULATES
☐ Lead in Paint – SW846 7420/3050B ☐ Lead in Air – NIOSH 7082 ☐ Lead in Wipes – SW846 7420/3050B ☐ Lead in Soil – SW846 7420/3050B ☐ TCLP – SW846-1311/6010B	☐ Drinking Water – EPA 200.9 ☐ Wastewater – SW846-7421 ☐ Soil/Sludge – SW846-7421 ☐ Air – NIOSH 7105	☐ Elements in Air – NIOSH 7300 ☐ Wipe/Soil – SW846-6010B ☐ Effluent – SW846-6010B ☐ Welding Fume – NIOSH 7300M	☒ Respirable Crystalline Silica NIOSH 7500 / OSHA 142 ☐ NIOSH 0500 – Total Particulates ☐ NIOSH 0600 – Respirable Particulates

Total Number of Samples Submitted: 22/n.t.	Positive Stop: ☐ YES ☐ NO
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Signatures

Relinquished By: <u>David Forse</u>	Date: 4-12	Time: 1710
Received By: <u>[Signature]</u>	Date: 4/13/21	Time: 3:30pm
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

* Emergency TAT requires prior lab notification. All samples analyzed outside normal business hours are charged at Emergency rate.

**TAT's are in Business Days rather than Hours (i.e. 1 Day TAT = End of Next Business Day)

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Project Name Brookhaven Stack Demolition

Project Number 1085-20-01

Page 2 of 2

SAMPLE IDENTIFICATION

SAMPLE NUMBER	SAMPLE LOCATION / MATERIAL	VOLUME/CONDITION
EO1012821	Equipment Operator -Gary	1050
EO2012821	Equipment Operator -Darryl	1050
L1012821	Laborer-John	1050
L2012821	laborer-Chris	1050
EO1021321	Equipment Operator -Gary	893
EO2021321	Equipment Operator -Darryl	850
L1021321	Laborer-John	823
L2021321	Laborer-Chris	803
EO2021821	Equipment Operator -Darryl	1055
EO1022021	Equipment Operator -Gary	1055
EO1021921	Equipment Operator -Gary	825
EO1030421	Equipment Operator -Gary	695
L1030421	Laborer-John	695
EO1030821	Equipment Operator -Gary	845
L1030821	Laborer-Mike W.	845
EO1030921	Equipment Operator -Gary	838
L1030921	Laborer-John	838
EO1031021	Equipment Operator -Gary	1058
EO2031021	Equipment Operator -Darrel	1058
L1031021	Laborer-John	1058
L2031021	Laborer-Mike W	1058
L2031821	Laborer-Mike W	1038
Comments/Special Instructions:		

J3 Resources, Inc.

3113 Red Bluff Road Pasadena, Texas 77503

Phone: (713) 290-0223 – Fax: (832) 831-5669

j3resources.com



J3 Resources

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211026902
Project #: 1085-20-01
Receipt Date: 19-Apr-2021
Analysis Date: 22-Apr-2021
Report Date: 23-Apr-2021

Brookhaven Stack Demolition (4/15)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L2040921	1333	α-Quartz	< 5.0	< 3.8
		Cristobalite	< 5.0	< 3.8
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	< 5.0	< 3.8
L2032921	1028	α-Quartz	< 5.0	< 4.9
		Cristobalite	< 5.0	< 4.9
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.9
L2041321	788	α-Quartz	55	70
		Cristobalite	< 5.0	< 6.3
		Tridymite	< 20	< 25
		Respirable Crystalline Silica	55	70
L2041421	1085	α-Quartz	1310	1210
		Cristobalite	< 19	< 18
		Tridymite	< 20	< 18
		Respirable Crystalline Silica	1310	1210

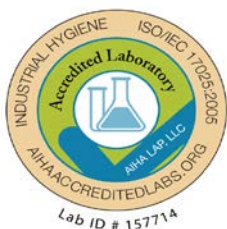
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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J3 Resources

☐ Open Lab Fee

26902

Submitter Name: David Forse	Bill to: FPM Remediations
Company: FPM Remediations	Address: 181 Kenwood Ave
Address: Brookhaven National Lab- Stack Demo	
City/State: Upton/NY	City/State: Oneida / NY Zip: 13421
Zip: 11973	PO #: 1085-20-01

Project Information

Project Name: Brookhaven Stack Demolition	Project Manager: Dan Ours
Project #: 1085-20-01	Telephone – Office/Cell: 315-336-7721
Reports - Email Address: m.grifasi@fpm-remediations.com	
Invoice - Email Address: m.grifasi@fpm-remediations.com	Notification By: Email: ☒ Verbal: ☐
Special Instructions:	

Turnaround Times – Please Select One

Emergency* ☐	1 Day ☐	2 Day ☐	3 Day ☐	5 Day ☒
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ASBESTOS

PLM - Bulk	PCM - Air	TEM - Air	TEM - Bulk	TEM - Water	TEM - Dust	TEM/PLM Soil/Vermiculite/Ore
EPA 600/R-93/116 ☐ Visual Estimation (<1%) ☐ 400 Point Count 0.25% ☐ 1,000 Point Count 0.1% ☐ Gravimetric Reduction ☐ Matrix Reduction (+/-) ☐ NIOSH 9002 ☐ OSHA ID-191	☐ NIOSH 7400 ☐ ASTM D7201 ☐ ISO 8872 ☐ OSHA ID-160	☐ AHERA ☐ NIOSH 7402 ☐ ASTM D6281 ☐ ISO 10312 ☐ ISO 13794	☐ Gravimetric Reduction (<1%) ☐ Matrix Reduction (+/-) ☐ Qualitative (+/-) ☐ Drop Mount ☐ Filtration	☐ EPA 100.2 Drinking Water ☐ >10 µm fibers ☐ ≥0.5 µm fibers ☐ EPA 100.2 Effluent / WW Received on ice: ☐ Yes ☐ No Temp: _____	☐ ASTM D5755 Microvac ☐ ASTM D6480 Wipe ☐ 600/J-93/167 Carpet - EPA ☐ Bulk Dust Qualitative	☐ ASTM 7521-TEM (+/-) ☐ ASTM 7521-TEM (<1%) ☐ CARB 435-Modified ☐ Soil – PLM Only (+/-) ☐ Vermiculite - TEM (+/-) ☐ Vermiculite-Cincinnati ☐ Erionite ID

METALS

SILICA/PARTICULATES

Flame AA	Graphite Furnace AA - LEAD	ICP	X-Ray Diffraction / Gravimetric
☐ Lead in Paint – SW846 7420/3050B ☐ Lead in Air – NIOSH 7082 ☐ Lead in Wipes – SW846 7420/3050B ☐ Lead in Soil – SW846 7420/3050B ☐ TCLP – SW846-1311/6010B	☐ Drinking Water – EPA 200.9 ☐ Wastewater – SW846-7421 ☐ Soil/Sludge – SW846-7421 ☐ Air – NIOSH 7105	☐ Elements in Air – NIOSH 7300 ☐ Wipe/Soil – SW846-6010B ☐ Effluent – SW846-6010B ☐ Welding Fume – NIOSH 7300M	☒ Respirable Crystalline Silica NIOSH 7500 / OSHA 142 ☐ NIOSH 0500 – Total Particulates ☐ NIOSH 0600 – Respirable Particulates

Total Number of Samples Submitted: 4/1mm	Positive Stop: ☐ YES ☐ NO
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Signatures

Relinquished By:	Date: 4-15	Time: 1600
Received By:	Date: 4/19/21	Time: 9:58
Relinquished By:	Date:	Time:
Received By:	Date:	Time:

* Emergency TAT requires prior lab notification. All samples analyzed outside normal business hours are charged at Emergency rate.

**TAT's are in Business Days rather than Hours (i.e. 1 Day TAT = End of Next Business Day)

Eurofins J3 Resources, Inc. • 6110 West 34th Street • Houston, Texas 77092 • tel: 713-290-0221 • fax: 713-290-0248

Eurofins J3 Resources, Inc. • 3113 Red Bluff Road • Pasadena, Texas 77503 • tel: 713-290-0223 • fax: 713-290-0248

J3 Resources, Inc.

3113 Red Bluff Road Pasadena, Texas 77503

Phone: (713) 290-0223 – Fax: (832) 831-5669

j3resources.com

**J3 Resources**

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211027170
Project #: 1085-20-01
Receipt Date: 3-May-2021
Analysis Date: 5-May-2021
Report Date: 5-May-2021

Brookhaven Stack Demolition (4/28)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L2041721	363	α-Quartz	< 5.0	< 13.8
		Cristobalite	< 5.0	< 13.8
		Tridymite	< 20	< 55
		Respirable Crystalline Silica	< 5.0	< 13.8
L1041921	1115	α-Quartz	16	14
		Cristobalite	< 5.0	< 4.5
		Tridymite	< 20	< 18
		Respirable Crystalline Silica	16	14
L2042121	863	α-Quartz	< 5.0	< 5.8
		Cristobalite	< 5.0	< 5.8
		Tridymite	< 20	< 23
		Respirable Crystalline Silica	< 5.0	< 5.8
L1042221	1053	α-Quartz	67	64
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	67	64
L2042221	1053	α-Quartz	< 5.0	< 4.7
		Cristobalite	< 5.0	< 4.7
		Tridymite	< 20	< 19
		Respirable Crystalline Silica	< 5.0	< 4.7
L1042321	1130	α-Quartz	< 5.0	< 4.4
		Cristobalite	< 5.0	< 4.4
		Tridymite	< 20	< 18
		Respirable Crystalline Silica	< 5.0	< 4.4

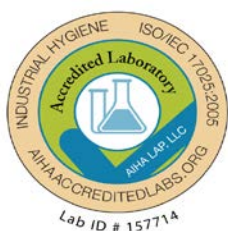
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211027170
Project #: 1085-20-01
Receipt Date: 3-May-2021
Analysis Date: 5-May-2021
Report Date: 5-May-2021

Brookhaven Stack Demolition (4/28)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L2042321	1130	α-Quartz	34	30
		Cristobalite	< 5.0	< 4.4
		Tridymite	< 20	< 18
		Respirable Crystalline Silica	34	30
L1042421	1190	α-Quartz	18	15
		Cristobalite	< 5.0	< 4.2
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	18	15
L2042421	1190	α-Quartz	< 5.0	< 4.2
		Cristobalite	< 5.0	< 4.2
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	< 5.0	< 4.2
L2042021	1150	α-Quartz	8.6	7.5
		Cristobalite	< 5.0	< 4.3
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	8.6	7.5

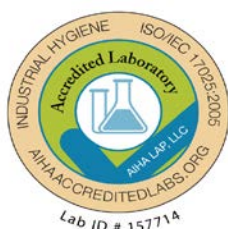
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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IH CHAIN OF CUSTODY



J3 Resources

☐ Open Lab Fee

27170

Submitter Name: David Forse	Bill to: FPM Remediations
Company: FPM Remediations	Address: 181 Kenwood Ave
Address: Brookhaven National Lab- Stack Demo	
City/State: Upton/NY Zip: 11973	City/State: Oneida / NY Zip: 13421
	PO #: 1085-20-01

Project Information

Project Name: Brookhaven Stack Demolition	Project Manager: Dan Ours
Project #: 1085-20-01	Telephone – Office/Cell: 315-336-7721
Reports - Email Address: m.grifasi@fpm-remediations.com	
Invoice - Email Address: m.grifasi@fpm-remediations.com	Notification By: Email: ☒ Verbal: ☐

Special Instructions:

Turnaround Times – Please Select One

Emergency* ☐	1 Day ☐	2 Day ☐	3 Day ☐	5 Day ☒
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ASBESTOS

PLM - Bulk	PCM - Air	TEM - Air	TEM - Bulk	TEM - Water	TEM - Dust	TEM/PLM Soil/Vermiculite/Ore
EPA 600/R-93/116 ☐ Visual Estimation (<1%) ☐ 400 Point Count 0.25% ☐ 1,000 Point Count 0.1% ☐ Gravimetric Reduction ☐ Matrix Reduction (+/-) ☐ NIOSH 9002 ☐ OSHA ID-191	☐ NIOSH 7400 ☐ ASTM D7201 ☐ ISO 8872 ☐ OSHA ID-160	☐ AHERA ☐ NIOSH 7402 ☐ ASTM D6281 ☐ ISO 10312 ☐ ISO 13794	☐ Gravimetric Reduction (<1%) ☐ Matrix Reduction (+/-) ☐ Qualitative (+/-) ☐ Drop Mount ☐ Filtration	☐ EPA 100.2 Drinking Water ☐ >10 µm fibers ☐ ≥0.5 µm fibers ☐ EPA 100.2 Effluent / WW Received on ice: ☐ Yes ☐ No Temp: _____	☐ ASTM D5755 Microvac ☐ ASTM D6480 Wipe ☐ 600/J-93/167 Carpet - EPA ☐ Bulk Dust Qualitative	☐ ASTM 7521-TEM (+/-) ☐ ASTM 7521-TEM (<1%) ☐ CARB 435-Modified ☐ Soil – PLM Only (+/-) ☐ Vermiculite - TEM (+/-) ☐ Vermiculite-Cincinnati ☐ Erionite ID

METALS

SILICA/PARTICULATES

Flame AA	Graphite Furnace AA - LEAD	ICP	X-Ray Diffraction / Gravimetric
☐ Lead in Paint – SW846 7420/3050B ☐ Lead in Air – NIOSH 7082 ☐ Lead in Wipes – SW846 7420/3050B ☐ Lead in Soil – SW846 7420/3050B ☐ TCLP – SW846-1311/6010B	☐ Drinking Water – EPA 200.9 ☐ Wastewater – SW846-7421 ☐ Soil/Sludge – SW846-7421 ☐ Air – NIOSH 7105	☐ Elements in Air – NIOSH 7300 ☐ Wipe/Soil – SW846-6010B ☐ Effluent – SW846-6010B ☐ Welding Fume – NIOSH 7300M	☒ Respirable Crystalline Silica NIOSH 7500 / OSHA 142 ☐ NIOSH 0500 – Total Particulates ☐ NIOSH 0600 – Respirable Particulates

Total Number of Samples Submitted: 10/n.t. **Positive Stop:** ☐ YES ☐ NO

Signatures

Relinquished By: <u>David Forse</u>	Date: 4-28	Time: 1716
Received By: <u>[Signature]</u>	Date: 4/29/21	Time: 10:00
Relinquished By: _____	Date: _____	Time: _____
Received By: _____	Date: _____	Time: _____

* Emergency TAT requires prior lab notification. All samples analyzed outside normal business hours are charged at Emergency rate.

**TAT's are in Business Days rather than Hours (i.e. 1 Day TAT = End of Next Business Day)

SAMPLE IDENTIFICATION

[illegible]

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**J3 Resources**

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211027407
Project #: 1085-20-01
Receipt Date: 14-May-2021
Analysis Date: 17-May-2021
Report Date: 19-May-2021

Brookhaven Stack Demolition (5/12)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1042921	1303	α-Quartz	6.7	5.1
		Cristobalite	< 5.0	< 3.8
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	6.7	5.1
L2042921	1459	α-Quartz	7.1	4.9
		Cristobalite	< 5.0	< 3.4
		Tridymite	< 20	< 14
		Respirable Crystalline Silica	7.1	4.9
L1042821	1287	α-Quartz	7.1	5.5
		Cristobalite	< 5.0	< 3.9
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	7.1	5.5
L2042821	1238	α-Quartz	25	20
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	25	20
L1042621	838	α-Quartz	26	31
		Cristobalite	< 5.0	< 6
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	26	31
L2042621	838	α-Quartz	< 5.0	< 6
		Cristobalite	< 5.0	< 6
		Tridymite	< 20	< 24
		Respirable Crystalline Silica	< 5.0	< 6

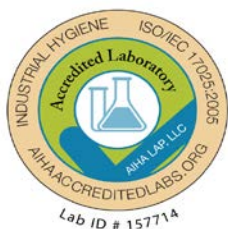
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211027407
Project #: 1085-20-01
Receipt Date: 14-May-2021
Analysis Date: 17-May-2021
Report Date: 19-May-2021

Brookhaven Stack Demolition (5/12)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1042721	1145	α-Quartz	30	26
		Cristobalite	< 5.0	< 4.4
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	30	26
L2042721	1145	α-Quartz	38	33
		Cristobalite	< 5.0	< 4.4
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	38	33
L2051121	963	α-Quartz	6.5	6.8
		Cristobalite	< 5.0	< 5.2
		Tridymite	< 20	< 21
		Respirable Crystalline Silica	6.5	6.8

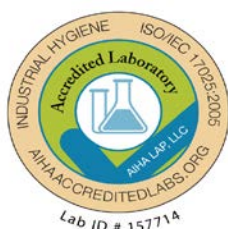
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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**J3 Resources**

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

Ivan H Vania
Eurofins TestAmerica - Earth City
13715 Rider Trail North
Earth City, MO 63045

J3 Order #: JP211028000
Project #: 160-42455-1
Receipt Date: 17-Jun-2021
Analysis Date: 18-Jun-2021
Report Date: 18-Jun-2021

BNL Decommissioning Project

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1061621 (160-42455-1)	1275	α-Quartz	32	25
		Cristobalite	< 5.0	< 3.9
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	32	25
L2061621 (160-42455-2)	1275	α-Quartz	91	71
		Cristobalite	< 5.0	< 3.9
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	91	71
L3061621 (160-42455-3)	1238	α-Quartz	53	43
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	53	43

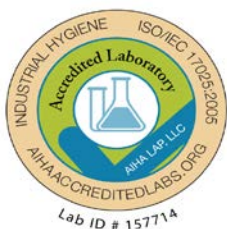
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211028607
Project #: 1085-20-01
Receipt Date: 21-Jul-2021
Analysis Date: 23-Jul-2021
Report Date: 27-Jul-2021

Brookhaven Stack Demolition (7/20)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1070121	958	α-Quartz	76	79
		Cristobalite	< 5.0	< 5.2
		Tridymite	< 20	< 21
		Respirable Crystalline Silica	76	79
L2070121	958	α-Quartz	< 5.0	< 5.2
		Cristobalite	< 5.0	< 5.2
		Tridymite	< 20	< 21
		Respirable Crystalline Silica	< 5.0	< 5.2
L1070721	1200	α-Quartz	18	15
		Cristobalite	< 5.0	< 4.2
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	18	15
L2070721	638	α-Quartz	7.8	12
		Cristobalite	< 5.0	< 7.8
		Tridymite	< 20	< 31
		Respirable Crystalline Silica	7.8	12
L1070821	1318	α-Quartz	12	9.1
		Cristobalite	< 5.0	< 3.8
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	12	9.1
L2070821	1318	α-Quartz	8.7	6.6
		Cristobalite	< 5.0	< 3.8
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	8.7	6.6

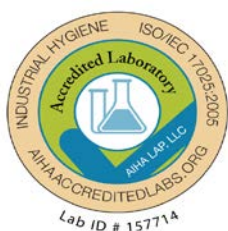
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211028607
Project #: 1085-20-01
Receipt Date: 21-Jul-2021
Analysis Date: 23-Jul-2021
Report Date: 27-Jul-2021

Brookhaven Stack Demolition (7/20)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1070921	550	α-Quartz	< 5.0	< 9.1
		Cristobalite	< 5.0	< 9.1
		Tridymite	< 20	< 36
		Respirable Crystalline Silica	< 5.0	< 9.1
L2070921	550	α-Quartz	5.6	10
		Cristobalite	< 5.0	< 9.1
		Tridymite	< 20	< 36
		Respirable Crystalline Silica	5.6	10
L1071021	1268	α-Quartz	9.2	7.3
		Cristobalite	< 5.0	< 3.9
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	9.2	7.3
L2071021	1268	α-Quartz	< 5.0	< 3.9
		Cristobalite	< 5.0	< 3.9
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	< 5.0	< 3.9
L1071221	1248	α-Quartz	12	9.6
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	12	9.6
L2071221	1248	α-Quartz	< 5.0	< 4
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	< 5.0	< 4

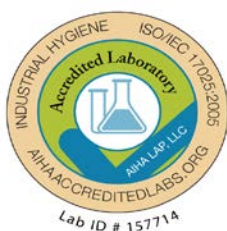
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



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**J3 Resources**

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211029181
Project #: 1085-20-01
Receipt Date: 23-Aug-2021
Analysis Date: 27-Aug-2021
Report Date: 27-Aug-2021

Brookhaven Stack Demolition (8/20)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1071321	1188	α-Quartz	< 5.0	< 4.2
		Cristobalite	< 5.0	< 4.2
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	< 5.0	< 4.2
L2071321	1188	α-Quartz	< 5.0	< 4.2
		Cristobalite	< 5.0	< 4.2
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	< 5.0	< 4.2
L1071921	1253	α-Quartz	< 5.0	< 4
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	< 5.0	< 4
L2071921	1253	α-Quartz	< 5.0	< 4
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	< 5.0	< 4
L1072021	1300	α-Quartz	< 5.0	< 3.8
		Cristobalite	< 5.0	< 3.8
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	< 5.0	< 3.8
L2072021	1300	α-Quartz	< 5.0	< 3.8
		Cristobalite	< 5.0	< 3.8
		Tridymite	< 20	< 15
		Respirable Crystalline Silica	< 5.0	< 3.8

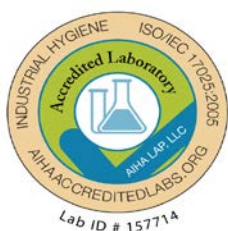
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



These results apply to the sample(s) as received. The analysis has been conducted according to the method(s) listed above. Blank corrections are not applied to data unless requested by the customer. This report is for the exclusive use of the addressed customer and shall not be reproduced, except in full, without written approval of Eurofins J3 Resources, Inc. (J3). Unless otherwise noted, all quality control samples performed within specifications established by the laboratory. J3 is not responsible for reported results that are dependent on volumes provided by non-laboratory personnel. Samples exceeding the method dust loading limit of 2 mg/filter are fractionated to determine the total respirable crystalline silica mass and concentration. The reported Respirable Crystalline Silica value is based on recovery of polymorphs Quartz, Cristobalite, and/or Tridymite at levels greater than their respective reporting limits. The possible presence of crystalline silica polymorphs at levels less than reporting limits cannot be ruled out. When all polymorph results are below reporting limits, Respirable Crystalline Silica is reported as less than the lowest polymorph reporting limit concentration.

J3 Resources, Inc.

3113 Red Bluff Road Pasadena, Texas 77503

Phone: (713) 290-0223 – Fax: (832) 831-5669

j3resources.com

**J3 Resources**

Respirable Crystalline Silica Performed by X-Ray Diffraction (XRD) NIOSH 7500 (mod.) / OSHA ID-142 (mod.)

David Forse
FPM - Remediations
181 Kenwood Avenue
Oneida, NY 13421

J3 Order #: JP211029181
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Brookhaven Stack Demolition (8/20)

SAMPLE ID	AIR VOLUME (liters)	ANALYTE	ANALYTE MASS (µg/filter)	ANALYTE CONCENTRATION (µg/m ³)
L1072121	1163	α-Quartz	< 5.0	< 4.3
		Cristobalite	< 5.0	< 4.3
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	< 5.0	< 4.3
L2072121	1163	α-Quartz	< 5.0	< 4.3
		Cristobalite	< 5.0	< 4.3
		Tridymite	< 20	< 17
		Respirable Crystalline Silica	< 5.0	< 4.3
L1072221	1245	α-Quartz	< 5.0	< 4
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	< 5.0	< 4
L2072221	1245	α-Quartz	< 5.0	< 4
		Cristobalite	< 5.0	< 4
		Tridymite	< 20	< 16
		Respirable Crystalline Silica	< 5.0	< 4

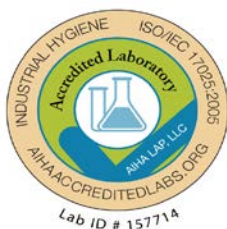
Reporting Limit = α-Quartz: 5µg/filter Cristobalite: 5µg/filter Tridymite: 20µg/filter

*Sample exceeded the method dust loading limit of 2 mg/filter

N/A = Not Applicable NS = Not Submitted

Analyst: Kenneth Castro

Scott Ward, Ph.D. Lab Director



These results apply to the sample(s) as received. The analysis has been conducted according to the method(s) listed above. Blank corrections are not applied to data unless requested by the customer. This report is for the exclusive use of the addressed customer and shall not be reproduced, except in full, without written approval of Eurofins J3 Resources, Inc. (J3). Unless otherwise noted, all quality control samples performed within specifications established by the laboratory. J3 is not responsible for reported results that are dependent on volumes provided by non-laboratory personnel. Samples exceeding the method dust loading limit of 2 mg/filter are fractionated to determine the total respirable crystalline silica mass and concentration. The reported Respirable Crystalline Silica value is based on recovery of polymorphs Quartz, Cristobalite, and/or Tridymite at levels greater than their respective reporting limits. The possible presence of crystalline silica polymorphs at levels less than reporting limits cannot be ruled out. When all polymorph results are below reporting limits, Respirable Crystalline Silica is reported as less than the lowest polymorph reporting limit concentration.

Project Name Brookhaven Stack Demolition

Project Number 1085-20-01

Page 2 of 2

SAMPLE IDENTIFICATION

[illegible]

D-2

Radiological

BNLStackDemo_RadCon_PartulateAir_Jul2021-to-Sep2021
Breathing Zone

Counting Instrument		Ludlum 2529		Detector:		43-10-1		Cal. Date:		6/2/2021												
Serial #:		129566		Serial #:		PR132780		Cal. Due Date OK?		OK												
												STACK WASTE-BASED DERIVED AIR CONCENTRATION CRITERIA (uCi/ml)										
Radiation Type	Counting Efficiency (fraction)	Source Nuclide	Source Number	Original Source Activity (DPM)	Source Creation Date	Source Decay Date	Source Count time (min)	Background Count time (min)	Isotope	DAC	ALARA Goal (2% DAC)	Remarks										
Alpha	0.3570	Th-230	5684-06	15,900	9/24/2012	7.54E+04	15899	10	10	Alpha	2.88E-11	5.76E-13	Primarily for RadCon Manager Use when evaluating positive detections for Gross Beta that approach the ALARA Goal. This DAC is based on the relative air concentration of alpha emitters in the waste mix. This is not a stand-alone screening value.									
Beta	0.2070	Tc-99	5634-05	9,860	2/25/2013	2.11E+05	9860	10	10	Total (based on B)	4.24E-08	8.48E-10	Stand-alone field beta screening value based on the relative concentrations of beta emitters in the waste that are detectable with a Ludlum Model 43-10-1 windowed scintillation detector; DAC conservatively accounts for all detected alpha and beta isotopes in waste as well as the detector's limitations for the detection of low-energy beta emitters (e.g., H-3 or C-14).									
Person Monitored	RWP	Air Sample Start Time Period Date/Time	Air Sample End Time Period Date/Time	Count Date	Total BZ Run Time (min)	Flow rate (lpm)	Sample Gross Alpha (Counts)	Sample Gross Beta (Counts)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Filter Efficiency (fraction)	Sample Alpha Activity (dpm)	Sample Beta Activity (dpm)	Alpha Count. (uCi/cc)	Beta Count. (uCi/cc)	Alpha CED (mrem)	Beta CED (mrem)	Alpha MDA (uCi/cc)	Beta MDA (uCi/cc)	Remarks	Reviewed by	
Chris Weiss		7/12/21 6:45	7/12/21 15:30	07/13/21	525	4.0	2	331	0.10	31.60	1.00	0	7	6.01E-14	1.59E-12	0.00	0.000	4.42E-13	8.85E-12		MW	
Anton Konopka		7/12/21 6:45	7/12/21 15:30	07/13/21	525	4.0	1	326	0.10	31.60	1.00	0	5	6.00E+00	1.04E-12	0.00	0.000	4.42E-13	8.85E-12		MW	
Gary Stuppelbeem		7/12/21 6:45	7/12/21 15:30	07/13/21	525	4.0	1	318	0.10	31.60	1.00	0	1	0.00E+00	2.07E-13	0.00	0.000	4.42E-13	8.85E-12		MW	
Damon Winner		7/12/21 6:45	7/12/21 15:30	07/13/21	525	4.0	0	321	0.10	31.60	1.00	0	2	-6.01E-14	5.18E-13	-0.02	0.000	4.42E-13	8.85E-12		MW	
Chris Weiss		7/13/21 7:15	7/13/21 15:30	07/15/21	495	4.0	0	273	0.10	31.10	1.00	0	-18	-6.37E-14	4.18E-12	-0.02	0.001	4.69E-13	9.30E-12		MW	
Damon Winner		7/13/21 7:15	7/13/21 15:30	07/15/21	495	4.0	2	314	0.10	31.10	1.00	0	1	6.37E-14	3.30E-13	0.02	0.000	4.69E-13	9.30E-12		MW	
Gary Stuppelbeem		7/13/21 7:15	7/13/21 15:30	07/15/21	495	4.0	2	306	0.10	31.10	1.00	0	-2	-6.37E-14	-5.50E-13	-0.02	0.000	4.69E-13	9.30E-12		MW	
Anton Konopka		7/13/21 7:15	7/13/21 15:30	07/15/21	495	4.0	0	321	0.10	31.10	1.00	0	5	-6.37E-14	1.18E-12	-0.02	0.000	4.69E-13	9.30E-12		MW	
Anton Konopka		7/14/21 7:15	7/14/21 15:30	07/16/21	495	4.0	1	289	0.00	34.40	1.00	0	-27	6.37E-14	-6.04E-12	-0.02	0.001	1.73E-13	9.78E-12		MW	
Damon Winner		7/14/21 7:15	7/14/21 15:30	07/16/21	495	4.0	1	265	0.00	34.40	1.00	0	-38	6.37E-14	-8.68E-12	-0.02	0.002	1.73E-13	9.78E-12		MW	
Gary Stuppelbeem		7/14/21 7:15	7/14/21 15:30	07/16/21	495	4.0	0	298	0.00	34.40	1.00	0	-22	0.00E+00	-5.06E-12	0.00	0.001	1.73E-13	9.78E-12		MW	
Chris Weiss		7/14/21 7:15	7/14/21 15:30	07/16/21	495	4.0	0	298	0.00	34.40	1.00	0	-22	0.00E+00	-5.06E-12	0.00	0.001	1.73E-13	9.78E-12		MW	
Anton Konopka		7/15/21 7:30	7/15/21 15:15	07/16/21	465	4.0	2	322	0.00	34.40	1.00	1	-11	1.30E-13	-2.57E-12	0.04	0.000	1.84E-13	1.04E-11		MW	
Mike Weiss		7/15/21 7:30	7/15/21 15:15	07/16/21	465	4.0	0	337	0.00	34.40	1.00	0	-3	0.00E+00	-8.19E-13	0.00	0.000	1.84E-13	1.04E-11		MW	
Damon Winner		7/16/21 7:15	7/16/21 15:30	07/20/21	495	4.0	6	327	0.10	30.80	1.00	1	9	3.19E-13	2.09E-12	0.09	0.000	4.69E-13	9.27E-12		MW	
Chris Weiss		7/16/21 7:15	7/16/21 15:30	07/20/21	495	4.0	8	311	0.10	30.80	1.00	1	9	3.19E-13	3.35E-13	0.09	0.000	4.69E-13	9.27E-12		MW	
Gary Stuppelbeem		7/16/21 7:15	7/16/21 15:30	07/20/21	495	4.0	3	284	0.10	30.80	1.00	1	-12	1.27E-13	-2.64E-12	0.04	0.001	4.69E-13	9.27E-12		MW	
Anton Konopka		7/19/21 7:15	7/19/21 15:30	07/20/21	495	4.0	0	307	0.10	30.80	1.00	0	0	-6.37E-14	-1.10E-13	-0.02	0.000	4.69E-13	9.27E-12		MW	
Mike Weiss		7/20/21 7:15	7/20/21 16:15	07/21/21	540	4.0	1	283	0.00	31.40	1.00	0	-15	8.84E-14	-3.12E-12	0.02	0.001	1.58E-13	8.58E-12		MW	
Gary Stuppelbeem		7/20/21 7:15	7/20/21 16:15	07/21/21	540	4.0	0	343	0.00	31.40	1.00	0	14	6.00E+00	2.92E-12	0.00	0.001	1.58E-13	8.58E-12		MW	
Damon Winner		7/20/21 7:15	7/20/21 16:15	07/21/21	540	4.0	0	292	0.00	31.40	1.00	0	-11	6.00E+00	-2.22E-12	0.00	0.000	1.58E-13	8.58E-12		MW	
Chris Weiss		7/20/21 7:15	7/20/21 16:15	07/21/21	540	4.0	3	313	0.00	31.40	1.00	1	0	7.75E-13	-1.01E-13	0.05	0.000	1.58E-13	8.58E-12		MW	
Gary Stuppelbeem		7/21/21 7:00	7/21/21 14:30	07/22/21	430	4	1	306	0.00	28.1	1.00	0	2	7.34E-14	3.16E-12	0.02	0.001	1.99E-13	1.02E-11		MW	
Damon Winner		7/21/21 7:00	7/21/21 14:30	07/22/21	430	4	1	340	0.00	28.1	1.00	0	29	7.34E-14	7.46E-12	0.02	0.001	1.99E-13	1.02E-11		MW	
Anton Konopka		7/21/21 7:00	7/21/21 14:30	07/22/21	430	4	0	341	0.00	28.1	1.00	0	29	6.00E+00	7.59E-12	0.00	0.001	1.99E-13	1.02E-11		MW	
Chris Weiss		7/21/21 7:00	7/21/21 14:30	07/22/21	430	4	1	332	0.00	28.1	1.00	0	29	7.34E-14	6.45E-12	0.02	0.001	1.99E-13	1.02E-11		MW	
Gary Stuppelbeem		7/21/21 7:00	7/21/21 14:30	07/22/21	430	4	1	319	0.00	31.10	1.00	0	4	1.40E-13	1.03E-12	0.02	0.000	2.05E-11	2.05E-11	Recount Per RadCon Manager (7/23)	MW	
Damon Winner		7/21/21 7:00	7/21/21 14:30	07/22/21	430	4	1	313	0.00	31.10	1.00	0	1	1.40E-13	4.84E-13	0.02	0.000	3.80E-13	2.05E-11	Recount Per RadCon Manager (7/23)	MW	
Anton Konopka		7/21/21 7:00	7/21/21 14:30	07/22/21	430	4	0	315	0.00	31.10	1.00	0	2	6.00E+00	9.67E-13	0.00	0.000	3.80E-13	2.05E-11	Recount Per RadCon Manager (7/23)	MW	
Chris Weiss		7/22/21 7:30	7/22/21 15:15	07/23/21	465	4.0	1	314	0.00	31.10	1.00	0	1	6.78E-14	3.51E-13	0.02	0.000	3.14E-13	9.92E-12		MW	
Damon Winner		7/22/21 7:30	7/22/21 15:15	07/23/21	465	4.0	1	310	0.00	31.10	1.00	0	0	6.78E-14	-1.17E-13	0.02	0.000	1.84E-13	9.92E-12		MW	
Anton Konopka		7/22/21 7:30	7/22/21 15:15	07/23/21	465	4.0	0	314	0.00	31.10	1.00	0	1	6.00E+00	3.51E-13	0.00	0.000	1.84E-13	9.92E-12		MW	
Mike Weiss		7/22/21 7:30	7/22/21 15:15	07/23/21	465	4.0	0	313	0.00	31.10	1.00	0	0	6.00E+00	2.34E-13	0.00	0.000	1.84E-13	9.92E-12		MW	
Gary Stuppelbeem		7/23/21 6:45	7/23/21 15:30	07/24/21	525	4.0	0	240	0.10	32.60	1.00	0	-42	-6.01E-14	-8.91E-12	-0.02	0.002	4.42E-13	8.85E-12		MW	
Damon Winner		7/23/21 6:45	7/23/21 15:30	07/24/21	525	4.0	0	328	0.10	32.60	1.00	0	1	-6.01E-14	2.07E-13	-0.02	0.000	4.42E-13	8.85E-12		MW	
Anton Konopka		7/23/21 6:45	7/23/21 15:30	07/24/21	525	4.0	0	240	0.10	32.60	1.00	0	-42	-6.01E-14	-8.91E-12	-0.02	0.002	4.42E-13	8.85E-12		MW	
Mike Weiss		7/23/21 6:45	7/23/21 15:30	07/24/21	525	4.0	0	345	0.10	32.60	1.00	0	9	6.01E-14	1.07E-12	-0.02	0.000	4.42E-13	8.85E-12		MW	
Chris Weiss		7/24/21 8:00	7/24/21 15:15	07/26/21	435	4.0	3	303	0.10	31.70	1.00	1	-7	1.45E-13	-1.75E-12	0.04	0.000	5.34E-13	1.07E-11		MW	
Damon Winner		7/24/21 8:00	7/24/21 15:15	07/26/21	435	4.0	1	329	0.10	31.70	1.00	0	6	6.00E+00	1.50E-12	0.00	0.000	5.34E-13	1.07E-11		MW	
Gary Stuppelbeem		7/24/21 8:00	7/24/21 15:15	07/26/21	435	4.0	2	306	0.10	31.70	1.00	0	-5	7.25E-14	-1.38E-12	0.02	0.000	5.34E-13	1.07E-11		MW	
John Allen		7/24/21 8:00	7/24/21 15:15	07/26/21	435	4.0	1	313	0.10	31.70	1.00	0	-2	6.00E+00	-5.06E-13	0.00	0.000	5.34E-13	1.07E-11		MW	
Chris Weiss		7/26/21 7:00	7/26/21 15:45	07/27/21	525	4.0	6	332	0.10	29.90	1.00	1	16	3.00E-13	3.42E-12	0.09	0.001	4.42E-13	8.62E-12		MW	
Gary Stuppelbeem		7/26/21 7:00	7/26/21 15:45	07/27/21	525	4.0	9	353	0.10	29.90	1.00	2	26	4.81E-13	5.60E-12	0.15	0.001	4.42E-13	8.62E-12		MW	
Mike Weiss		7/26/21 7:00	7/26/21 15:45	07/27/21	525	4.0	3	324	0.10	29.90	1.00	1	12	2.05E-13	2.59E-12	0.04	0.001	4.42E-13	8.62E-12		MW	
Damon Winner		7/27/21 8:00	7/27/21 15:45	07/28/21	465	4.0	4	303	0.00	37.90	1.00	1	-37	2.71E-13	-8.89E-12	0.07	0.002	1.84E-13	1.06E-11		MW	
Gary Stuppelbeem		7/27/21 8:00	7/27/21 15:45	07/28/21	465	4.0	4	307	0.00	37.90	1.00	1	-35	2.71E-13	-8.42E-12	0.07	0.002	1.84E-13	1.06E-11		MW	
John Allen		7/27/21 8:00	7/27/21 15:45	07/28/21	465	4.0	2	310	0.00	37.90	1.00	1	-33	1.96E-13	-8.07E-12	0.04	0.001	1.84E-13	1.06E-11		MW	
Chris Weiss		7/27/21 8:00	7/27/21 15:45	07/28/21	465	4.0	7	332	0.00	37.90	1.00	2	-23	4.75E-13	-5.9							

BNLStackDemo_RadCon_Part particulateAir_Jul2021-to-Sep2022
Work Zone

Serial #

43-10-1

Cal. Date

6/30/21

OK

Source Creation Date

T_{1/2} (yr)

Stable Decayed Activity

Sample Count time (min)

Background Count time (min)

Cal. Due Date OK?

OK

STACK WASTE-BASED DERIVED AIR CONCENTRATION CRITERIA (uCi/ml)

Alpha

2.88E-11

2.88E-12

5.76E-13

Primarily for RadNet Manager Use when evaluating positive detections for Gross Beta that approach the ALARA Goal. This DAC is based on the total air concentration of alpha emitters in the waste only. This is not a stand-alone screening value.

Total (based on β)

4.24E-08

4.24E-09

8.48E-10

Stand-alone full beta screening value based on the relative concentrations of beta emitters in the waste that are detectable with a Ludlum Model 44-10. For full beta screening, use only the DAC for total alpha and beta emitters in waste as well as the detector's limitations for the detection of low-energy beta emitters (e.g., H-3 or C-14).

Count Date	Run Time (min)	Flow Rate (lpm)	Sample Alpha (Counts)	Sample Beta (Counts)	Background Alpha (Counts)	Background Beta (Counts)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Alpha Decision Level (gcpm)	Beta Decision Level (gcpm)	Filter Efficiency (fraction)	Sample Alpha Activity (dpm)	Sample Beta Activity (dpm)	Alpha Count (Concn. (uCi/cc))	Beta Count (Concn. (uCi/cc))	%DAC (Alpha Component)	Total %DAC (Gross β -based)	Alpha MDA (uCi/cc)	Beta MDA (uCi/cc)	Remarks	Reviewed
7/13/2021	525	108	19	374	1	305	7	30.5	0.33	34.56	1.00	4	17	5.07E-14	2.65E-13	0.2%	0.00%	3.88E-14	3.22E-13		MW
7/13/2021	526	70	12	341	1	305	0.1	30.5	0.33	34.56	1.00	4	17	5.07E-14	2.13E-13	0.2%	0.00%	5.89E-14	4.97E-13		MW
7/13/2021	525	80	1	335	1	305	0.1	30.5	0.33	34.56	1.00	0	14	9.07E-16	1.55E-13	0.0%	0.00%	5.23E-14	4.35E-13		MW
7/13/2021	525	124.1	7	369	1	305	0.1	30.5	0.33	34.56	1.00	2	2	1.06E-14	2.03E-13	0.1%	0.00%	3.21E-14	2.66E-13		MW
7/15/2021	495	24.5	2	342	1	311	0.1	31.1	0.33	35.20	1.00	0	15	1.66E-14	5.55E-13	0.1%	0.00%	1.81E-13	1.52E-12		MW
7/15/2021	8649	82.3	3	341	1	311	0.1	31.1	0.33	35.20	1.00	1	14	5.14E-16	9.17E-15	0.0%	0.00%	3.09E-15	2.69E-14		MW
7/15/2021	8679	32.6	4	339	1	311	0.1	31.1	0.33	35.20	1.00	1	14	1.87E-15	2.02E-14	0.0%	0.00%	7.77E-15	6.52E-14		MW
7/15/2021	8641	36.3	5	390	1	311	0.1	31.1	0.33	35.20	1.00	3	38	9.49E-16	3.13E-14	0.0%	0.00%	2.95E-15	2.49E-14		MW
7/16/2021	8641	84.1	1	378	0	344	0	34.4	0.00	38.71	1.00	0	16	2.26E-16	1.01E-14	0.0%	0.00%	4.71E-16	2.67E-14		MW
7/16/2021	495	80	6	355	0	344	0	34.4	0.00	38.71	1.00	2	5	2.49E-14	6.04E-14	0.0%	0.00%	8.63E-15	4.89E-13		MW
7/16/2021	495	103.9	26	369	0	344	0	34.4	0.00	38.71	1.00	9	12	8.30E-14	1.02E-13	0.0%	0.00%	6.65E-15	3.77E-13		MW
7/16/2021	495	128.3	23	381	0	344	0	34.4	0.00	38.71	1.00	8	18	5.94E-14	1.27E-13	0.2%	0.00%	5.38E-15	3.05E-13		MW
7/16/2021	495	80	7	327	0	344	0	34.4	0.00	38.71	1.00	3	-8	2.90E-14	-9.34E-14	0.1%	0.00%	8.63E-15	4.89E-13		MW
7/16/2021	495	110.7	7	265	0	344	0	34.4	0.00	38.71	1.00	3	-38	2.10E-14	-3.14E-13	0.1%	0.00%	6.24E-15	3.53E-13		MW
7/16/2021	495	151.2	16	347	0	344	0	34.4	0.00	38.71	1.00	6	11	4.06E-14	7.71E-14	0.1%	0.00%	5.57E-14	4.64E-13		MW
7/16/2021	495	80	4	347	0	344	0	34.4	0.00	38.71	1.00	1	1	1.68E-14	1.65E-14	0.1%	0.00%	8.63E-15	4.89E-13		MW
7/16/2021	495	80	6	356	0	344	0	34.4	0.00	38.71	1.00	2	8	2.49E-14	6.59E-14	0.1%	0.00%	8.63E-15	4.89E-13		MW
7/16/2021	495	80	2	322	0	344	0	34.4	0.00	38.71	1.00	1	-11	3.95E-15	3.35E-13	0.0%	0.00%	3.10E-12	1.77E-12		MW
7/20/2021	495	24.5	4	311	1	308	0.1	30.8	0.33	34.88	1.00	1	1	4.37E-14	5.35E-14	0.2%	0.00%	1.81E-13	1.51E-12		MW
7/20/2021	495	120.7	14	358	1	308	0.1	30.8	0.33	34.88	1.00	5	24	3.63E-14	1.82E-13	0.1%	0.00%	3.68E-14	3.07E-13		MW
7/20/2021	495	80	12	313	1	308	0.1	30.8	0.33	34.88	1.00	4	2	4.65E-14	2.75E-14	0.2%	0.00%	5.55E-14	4.64E-13		MW
7/20/2021	495	80	5	347	1	308	0.1	30.8	0.33	34.88	1.00	2	19	1.75E-14	2.14E-13	0.1%	0.00%	5.55E-14	4.64E-13		MW
7/20/2021	495	108.4	12	350	1	308	0.1	30.8	0.33	34.88	1.00	4	20	3.43E-14	1.70E-13	0.1%	0.00%	4.10E-14	3.42E-13		MW
7/21/2021	540	24.5	10	379	0	314	0	31.4	0.00	35.52	1.00	4	31	1.24E-13	1.07E-12	0.4%	0.00%	2.58E-14	1.40E-12		MW
7/21/2021	540	128.4	8	358	0	314	0	31.4	0.00	35.52	1.00	3	26	1.88E-13	1.32E-13	0.1%	0.00%	4.93E-15	2.67E-13		MW
7/21/2021	540	80	3	340	0	314	0	31.4	0.00	35.52	1.00	3	26	9.49E-16	3.98E-13	0.0%	0.00%	7.95E-15	4.65E-13		MW
7/21/2021	540	80	16	372	0	314	0	31.4	0.00	35.52	1.00	6	28	6.09E-14	2.62E-13	0.2%	0.00%	7.92E-15	4.29E-13		MW
7/21/2021	540	106.2	26	443	0	314	0	31.4	0.00	35.52	1.00	9	62	7.44E-14	4.89E-13	0.3%	0.00%	5.99E-15	3.23E-13		MW
7/22/2021	450	24.5	0	269	0	351	0	35.1	0.00	39.46	1.00	0	-25	0.00E+00	-1.03E-12	0.0%	0.00%	3.10E-12	1.77E-12		MW
7/22/2021	450	128.1	11	331	0	351	0	35.1	0.00	39.46	1.00	4	-10	3.13E-14	-7.54E-14	0.1%	0.00%	5.50E-15	3.39E-13		MW
7/22/2021	450	80	9	339	0	351	0	35.1	0.00	39.46	1.00	3	-3	4.10E-14	-3.63E-14	0.1%	0.00%	9.50E-15	5.43E-13		MW
7/22/2021	450	80	6	333	0	351	0	35.1	0.00	39.46	1.00	4	-3	2.73E-14	-1.08E-13	0.1%	0.00%	9.50E-15	5.43E-13		MW
7/22/2021	450	102.3	4	307	0	351	0	35.1	0.00	39.46	1.00	4	-12	1.43E-14	-1.13E-13	0.1%	0.00%	7.45E-15	4.56E-13		MW
7/22/2021	468	129.2	14	416	0	311	0	31.1	0.00	35.20	1.00	5	51	3.62E-14	3.80E-13	0.1%	0.00%	5.69E-15	3.07E-13		MW
7/23/2021	465	80	13	346	0	311	0	31.1	0.00	35.20	1.00	5	17	5.73E-14	2.05E-13	0.2%	0.00%	9.19E-15	4.98E-13		MW
7/23/2021	465	80	14	348	0	311	0	31.1	0.00	35.20	1.00	5	17	5.73E-14	2.05E-13	0.2%	0.00%	9.19E-15	4.98E-13		MW
7/23/2021	465	108.6	26	404	0	311	0	31.1	0.00	35.20	1.00	9	45	8.45E-14	4.01E-13	0.3%	0.00%	6.77E-15	3.65E-13		MW
7/23/2021	465	24.5	3	315	0	311	0	31.1	0.00	35.20	1.00	1	2	4.32E-14	7.64E-14	0.1%	0.00%	3.30E-14	1.62E-12		MW
7/24/2021	510	127.8	3	328	0	326	0.1	32.6	0.33	36.80	1.00	1	2	5.87E-16	6.68E-15	0.0%	0.00%	3.07E-14	2.90E-13		MW
7/24/2021	510	80	28	403	0	326	0.1	32.6	0.33	36.80	1.00	10	47	1.09E-13	3.17E-13	0.3%	0.00%	3.37E-14	5.33E-13		MW
7/24/2021	510	80	24	341	1	326	0.1	32.6	0.33	36.80	1.00	8	7	9.34E-14	8.00E-14	0.3%	0.00%	5.36E-14	4.63E-13		MW
7/24/2021	510	106.5	17	379	1	326	0.1	32.6	0.33	36.80	1.00	6	26	4.90E-14	2.12E-13	0.2%	0.00%	4.05E-14	3.47E-13		MW
7/24/2021	8641	8	424	8	424	0.33	36.80	0.33	36.80	1.00	3	29	1.57E-15	2.91E-14	0.0%	0.00%	2.91E-15	2.91E-14		MW	
7/24/2021	8641	26.2	0	366	1	326	0.1	32.6	0.33	36.80	1.00	0	19	-5.57E-16	3.84E-14	0.0%	0.00%	9.71E-15	8.34E-14		MW
7/24/2021	8641	85.6	4	413	1	326	0.1	32.6	0.33	36.80	1.00	1	42	7.18E-16	2.55E-14	0.0%	0.00%	2.97E-15	2.55E-14		MW
7/24/2021	8641	83.8	5	430	1	326	0.1	32.6	0.33	36.80	1.00	2	59	9.59E-16	3.13E-14	0.0%	0.00%	3.04E-15	2.61E-14		MW
7/24/2021	435	80	3	340	1	317	0.1	31.7	0.33	35.84	1.00	1	10	1.05E-14	1.44E-13	0.0%	0.00%	3.35E-14	4.55E-13		MW
7/26/2021	435	106.7	7	352	1	317	0.1	31.7	0.33	35.84	1.00	2	17	2.20E-14	1.64E-13	0.1%	0.00%	4.74E-14	2.61E-14		MW
7/26/2021	435	80	4	342	1	317	0.1	31.7	0.33	35.84	1.00	1	12	1.52E-14	1.55E-13	0.1%	0.00%	6.32E-14	5.35E-13		MW
7/26/2021	435	120.2	9	337	1	317	0.1	31.7	0.33	35.84	1.00	1	12	1.52E-14	1.55E-13	0.1%	0.00%	6.32E-14	5.35E-13		MW
7/27/2021	525	127.2	34	461	1	299	0.1	29.9	0.33	33.92	1.00	12	78	8.19E-14	5.28E-13	0.3%	0.00%	3.29E-14	2.71E-13		MW
7/27/2021	525	80	14	358	1	299	0.1	29.9	0.33	33.92	1.00	5	29	5.17E-14	3.05E-13	0.2%	0.00%	5.23E-14	4.31E-13		MW
7/27/2021	525	106.8	27	404	1	299	0.1	29.9	0.33	33.92	1.00	10	51	7.67E-14	4.08E-13	0.3%	0.00%	3.92E-14	3.23E-13		MW
7/27/2021	525	80	24	432	0	299	0.1	29.9	0.33	33.92	1.00	4	24	3.86E-13	3.86E-13	0.3%	0.00%	5.23E-14	4.31E-13		MW
7/28/2021	8641	79.4	11	432	0	379	0	37.9	0.00	42.43	1.00	4	26	2.63E-15	1.68E-14	0.0%	0.00%	1.49E-16	2.96E-14		MW
7/28/2021	8641	28.3	3	381	0	379	0	37.9	0.00	42.43	1.00	1	1	2.01E-15	1.78E-15	0.0%	0.00%	4.88E-16	8.90E-14		MW
7/28/2021	8641	43.8	4	411	0	379	0.1	37.9	0.00	42.43	1.00	1	15	9.08E-16	9.64E-15	0.0%	0.00%	4.73E-16	2.81E-14		MW
7/28/2021	8641	86.1	6	418	0	379	0	37.9	0.00	42.43	1.00	2	19	1.32E-15	1.14E-14	0.0%	0.00%	4.90E-16	2.73E-14		MW
7/28/2021	465	80	17	377	0	379	0	37.9	0.00	42.43	1.00	6	-1	7.50E-14	-1.17E-14	0.3%	0.00%	9.16E-15	5.48E-13		MW

BNLStackDemo_RadCon_ParticiulateAir_Oct2020-to-Jul2021
Breathing Zone

Counting Instrument: Ludlum 2909										Detector: 43-10-1		Cal. Date: 7/9/2021											
Serial #: 157350										Serial #: 157821		Cal. Due Date OK? OK											
Radiation Type	Counting Efficiency (fraction)	Source Nuclide	Source Number	Original Source Activity (DPM)	Source Creation Date	T _{1/2} (yr)	Source Decayed Activity	Sample Count time (min)	Background Count (min)														
										Isotope	DAC	ALARA Goal (%)	STACK WASTE-BASED DERIVED AIR CONCENTRATION CRITERIA (uCi/rm)										
										Primary for RadCon Manager Use when evaluating positive detections for Gross Beta that approach the ALARA Goal. This DAC is based on the relative air concentration of alpha emitters in the waste mix. This is not a stand-alone screening value.													
										Stand-alone field beta screening value based on the relative concentrations of beta emitters in the waste that are detectable with a Ludlum Model 43-10-1 windowed scintillation detector. DAC conservatively accounts for ALL detected alpha and beta isotopes in waste as well as the detector's limitations for the detection of low-energy beta emitters (e.g., H-3 or C-14).													
										Total (based on B)	4.24E-08	8.48E-10											
Person Monitored	RWP	Air Sample Start Date/Time	Air Sample End Date/Time	Count Date	Total BZ Run Time (min)	Flow rate (lpm)	Sample Gross Alpha (Counts)	Sample Gross Beta (Counts)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Filter Efficiency (fraction)	Sample Alpha Activity (dpm)	Sample Beta Activity (dpm)	Alpha Count Concent. (uCi/cc)	Beta Count Concent. (uCi/cc)	Alpha CED (mrem)	Beta CED (mrem)	Alpha MDA (uCi/cc)	Beta MDA (uCi/cc)	Remarks	Reviewed by		
BKG	NA	10/13/20 8:15	10/13/20 8:00	120720	485	2.5	2	466	0.0	47.0	1.00	-1	2.08E-13	3.62E-13	0.14	0.000	2.62E-13	1.45E-11		MMW			
BKG	NA	10/13/20 8:15	10/13/20 8:00	120720	465	2.5	5	441	0.0	47.0	1.00	-1	3.18E-13	4.35E-12	0.35	0.002	2.62E-13	3.96E-11		MMW			
BKG East	NA	10/15/20 9:00	10/15/20 9:00	120720	360	2.5	1	444	0	47	1.00	0	-9	1.34E-13	4.71E-12	0.07	0.002	3.64E-13	1.81E-11		MMW		
BKG West	NA	10/15/20 9:00	10/15/20 9:00	120720	360	2.5	2	402	0	47	1.00	-29	2.68E-13	1.23E-11	0.14	0.004	3.64E-13	1.88E-11		MMW			
Sean Nowak	3	11/7/20 8:45	11/7/20 8:10	120420	445	5.0	1	463	0.1	49.6	1.00	0	-12	0.00E+00	2.43E-12	0.00	0.001	4.00E-13	7.89E-12		MMW		
Archon Brower	3	11/7/20 8:45	11/7/20 8:10	120320	445	5.0	2	441	0.1	43.7	1.00	0	-1	5.43E-14	2.93E-13	0.03	0.000	4.00E-13	7.33E-12		MMW		
Darren Brower	3	11/7/20 8:45	11/7/20 8:10	120420	445	5.0	4	461	0.1	49.6	1.00	-1	-11	1.63E-13	2.15E-12	0.10	0.001	4.00E-13	7.89E-12		MMW		
Eric Gause	3	11/12/20 12:15	11/12/20 10:55	120420	280	5.0	1	436	0.1	49.6	1.00	0	-22	0.00E+00	4.90E-12	0.00	0.002	4.30E-13	1.24E-11		MMW		
Eric Gause	4	11/14/20 8:00	11/14/20 10:15	120320	435	4.0	1	449	0.1	43.7	1.00	0	4	0.00E+00	1.13E-12	0.00	0.000	5.11E-13	9.38E-12		MMW		
Throne Shaw	4	11/14/20 8:40	11/14/20 10:15	120420	435	4.0	1	500	0.1	46.8	1.00	0	1	0.00E+00	3.74E-13	0.00	0.000	5.11E-13	9.97E-12		MMW		
Archon Brower	4	11/15/20 8:12	11/15/20 10:05	120320	413	3.5	3	461	0.1	43.7	1.00	1	22	1.61E-13	6.77E-12	0.10	0.001	6.19E-13	1.13E-11		MMW		
Eric Gause	4	11/15/20 8:12	11/15/20 10:05	120320	413	3.5	1	427	0.1	43.7	1.00	0	-4	0.00E+00	1.13E-12	0.00	0.000	6.19E-13	1.13E-11		MMW		
Andy Brower	4	11/15/20 8:12	11/15/20 10:05	120320	413	3.5	1	427	0.1	43.7	1.00	0	-4	0.00E+00	1.13E-12	0.00	0.000	6.19E-13	1.13E-11		MMW		
Eric Gause	6	12/20/20 7:45	12/20/20 10:00	121020	495	4.0	3	451	0.00	45.0	1.00	-1	1.65E-13	2.80E-12	0.13	0.001	1.65E-13	8.67E-12		MMW			
Archon Brower	6	12/20/20 7:45	12/20/20 10:00	121020	495	4.0	5	455	0.00	45.0	1.00	-11	3.00E-13	2.47E-12	0.22	0.001	1.65E-13	8.67E-12		MMW			
Mike Weiss	6	12/20/20 7:45	12/20/20 10:00	121020	495	3.5	3	458	0.00	45.0	1.00	-1	4.20E-13	1.60E-12	0.15	0.001	1.65E-13	8.91E-12		MMW			
Throne Shaw	6	12/10/20 7:45	12/10/20 10:55	121120	550	4.0	4	477	0.00	42.0	1.00	-1	1.10E-13	1.68E-12	0.09	0.001	1.48E-13	7.20E-12		MMW			
Archon Brower	6	12/10/20 7:45	12/10/20 10:55	121120	550	4.0	7	433	0.00	42.0	1.00	2	3	3.84E-13	6.60E-13	0.31	0.000	1.48E-13	7.31E-12		MMW		
Eric Gause	6	12/10/20 7:45	12/10/20 10:55	121120	545	4.0	1	446	0.00	42.0	1.00	0	8	5.54E-14	1.66E-12	0.04	0.001	1.56E-13	7.38E-12		MMW		
Mike Weiss	6	12/10/20 7:45	12/10/20 10:55	121120	490	4.0	0	445	0.00	42.0	1.00	0	8	1.66E-12	1.56E-12	0.00	0.000	1.48E-13	7.31E-12		MMW		
Archon Brower	6	12/11/20 7:45	12/11/20 10:55	121220	550	4.0	4	418	0.00	43.0	1.00	-7	2.20E-13	1.34E-12	0.17	0.001	1.45E-13	7.41E-12		MMW			
Mike Weiss	6	12/11/20 7:45	12/11/20 10:55	121220	550	4.0	3	453	0.00	43.0	1.00	1	6	1.26E-13	1.28E-12	0.13	0.001	1.48E-13	7.41E-12		MMW		
Throne Shaw	6	12/11/20 7:45	12/11/20 10:55	121220	550	4.0	2	457	0.00	43.0	1.00	1	8	1.10E-13	1.68E-12	0.09	0.001	1.48E-13	7.41E-12		MMW		
Eric Gause	6	12/11/20 7:45	12/11/20 10:55	121220	550	4.0	2	457	0.00	43.0	1.00	1	8	1.10E-13	1.56E-12	0.09	0.001	1.48E-13	7.41E-12		MMW		
Sean Nowak	6	12/14/20 7:55	12/14/20 10:05	121520	130	4.0	0	472	0.20	46.0	1.00	0	1	2.33E-13	1.28E-12	0.04	0.000	2.16E-12	3.24E-11	Low Sample Volume	MMW		
Archon Brower	6	12/14/20 7:55	12/14/20 10:05	121520	130	4.0	0	503	0.20	46.0	1.00	-1	13	1.64E-13	1.16E-11	0.09	0.001	2.16E-12	3.24E-11	Low Sample Volume	MMW		
Eric Gause	6	12/15/20 7:28	12/15/20 10:45	121620	559	4.0	2	485	0.00	42.0	1.00	1	22	1.08E-13	4.38E-12	0.09	0.002	1.46E-13	7.20E-12		MMW		
Archon Brower	6	12/15/20 7:28	12/15/20 10:45	121620	559	4.0	5	434	0.00	42.0	1.00	1	3	2.70E-13	6.57E-13	0.22	0.000	1.46E-13	7.20E-12		MMW		
Throne Shaw	6	12/15/20 7:28	12/15/20 10:45	121620	559	4.0	2	459	0.00	42.0	1.00	1	11	1.08E-13	2.10E-12	0.09	0.001	1.46E-13	7.20E-12		MMW		
Eric Gause	6	12/15/20 7:28	12/15/20 10:45	121620	559	4.0	1	439	0.00	42.0	1.00	1	8	3.49E-14	2.18E-13	0.04	0.000	1.46E-13	7.20E-12		MMW		
Archon Brower	6	12/19/20 8:30	12/19/20 10:45	122220	495	4.0	1	425	0.10	44.0	1.00	0	-7	0.00E+00	1.60E-12	0.00	0.001	4.49E-13	8.31E-12		MMW		
Archon Brower	6	12/19/20 8:30	12/19/20 10:45	122220	495	4.0	1	456	0.10	44.0	1.00	0	2	0.00E+00	4.12E-13	0.00	0.000	4.49E-13	8.93E-12		MMW		
Andy Brower	6	12/19/20 8:30	12/19/20 10:45	122220	495	4.0	1	429	0.10	44.0	1.00	0	2	0.00E+00	1.40E-12	0.00	0.000	4.49E-13	8.93E-12		MMW		
Gary Supplebeen	7	12/21/20 11:15	12/21/20 10:00	120121	225	4.0	3	438	0.10	45.0	1.00	-1	-7	2.69E-13	3.26E-12	0.09	0.001	3.98E-13	1.85E-11		MMW		
Darren Brower	7	12/20/20 9:30	12/20/20 10:30	120121	260	4.0	2	477	0.10	44.0	1.00	0	12	1.18E-13	5.02E-12	0.04	0.001	3.98E-13	1.85E-11		MMW		
Eric Gause	7	12/20/20 9:30	12/20/20 10:30	120121	260	4.0	2	470	0.10	44.0	1.00	0	9	8.74E-14	3.29E-12	0.04	0.001	7.19E-13	1.30E-11		MMW		
John Allen	7	12/22/20 10:30	12/22/20 10:00	120121	281	4.0	3	471	0.10	44.0	1.00	1	9	2.16E-13	3.63E-12	0.09	0.001	7.91E-13	1.47E-11		MMW		
Archon Brower	7	14/21 11:10	14/21 10:45	120921	335	4.0	1	479	0.10	44.0	1.00	0	12	0.00E+00	4.05E-12	0.00	0.001	8.64E-13	1.23E-11		MMW		
John Allen	7	14/21 11:10	14/21 10:45	120921	335	4.0	1	479	0.10	44.0	1.00	0	12	0.00E+00	4.05E-12	0.00	0.001	8.64E-13	1.23E-11		MMW		
Eric Gause	7	15/21 7:40	15/21 10:20	120621	460	4.0	1	448	0.10	46.0	1.00	0	-13	0.00E+00	3.10E-12	0.00	0.001	4.83E-13	9.31E-12		MMW		
Archon Brower	7	15/21 7:40	15/21 10:20	120621	460	4.0	3	465	0.10	46.0	1.00	1	-7	1.31E-13	1.60E-12	0.09	0.001	4.83E-13	9.31E-12		MMW		
Throne Shaw	7	15/21 7:40	15/21 10:20	120621	460	4.0	2	456	0.10	46.0	1.00	0	-10	1.65E-14	2.30E-12	0.04	0.001	4.83E-13	9.31E-12		MMW		
Archon Brower	7	15/21 7:40	15/21 10:20	120621	460	4.0	3	450	0.10	46.0	1.00	1	-12	1.31E-13	2.93E-12	0.09	0.001	4.83E-13	9.31E-12		MMW		
Darren Brower	7	16/21 7:25	16/21 10:50	120721	565	4.0	2	483	0.10	44.0	1.00	0	6	5.34E-14	1.18E-12	0.04	0.001	3.98E-13	7.30E-12		MMW		
Eric Gause	7	16/21 7:25	16/21 10:50	120721	565	4.0	3	459	0.10	44.0	1.00	1	1	1.07E-13	1.87E-12	0.09	0.001	3.98E-13	7.30E-12		MMW		
Archon Brower	7																						

BNLStackDemo_RadCon_ParticiulateAir_Oct2020-to-Jul2021
Breathing Zone

Counting Instrument: Ludlum 2809										Detector: 43-10-1										Cal. Date: 7/26/2021									
Serial #: 15730										Serial #: 157821										Cal. Due Date OK? OK									
																				</									

BNLStackDemo_RadCon_ParticiulateAir_Oct2020-to-Jul2021
Breathing Zone

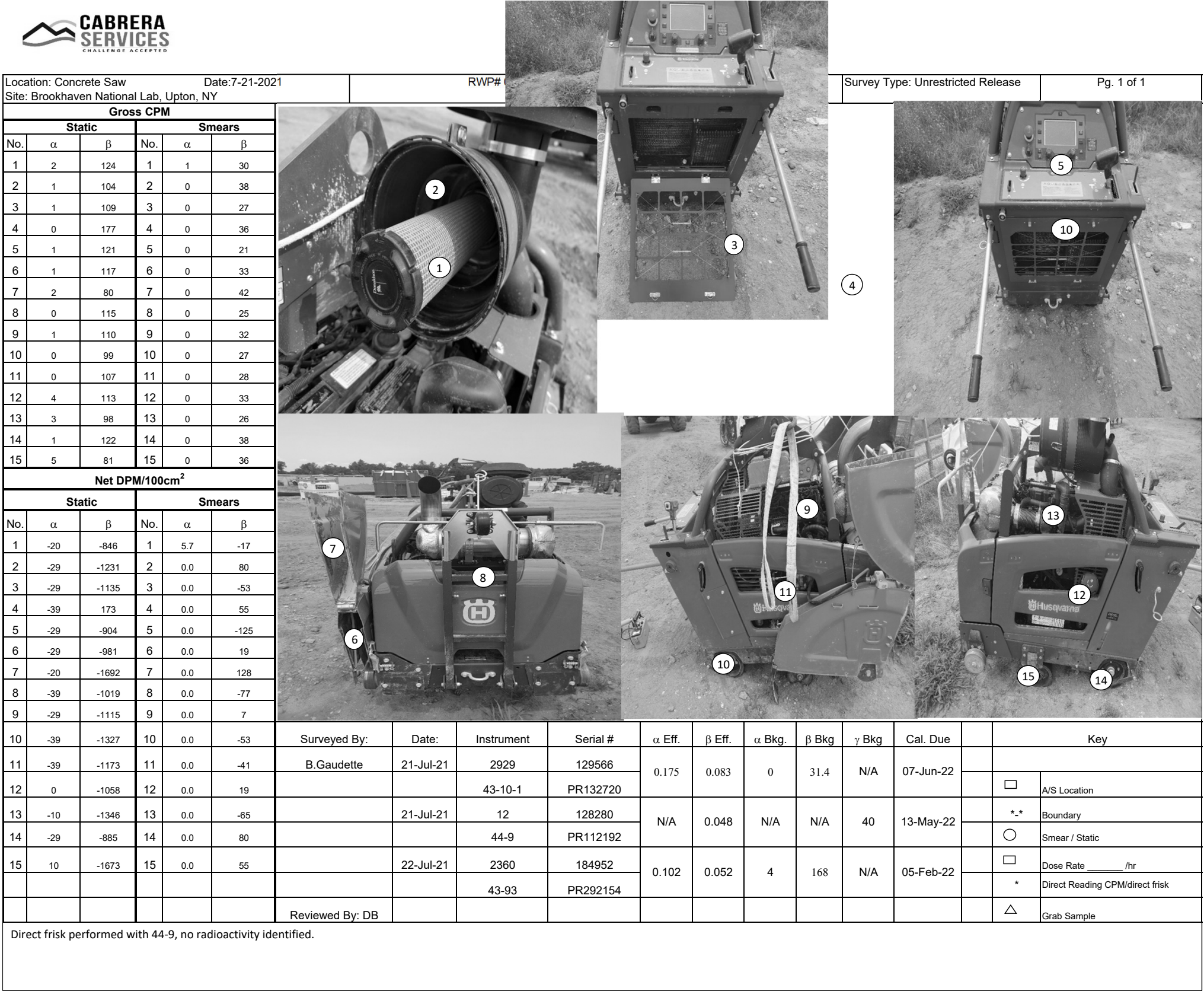
Counting Instrument: Ludlum 2909										Detector: 43-10-1		Cal. Date: 7/26/2021									
Serial #: 15730										Serial #: 157821		Cal. Due Date OK? OK									
STACK WASTE-BASED DERIVED AIR CONCENTRATION CRITERIA (uCi/mi)																					
Radiation Type	Counting Efficiency (fraction)	Source Nuclide	Source Number	Original Source Activity (DPM)	Source Creation Date	T _{1/2} (yr)	Source Decay Activity	Sample Count (min)	Background Count (min)	Isotope	DAC	ALARA Goal (2%) DAC	Remarks								
Alpha	0.3730	Th-230	5684-06	15,900	9/24/2012	7.54E+04	15899	10	10	Alpha	2.88E-11	5.76E-13	Primary for RadCon Manager Use when evaluating positive detections for Gross Beta that approach the ALARA Goal. This DAC is based on the relative air concentration of alpha emitters in the waste mix. This is not a stand-alone screening value.								
Beta	0.2760	To-99	5634-05	9,800	2/25/2013	2.11E+05	9880	10	10	Total (based on B)	4.24E-08	8.48E-10	Stand-alone field beta screening value based on the relative concentrations of beta emitters in the waste that are detectable with a Ludlum Model 43-10-1 dedicated scintillation detector. DAC conservatively accounts for ALL detected alpha and beta isotopes in waste as well as the detector's limitations for the detection of low-energy beta emitters (e.g., H-3 or C-14).								
Person Monitored	RWP	Air Sample Start Time Period Date/Time	Air Sample End Time Period Date/Time	Count	Total BZ Run Time Period (min)	Flow rate (lpm)	Sample Gross Alpha (Counts)	Gross Beta (Counts)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Filter Efficiency (fraction)	Sample Alpha Activity (dpm)	Sample Beta Activity (dpm)	Alpha Count Concn. (uCi/cc)	Beta Count Concn. (uCi/cc)	Alpha CED (mrem)	Beta CED (mrem)	Alpha MDA (uCi/cc)	Beta MDA (uCi/cc)	Remarks	Reviewed by
Chris Weiss	8	4/16/21 7:45	4/16/21 16:30	401	450	4.0	0	463	0.10	50.00	1.00	0	-13	0.00E+00	3.35E-12	0.00	0.001	4.94E-13	9.88E-12		MMW
Barrel James	8	4/16/21 7:45	4/16/21 16:30	305	400	4.0	0	469	0.10	44.80	1.00	0	-4	0.00E+00	1.91E-12	0.00	0.009	2.68E-13	1.35E-11		MMW
Chris Weiss	8	4/16/21 7:45	4/16/21 16:30	305	400	4.0	0	469	0.10	44.80	1.00	0	-4	0.00E+00	1.91E-12	0.00	0.009	2.68E-13	1.35E-11		MMW
Chris Weiss	8	4/16/21 7:45	4/16/21 16:30	305	400	4.0	0	469	0.10	44.80	1.00	0	-4	0.00E+00	1.91E-12	0.00	0.009	2.68E-13	1.35E-11		MMW
Gary Shippen	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	387	0.20	43.70	1.00	0	-14	0.00E+00	3.40E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	2	441	0.20	43.70	1.00	0	-14	0.00E+00	3.40E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	2	441	0.20	43.70	1.00	0	-14	0.00E+00	3.40E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Barrel James	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00	0	-21	0.00E+00	4.91E-12	0.00	0.002	9.84E-13	8.50E-12		MMW
Chris Weiss	8	4/16/21 7:30	4/16/21 16:30	480	400	4.0	1	495	0.20	43.70	1.00</										

BNLStackDemo_RadCon_ParticiulateAir_Oct2020-to-Jul2021
Breathing Zone

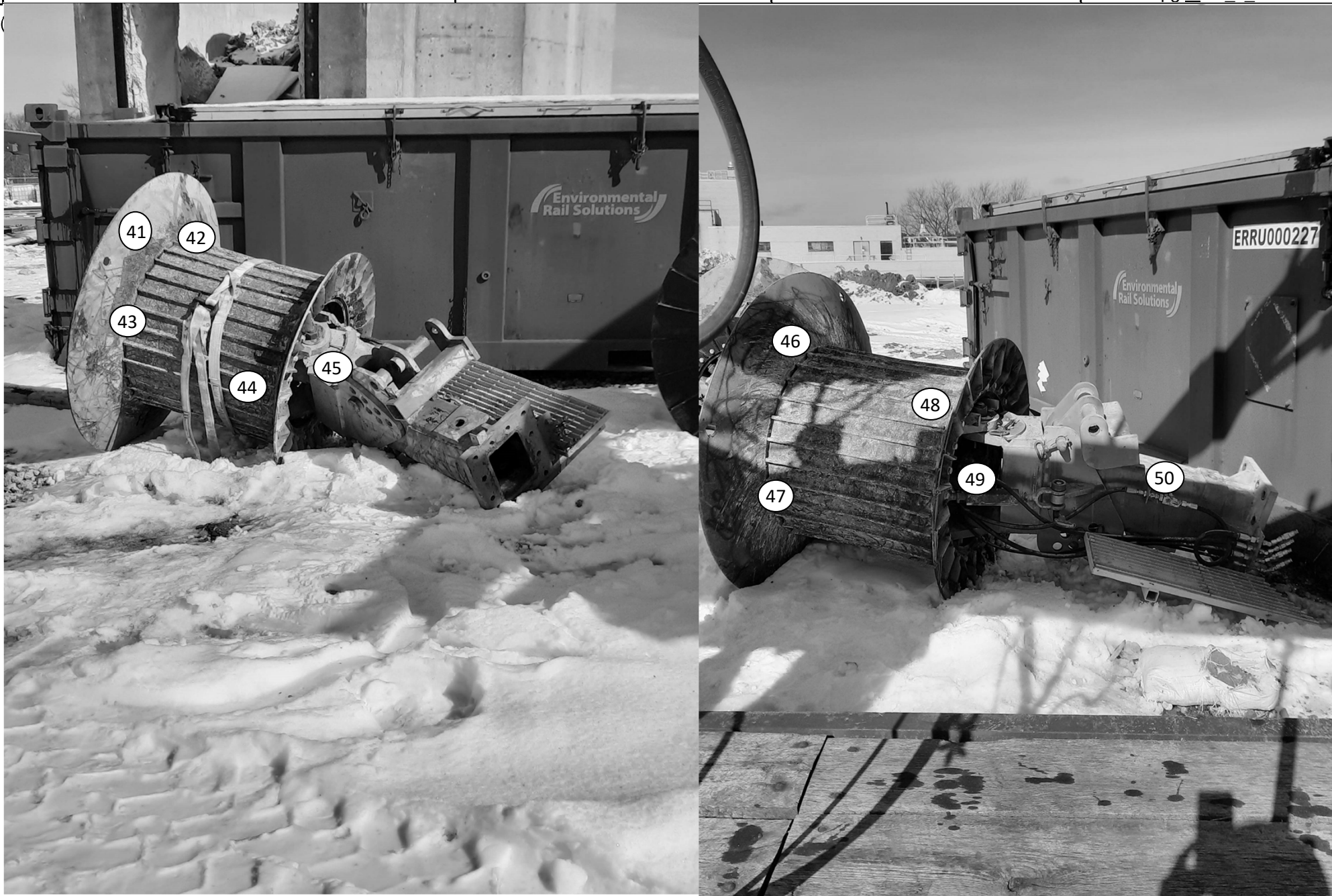
Counting Instrument:		Ludlum 2929	Detector:		43-10-1	Cal. Date:		7/9/2021													
Serial #:		157320	Serial #:		157821	Cal. Due Date OK?		OK													
STACK WASTE-BASED DERIVED AIR CONCENTRATION CRITERIA (uCi/ml)																					
Radiation Type	Counting Efficiency (fraction)	Source Nuclide	Source Number	Original Source Activity (DPM)	Source Creation Date	T _{1/2} (yr)	Source Decayed Activity	Sample Count time (min)	Background Count time (min)	Isotope	DAC	ALARA Goal (2%) DAC	Remarks								
Alpha	0.3730	Th-230	5684-06	15,900	9/24/2012	7.54E+04	15899	10	10	Alpha	2.88E-11	5.76E-13	Primarily for RadCon Manager Use when evaluating positive detections for Gross Beta that approach the ALARA Goal. This DAC is based on the relative air concentration of alpha emitters in the waste mix. This is not a stand-alone screening value.								
Beta	0.2760	Ti-99	5634-05	9,800	2/25/2013	2.11E+05	9860	10	10	Total (based on B)	4.24E-08	8.48E-10	Stand-alone field beta screening value based on the relative concentrations of beta emitters in the waste that are detectable with a Ludlum Model 43-10-1 windowed scintillation detector. DAC conservatively accounts for ALL detected alpha and beta isotopes in waste as well as, the detector's limitations for the detection of low-energy beta emitters (e.g., H-3 or C-14).								
Person Monitored	RWP	Air Sample Start Time Period Date/Time	Air Sample End Time Period Date/Time	Count Date	Total BZ Run Time (min)	Flow rate (lpm)	Sample Gross Alpha (Counts)	Sample Gross Beta (Counts)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Filter Efficiency (fraction)	Sample Alpha Activity (dpm)	Sample Beta Activity (dpm)	Alpha Count Concn. (uCi/cc)	Beta Count Concn. (uCi/cc)	Alpha CED (mrem)	Beta CED (mrem)	Alpha MDA (uCi/cc)	Beta MDA (uCi/cc)	Remarks	Reviewed by
Anton Koropka	9	6/21/21 7:30	6/21/21 15:30	06/22/21	480	4.0	1	425	0.10	38.10	1.00	0	35	0.00E+00	3.74E-12	0.00	0.001	4.63E-13	7.99E-12		MW
Tim Schantz	9	6/21/21 7:30	6/21/21 15:30	06/22/21	480	4.0	2	469	0.10	38.10	1.00	0	36	6.29E-14	7.48E-12	0.02	0.001	4.63E-13	7.99E-12		MW
Chris Wiess	9	6/22/21 7:00	6/22/21 14:45	06/23/21	466	4.0	1	438	0.20	43.30	1.00	0	1	-6.49E-14	2.61E-13	-0.02	0.000	6.03E-13	8.73E-12		MW
Anton Koropka	9	6/22/21 7:30	6/22/21 15:30	06/23/21	466	4.0	0	419	0.20	43.30	1.00	-1	-5	-1.30E-13	-1.23E-12	-0.03	0.000	6.03E-13	8.73E-12		MW
Tim Schantz	9	6/22/21 7:30	6/22/21 15:30	06/23/21	466	4.0	0	418	0.20	43.30	1.00	-1	-5	-1.30E-13	-1.23E-12	-0.03	0.000	6.03E-13	8.73E-12		MW
Chris Wiess	9	6/23/21 6:45	6/23/21 16:15	06/24/21	570	4.0	2	459	0.00	43.40	1.00	1	9	1.06E-13	1.79E-12	0.03	0.000	1.44E-13	7.13E-12		MW
Anton Koropka	9	6/23/21 6:45	6/23/21 16:15	06/24/21	570	4.0	0	434	0.00	43.40	1.00	0	0	0.00E+00	0.00E+00	0.00	0.000	1.44E-13	7.13E-12		MW
Tim Schantz	9	6/23/21 6:45	6/23/21 16:15	06/24/21	570	4.0	1	453	0.00	43.40	1.00	0	7	5.30E-14	1.39E-12	0.02	0.000	1.44E-13	7.13E-12		MW
Gary Stuppelbeen	9	6/23/21 6:45	6/23/21 16:15	06/24/21	570	4.0	1	443	0.00	43.40	1.00	0	3	5.30E-14	6.44E-13	0.02	0.000	1.44E-13	7.13E-12		MW
Gary Stuppelbeen	9	6/25/21 7:30	6/25/21 15:15	06/28/21	466	4.0	2	437	0.20	45.10	1.00	0	-5	0.00E+00	-1.23E-12	0.00	0.000	6.03E-13	8.91E-12		MW
Chris Wiess	9	6/25/21 7:30	6/25/21 15:15	06/28/21	466	4.0	3	471	0.20	45.10	1.00	0	7	6.49E-14	1.77E-12	0.02	0.000	6.03E-13	8.91E-12		MW
Gary Stuppelbeen	9	6/28/21 7:30	6/28/21 13:30	06/29/21	360	4.0	4	464	0.00	42.50	1.00	1	14	3.39E-13	4.42E-12	0.07	0.001	2.27E-13	1.12E-11		MW
Chris Wiess	9	6/28/21 7:30	6/28/21 13:30	06/29/21	360	4.0	0	409	0.00	42.50	1.00	0	-6	0.00E+00	-1.81E-12	0.00	0.000	2.27E-13	1.12E-11		MW
Mike Wiess	9	6/28/21 7:30	6/28/21 13:30	06/29/21	360	4.0	2	438	0.00	42.50	1.00	1	5	1.66E-13	1.47E-12	0.03	0.000	2.27E-13	1.12E-11		MW
Anton Koropka	9	6/29/21 8:00	6/29/21 15:15	06/30/21	435	4.0	1	429	0.20	46.00	1.00	0	-11	-6.94E-14	-2.91E-12	-0.02	0.000	6.45E-13	9.61E-12		MW
Tim Schantz	9	6/29/21 8:00	6/29/21 15:15	06/30/21	435	4.0	1	402	0.20	46.00	1.00	0	-21	-6.94E-14	-5.44E-12	-0.02	-0.001	6.45E-13	9.61E-12		MW
Chris Wiess	9	6/29/21 8:00	6/29/21 15:15	06/30/21	435	4.0	3	376	0.20	46.00	1.00	0	-35	6.94E-14	-7.84E-12	0.02	0.001	6.45E-13	9.61E-12		MW
Gary Stuppelbeen	9	6/30/21 6:30	6/30/21 16:00	07/01/21	570	4.0	1	458	0.00	33.40	1.00	0	45	5.30E-14	8.88E-12	0.02	0.002	1.44E-13	6.28E-12		MW
Anton Koropka	9	6/30/21 6:30	6/30/21 16:00	07/01/21	570	4.0	2	456	0.00	33.40	1.00	1	44	1.09E-13	8.78E-12	0.03	0.002	1.44E-13	6.28E-12		MW
Chris Wiess	9	6/30/21 6:30	6/30/21 16:00	07/01/21	570	4.0	3	429	0.00	33.40	1.00	1	24	1.09E-13	6.86E-12	0.06	0.003	1.44E-13	6.28E-12		MW
Tim Schantz	9	6/30/21 6:30	6/30/21 16:00	07/01/21	570	4.0	0	443	0.00	33.40	1.00	0	35	0.00E+00	7.80E-12	0.00	0.002	1.44E-13	6.28E-12		MW
Gary Stuppelbeen	9	7/1/21 6:40	7/1/21 13:30	07/06/21	410	4.0	1	426	0.20	41.90	1.00	0	3	-7.36E-14	6.97E-13	-0.02	0.000	6.84E-13	9.75E-12		MW
Tim Schantz	9	7/1/21 6:40	7/1/21 13:30	07/06/21	410	4.0	4	429	0.20	41.90	1.00	1	4	1.47E-13	6.96E-13	0.03	0.000	6.84E-13	9.75E-12		MW
Anton Koropka	9	7/1/21 6:40	7/1/21 13:30	07/06/21	410	4.0	0	427	0.20	41.90	1.00	-1	3	-1.47E-13	7.96E-13	-0.03	0.000	6.84E-13	9.75E-12		MW
Gary Stuppelbeen	9	7/6/21 7:15	7/6/21 14:30	07/07/21	435	4.0	4	341	0.00	47.60	1.00	1	49	2.78E-13	-1.27E-11	0.07	-0.002	1.88E-13	9.78E-12		MW
Chris Wiess	9	7/6/21 7:15	7/6/21 14:30	07/07/21	435	4.0	2	458	0.00	47.60	1.00	1	77	1.39E-13	-1.69E-12	0.03	0.000	1.88E-13	9.78E-12		MW
Mike Wiess	9	7/7/21 7:15	7/7/21 14:30	07/08/21	435	4.0	3	461	0.1	42.3	1.00	1	14	1.39E-13	3.94E-12	0.03	0.001	5.11E-13	9.23E-12		MW
Anton Koropka	9	7/7/21 7:15	7/7/21 14:30	07/08/21	435	4.0	3	401	0.1	42.3	1.00	1	-8	1.39E-13	-2.06E-12	0.03	0.000	5.11E-13	9.23E-12		MW
Damon Winner	9	7/7/21 7:15	7/7/21 14:30	07/08/21	435	4.0	3	426	0.1	42.3	1.00	1	1	1.39E-13	2.81E-13	0.03	0.000	5.11E-13	9.23E-12		MW
Mike Wiess	9	7/8/21 7:15	7/8/21 15:30	07/09/21	495	4.0	3	486	0.00	46.10	1.00	1	10	1.83E-13	2.23E-12	0.05	0.000	1.65E-13	8.46E-12		MW
Anton Koropka	9	7/8/21 7:15	7/8/21 15:30	07/09/21	495	4.0	1	474	0.00	46.10	1.00	0	5	6.19E-14	1.07E-12	0.02	0.000	1.65E-13	8.46E-12		MW
Damon Winner	9	7/8/21 7:15	7/8/21 15:30	07/09/21	495	4.0	1	496	0.00	46.10	1.00	0	-2	6.19E-14	-1.12E-12	0.02	0.000	1.65E-13	8.46E-12		MW
Gary Stuppelbeen	9	7/8/21 7:15	7/8/21 15:30	07/09/21	495	4.0	1	447	0.00	46.10	1.00	0	-5	6.19E-14	-1.15E-12	0.02	0.000	1.65E-13	8.46E-12		MW
Anton Koropka	9	7/9/21 11:45	7/9/21 15:30	07/10/21	225	4.0	2	461	0.20	32.60	1.00	0	49	0.00E+00	2.45E-11	0.00	0.002	1.25E-12	1.07E-11	Recounts Requested - MW	MW
Damon Winner	9	7/9/21 11:45	7/9/21 15:30	07/10/21	225	4.0	1	441	0.20	32.60	1.00	0	42	-1.34E-13	2.09E-11	-0.02	0.002	1.25E-12	1.07E-11	Recounts Requested - MW	MW
Gary Stuppelbeen	9	7/9/21 11:45	7/9/21 15:30	07/10/21	225	4.0	2	476	0.20	32.60	1.00	0	54	0.00E+00	2.72E-11	0.00	0.002	1.25E-12	1.07E-11	Recounts Requested - MW	MW
Anton Koropka	9	7/10/21 7:00	7/10/21 14:00	07/12/21	420	4.0	1	231	0.10	31.60	1.00	0	-31	0.00E+00	-8.26E-12	0.00	-0.001	5.29E-13	8.30E-12		MW
Damon Winner	9	7/10/21 7:00	7/10/21 14:00	07/12/21	420	4.0	0	342	0.10	31.60	1.00	0	9	-7.19E-14	2.53E-12	-0.02	0.000	5.29E-13	8.30E-12		MW

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Counting Instrument		Ludlum2209		Detector	IS-152	Cal. Date	10/20/21																			
Serial #		10-209		Serial #	10-152	Cal. Date Only OK?	Yes																			
Radiation Type	APC Counting Efficiency (%)	Source Number	Source Number	Original Source Activity (dpm)	Source Creation Date	T _{1/2} (yrs)	Source Decay Activity	Sample Count Time (min)	Background Count Time (min)	STACK WASTE-BASED DERIVED AIR CONCENTRATION CRITERIA (uCi/mi)																
										Type	DAC	Posting Criteria (uCi/mi)	ALARA Goal (uCi)	REMARKS												
Alpha	0.3720	75-230	9034-05	15,000	8/24/2017	7.34E+04	19890	10	10	Alpha	2.68E-11	2.68E-12	5.79E-13	Specialty for RadCon Manager use when including particle detectors in Great Hall for alignment for ALARA Goal. This DAC is based on the relative air concentration of particulates in the waste zone. This is not a dose rate conversion factor.												
Beta	0.3720	75-230	9034-05	3,800	2/22/2015	2.11E+03	9880	10	10	Total (beta)	4.24E-09	4.24E-09	4.48E-10	Based on the beta counting, concentration of alpha particles in the waste that are detected with a Ludlum Model 22-151 is not considered. Additionally, DAC is conservatively increased by 10% detected alpha and beta isotopes is made as well as, the detector's limitations for the detection of low energy alpha particles (e.g., 4.0 MeV).												
Sampling Location	Range	Sample ID	Air Sample Start Date/Time	Air Sample End Date/Time	Count Date	Run Time (min)	Flow Rate (lpm)	Sample Alpha Count(s)	Sample Beta Count(s)	Background Alpha Count(s)	Background Beta Count(s)	Alpha Bkg (cpm)	Beta Bkg (cpm)	Alpha Deviation Level (cpm)	Beta Deviation Level (cpm)	Filter Efficiency (Percent)	Sample Alpha Activity (Bq/m ³)	Sample Beta Activity (Bq/m ³)	Alpha Count Concentration (uCi/mi)	Beta Count Concentration (uCi/mi)	%DAC (Alpha Component)	Total %DAC (Gross B-Isotopes)	Alpha MDA (MDA) (uCi/mi)	Beta MDA (MDA) (uCi/mi)	Remarks	Reviewed by
GA West	0	008	7/20/2021 13:00	7/20/2021 13:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	009	7/20/2021 13:15	7/20/2021 13:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	010	7/20/2021 13:30	7/20/2021 13:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	011	7/20/2021 13:45	7/20/2021 14:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	012	7/20/2021 14:00	7/20/2021 14:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	013	7/20/2021 14:15	7/20/2021 14:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	014	7/20/2021 14:30	7/20/2021 14:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	015	7/20/2021 14:45	7/20/2021 15:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	016	7/20/2021 15:00	7/20/2021 15:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	017	7/20/2021 15:15	7/20/2021 15:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	018	7/20/2021 15:30	7/20/2021 15:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	019	7/20/2021 15:45	7/20/2021 16:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	020	7/20/2021 16:00	7/20/2021 16:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	021	7/20/2021 16:15	7/20/2021 16:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	022	7/20/2021 16:30	7/20/2021 16:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	023	7/20/2021 16:45	7/20/2021 17:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	024	7/20/2021 17:00	7/20/2021 17:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	025	7/20/2021 17:15	7/20/2021 17:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	026	7/20/2021 17:30	7/20/2021 17:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	027	7/20/2021 17:45	7/20/2021 18:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	028	7/20/2021 18:00	7/20/2021 18:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	029	7/20/2021 18:15	7/20/2021 18:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	030	7/20/2021 18:30	7/20/2021 18:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	031	7/20/2021 18:45	7/20/2021 19:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	032	7/20/2021 19:00	7/20/2021 19:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	033	7/20/2021 19:15	7/20/2021 19:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	034	7/20/2021 19:30	7/20/2021 19:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	035	7/20/2021 19:45	7/20/2021 20:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	036	7/20/2021 20:00	7/20/2021 20:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	037	7/20/2021 20:15	7/20/2021 20:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	038	7/20/2021 20:30	7/20/2021 20:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	039	7/20/2021 20:45	7/20/2021 21:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	040	7/20/2021 21:00	7/20/2021 21:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	041	7/20/2021 21:15	7/20/2021 21:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	042	7/20/2021 21:30	7/20/2021 21:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	043	7/20/2021 21:45	7/20/2021 22:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	044	7/20/2021 22:00	7/20/2021 22:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	045	7/20/2021 22:15	7/20/2021 22:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	046	7/20/2021 22:30	7/20/2021 22:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	047	7/20/2021 22:45	7/20/2021 23:00	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	048	7/20/2021 23:00	7/20/2021 23:15	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	049	7/20/2021 23:15	7/20/2021 23:30	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	050	7/20/2021 23:30	7/20/2021 23:45	7/20/2021	150	30.3	512	0	461	0	3.1	46	0.34	50.0	100	1.38E-11	7.70E-13	0.0%	0.0%	0.0%	0.0%	1.38E-11	7.70E-13		AW
GA West	0	051	7/20/2021 23:45	7/20/2021 24:00	7/20/2021	150	30.3	512	0	461	0	3														



Location: B705 Stack Demolition				Date: 02-10-21				RWP# 006				Survey No. 0189				Survey Type: Unconditional Release				pg. 1 of 4			
Site: Brookhaven National Lab, Upton NY				ICC Mantis 																			
Gross CPM																							
Static			Smears																				
No.	α	β	No.																			α	β
1	1	99	1																			0	41
2	3	90	2																			3	35
3	3	91	3																			0	32
4	1	87	4																			0	40
5	0	89	5																			0	33
6	1	99	6																			2	43
7	1	92	7																			1	34
8	2	90	8																			0	33
9	1	108	9																			2	21
10	1	100	10																			2	42
11	0	87	11																			0	34
12	0	112	12																			0	44
13	1	86	13																			0	26
14	3	84	14																			2	34
15	1	105	15																			0	37
Net DPM/100cm ²																							
Static			Smears																				
No.	α	β	No.	α	β																		
1	2	347	1	-0.8	15																		
2	8	295	2	7.6	-19																		
3	8	301	3	-0.8	-36																		
4	2	278	4	-0.8	10																		
5	-1	290	5	-0.8	-30																		
6	2	347	6	4.8	27																		
7	2	307	7	2.0	-25																		
8	5	295	8	-0.8	-30																		
9	2	398	9	4.8	-99																		
10	2	353	10	4.8	21																		
11	-1	278	11	-0.8	-25																		
Surveyed By:				Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due	Key										
J.Golliher				10-Feb-21	2929	137607	0.357	0.175	0.3	38.3	N/A	09-Oct-21											
K. Rutherford				10-Feb-21	43-10-1	PR157821							☐	A/S Location									
					2360	168047	0.196	0.144	2	117	N/A	06-Aug-21	☐	Boundary									

Location: B705 Stack Demolition				Date: 02-10-21				RWP# 006				Survey No. 0189				Survey Type: Unconditional Release				pg. 2 of 4			
Site: Brookhaven National Lab, Upton NY				ICC Mantis 																			
Gross CPM																							
Static			Smears																				
No.	1	β	No.																			α	β
16	0	87	16																			0	40
17	2	78	17																			3	43
18	1	119	18																			0	37
19	2	113	19																			3	51
20	0	109	20																			1	43
21	0	112	21																			1	41
22	1	121	22																			0	44
23	1	125	23																			1	37
24	1	109	24																			0	42
25	2	129	25																			2	43
26	1	92	26																			0	38
27	1	128	27																			0	40
28	2	173	28																			1	41
29	0	178	29																			1	44
30	2	134	30																			0	40
Net DPM/100cm²																							
Static			Smears																				
No.	α	β	No.																			α	β
16	-1	278	16																			-0.8	10
17	5	227	17																			7.6	27
18	2	461	18																			-0.8	-7
19	5	427	19																			7.6	73
20	-1	404	20																			2.0	27
21	-1	421	21																			2.0	15
22	2	473	22																			-0.8	33
23	2	495	23																			2.0	-7
24	2	404	24																			-0.8	21
25	5	518	25																			4.8	27
26	2	307	26																			-0.8	-2
Surveyed By:				Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due	○ Key										
J. Golliher				10-Feb-21	2929	137607	0.357	0.175	0.3	38.3	N/A	09-Oct-21	□										
K. Rutherford				10-Feb-21	43-10-1	PR157821							□ A/S Location										
					2360	168047	0.196	0.144	2	117	N/A	06-Aug-21	△* Boundary										

Location: B705 Stack Demolition	Date: 02-10-21	RWP# 006	Survey No. 0189	Survey Type: Unconditional Release	pg. 3 of 4
Site: Brookhaven National Lab, Upton NY					

Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
31	1	124	31	0	36
32	3	154	32	3	36
33	2	136	33	0	38
34	0	127	34	0	35
35	1	125	35	0	40
36	0	132	36	2	27
37	0	127	37	1	35
38	1	122	38	0	42
39	2	132	39	2	37
40	4	145	40	2	44
41	2	165	41	0	45
42	1	119	42	0	44
43	3	121	43	0	44
44	2	116	44	2	40
45	2	153	45	0	192

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
31	2	490	31	-0.8	-13
32	8	661	32	7.6	-13
33	5	558	33	-0.8	-2
34	-1	507	34	-0.8	-19
35	2	495	35	-0.8	10
36	-1	535	36	4.8	-65
37	-1	507	37	2.0	-19

38	2	478	38	-0.8	21
39	5	535	39	4.8	-7
40	10	610	40	4.8	33
41	5	724	41	-0.8	38

ICC
Mantis



Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due		○	Key	
J. Golliher	10-Feb-21	2929	137607	0.357	0.175	0.3	38.3	N/A	09-Oct-21		□		
K. Rutherford	10-Feb-21	43-10-1	PR157821								□	A/S Location	
		2360	168047	0.106	0.144	0	117	N/A	06-Aug-21		△*	Boundary	

42	2	461	42	-0.8	33			43-93	PR299676	0.170	0.144	2	117	N/A	00-Aug-21		○	Smear
43	8	473	43	-0.8	33												□	Dose Rate _____ /hr
44	5	444	44	4.8	10												*	Direct Reading CPM/direct frisk
45	5	655	45	-0.8	878	Reviewed By:DB											△	Grab Sample

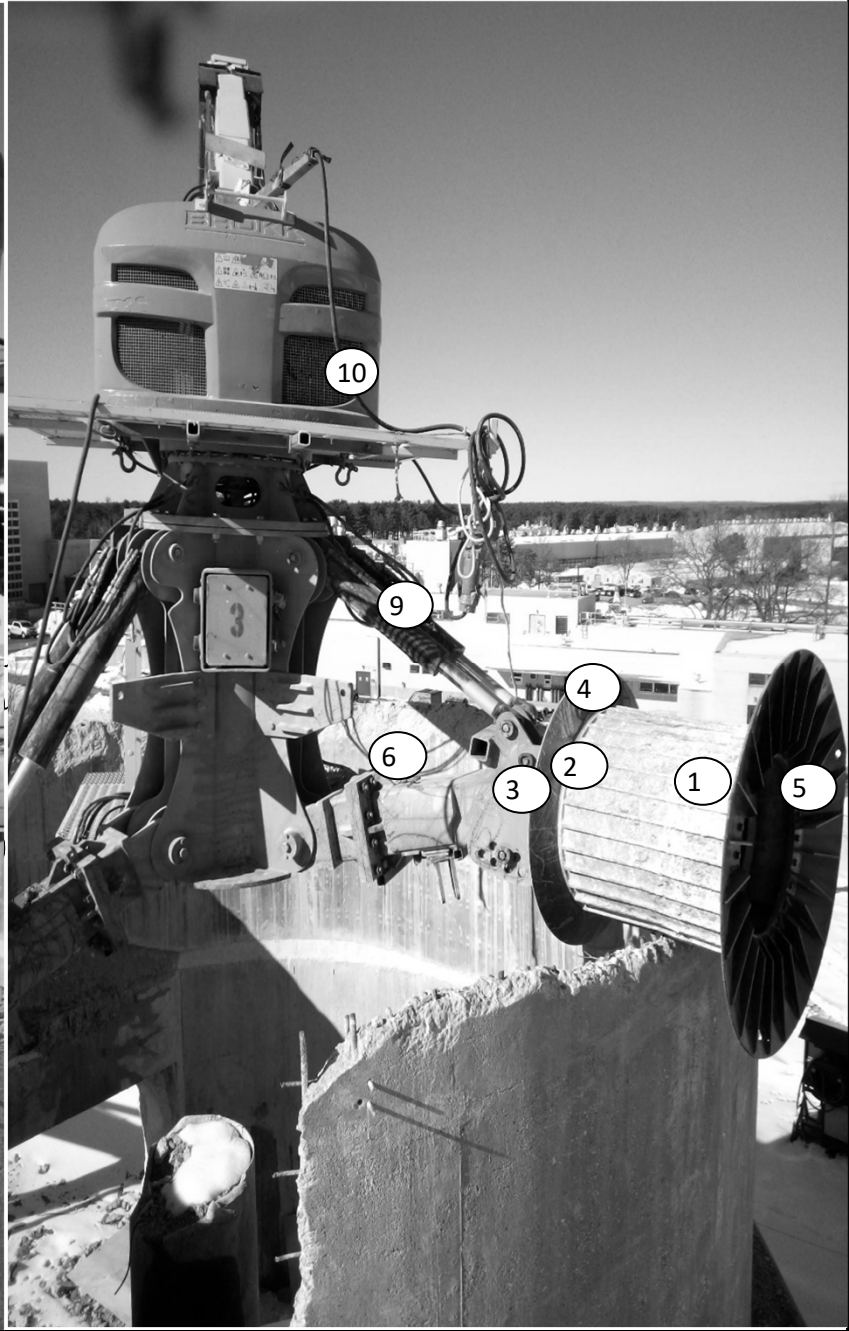
100% Scan of all accessible surfaces. Static readings taken at smear locations. The Mantis wheels were in direct contact with the stack walls for which they sat upon supporting the equipmment; the equipment rotates itself on these wheels as the demolition progresses downward around the stack. Intitial gross decontamination occured at height, with decontamination of wheels being completed on the ground. These ICC Mantis wheels radiological measurements meet the **Table 2-B**, Free Release Surface Contamination Values as identified in the section 5.24, B705 rev 0, Radiological Control Manual.

Location: B705 Stack Demolition	Date: 01-29-21	RWP# 006	Survey No. 0179	Survey Type: Charcterization	pg. 4 of 4
Site: Brookhaven National Lab, Upton NY					

Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1	N	A	1	0	36
2			2	3	36
3			3	0	38
4			4	0	35
5			5	0	40
6			6	2	27
7			7	1	35
8			8	0	42
9			9	2	37
10			10	2	44
11			11	0	45
12			12	0	44
13			13	0	44
14			14	2	40
15			15	0	192

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1	N	A	1	-1.4	-13
2			2	7.0	-13
3			3	-1.4	-2
4			4	-1.4	-19
5			5	-1.4	10
6			6	4.2	-65
7			7	1.4	-19
8			8	-1.4	21
9			9	4.2	-7
10			10	4.2	33
11			11	-1.4	38

ICC
Mantis



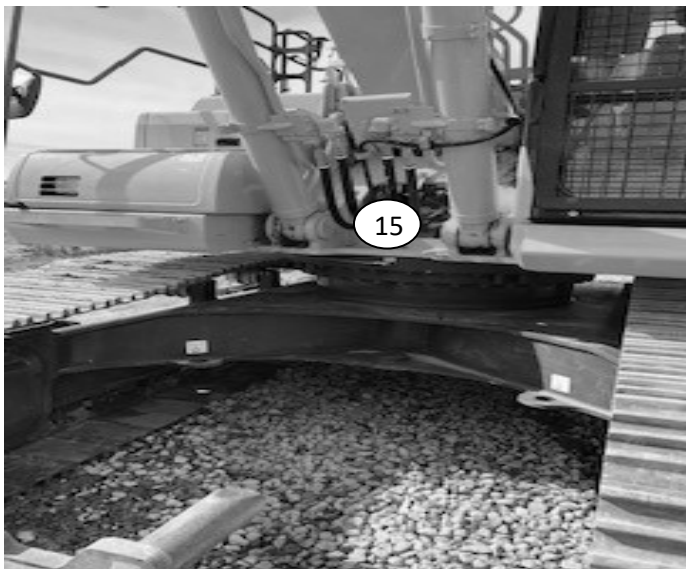
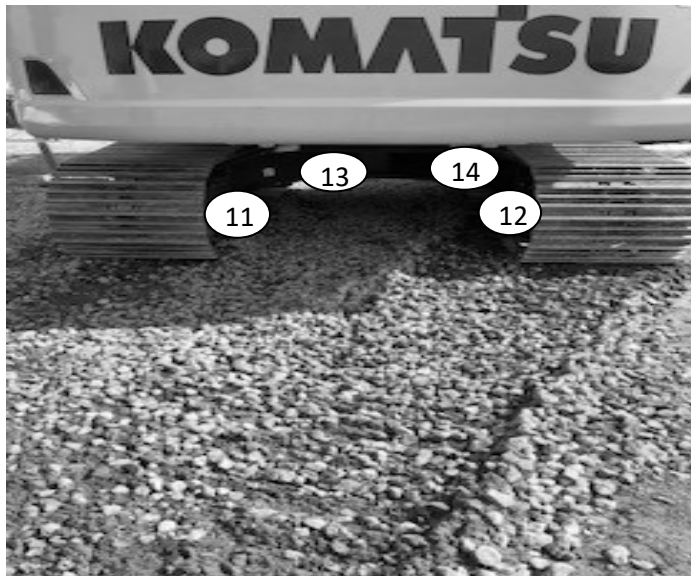
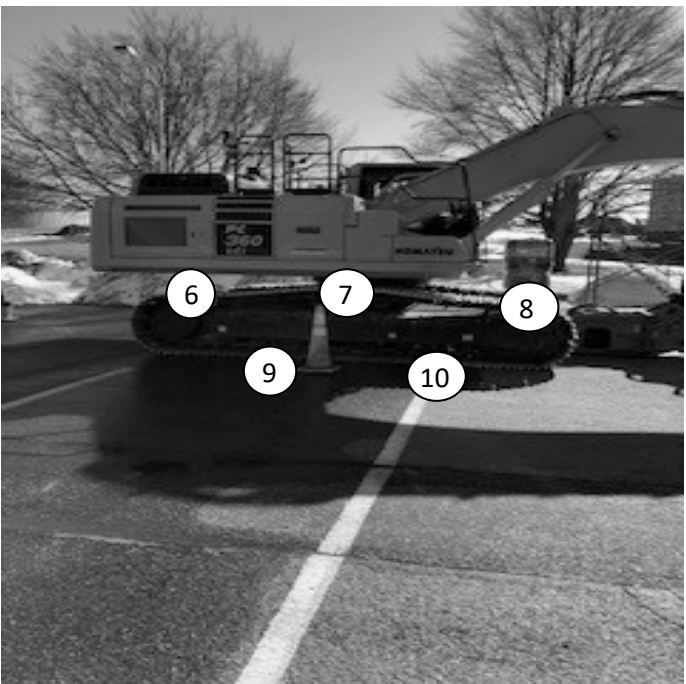
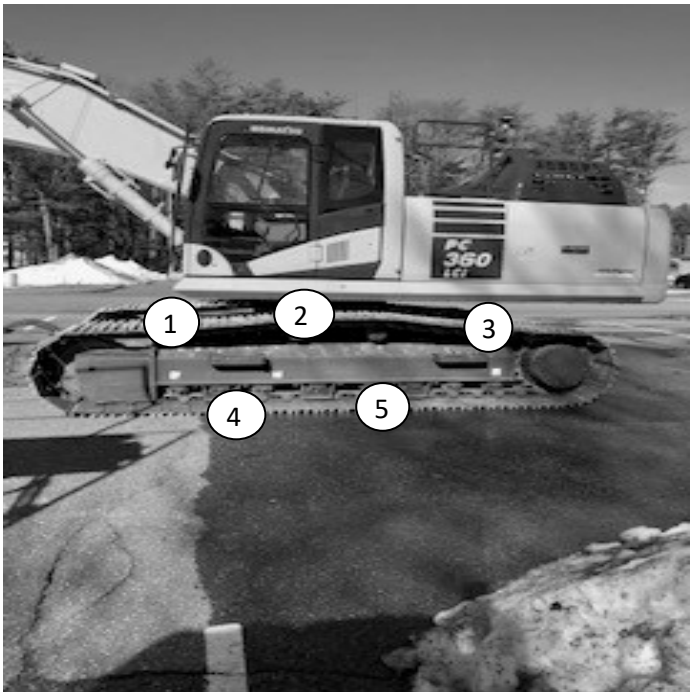
Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key	
J.Golliher	04-Feb-21	2929	137607	0.357	0.175	0.5	38.3	N/A	09-Oct-21		
	04-Feb-21	43-10-1	PR157821							☐	A/S Location
		2360	168047	0.106	0.144	0	145	N/A	06-Aug-21	*-*	Boundary

Location: B705 Stack			Date: 02-25-21			RWP# 006			Survey No. 0212			Survey Type: Unrestricted Release			Pg. 1 of 1														
Site: Brookhaven National Lab, Upton, NY												Serial Number: 10871157																	
Gross CPM																													
Static			Smears																										
No.	α	β	No.	α	β																								
1	2	153	1	0	46																								
2	4	149	2	1	43																								
3	3	170	3	0	37																								
4	2	163	4	0	40																								
5	1	173	5	0	34																								
6	3	165	6	1	36																								
7	N		7																										
8			8																										
9			9																										
10			10																										
11			11																										
12			12																										
13			13																										
14			14																										
15			15		A																								
Net DPM/100cm ²																													
Static			Smears																										
No.	α	β	No.	α	β																								
1	0	-62	1	-3.4	113																								
2	10	-92	2	2.3	70																								
3	5	69	3	-3.4	-16																								
4	0	15	4	-3.4	27																								
5	-5	92	5	-3.4	-59																								
6	5	31	6	2.3	-30																								
7	N		7																										
8			8																										
9			9																										
10			10																										
11			11																										
12			12																										
13			13																										
14			14																										
15			15		A																								
						Surveyed By:		Date:		Instrument		Serial #		α Eff.		β Eff.		α Bkg.		β Bkg		γ Bkg		Cal. Due				Key	
						Jason Golliher		25-Feb-21		2929		137607		0.175		0.07		0.6		38.1		N/A		09-Oct-21					
						Jason Golliher		25-Feb-21		43-10-1		PR142936		0.21		0.13		2		161		N/A		06-Aug-21		☐		A/S Location	
								25-Feb-21		2360		184938														*.*		Boundary	
								25-Feb-21		43-93		PR197452														☐		Smear	
																										☐		Dose Rate _____ /hr	
																										*		Direct Reading CPM/direct frisk	
						Reviewed By: DB																				☐		Grab Sample	
Direct and smears taken from the same location. 100% scan on all accessible surface. These Chop Saw radiological measurements meet the Table 2-B , Free Release Surface Contamination Values as identified in the section 5.24, B705 rev 0, Radiological Control Manual.																													



Location:B705 Stack Site: Brookhaven National Lab	Date:02-24-21	RWP# 006	Survey No. 0211	Survey Type:Unrestricted Release	Pg. 1 of 1
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Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1	1	98	1	0	40
2	0	64	2	0	45
3	0	92	3	0	36
4	1	92	4	1	39
5	0	73	5	0	37
6	1	75	6	1	41
7	3	94	7	1	47
8	3	83	8	0	34
9	0	100	9	2	34
10	3	82	10	2	33
11	2	112	11	0	34
12	3	88	12	0	43
13	0	75	13	1	48
14	1	84	14	1	35
15	3	88	15	1	37



Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1	5	15	1	-1.7	11
2	0	-246	2	-1.7	39
3	0	-31	3	-1.7	-12
4	5	-31	4	1.1	5
5	0	-177	5	-1.7	-6
6	5	-162	6	1.1	17
7	14	-15	7	1.1	51
8	14	-100	8	-1.7	-23
9	0	31	9	3.9	-23
10	14	-108	10	3.9	-29
11	10	123	11	-1.7	-23
12	14	-62	12	-1.7	28
13	0	-162	13	1.1	57
14	5	-92	14	1.1	-18
15	14	-62	15	1.1	-6

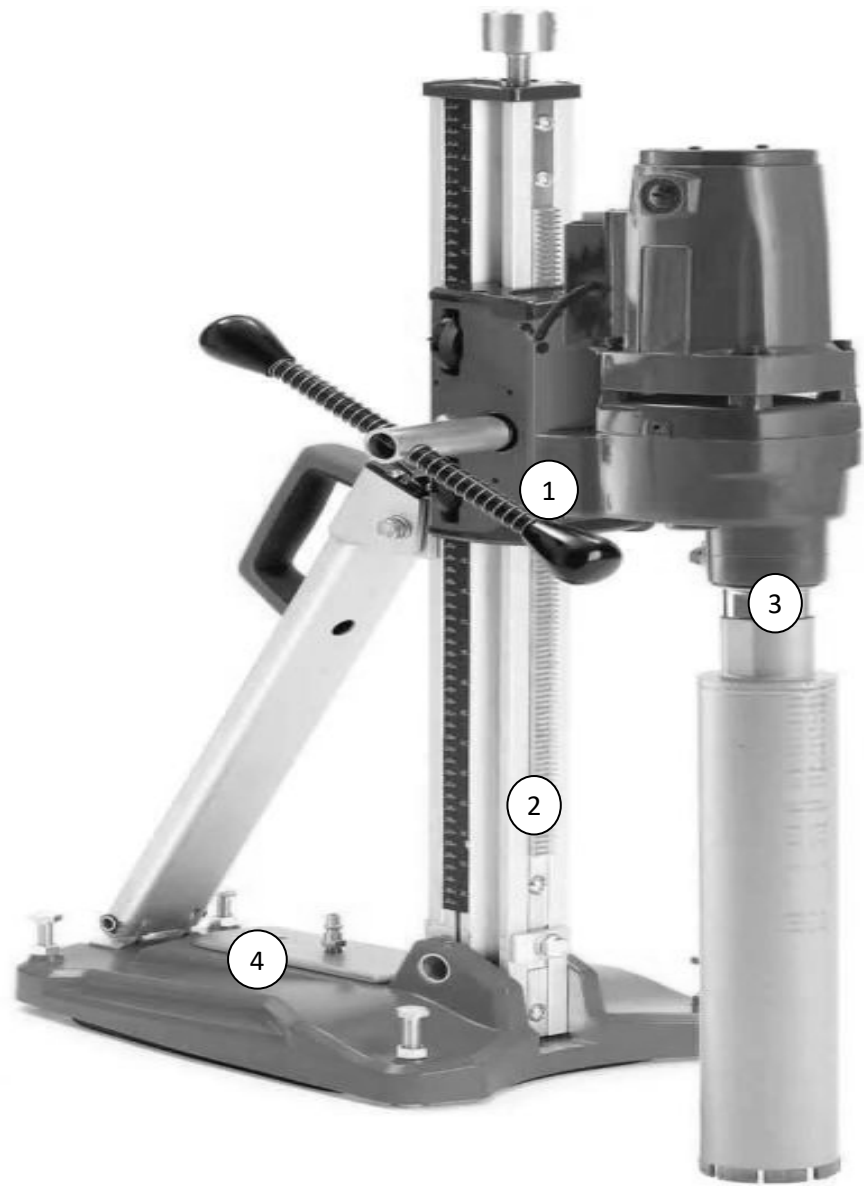
Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due	Key	
Karl Retherford	24-Feb-21	2929	137607	0.357	0.175	0.6	38.1	N/A	09-Oct-21		
	24-Feb-21	43-10-1	PR142936							☐	A/S Location
	24-Feb-21	12	130346	N/A	N/A	N/A	40	N/A	30-Oct-21		*-*
	24-Feb-21	44-9	PR306458								○
	24-Feb-21	2360	184938	0.21	0.13	0	96	N/A	06-Aug-21		☐
	24-Feb-21	43-93	PR197452								*
Reviewed By:DB											△

Direct and smears taken from the same location. 100% scan on all accessible surfaces. This Track hoe was used to loadout debris into IMC's for shipment from the base of the stack. These Track Hoe radiological measurements meet the **Table 2-B**, Free Release Surface Contamination Values as identified in the section 5.24, B705 rev 0, Radiological Control Manual.

Location: Core Drill #1 Site: Brookhaven National Lab, Upton, NY	Date:08-31-2021	RWP NA	Survey No. 0645	Survey Type: Contamination	Pg. 1 of 1
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Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1			1	0	41
2			2	0	34
3			3	0	34
4			4	0	39
5					
6					
7					
8					
9					
10					

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1			1	-1.3	76
2			2	-1.3	-13
3			3	-1.3	-13
4			4	-1.3	51
5					
6					
7					
8					
9					



Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due	Key	
W Fillingame	31-Aug-21	2929	271413	0.156	0.079	0.2	35	N/A	09-Oct-21		
		43-10-1	PR142936							☐	A/S Location
	31-Aug-21	Mod 12	128280							*.*	Boundary
		44-9	PR112192		0.048	0	40	N/A	25-Feb-22	☐	Smear / Static
										☐	Dose Rate _____ /hr
										*	Direct Reading CPM/direct frisk
Reviewed By: DB										☐	Grab Sample

Large Area Wipe (LAW) taken. No radioactivity detected on LAW.

Location: Core Drill Site: Brookhaven National Lab, Upton, NY			Date: 05-26-2021			RWP# 008			Survey No. 0438			Survey Type: Unrestricted Release			Pg. 1 of 1		
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Gross CPM						
Static			Smears			
No.	α	β	No.	α	β	
1	1	163	1	0	23	
2	0	151	2	0	11	
3	2	167	3	0	20	
4	2	145	4	0	22	
5	2	168	5	0	26	
6	2	126	6	0	13	
7	1	135	7	0	8	
8	1	144	8	0	20	
9	1	145	9	0	10	
10	1	124	10	0	4	

Net DPM/100cm ²						
Static			Smears			
No.	α	β	No.	α	β	
1	0	-385	1	0.0	28	
2	-10	-615	2	0.0	-123	
3	10	-308	3	0.0	-10	
4	10	-731	4	0.0	15	
5	10	-288	5	0.0	65	
6	10	-1096	6	0.0	-98	
7	0	-923	7	0.0	-160	
8	0	-750	8	0.0	-10	
9	0	-731	9	0.0	-135	




						Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due	Key	
						B Gaudette	25-May-21	2929	163827	0.154	0.08	0	20.8	N/A	09-Oct-21		
								43-10-1	PR142936								
							25-May-21	2360	184952	0.102	0.052	1	183	N/A	25-Feb-22		
								43-93	PR292154								
						Reviewed By: DB											

☐	A/S Location
*~	Boundary
○	Smear / Static
☐	Dose Rate _____ /hr
*	Direct Reading CPM/direct frisk
△	Grab Sample

Large Area Wipe (LAW) taken. No radioactivity detected on LAW.

Location: Core Drill #2 Site: Brookhaven National Lab, Upton, NY			Date: 08-31-2021		RWP NA		Survey No. 0644		Survey Type: Contamination		Pg. 1 of 1	
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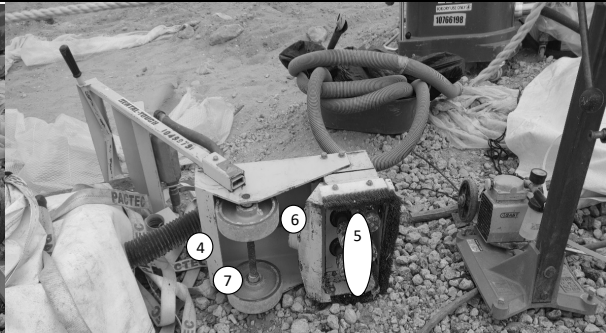
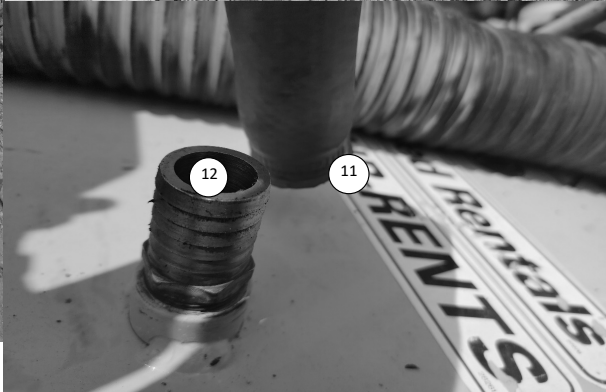
Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1			1	0	40
2			2	0	32
3			3	0	39
4			4	0	26
5					
6					
7					
8					
9					
10					

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1			1	-1.3	63
2			2	-1.3	-38
3			3	-1.3	51
4			4	-1.3	-114
5					
6					
7					
8					
9					



Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key	
W Fillingame	31-Aug-21	2929	271413	0.156	0.079	0.2	35	N/A	09-Oct-21	☐	A/S Location
		43-10-1	PR142936							☐	Boundary
	31-Aug-21	Mod 12	128280							☐	Smear / Static
		44-9	PR112192		0.048	0	40	N/A	25-Feb-22	☐	Dose Rate _____ /hr
										*	Direct Reading CPM/direct frisk
Reviewed By: DB										☐	Grab Sample

Large Area Wipe (LAW) taken. No radioactivity detected on LAW.

Location: Concrete Scabbler Site: Brookhaven National Lab, Upton, NY			Date: 5-26-21			RWP# 008			Survey No. 0440			Survey Type: Contamination			Pg. 1 of 1														
Gross CPM																													
Static			Smears																										
No.	α	β	No.	α	β																								
1	3	109	1	0	45																								
2	3	138	2	0	40																								
3	4	133	3	0	46																								
4	4	120	4	0	45																								
5	0	116	5	3	47																								
6	1	173	6	0	38																								
7	1	151	7	1	42																								
8	0	120	8	0	48																								
9	1	120	9	0	54																								
10	0	145	10	1	42																								
11	3	168	11	0	43																								
12	3	179	12	0	49																								
Net DPM/100cm ²																													
Static			Smears																										
No.	α	β	No.	α	β																								
1	29	-1346	1	-0.7	55																								
2	29	-788	2	-0.7	-8																								
3	39	-885	3	-0.7	68																								
4	39	-1135	4	-0.7	55																								
5	0	-1212	5	19.7	80																								
6	10	-115	6	-0.7	-33																								
7	10	-538	7	6.1	18																								
8	0	-1135	8	-0.7	93																								
9	10	-1135	9	-0.7	168																								
10	0	-654	10	6.1	18																								
11	31	-304	11	-0.7	30																								
12	31	-107	12	-0.7	105																								
						Surveyed By:		Date:		Instrument		Serial #		α Eff.		β Eff.		α Bkg.		β Bkg.		γ Bkg.		Cal. Due				Key	
						B Gaudette		26-May-21		2929		157320		0.147		0.08		0.1		40.6		N/A		09-Oct-21				☐ A/S Location	
								26-May-21		2360		184952		0.102		0.052		0		179		N/A		25-Feb-22				*.* Boundary	
										43-93		PR292154		0.097		0.056		0		185		N/A		14-Apr-22				☐ Smear / Static	
								26-May-21		2360		168043		0.097		0.056		0		185		N/A		14-Apr-22				☐ Dose Rate _____/hr	
										43-93		PR199833														*		Direct Reading CPM/direct frisk	
						Reviewed By: DB																						☐ Grab Sample	
Large Area Wipe (LAW) taken. No radioactivity detected on LAW. 43-93 / PR199833 & 2360 / 168043 used for 11 - 12th static measurements due to light leak failure of 43-93 / PR157821.																													



1

Location: Pressure Washer Site: Brookhaven National Lab, Upton, NY			Date: 8-6-21		RWP# 009		Survey No. 0624		Survey Type: Unrestricted Release			Pg. 1 of 1	
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Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1	0	179	1	0	39
2	0	161	2	0	31
3	0	171	3	0	41
4	0	170	4	0	39
5	5	151	5	0	38
6	3	165	6	0	34
7	1	155	7	0	40
8	10	198	8	0	38
9	1	195	9	0	31
10	0	169	10	0	37

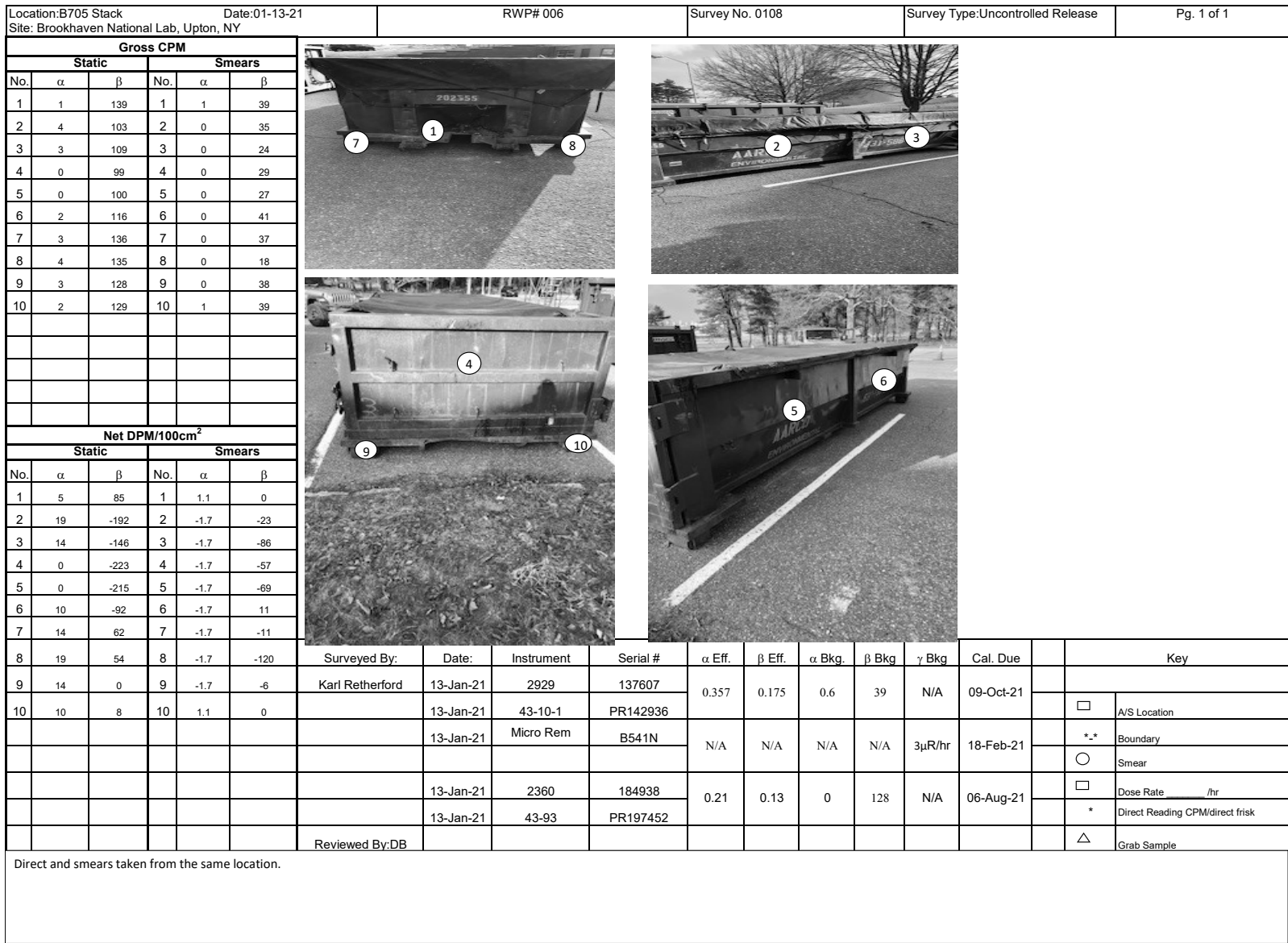
Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1	0	95	1	-0.6	49
2	0	-95	2	-0.6	-52
3	0	11	3	-0.6	75
4	0	0	4	-0.6	49
5	46	-200	5	-0.6	37
6	28	-53	6	-0.6	-14
7	9	-158	7	-0.6	62
8	93	295	8	-0.6	37
9	9	263	9	-0.6	-52
10	0	-11	10	-0.6	24

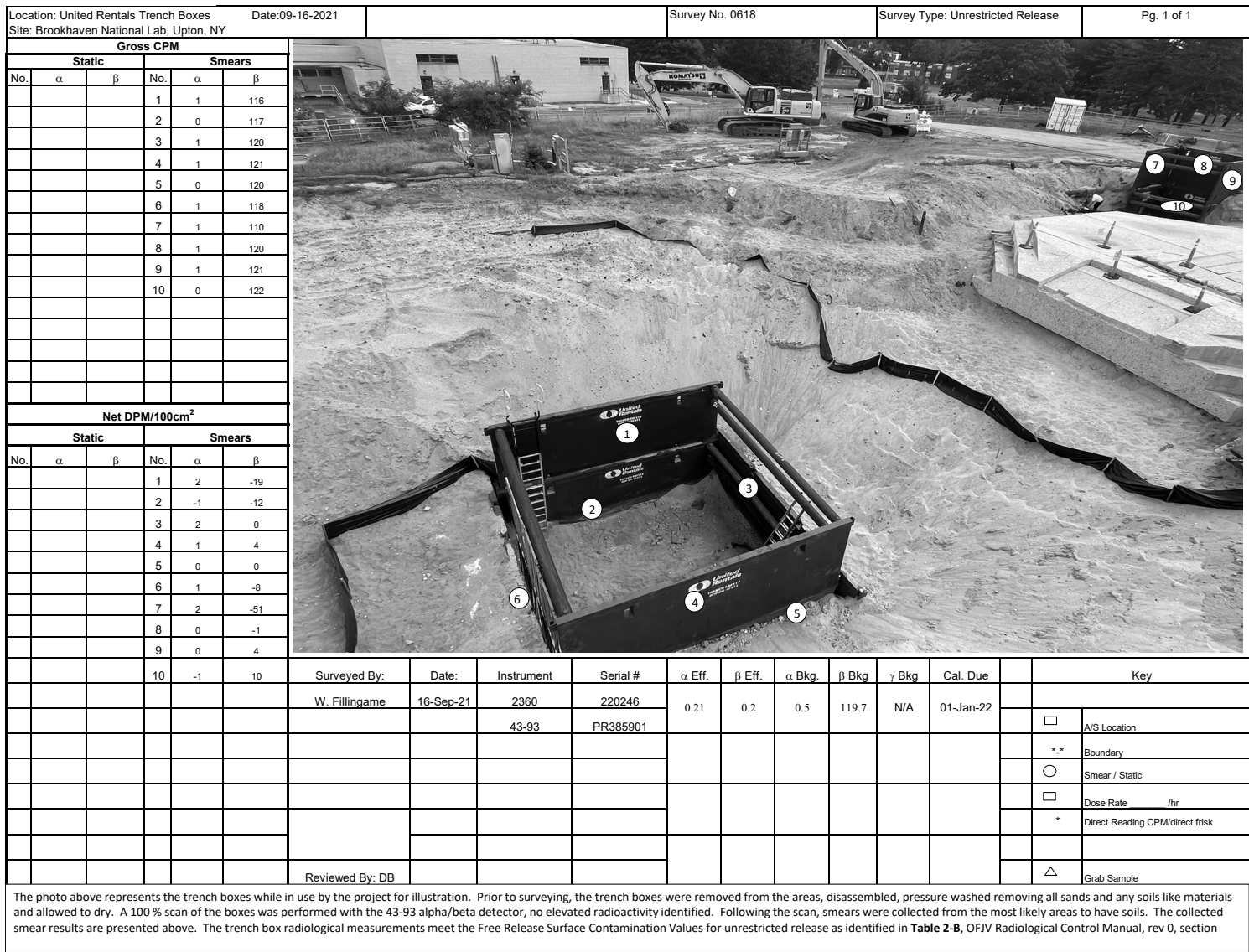
Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key	
B. Gaudette	06-Aug-21	2929	271413	0.156	0.079	0.1	35.1	N/A	14-Jun-22	☐	A/S Location
		43-10-1	PR291575								
	06-Aug-21	12	128280	N/A	0.048	N/A	N/A	40	13-May-22	*.*	Boundary
		44-9	PR112192							☐	Smear / Static
	06-Aug-21	2360	193675	0.108	0.095	0	170	N/A	05-Feb-22	☐	Dose Rate /hr
		43-93	PR292171							*	Direct Reading CPM/direct frisk
Reviewed By: DB										☐	Grab Sample

Direct frisk performed with 44-9, no radioactivity identified.

1

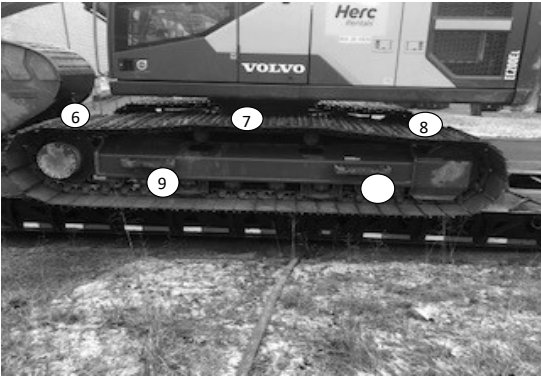
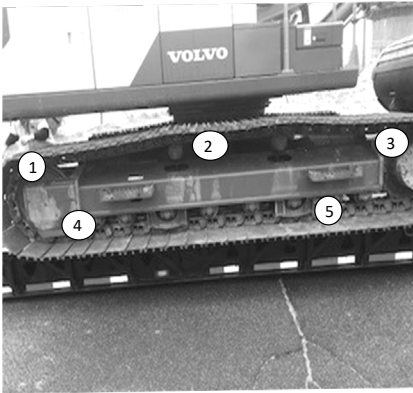
Location: B705 Stack Demolition			Date: 02-9-21			RWP# 006			Survey No. 0188			Survey Type: Uncontrolled Release			Pg. 1 of 1			
Site: Brookhaven National Lab, Upton, NY																		
Gross CPM						Sissor Lift Serial Number SJ6832 RT												
Static			Smears															
No.	α	β	No.	α	β													
1	2	128	1	0	54													
2	3	134	2	0	41													
3	2	119	3	0	42													
4	1	147	4	2	36													
5	2	133	5	0	48													
6	1	124	6	0	38													
7	2	153	7	2	46													
8	2	132	8	2	44													
9	3	127	9	0	45													
10	2	141	10	2	34													
Net DPM/100cm ²																		
Static			Smears															
No.	α	β	No.	α	β													
1	3	518	1	-2.2	95													
2	6	553	2	-2.2	21													
3	3	467	3	-2.2	27													
4	1	627	4	3.4	-7													
5	3	547	5	-2.2	61													
6	1	495	6	-2.2	4													
7	3	661	7	3.4	50													
8	3	541	8	3.4	38													
9	6	513	9	-2.2	44													
10	3	593	10	3.4	-19													
Surveyed By:						Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key			
J.Golliher						09-Feb-21	2929	137607	0.357	0.175	0.8	37.3	N/A	09-Oct-21	☐	A/S Location		
						09-Feb-21	43-10-1	PR157821	0.196	0.144	2	127	N/A	06-Aug-21	☐	Boundary		
						09-Feb-21	2360	168047							☐	Smear		
						09-Feb-21	43-93	PR299676							☐	Dose Rate _____ /hr		
															☐	Direct Reading CPM/direct frisk		
Reviewed By:DB															☐	Grab Sample		



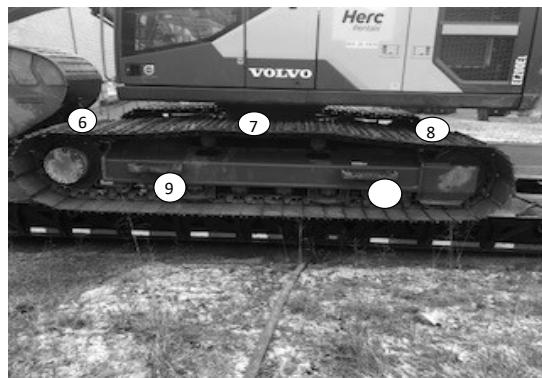
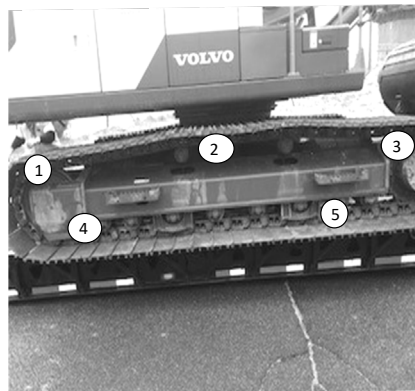


Location: B705 Stack Site: Brookhaven National Lab	Date: 01-25-21	RWP# 006	Survey No. 0175	Survey Type: Uncontrolled Release	Pg. 1 of 2
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Gross CPM																
Static			Smears													
No.	α	β	No.	α	β											
1	3	102	1	1	34											
2	3	81	2	0	38											
3	3	99	3	1	34											
4	2	145	4	0	51											
5	4	91	5	1	34											
6	4	108	6	0	32											
7	0	103	7	0	40											
8	3	110	8	0	42											
9	2	117	9	1	43											
10	3	94	10	0	7											
11	2	107	11	0	36											
12	1	96	12	0	32											
13	0	100	13	1	28											
14	2	126	14	2	40											
15	2	78	15	0	50											
Net DPM/100cm ²																
Static			Smears													
No.	α	β	No.	α	β											
1	-5	-323	1	2.0	-27											
2	-5	-485	2	-0.8	-4											
3	-5	-346	3	2.0	-27											
4	-10	8	4	-0.8	70											
5	0	-408	5	2.0	-27											
6	0	-277	6	-0.8	-38											
7	-19	-315	7	-0.8	7											
8	-5	-262	8	-0.8	19											
9	-10	-208	9	2.0	25											
10	-5	-385	10	-0.8	-181											
11	-10	-285	11	-0.8	-15											
12	-14	-369	12	-0.8	-38											
13	-19	-338	13	2.0	-61											
14	-10	-138	14	4.8	7											
15	-10	-508	15	-0.8	65											



Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg	γ Bkg	Cal. Due	Key	
Karl Retherford	25-Jan-21	2929	137607	0.357	0.175	0.3	38.7	N/A	09-Oct-21	☐	A/S Location
	25-Jan-21	43-10-1	PR142936							*.*	Boundary
	25-Jan-21	44-9	PR306458							☐	Smear
	25-Jan-21	2360	184938	0.21	0.13	4	144	N/A	06-Aug-21	☐	Dose Rate _____/hr
	25-Jan-21	43-93	PR197452							*	Direct Reading CPM/direct frisk
Reviewed By:DB										☐	Grab Sample

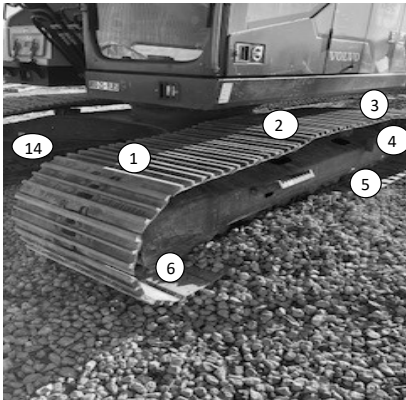
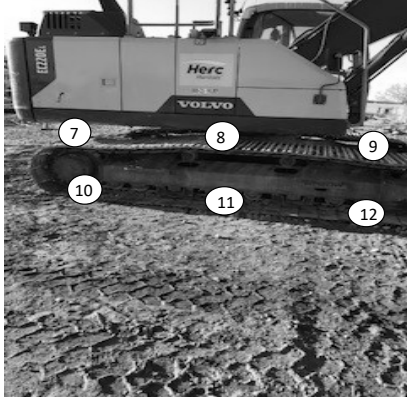
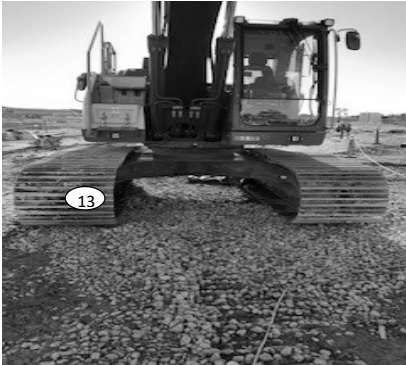


Direct and smears taken from the same location. 100% scan on all accessible surfaces. This Track hoe was used to loadout debris into IMC's for shipment from the base of the stack. These Track Hoe radiological measurements meet the **Table 2-B**, Free Release Surface Contamination Values as identified in the section 5.24, B705 rev 0, Radiological Control Manual.

Location: B705 Stack Site: Brookhaven National Lab			Date: 02-25-21			RWP# 006			Survey No. 0214			Survey Type: Uncontrolled Release			Pg. 1 of 1		
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Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1	2	93	1	0	33
2	0	81	2	1	32
3	2	113	3	0	38
4	1	96	4	0	37
5	2	94	5	1	47
6	3	112	6	0	38
7	3	101	7	0	36
8	1	95	8	1	39
9	3	105	9	1	26
10	1	114	10	0	31
11	3	84	11	1	31
12	3	108	12	0	37
13	3	139	13	0	40
14	1	125	14	1	40
15	3	79	15	0	38

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1	10	-69	1	-0.3	-45
2	0	-162	2	2.5	-50
3	10	85	3	-0.3	-16
4	5	-46	4	-0.3	-22
5	10	-62	5	2.5	35
6	14	77	6	-0.3	-16
7	14	-8	7	-0.3	-27
8	5	-54	8	2.5	-10
9	14	23	9	2.5	-85
10	5	92	10	-0.3	-56
11	14	-138	11	2.5	-56
12	14	46	12	-0.3	-22
13	14	285	13	-0.3	-5
14	5	177	14	2.5	-5
15	14	-177	15	-0.3	-16

14	1	2	3	4	5	6
						
7	8	9	10	11	12	13
						
15 						

Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key	
Karl Retherford	25-Feb-21	2929	137607	0.357	0.175	0.1	40.8	N/A	09-Oct-21	☐	A/S Location
	25-Feb-21	43-10-1	PR142936							*.*	Boundary
	25-Feb-21	12	130346							○	Smear
	25-Feb-21	44-9	PR306458	N/A	N/A	N/A	40	N/A	30-Oct-21	☐	Dose Rate _____ /hr
	25-Feb-21	2360	184938							*	Direct Reading CPM/direct frisk
	25-Feb-21	43-93	PR197452							△	Grab Sample
Reviewed By:											

Direct and smears taken from the same location. 100% scan on all accessible surfaces. This Track hoe was used to loadout debris into IMC's for shipment from the base of the stack. These Track Hoe radiological measurements meet the **Table 2-B**, Free Release Surface Contamination Values as identified in the section 5.24, B705 rev 0, Radiological Control Manual.

Location: Volvo Excavator Site: Brookhaven National Lab, Upton, NY		Date:08-04-2021		RWP# 008		Survey No. 0619		Survey Type: Unrestricted Release		Pg. 1 of 1	
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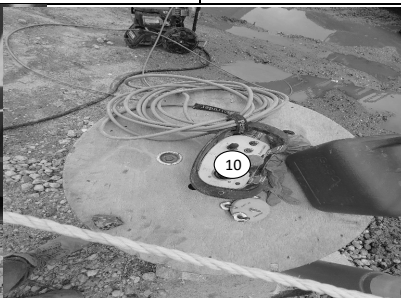
Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1	2	149	1	0	42
2	3	120	2	1	44
3	2	115	3	0	35
4	0	164	4	0	37
5	2	127	5	0	31
6	1	131	6	1	31
7	3	138	7	0	40
8	1	136	8	1	43
9	1	119	9	0	34
10	3	120	10	0	36
11	1	129	11	0	39
12	1	128	12	2	38
13	0	145	13	0	28
14	1	149	14	0	24

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1	9	-368	1	-1	56
2	19	-674	2	6	81
3	9	-726	3	-1	-33
4	-9	-211	4	-1	-8
5	9	-600	5	-1	-84
6	0	-558	6	6	-84
7	19	-484	7	-1	30
8	0	-505	8	6	68
9	0	-684	9	-1	-46
10	19	-674	10	-1	-20
11	0	-579	11	-1	18
12	0	-589	12	12	5
13	-9	-411	13	-1	-122
14	0	-368	14	-1	-172

Surveyed By:		Date:		Instrument		Serial #		α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key	
B.Gaudette		04-Aug-21		2929		271413		0.156	0.079	0.1	37.6	N/A	07-Jun-22		
				43-10-1		PR291575								☐ A/S Location	
		04-Aug-21		12		128280								☐ Boundary	
				44-9		PR112192		N/A	0.048	N/A	N/A	40	13-May-22	☐ Smear / Static	
		04-Aug-21		2360		193675								☐ Dose Rate /hr	
				43-93		PR292171								☐ Direct Reading CPM/direct frisk	
Reviewed By: DB														☐ Grab Sample	

Direct frisk performed with 44-9, no radioactivity identified. # Location is inside of track.

Location: 480 V Power Cables			Date: 7/31/21			RWP# 009			Survey No. 0616			Survey Type: Unrestricted Release			Pg. 1 of 1					
Site: Brookhaven National Lab, Upton, NY																				
Gross CPM																				
Static			Smears																	
No.	α	β	No.	α	β															
1	0	133	1	0	35															
2	0	131	2	1	33															
3	0	157	3	0	31															
4	0	171	4	0	31															
5	0	145	5	0	34															
6	0	157	6	0	27															
7	0	161	7	0	30															
8	0	183	8	0	38															
9	0	146	9	0	36															
10	0	135	10	0	33															
Net DPM/100cm ²																				
Static			Smears																	
No.	α	β	No.	α	β															
1	-29	-1481	1	0	16															
2	-29	-1519	2	6	-9															
3	-29	-1019	3	0	-34															
4	-29	-750	4	0	-34															
5	-29	-1250	5	0	4															
6	-29	-1019	6	0	-85															
7	-29	-942	7	0	-47															
8	-29	-519	8	0	54															
9	-29	-1231	9	0	29															
10	-29	-1442	10	0	-9															

Location: Concrete Saw Site: Brookhaven National Lab, Upton, NY			Date:07-7-2021			RWP# 009			Survey No. 0513			Survey Type: Unrestricted Release			Pg. 1 of 1						
Gross CPM																					
Static			Smears																		
No.	α	β	No.	α	β																
1	2	115	1	0	35																
2	1	126	2	0	34																
3	1	142	3	0	38																
4	2	140	4	0	29																
5	2	150	5	0	30																
6	0	156	6	0	44																
7	1	117	7	0	35																
8	1	149	8	0	20																
9	1	172	9	0	30																
10	4	115	10	0	36																
Net DPM/100cm ²						 															
Static			Smears																		
No.	α	β	No.	α	β																
1	20	-1192	1	0	65																
2	10	-981	2	0	53																
3	10	-673	3	0	101																
4	20	-712	4	0	-7																
5	20	-519	5	0	5																
6	0	-404	6	0	173																
7	10	-1154	7	0	65																
8	10	-538	8	0	-116																
9	10	-96	9	0	5																
10	39	-1192	10	0	77																
Surveyed By: B.Gaudette Date: 07-Jul-21 Instrument: 2929 Serial #: 129566 α Eff.: 0.175 β Eff.: 0.083 α Bkg.: 0 β Bkg.: 29.6 γ Bkg.: N/A Cal. Due: 07-Jun-22 Reviewed By: DB																		Key			
Large Area Wipe (LAW) was taken, no radioactivity detected on LAW. Direct frisk performed with 44-9, no radioactivity identified.																					

Location: Concrete Corer and Bits Site: Brookhaven National Lab, Upton, NY		Date: 07-31-21		RWP# 009		Survey No. 0607		Survey Type: Unrestricted Release		Pg. 1 of 1	
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Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1	2	142	1	0	32
2	1	157	2	0	33
3	0	158	3	0	20
4	0	141	4	0	31
5	0	152	5	0	28
6	1	143	6	0	36
7	1	145	7	0	24
8	0	162	8	0	23
9	0	179	9	0	23
10	0	181	10	0	24
11	1	172	11	0	31
12	2	150	12	0	24

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1	0	-484	1	-0.6	35
2	-9	-326	2	-0.6	47
3	-19	-316	3	-0.6	-110
4	-19	-495	4	-0.6	23
5	-19	-379	5	-0.6	-13
6	-9	-474	6	-0.6	83
7	-9	-453	7	-0.6	-61
8	-19	-274	8	-0.6	-73
9	-19	-95	9	-0.6	-73
10	-19	-74	10	-0.6	-61
11	-9	-168	11	-0.6	23
12	0	-400	12	-0.6	-61



Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key	
B. Gaudette	31-Jul-21	2929	129566	0.175	0.083	0.1	29.1	N/A	07-Jun-22	☐	A/S Location
	31-Jul-21	43-10-1	PR132720							☐	Boundary
		12	128280							☐	Smear / Static
		44-9	PR112192	N/A	0.048	N/A	N/A	40	13-May-22	☐	Dose Rate /hr
	31-Jul-21	2360	193675							☐	Direct Reading CPM/direct frisk
		43-93	PR292171							☐	Grab Sample

Reviewed By:											
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Direct frisk performed with 44-9, no radioactivity identified. # Underside of item.

Location: Concrete Corer and Bits Site: Brookhaven National Lab, Upton, NY		Date: 07-31-21		RWP# 009		Survey No. 0607		Survey Type: Unrestricted Release		Pg. 1 of 1	
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Gross CPM					
Static			Smears		
No.	α	β	No.	α	β
1	2	142	1	0	32
2	1	157	2	0	33
3	0	158	3	0	20
4	0	141	4	0	31
5	0	152	5	0	28
6	1	143	6	0	36
7	1	145	7	0	24
8	0	162	8	0	23
9	0	179	9	0	23
10	0	181	10	0	24
11	1	172	11	0	31
12	2	150	12	0	24

Net DPM/100cm ²					
Static			Smears		
No.	α	β	No.	α	β
1	0	-484	1	-0.6	35
2	-9	-326	2	-0.6	47
3	-19	-316	3	-0.6	-110
4	-19	-495	4	-0.6	23
5	-19	-379	5	-0.6	-13
6	-9	-474	6	-0.6	83
7	-9	-453	7	-0.6	-61
8	-19	-274	8	-0.6	-73
9	-19	-95	9	-0.6	-73
10	-19	-74	10	-0.6	-61
11	-9	-168	11	-0.6	23
12	0	-400	12	-0.6	-61



Surveyed By:	Date:	Instrument	Serial #	α Eff.	β Eff.	α Bkg.	β Bkg.	γ Bkg.	Cal. Due	Key	
B. Gaudette	31-Jul-21	2929	129566	0.175	0.083	0.1	29.1	N/A	07-Jun-22	☐	A/S Location
	31-Jul-21	43-10-1	PR132720							☐	Boundary
	31-Jul-21	44-9	PR112192							☐	Smear / Static
	31-Jul-21	2360	193675	0.108	0.095	2	188	N/A	01-Jan-22	☐	Dose Rate /hr
		43-93	PR292171							☐	Direct Reading CPM/direct frisk
										☐	Grab Sample

Reviewed By: _____

Direct frisk performed with 44-9, no radioactivity identified. # Underside of item.

