ENVIRONMENTAL COMPLIANCE & AREA COMPLETION PROJECTS

Baseline Asbestos Inspection Report of Building 483-3D

Q-APG-D-00020
November 25, 2019

Savannah River Nuclear Solutions, LLC
A Fluor Daniel Partnership

INTEROFFICE MEMORANDUM

Q-APG-D-00020
RSM Track Number 10755

November 25, 2019

TO: Andrew MacMillan, 730-4B

FROM: Heath McGregor, 730-4B

BASELINE ASBESTOS INSPECTION REPORT OF BUILDING 483-3D

On November 12, 2019, an inspection was performed to determine the presence of any suspect Asbestos Containing Material (ACM) in building 483-3D. Constructed in the 1950's, 483-3D is single-story building with a steel frame, corrugated cementitious siding, and a corrugated cementitious roof. The building is supported by a low-rise (approximately 2') concrete wall and concrete slab with a footprint of approximately 2,000 square feet. The building is slated for demolition and was unoccupied at the time of this inspection.

Nine (9) homogenous types of material were evaluated during this inspection. Some of the materials evaluated during this inspection were sampled and/or evaluated during a previous asbestos inspection. Please see the attached Inspection Survey Table for descriptions, estimated quantities, sample results, and location of the materials inspected. The analytical results from the previous report have been reproduced and are included in the Inspection Survey Table.

SUMMARY

All accessible, visible, suspect ACM was evaluated at the completion of this inspection. White high temperature rigid insulation was the only visible Thermal System Insulation (TSI) observed during the completion of this inspection. **The removal of all identified Presumed Asbestos Containing Material (PACM) and ACM must be performed by asbestos trained personnel, with proper permitting, and waste disposal procedures.** This evaluation was based on facility knowledge, material knowledge, analytical results, and document review.

Although building 483-3D has been deactivated and placed in a shutdown condition, the inspector could not verify that the building was in a de-energized state. Therefore, all suspect materials visually identified inside the electrical panel boxes must be considered PACM until sampled by a licensed asbestos inspector. In addition, all gaskets (if any) must be considered PACM. Gaskets in unbroken flanges are determined to be encased in a hardened substance therefore not subject to regulatory requirements if undisturbed.

All samples were analyzed by Polarized Light Microscopy (PLM). As required South Carolina Department of Health and Environmental Control (SC DHEC) Regulation 61-86.1, if the samples were organically bound, additional Transmission Electron Microscopy (TEM) was used to confirm negative results.

Samples collected in the previous inspection were analyzed at the SRNS LLC., Industrial Hygiene Laboratory, which is accredited by the American Industrial Hygiene Association (AIHA) Laboratory Quality Assurance Program (LQAP) in the Field of Testing (FoT)/PLM. The laboratory ID number is 100642. The analysts have attended Course 1608A: Microscopical Identification of Asbestos, presented by McCrone Research Institute or equivalent, and have completed the training qualifications to maintain proficiency. Samples requiring TEM analysis were shipped to an off-site laboratory for testing.

Savannah River
Nuclear Solutions, LLC
A Fluor Daniel Partnership

INTEROFFICE MEMORANDUM

Samples collected during this inspection were analyzed by Bureau Veritas North America, Inc. The laboratory is located at 3380 Chastain Meadows Parkway, Suite 300 Kennesaw, GA 30144. Please see the attached laboratory report for a review of accreditations and certifications.

If this report is used for contract bid or regulatory permit purposes, it is the obligation of the user to verify the actual quantities of the materials presented in the Inspection Survey Table. In accordance with 40CFR part 61.145 a **ten-day notification** must be filed with SC DHEC prior to demolition.

ASBESTOS INSPECTOR	INSTITUTION	CERT. NO	STATE	EXP. DATE
Heath McGregor	Greenville Tech College	192-EVT502-091	SC	**04/09/2020**

Included on the SRS Long-term in-house Group license ABS 8021

C: C.R.F., 773-52A
Site D&D Correspondence File
J.K. Barrineau, 730-4B
Joseph Burch, 730-4B
Mark Wright, 705-3C
Lance Cramer, 730-4B

INSPECTION SURVEY TABLE OF BUILDING 483-3D

Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H01OB	Miscellaneous	**Description:** Whitish/grey colored window glazing (painted) **Sample Numbers:** 4833D191112-01A, 4833D191112-01B, 4833D191112-01C **Sample Number:** 4833D191112-01A analyzed via TEM.	Approximately 30 Square Feet	**Negative See Note 1.**	Non-friable Good Condition
Location: Observed on the glass and metal window framework.					
H02	Miscellaneous	**Description:** Corrugated cementitious panels (painted/coated) **Sample Numbers:** N/A, suspected to contain ACM.	Approximately 4,800 Square Feet	**PACM**	Non-friable Good Condition **See Note 2.**
Location: Observed on all sides, roof, and ridge cap of the building.					
H03OB	Miscellaneous	**Description:** Various type sealants (painted) **Sample Numbers:** N/A, directly adhered to PACM.	Not Measured	**PACM See Note 3.**	Non-friable Good Condition
Location: Observed in seams and penetrations at various locations on the cementitious panels.					
H04	Miscellaneous	**Description:** Black colored backer rod **Sample Numbers:** N/A, PACM due to application method and age of installation.	Not Measured	**PACM**	Non-friable Good Condition
Location: Observed at corner seams, roof seams, and ridge cap of exterior corrugated cementitious panels.					
H05	Miscellaneous	**Description:** Cloth electrical wire jacketing (braided) **Sample Numbers:** N/A, inaccessible for sample collection.	Not Measured	**PACM**	Non-friable Good Condition
Location: Observed in some of the electrical panel boxes and remaining switch gear components inside the building (See Photo 1 for example).					
H06OB *H01OB **See Note 4.**	Miscellaneous	**Description:** Dark colored expansion joint filler ***Sample Numbers:** 4833D090401-01A, 4833D090401-01B, 4833D090401-01C ***Sample Number:** 4833D090401-01B	Approximately 100 Linear Feet	Negative	Non-friable Good Condition
Location: Located inside the building between the foundation and containment wall expansion joints.					
*H07OB **See Note 4.**	Miscellaneous	**Description:** Black colored sealant ***Sample Numbers:** 4833D090401-02A, 4833D090401-02B, 4833D090401-02C	Approximately 3 Square Feet	**Positive**	Non-friable Good Condition
Location: Observed in some of the floor penetrations and randomly scattered across floor (See Photo 2 for example).					

INSPECTION SURVEY TABLE OF BUILDING 483-3D

Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H08	TSI	**Description:** White high temperature rigid insulation (under metal jacketing) **Sample Numbers:** N/A, PACM due to application method and age of installation.	Approximately 100 Linear Feet	PACM	Friable Good Condition
Location: Observed on steam lines attached to building heaters.					
H09OB	Miscellaneous	**Description:** Grey colored mastic and fabrication cloth **Sample Numbers:** N/A, PACM due to application method and age of installation.	Approximately 4 Linear Feet	PACM	Non-friable Good Condition
Location: Observed on steam lines attached to building heaters.					

1. In these samples, less than 1% total but greater than 0% (trace amounts) of asbestos fibers were identified. Following EPA standards, these results are to be considered negative for asbestos.
2. This material can be rendered friable if cut, sanded, or abraded.
3. This type of material may not contain ACM but is directly adhered to ACM/PACM. Therefore, the possibility of cross contamination exists, and the material must be considered PACM.
4. Sample numbers and results from report SDD-APG-2009-00554.

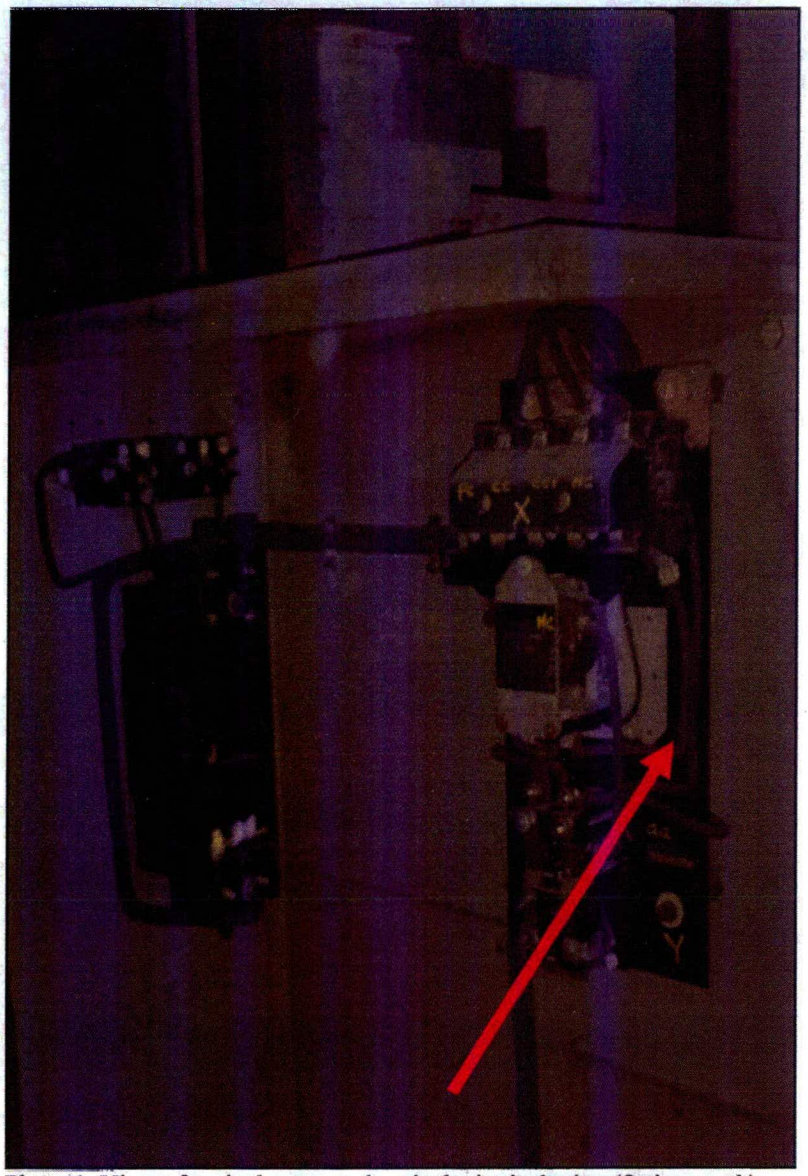

Photo 1. View of typical suspect electrical wire jacketing (facing south).

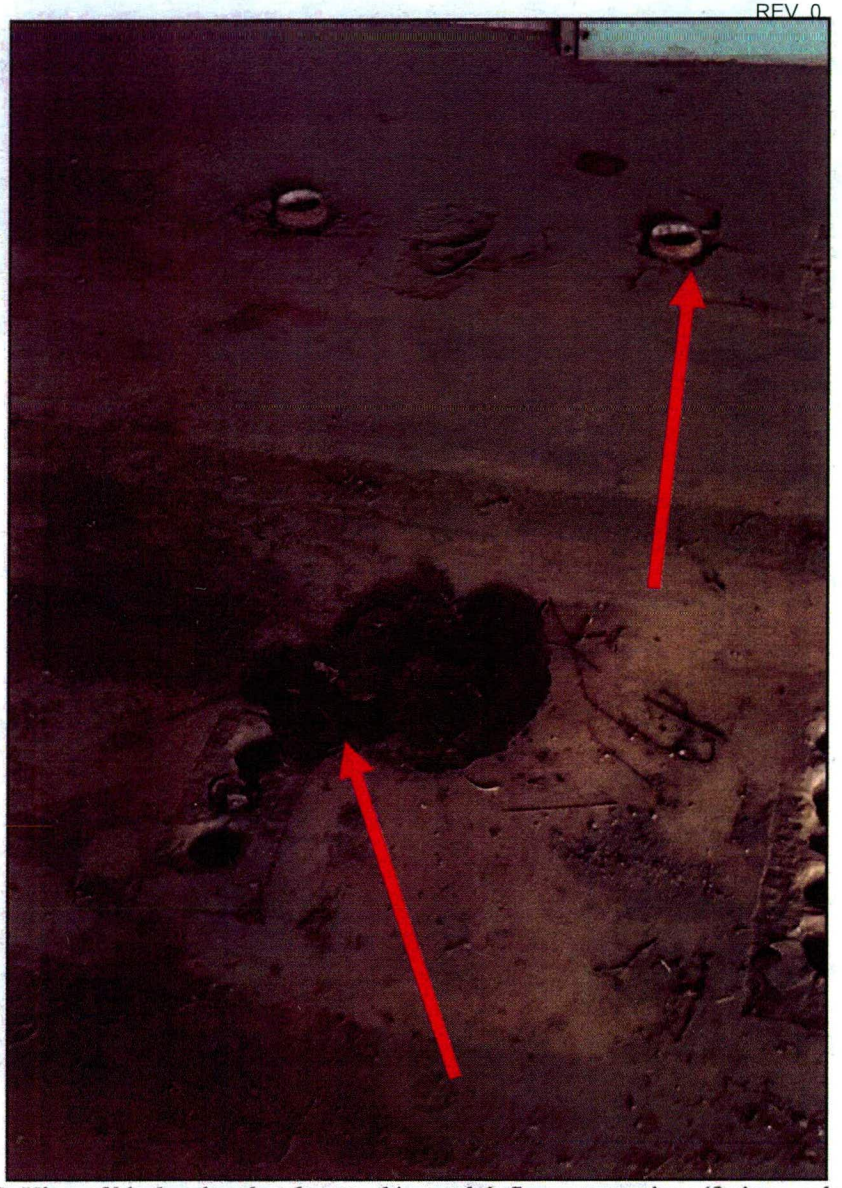

Photo 2. View of black colored sealant used in conduit floor penetrations (facing northwest).

November 23, 2019

Kenny Barrineau
SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC
Building 730-4B, 2135
Aiken, SC 29808

Bureau Veritas Work Order No A1911172

Reference Activity Code: 0BJL15PNDC

Dear Kenny Barrineau:

Bureau Veritas North America, Inc. received 3 samples on November 18, 2019 for the analyses presented in the following report.

The results apply only to the samples analyzed in this project. Please note that any unused portion of the samples will be discarded after a sixty-day holding period, unless you have requested otherwise.

This material is confidential and is intended solely for the person to whom it is addressed. If this is received in error, please contact the number provided below.

We appreciate the opportunity to assist you. If you have any questions concerning the report, please contact the analyst whose name appears on the report or myself at (770) 499-7701.

Sincerely,
Kuntal Parikh

Kuntal Parikh
Senior Microscopist
Electronic signature authorized through password protection

cc: Heath McGregor
Mike
Siobhan Kitchen

Bureau Veritas North America, Inc.
Industrial Hygiene Laboratory
3380 Chastain Meadows Parkway, Suite 300
Kennesaw, GA 30144
Main: (770) 499-7701
Fax: (770) 499-7511
www.bvlabs.com

CASE NARRATIVE

Date: *23-Nov-19*

CLIENT: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC

Project: Activity Code: 0BJL15PNDC

Work Order No A1911172

ANALYTICAL METHOD FOR ASBESTOS IN BULK SAMPLES USING POLARIZED LIGHT MICROSCOPY (PLM)

The results of this report relate only to the samples listed in the body of this report.

Unless otherwise noted below, the following statements apply: 1) all samples were received in acceptable condition, 2) all quality control results associated with this sample set were within acceptable limits and/or do not adversely affect the reported results, and 3) the industrial hygiene results have not been blank corrected unless otherwise noted.

Use of EPA/600/R-93/116 satisfies applicable requirements of the USEPA's "Interim Method for the Determination of Asbestos in Bulk Insulation Sample", EPA-600/M4-82-020, December 1982, published as Appendix E to Subpart E of 40CFR763. Bulk samples analyzed by New York State methods follow stratified point counting methods (198.1) or Method 198.6 for PLM non-friable organically bound materials (NYSDOH Lab Code –11645). Percentages are visual estimations of asbestos >3:1 aspect ratio. The reliable limit of quantitation of the method is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "None Detected" indicates that no asbestos fibers were observed. NESHAP requires point counting of a bulk sample when the result is <10% by a method other than point counting. EPA, however states that if 3 mounts of the sample are analyzed and the asbestos percentage is <10% by visual estimation, the client may elect to assume the amount to be greater than 1% or require verification by point counting. If the result by point counting is different than the result obtained by visual estimation, the point count result will be used. Sample friability or non-friability noted on the report is a requirement for the State of California and refers only to the condition of the sample under macroscopic examination. It does not imply friability or non-friability for the sample as collected or observed in the field as determined by the person collecting the sample. The Kennesaw, Georgia lab is accredited by NVLAP –Lab Code 101125-0.

(a)Polarized- light microscopy is not consistently reliable in detecting asbestos in floor coverings, similar non-friable organically bound materials, soil and vermiculite. Quantitative electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos containing. When analysis of such materials by PLM yields results negative for the presence of asbestos, Bureau Veritas recommends utilizing quantitative transmission electron microscopy (TEM). For more information, contact the laboratory.

References

CLIENT: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC

Project: Activity Code: 0BJL15PNDC

Work Order No A1911172

McCrone, Walter C. 1980. The Asbestos Particle Atlas. Ann Arbor, MI: Ann Arbor Science Publishers, Inc.

United States Environmental Protection Agency. Environmental Monitoring Systems Laboratory. 1982. Interim Method for the Determination of Asbestos in Bulk Insulation Samples. EPA-600/M4-82-020. Washington: GPO, December.

United States Environmental Protection Agency. Method for the Determination of Asbestos in Bulk Building Materials. EPA-600/R-93/116, July 1993 (PLM)

Fed. Reg. Vol. 55, No.224, 11/20/90, p.48415 (NESHAP)
EPA Memorandum 5/8/1991 –NESHAP Clarifications

NYSDOH Methods 198.1/198.6

QUANTITATIVE ANALYSIS OF NON-FRIABLE ORGANICALLY BOUND BULK SAMPLES FOR ASBESTOS USING TRANSMISSION ELECTRON MICROSCOPY (TEM) (NY ELAP 198.4)

Approximately 100-500 mg of sample is weighed in a tared crucible. The sample is placed in a muffle furnace at a temperature of 480°C for at least 5 hours, or until the weight has stabilized. The sample is allowed to cool to room temperature and immediately weighed to calculate percent of organic loss.

The sample is placed in a tared crucible and ground to disaggregate the residue. Approximately 1 ml of non-dilute HCL acid is slowly added to remove calcite and dolomite from the remaining sample residue. After 15 minutes, the sample is immediately diluted with ultra-pure water. The sample is then dispersed in 50 ml of ultra-pure water and filtered onto a pre-weighed 47 mm, 0.4um pore size polycarbonate filter. The filter is dried on a slide warmer and weighed again. If the residue mass is <1% of the subsample's original mass, the analysis is terminated and the result is reported as non-ACM.

A one cm2 portion of the filter is cut and placed in a clean silica crucible. Approximately 5ml of ethanol are added and ultra-sonicated for 1 minute. Approximately 3 µl of the suspension is drop-mounted onto a carbon-coated TEM grid and allowed to dry.

Grids are examined at 3000X for suitability of the prep where >50% intact filter coverage and <25% particle loading is determined. Large bundles of asbestos may be noted during this phase of the analysis. At 10,000X to 20,000X, positive confirmation and further visual estimation of asbestos is determined. If there are no other particles on the filter, then the asbestos observed is 100% visual estimation. Otherwise, the estimate includes all sizes relative to other particles or fibers. Morphology, selected area

CLIENT: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC

Project: Activity Code: 0BJL15PNDC

Work Order No A1911172

electron diffraction, and energy-dispersive x-ray spectroscopy are used to confirm asbestos fibers. From TEM examination as outlined above, the final visual area estimation is made of asbestos on the TEM grids and the percent asbestos in the residue is then extrapolated using gravimetric records to identify the percent asbestos in the total sample (NYS DOH Lab Code 11645).

SPECIAL NOTES

1)Material types analyzed by 198.1 method: a) Friable materials other than SM-V (Surfacing Material) with <10% vermiculite; b) Surfacing Material (SM) without vermiculite; and c) ceiling tile without cellulose.

2)Material types analyzed by 198.6/198.4 method: NOB material (other than SM-V) with <10% vermiculite; b) any material other than SM-V with >10% vermiculite; and c) Ceiling Tiles with cellulose.

3)Material types analyzed by 198.8 method: Surfacing Material containing vermiculite (SM-V).

REFERENCES

Chatfield Method for Quantitative Analysis of Bulk Samples for Asbestos Using Transmission Electron Microscopy (unpublished).

New York ELAP Method 198.4, May 2016.

NOTE: Some of the samples may have contained inseparable layers which were combined during preparation.

Note: The attached chain-of-custody form shows the sample data that was provided by the client.

ANALYTICAL RESULTS

Date: *23-Nov-19*

CLIENT: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC
Sample Type: Bulk
Work Order No.: A1911172
Date Received: 11/18/2019
Client Reference: Activity Code: 0BJL15PNDC
Report Date: 23-Nov-19
Method Reference: EPA-600/M4-82-020/EPA/600/R-93/116/NYELAP 198.1

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
001A	***4833D191112-01A***	SH	11/12/2019	11/20/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Non-homogeneous Gray Window Glazing	None Detected		Non-Detected		Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
002A	***4833D191112-01B***	SH	11/12/2019	11/20/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Non-homogeneous Gray Window Glazing	None Detected		Non-Detected		Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
003A	***4833D191112-01C***	SH	11/12/2019	11/20/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Non-homogeneous Gray Window Glazing	None Detected		Non-Detected		Binder/Filler

Laboratory Limits

Laboratory

Range	R Limit	Quartile Limit
0.1-1	100	+/- 1.482
10-100	100	+/- 22.23
1-10	100	+/- 7.41
Trace	100	+/- 1.482

Susan Hannigan (SH)

Range	R Limit	Quartile Limit
0.1-1	100	+/- 1.482
10-100	100	+/- 26.676
1-10	100	+/- 5.928
Trace	100	+/- 1.482

The reliable limit of quantitation of the method is 1%, although asbestos may be qualitatively detected at concentrations less than 1%. Samples for which asbestos is detected at <1% are reported as trace, "<1%". "None Detected" indicates that no asbestos fibers were observed.

Analyst(s) Name/Date: _____ 11/23/2019

ANALYTICAL RESULTS

Client: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC

Client Reference No.: Activity Code: 0BJL15PNDC

Work Order No.: A1911172 **Date:** *23-Nov-19*

Analytical Method: NYELAP METHOD 198.4 by TEM
Sample Type: Bulk
Reporting Limit (% by Weight): 0.1

Date Received: 11/18/2019 1:46:03 PM
Report Date: 11/23/2019 1:37:25 PM
Grid Box Identification: 11-19-19D-1

Lab Sample No.	Client Sample Identification	Date Sampled	Analysis Date	Analyst	Sample Description (Morphology)	Asbestos Identification	(%)*	Total Asbestos (%)**
A1911172-001A	4833D191112-01A	11/12/19 @12:00 am	11/23/19 @12:26 pm	KRP	Gray Glazing	Chrysotile	--	< 0.1

TEM Microscope Documentation

Instrument	*Magnification	Accelerating Voltage	Calibration Date
TEM 1/D675	14481x	100 KeV	11/4/2019

*Magnification = Calibrated screen magnification at 15,000X. For ISO Method 10312 the calibrated screen magnification is at 20,000X

<: Result is less than the indicated limit of detection. --: Present but below the detection limit
*: The visual area estimation of asbestos content in the final residue.
**: The calculated total percent asbestos in the sample as received.

Analyst(s) Name/Date: Kuntal Parikh 11/23/2019

SRS Chain of Custody / Laboratory Analysis Request

Requested TAT: ☐ Rush ☐ Routine ☒ Other 5 Day from rec.

Activity Code 0BJL15PNDC

Samples received in good condition? ☐ Y ☐ N

Laboratory

Lab Name	Bureau Veritas (Atlanta)
Address 1	3380 Chastain Medows Pkwy, Suite 300
Address	Kennesaw, GA 30144
POC	Alan Segrave / 800-252-9919

Sample Comments

Use positive stop for all homogenous groups. TEM is required only as indicated for organically bound samples or analyst may choose another sample from that ABC group that was positive via PLM. P.O. # will sent to Kelly Smith via Email for services related to this task.

Peer Reviewed / Self Check by

Name (Print) M. Autrey

Return Results / Electronic Report To

Name (CTF)	Kenny Barrineau
Email / Phone	kenny.barrineau@srs.gov/ (803) 952-5650
Name (STR)	Kenny Barrineau
Email / Phone	kenny.barrineau@srs.gov (803) 952-5650
Name (Req by)	Heath McGregor
Email / Phone	heath.mcgregor@srs.gov (803) 952-6029
Organization	SRNS / EC&ACP
Address	Savannah River Site Aiken, SC 29802

This Line Laboratory use ONLY	Laboratory ID#:	Results attached (date):	Results Pages (Total)

No	Field ID	Matrix	Sample Date / Time	Requested Analysis	Sample Media / Size	Time (min)	Vol / Area	Sample Comments
	4833D191112-01A		11/12/19	PLM/TEM	< 1 Gram	N/A	N/A	H01OB-Window glazing (painted)
	4833D191112-01B		11/12/19	PLM	< 1 Gram	N/A	N/A	H01OB-Window glazing (painted)
	4833D191112-01C		11/12/19	PLM	< 1 Gram	N/A	N/A	H01OB-Window glazing (painted)

Relinquished by

Name	Signature	Date and Time
Heath McGregor		11/13/19 1605
Kane Bice		11-13-19 1616
735-B Rm 401	735-B Rm 401	11-14-19 0650
Kane Bice		11-14-19 1100

Received by

Name	Signature:	Date and Time
Kane Bice		11-13-19 1615
735-B Rm 401	735-B Rm 401	11-13-19 1616
Kane Bice		11-14-19 0650
C/S Shipping	C/S Shipping	11-14-19 1130

M. Alley 11-15-19 130

Page 1 of 1

OSR 4-434 (Rev 3-9-2009)

Industrial Hygiene Chain of Custody Lab Report

Savannah River Site
Industrial Hygiene Laboratory
Building 735-B, Room 310
Aiken, SC 29808
Phone: (803) 952-7449/7459
Fax: (803) 952-7881

Page 1 of 2

Cost Code: PRD70391E

Lab Log-In No. ___________

Survey Number: N/A

Lab Report No.: Required (•) EBL ( ) F/H Lab

EBL-IH 2009-0188

Lab Method No. and Name: NIOSH 9002 (PLM)

Contaminant(s): Suspect Asbestos 483-3D

Lab Book and Page No.: 09-0323-0332

Disk No.

Verbal Results Given (To Whom)

How (Check One) ( ) Person ( ) Voice Mail

Date/Time Verbal Results Given: /

Submitted By (Print/Signature): Charles Carter Charles Carter

Audited By (Print/Signature): R. Cochrane Russell Cochrane

Sample Condition: Sample received at laboratory in acceptable condition? ✓ Yes ( ) No

Explain all "No" answers in Sample Comments section

Sample Comments

Sample ID	Sample Media/Size	Requested TAT*	Results/Unit	Reporting Limit	Remarks
4833D090401-01A		4-13-09	< 1%	1% ASB	H01OB Expansion joint
4833D090401-01B		4-13-09	< 1%	↓	H01OB Expansion joint
4833D090401-01C		4-13-09	< 1%	↓	H01OB Expansion joint
4833D090401-02A		4-13-09	Chry 15-30%	↓	H07OB Mastic
4833D090401-02B		4-13-09	Chry 15-30%	↓	H07OB Mastic
4833D090401-02C		4-13-09	Chry 15-30%	↓	H07OB Mastic
4833D090401-03		4-13-09	< 1%	↓	H08 TSI Debris acid

NOTE: Results relate only to the items tested.
NOTE: Results are not corrected for contamination based on the field blank or other analytical blank.

Analyst/Signature	Date Analyzed	Reviewed By (Print)	Signature (Lab Director or Designee)	Date
RM Cook	4-13-09	M Bernard 4-14-09	Maureen Bernard	4-14-09
Analyst/Signature	**Date Report Mailed**	**Report Received By (Print)**	**Signature (Field Use Only)**	**Date Received**
RM Cook	4-14-09			

Comments

Chain of Custody

NOTE: Samples from Radiological Contamination areas must be submitted to 772-F unless free release criteria are met.

Relinquished By				Received By			
Name	Signature	Date	Time	Name	Signature	Date	Time
Charles Carter	Charles Carter	4/1/2009 2 RM	0830	RM Cooke	RM Cooke	4/2/09	0830

CHECK HERE IF SAMPLES WERE DEPOSITED IN THE DROPBOX (•) Yes

*TAT - Turn Around Time   Disk No. - Only applicable to asbestos fiber counting.
Retention - Permanent

OSR 4-434 (Rev 3-9-2009)

Industrial Hygiene Chain of Custody Lab Report

Savannah River Site
Industrial Hygiene Laboratory
Building 735-B, Room 310
Aiken, SC 29808
Phone: (803) 952-7449/7459
Fax: (803) 952-7881

Page 2 of 2

Cost Code: PRD70391E

Lab Log-In No. _____

Survey Number: N/A

Lab Report No.
Required (•) EBL ( ) F/H Lab
EBL-IH
2009-0188-

Lab Method No. and Name: NIOSH 9002 (RM)

Lab Book and Page No.: 09-0323-0332

Disk No.:

Contaminant(s): Suspect Asbestos 483-3D

Verbal Results Given (To Whom)

How (Check One) ( ) Person ( ) Voice Mail

Date/Time Verbal Results Given

Submitted By (Print/Signature): Charles Carter

Audited By (Print/Signature): R. Cochrane

Sample Condition
Sample received at laboratory in acceptable condition? (•) Yes ( ) No
Explain all "No" answers in Sample Comments section

Sample Comments

Sample ID	Sample Media/Size	Requested TAT*	Results/Unit	Reporting Limit	Remarks
4833D090401-04		4-13-09	< 1%	1% ASB	H08 TSI Debris acid
4833D090401-05		4-13-09	< 1%	↓	H08 TSI Debris acid

NOTE: Results relate only to the items tested.
NOTE: Results are not corrected for contamination based on the field blank or other analytical blank.

Analyst/Signature	Date Analyzed	Reviewed By (Print)	Signature (Lab Director or Designee)	Date
RM Cooke	4-13-09	M Bernard 4-14-09	Maureen Bernard	4-14-09
Analyst/Signature	Date Report Mailed	Report Received By (Print)	Signature (Field Use Only)	Date Received
RM Cooke	4-14-09			

Comments

Chain of Custody

NOTE: Samples from Radiological Contamination areas must be submitted to 772-F unless free release criteria are met.

Relinquished By				Received By			
Name	Signature	Date	Time	Name	Signature	Date	Time
Charles Carter	Charles Carter	2 RM 4/1/2009	0830	RM Cooke	RM Cooke	4/2/09	0830

CHECK HERE IF SAMPLES WERE DEPOSITED IN THE DROPBOX (•) Yes

*TAT - Turn Around Time Disk No. - Only applicable to asbestos fiber counting.

Retention - Permanent

DAVIS & FLOYD

LABORATORY ANALYSIS REPORT

April 27, 2009

James Koch II
Savannah River Nuclear Solutions, LLC
735-B Room 133
Aiken, SC 29804-6809

Re: Job 09397 Asbestos Analysis – TEM

On April 17, 2009, the Davis & Floyd, Inc. laboratory received one solid waste samples from the Savannah River Nuclear Solutions LLC. The sample listed on the Chain-of-Custody (COC) form arrived at Davis & Floyd Laboratory intact. A fourteen-day turnaround was requested on the COC.

The samples were subcontracted to the RJ Lee Group, Inc. in Monroeville, PA for analysis of Asbestos by TEM. The sample(s) were received by the RJ Lee Group and logged in for analysis on April 21, 2009 as follows:

SRNS ID	RJ Lee Sample Number
09397-4833D090401-01B	0165357HT

Enclosed are the Chain-of –Custody Records and the RJ Lee Group laboratory analysis report. Please contact me if you have any questions.

Sincerely,
Davis & Floyd, Inc.

John H. McCord Jr.
Laboratory Manager

Enclosure:

CHAIN-OF-CUSTODY

Copyright 2000 Washington Savannah River Company

L090420O4

Labora

p2

09397	Customer Name:	Carter, Charles	RL
Contract Number AC39041N	Customer Department:	D&D	Company: Davis & Floyd
	Customer Address:	707-49B	Ship to: Address: 816 East Durst Ave. Greenwood, SC 29649
	Customer Phone/Beeper:	507-4764 20730	Attention: Carl Burrell, 864-229-4413

Washington Savannah River Company
Aiken, SC 29808

Environmental Services Section
Waste Sample Management Group

COC creation date. 4/14/09

Matrix: S=Soil,SO=Solid,SL=Sludge,O=Organic,A=Aqueous, SM=Smear

Sample Analysis Requested	Sample ID: 09397-4833 D090401-01B	Sample ID:	Sample ID:
	Collect Date 4/1/09	Collect Date	Collect Date
	Collect Time 0800	Collect Time	Collect Time
	No. Containers 1	No. Containers	No. Containers
TEM for Asbestos (362)	Matrix SO ✓	Matrix	Matrix

14 Day TAT

RAD SCREEN REQUIRED? NO STR Authorization James Koch

1 Relinquished by:	Date/Time	Received by:	2 Relinquished by:	Date/Time	Received by:
(Print) K M Cooke	Date 4/15/09	(Print) C E Lewis	(Print) C E Lewis	Date 4/15/09	(Print) Minnie Hightower
(Sign) K M Cooke	Time 0850	(Sign) C E Lewis	(Sign) C E Lewis	Time 0910	(Sign) Minnie Hight
3 Relinquished by:	**Date/Time**	**Received by:**	**4 Relinquished by:**	**Date/Time**	**Received by:**
(Print) Minnie Hightower	4/16/09	(Print) C.S. Shipping	(Print)	4.17.09	(Print) Tisa S. McCall
(Sign) Minnie Hight	Time 1500	(Sign) Shipping	(Sign)	Time 11:45	(Sign) Tisa S. McCall

Cooler # 0528

RJ Lee *Group*, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: (724) 325-1776 | Fax: (724) 733-1799

Final Laboratory Report

TEM Compositional Analysis

Mr. John H. McCord, Jr.
Davis & Floyd, Inc.
P.O. Drawer 428
Greenwood, SC 29649
USA

Report Date:	4/24/2009
Sample Receipt Date:	4/21/2009
RJ Lee Group Job No.:	ATH904030
Authorization/P.O. No.:	
Samples Received:	1
Client Job No./Name:	62664_01

Method: Chatfield Technical Consulting Limited, SOP-1988-02.Rev1.

Client Sample Number	RJLG Sample Number	Sample Description	Starting Weight (gm)	Weight Percent						Amphibole Type
				Organic	Acid Soluble	Residue	Chry	Amph	Total Asbestos	
09397-4833D09 0401-01B	0165357.HT		0.21020	54	19	27	0	0	0	

Authorized Signature: _____ /mb
Kimberly A. Allison, Manager - TEM Analysis

Notes:
1. "<" indicates results less than analytical sensitivity. "---" indicates that sample was not analyzed.
2. Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA #100364, NVLAP #101208-0, NY ELAP #10844) facility.
3. If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratory's results are limited to the reported values.
4. Trace indicates <1% asbestos was identified.
5. Abbreviations: N/A-Not Applicable, Chry-Chrysotile Asbestos, Amph-Amphibole Asbestos, NSD-No Structures Detected.
6. Samples will be held for 90 days and then disposed of per Federal regulations.
7. These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.

DISCLAIMER

Caution must be applied when interpreting the results of samples prepared using indirect sample preparation techniques. Studies have shown that indirect preparation techniques may result in substantial increases in the fiber count when compared to fiber counts which would have been obtained using direct sample preparation.

RJ Lee Group, Inc. is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP) for select test methods for airborne asbestos analysis (TEM), asbestos fiber analysis (PLM), New York Department of HEALTH Environmental Laboratory Program (ELAP), and by the American Industrial Hygiene Association (AIHA). This test report relates only to the items tested. This report may not be used to claim product endorsement by NVLAP, any agency of the US Government, or any other laboratory accrediting agency. Any reproduction of this document must be in full in order for the report to be valid. This report is not valid unless it bears the name of a NVLAP-approved signatory.

These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limiting provisions and no responsibility or liability is assumed for the manner in which the results are used or interpreted. Unless notified in writing to return the samples covered by this report, RJ Lee Group will store the samples for a period of ninety (90) days before discarding. A shipping and handling fee will be assessed for the return of any sample.

ATH9C4030

DAVIS FLOYD

Chain of Custody Record

Page 1 of 1

Client	Project / Site Location	Laboratory Certification Numbers: SC - 24110, NC - 25, NELAP - E87633, TN - 2923, VA - 77	Office Use Only
Davis & Floyd, Inc. Greenwood, SC 29649	62664_01	815 E. Durst Avenue, Greenwood, SC 29649 (864) 229-4413 Fax: (864) 229-7119 Email: Laboratory@davisfloyd.com Internet : www.davisfloyd.com	Laboratory Work Request
Contact: John H. McCord, Jr.	Report To: John H. McCord, Jr.	Copy To: jmccord@davisfloyd.com	PO / Quote Number / TC: 1
Collected By: Tisa S. McCall/Sample Custodian		Atmospheric Conditions (Optional)	Special Instructions / State / LOGIN

Reporting Requirements: [X] Standard [ ] Data Package (Specify Level: 1 2 3 4)
Turnaround Requirements: [X] Standard [ ] Rush (Specify: _____)

Required Parameters, Containers and Preservatives (P*)

NOTICE:

Sample Description	Sample Collection Date	Sample Collection Time	Time sampling Initiated (composite only) Time	Type: Composite	Type: Grab	Matrix Type	Number of Containers Total	P	ASBESTOS / TEM A	Indicate any known or expected hazards with a "X" HOT	Comments	Fraction
09397-4833D090401-01B	1-Apr	8:00				7	1		1			

ENTER NUMBER OF SAMPLE CONTAINERS

Relinquished By	Date	Time	Relinquished By	Date	Time	Relinquished By	Date	Time	Shipped Via: UPS FEDEX CLIENT COURIER OTHER D&F
Tisa S. McCall	4.20.09	1445							
Received By	Date	Time	Received By	Date	Time	Received in Laboratory By	Date	Time	Tracking Number
						M. Brandau	04-21-09	11:18am	

Comments:

Flow Measurement (Note 1)
Beginning _____
Ending _____
Start Date: _____
Multiplier _____

Note: Indicate immediate delivery for those shipments in which the temperature does not have adequate time to reach 4°C.

Receipt Information
Cooler ID (if available): _____
On Ice: Yes / No Temp(C) _____
Immediate Delivery: Yes / No
Custody Seal: Intact / Broken / None

Matrix Type Definitions: 1 - Drinking Water 2 - Clean Water 5 - Groundwater 7 - Soil/Sediment 8 - Liquid Sludge 9 - Oil 12 - Air
(P) Preservative Definitions: A - None B - H2SO4 C - HCl D - HNO3 E - NaOH F - Filtered G - Other

(Note 1) For Discharge Measurements

Davis & Floyd, Inc.
FL02_02 (04/05)

P5