From:	Joseph Burch
To:	Lloyd, Diedre; "K. Leigh Beatty (beattykl@dhec.sc.gov)"
Cc:	Richards.Jon@epa.gov; "pope.robert (epa.gov)"; HENNESSEY, BRIAN; ADAMS, KAREN; Chris Bergren; Mike Griffith; Thomas Kmetz; Thomas Gaughan; J Ross; Amy Meyer; Thelesia Oliver; Susan Cornwell; Andrew Macmillan; William Griffin; John Blankenship; Manuel Terronez; Toi Bowie; Dena Brett; Douglas Martinson; Steve Willingham; Grady Friday; Fulmer, Susan; O"Quinn, Gregory; Harris, Barbara J.; James Kupar
Subject:	Draft SRS Responses to Regulatory Comments to the FDEs for buildings 484-4D, 484-12D, 484-7D, 683-D, 454-D, 484-13D, and 484-15D
Date:	Tuesday, February 25, 2020 4:49:00 PM
Attachments:	Final Draft Responses to EPA Comments_D Area FDEs_022520.pdf Final Draft Responses to SCDHEC Comment for 484-4D FDE_02 25 20.pdf Final Draft SRS Response to SCDHEC Comment for 454-D FDE_02 25 20.pdf Final Draft Response to SCDHEC Comment for 484-13D FDE_02 25 20.pdf

Attached are the draft SRS responses to the regulatory comments received on the Facility Decommissioning Evaluation (FDE) for Buildings
484-4D, 484-12D, 484-7D, 683-D, 454-D, 484-13D, and 484-15D. If possible, please review the responses in advance of the facility walkdowns scheduled for Thursday, 2/27/20.

Please let me know if you have any questions.

Thanks

Joseph Burch
Environmental Compliance Authority – Area Completion Projects
Building 730-4B, RM 3118, Phone: (803) 952-6660

EPA COMMENTS:

1) Please call the D Area core team member (Diedre Lloyd) if during decommissioning of a Simple Model facility, some condition is identified that may contradict the Simple Model assumptions.

Response: Agree. No change to the subject FDEs is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

2) EPA requests a site walk-down for all 7 of the D Area Facilities in this grouping of FDEs with special emphasis on Building 484-4D Powerhouse Maintenance Facility and Building 454-D, D-Area Diesel Fuel Tank Facility.

Response: Agree. A walkdown with DOE, SCDHEC, EPA, and SRS personnel is scheduled for February 27, 2020. No change to the subject FDEs is proposed.

Responsible Party: Shelia McFalls (803-952-6819), Shelia.McFalls@srs.gov

3) Please provide one figure that depicts the relationship between the 7 buildings and their ancillary structures

Response. Agree. Figure 1, D-Area Aerial Overview, shows the FDE buildings and their relationship to the 484-D Powerhouse, the D-Area Boiler and Process Water Treatment Facility, and the 115 KV SCE&G Sub-Station. No change to FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

4) FDE for the Powerhouse Maintenance Facility

a. EPA has requested and is awaiting additional information with respect to the Powerhouse Facility during the previous D Area Scoping Meeting. EPA also expressed concern during the D Area Scoping meeting about the potential for soil and groundwater contamination near the powerhouse and requested additional information about the depth and construction of the basement and what items have been stored and/or utilized within the powerhouse building.

Response. Clarification. A separate FDE will be prepared for the 484-D Powerhouse prior to decommissioning and will include the powerhouse specific information and data and identification of the appropriate model to execute D&D of the facility. Any

potential contaminants in the soil and groundwater associated with release(s) from the 484-D Powerhouse will be addressed as part of the 484-D closure (currently scheduled with D-Area OU completion—ROD issuance date January 2046) and is outside the scope of this FDE. No change to the subject FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

b. In accordance with the information for the Powerhouse, EPA requests additional information regarding the Maintenance Facility and its relation to the Powerhouse. EPA requests a more thorough discussion of history of operations, process information, and any previous or planned sampling of soil for the Maintenance Facility.

Response: Clarification. Please see the response to EPA Comment 4a. A separate FDE will be prepared for the 484-D Powerhouse that will include the powerhouse specific information and data. For the 484-4D Powerhouse Maintenance Facility, there is no additional information with respect to the history of operations and process information in addition to the comprehensive description provided in the FDE. There is no evidence or documented release of hazardous constituents from the building. No soil sampling has been performed and none is planned at the 484-4D Powerhouse Maintenance Facility because the spills were contained within the structure and there is no evidence of cracks that penetrate the slab that would provide a pathway for contamination beneath the building. Therefore, SRS believes the information provided in the FDE supports D&D of the 484-4D Powerhouse Maintenance Facility under the Simple Model. No change to the 484-4D Powerhouse Maintenance Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

c. Please include the activities/function for the buildings surrounding the 484-D Powerhouse Facility

i. 482-2D, 485-D, 484-1D, 4844-7D

Response. Clarification. The referenced buildings are outside the scope of the subject FDEs. Facility specific FDEs which will include the description of the respective activities/functions will be prepared for the referenced buildings prior to decommissioning. The function/activities of the surrounding buildings do not impact the DOE recommendation for decommissioning the

484-4D Powerhouse Maintenance Facility under the Simple Model. Note that there is no Building 4844-7D: however; Building 484-7D is included with the subject FDEs and all comments related to this facility are addressed in the response to EPA Comment #8. No change to the 484-4D Powerhouse Maintenance Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

d. Please include exterior and interior pictures of the 2 small storage buildings and the covered area between them

Response. Agree. Figure 2 provides interior and exterior views of the two small storage buildings and the covered area. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Figure 2. Interior and Exterior Views of 484-4D Storage Buildings

e. Please include pictures of the small covered area on the east side of the powerhouse facility.

Response. Agree. Figure 3 provides a photograph of the small covered area on the east side of Building 484-4D. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Figure 3. Photograph of Small Covered Area on East Side of Building 484-4D

f. Do any interior floors, ceiling panels or other interior building structures contain asbestos?
   i. Please submit the results of the Asbestos survey conducted on October 18, 2019 and listed in reference 9 to this document.

Response. Clarification. All facility decommissioning projects at SRS are considered demolition activities per the asbestos regulations and require a SCDHEC issued asbestos permit prior to initiating work. Building components that are presumed to contain asbestos include approximately 1,700 square feet of floor mastic, approximately 2 square feet of gray sealant around corridor doors and approximately 100 square feet of white sealant around pipe penetrations on the roof. Ceiling tiles and other building materials are covered in the attached asbestos survey, Q-APG-D-00005. All asbestos removal will be performed by asbestos trained personnel with proper permitting and waste disposal procedures. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

g. Will fencing surrounding the laydown yard be removed?

Response. Agree. Fencing will be removed as part of the decommissioning scope for the 484-4D Powerhouse Maintenance Facility. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

h. Please indicate all hazardous substances used within this facility
   i. Solvents, PCB Oil, lead paint, petroleum products, etc.

Response. Clarification. There were no known or documented uses of PCB oils or lead paints in the facility. Known petroleum products used in the facility include engine oils, transmission oils, and lubricating oils. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

   ii. Were PCE/TCE used as solvents within the facility?

Response. Clarification. As described in the FDE, the main shop relied on a self-contained solvent rinse station that used a non-PCE/TCE solvent (Safety

Kleen - hydrotreated kerosene) for cleaning tools and machinery parts. It is assumed based on previous documentation that Tap Magic ™ Cutting Fluid (90% TCE) was used for machining but was not the main solvent product used in the building. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

i. Were or are the drains within this facility still connected to the sanitary sewer?

Response: Clarification: The sanitary sewer system that is tied to the facility is no longer in operation. There is no treatment facility in operation supporting D Area. The existing sanitary sewer drains associated with the restrooms and lunchroom will be plugged at the floor surface as part of the decommissioning once the structure is removed. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

j. EPA requests sampling of all drains, stained areas, and or sumps in the facility.

Response. Clarification: There are no sumps in the building, there are no floor drains in the shop/maintenance areas of the building, and all hubs and cleanouts in the shop are a minimum 1 ½" above the slab. The cleaning stations and solvent rinse stations in the main shop were all self-contained, and although there is some discoloration on the building slab, spills were contained and cleaned up at the time of occurrence. None of the residue was released to the environment outside of the facility as determined by the absence of facility specific spill reports. All remaining visible stains will be cleaned with a strong surfactant (i.e., BioSolve™) as part of the decommissioning activities to ensure no staining remains upon completion of the demolition. No change to the 484-4D Powerhouse Maintenance Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

k. Additional information for waste disposal generated during the proposed activities is requested to be included in this FDE and needs to be in the DPFR.

Response. Clarification. SRS strictly adheres to waste characterization and disposal requirements. 484-4D Powerhouse Maintenance Facility waste types, volumes, and disposal paths will be documented in the Decommissioning Project Final Report (DPFR). No change to the 484-4D Powerhouse Maintenance Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

5) **FDE for Building 454-D, D-Area Diesel Fuel Tank Facility**

a. Please identify the function/activities for the buildings that surround the Diesel Fuel Tank Facility (454-1D and 454-D)

Response. Clarification. Facility specific FDEs will be prepared for the surrounding buildings prior to decommissioning and will include the description of the respective building activities/functions. As supported by the facility history and existing characterization information provided in the FDE, the function/activities of the surrounding buildings do not impact the DOE recommendation for decommissioning the 454-D Diesel Fuel Tank Facility under the Simple Model. No change to the 454-D Diesel Fuel Tank Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

b. FDE for Building 454-D D-Area Diesel Fuel Tank, Rev. 0 dated November 13, 2019, Facility Description, Page 6 of 17: The discussion of the unloading facility sump does not include a description of the condition of the inside of the sump that would indicate whether staining was observed and whether the integrity of the sump was compromised or remained intact.

Response. Clarification. Based on interviews/conversations with D-Area Operations personnel, a filter leak on the transfer pump in 454-D occurred resulting in a minor leak that was confined to the diked area and the sump. These same interviews/discussions revealed that any leaks that may have occurred at 454-1D did not result in any oils/stains reaching the 454-1D sump; there is only evidence of minor leaks confined to the pad/containment structure which were immediately cleaned up. In both instances, there was no evidence of spills outside the containment areas. During the 2012 to 2014 timeframe deactivation of facilities was taking place throughout the D-Area complex. In 2014, as part of the deactivation of 454-D and

454-1D, residual surface stains due to minor spills within the dike area of 454-D and the concrete pad/dike area of 454-1D were pressure washed. The sumps of both facilities were inspected, pressure washed, and filled with rock. The rock will be removed from the sumps and the sumps re-inspected prior to refilling with rock or grout as part of the decommissioning process. Results of the inspection will be provided in the DPFR. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

c. EPA requests sampling of the sump for the facility, as well as any drains or stained areas.

Response. Clarification. There are no drains in the facility. The sumps were filled with rock after the sumps were pressure washed during deactivation in 2014. No additional sampling of the sump is warranted based on the absence of spillage outside the system along with the known cleaning of the sump as part of the 2014 deactivation activities. No change to the 454-D Diesel Fuel Tank Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

d. In addition, the facility description should include information about whether soils surrounding the sump were inspected to identify if any fuel may have leaked outside the sump.

Response. Clarification. As noted in the FDE Summary of Existing Characterization section, no final verification survey is necessary based on process history and design factors. In addition, soil sampling exterior to the containment structure is not necessary based on the process history and is outside the scope of the decommissioning process. No change to the 454-D Diesel Fuel Tank Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

e. Information regarding when the facility was removed from service should be provided in order to understand the complete history and use of this facility.

Response. Clarification. These facilities were removed from service during the deactivation phase in D Area during the 2012 to 2014 timeframe. No change to the 454-D Diesel Fuel Tank Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

f. Please revise the Facility Decommissioning Evaluation (FDE) for the Building 454-D D-Area Diesel Fuel Tank to include a description of the visual inspection of the inside of the unloading facility sump and surrounding soils to support the conclusion that spills were confined within the existing structure.

Response. Clarification. Please see the response to EPA Comment 5b. Based on interviews/conversations with D-Area Operations personnel, no oils/stains reached the 454-1D sumps and there is no evidence of spills outside the containment areas. The sumps of 454-D and 454-1D were inspected and pressure washed in 2014. No change to the 454-D Diesel Fuel Tank Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

g. Will the electrical panels be sampled for asbestos?

Response. Clarification. No additional testing for asbestos is anticipated because the electrical panels will be removed as complete components and managed in accordance with SRS procedures and State and Federal regulations during decommissioning. No change to the 454-D Diesel Fuel Tank Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

h. Will the asbestos gaskets be left in place indefinitely? If not, what are the future plans?

Response. Clarification. The entire facility structure including all asbestos materials will be removed as part of the decommissioning activities. Asbestos waste will be disposed of in accordance with SRS procedures and State and Federal regulations. No change to the 454-D Diesel Fuel Tank Facility FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

6) FDE for Building 484-15D, D Area Storage Building

a. Please provide an image of the interior area of Bldg 484-15D and include the stained area illustrated in Figure 2.

Response. Clarification. The interior of building, including the stained area, is shown in Figure 4 of the FDE. No change to the 484-15D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

b. Please identify the activities/function of the buildings that surround Bldg 484-15D

i. 484-D, 484-6D, 484-2D, 484-9D

Response. Clarification. The referenced buildings are outside the scope of the 484-15D D-Area Storage Building FDE. Facility-specific FDEs which will include the description of the respective activities/functions will be prepared for the referenced buildings prior to decommissioning. The function/activities of the surrounding buildings do not impact the DOE recommendation for decommissioning the 484-15D D-Area Storage Building under the Simple Model. No change to the 484-15D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

c. Page 6 of 11, 2nd paragraph discusses a list that is "non-inclusive representation" of items previously stored within the structure and in the laydown yard. The above phrase in quotations is vague and lacks clarity.

i. Please provide additional clarity in the form of additional items that were stored within the building/laydown yard or explain why the list may not be inclusive or is merely a representation of what "may" have been stored within these areas.

Response. Clarification. The laydown area history is for information only. The items listed are merely a representation of what may have been stored within the building and laydown area. No change to the 484-15D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

7) FDE for Building 484-12D, D-Area Storage Building

a. Please provide interior pictures for the 484-12D building

Response. Agree. Figures 4 and 5 provide pictures of the Office Area and Garage Area of 484-12D, respectively. No change to the 484-12D FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Figure 4. Office Area of 484-12D

Figure 5. Garage Area of 484-12D

b. Please provide pictures of the laydown yard

Response. Agree. Figures 6 and 7 aerial and ground views of the 484-12D Laydown Yard, respectively. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Figure 6. Aerial View of 484-12D Laydown Yard

Figure 7. Ground View of 484-12D Laydown Yard

c. What was stored in the laydown yard?

Response. Clarification. The laydown area history is for information only. According to discussions with D Area personnel, the materials located in the laydown yard were used in the fabrication of insulation materials for the 484-D Powerhouse. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

d. Please include information of the activities/function of the buildings surrounding 484-12D

i. 483-3D, 484-10D, 484-5D, 454-D, unlabeled buildings in the bottom right hand corner of figure 3.

Response. Clarification. The referenced buildings are outside the scope of the 484-12D D-Area Storage Building FDE. Facility specific FDEs which will include the description of the respective activities/functions will be prepared for the referenced buildings prior to decommissioning. The function/activities of the surrounding buildings do not impact the DOE recommendation for decommissioning the 484-12D D-Area Storage Building under the Simple Model. No change to the 484-12D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

e. Please provide brief information about what materials/processes were involved in the fabrication of insulation

Response. Clarification. Fabrication of insulation within the laydown area history was provided for information only and is outside the scope of this FDE. Laydown area history will be addressed in the DAOU scoping. No change to the 484-12D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

f. Page 8 of 10, Part 2 Evaluation: Clean Facilities, #3
   i. Please provide additional details as to why the Evaluation Criteria for #3 under Clean Facilities is N/A (Not Applicable)

Response. Clarification. Question 2 asks: "If there was stored package material, has there ever been a spill?" If No, the instruction says this is a Simple Model and to stop. The answer to the question was that there is no evidence of spills having occurred in the facility, therefore the Building will be Decommissioned as a Simple Model and no further responses were required for questions 3 to 13 other than N/A. No change to the 484-12D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

1. The matrix indicates that if this answer is Yes, then this building cleanup/deconstruction would be conducted under the Clean Facility Building demolition

Response. Clarification. Please see the response to EPA Comment 7.f.i.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

2. Additional details should be included in the Justification Column

Response. Clarification. Please see the response to EPA Comment 7.f.i.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

8) FDE for Building 484-7D, D-Area Storage Building

a. Please include information of what was temporarily stored in the lay down yards for Building 484-7D.

Response: Clarification. The information regarding the laydown yard around the perimeter of the building was provided for context regarding the purpose of Building 484-7D. This FDE is limited to the facility structure and the laydown yard is outside the scope of this FDE. Based on the known function of the facility, spare parts/equipment for 484-D and 483-D is expected to have been stored within the footprint of the perimeter laydown yard. The items listed are merely a representation of what may have been stored within the facility proper. The function/activities of the surrounding buildings do not impact the DOE recommendation for decommissioning Building 484-7D under the Simple Model. No change to the 484-7D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

b. The temporary storage of powerhouse parts was mentioned, did these parts include any PCB containing transformers or other parts with PCB oils?

Response. Clarification. PCB containing transformers or other parts with PCB oils were not stored in this facility. No change to the 484-7D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

c. Was the laydown yard used to overpack drum or other constituents? If so, please included the type of contaminants that were drummed or overpacked.

Response. Clarification. As stated in response to EPA Comment 8)a, the information regarding the laydown yard around the perimeter of the building was provided for context regarding the purpose of Building. 484-7D. This FDE is limited to the facility structure and the laydown yard is outside the scope of this FDE. Based on the known function of the facility, there is no information that suggests overpacking of drums were performed in this area. No change to the 484-7D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

d. Please provide interior pictures of the 484-7D Building

Response. Agree. The interior view of Building 484-7D is shown in Figure 8. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Figure 8. Interior View of Building 484-7D

9) FDE for Building 484-13D, D-Area Storage Building

a. Page 7 of 11, the text mentions that the storage of equipment for the 484-D Powerhouse were stored in the Bone Yard and inside the building storage areas

i. Was PCB oil containing equipment stored in either the laydown yard (bone yard) or building 484-13D?

Response. Clarification. The information regarding the Bone Yard around the perimeter of the building was provided for context regarding the purpose of Building. 484-13D. This FDE is limited to the facility structure and the Bone

Yard is outside the scope of this FDE. Based on the known function of the facility, PCB oil-containing equipment was not stored within the facility. No change to FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

b. Please include the function/activities of the Buildings surrounding 484-13D
   i. 80-22D, 483-3D, 484-13D, 80-22D, 485-5D, 454D

Response. Clarification. The referenced buildings are outside the scope of the 484-13D D-Area Storage Building FDE. Facility specific FDEs which will include the description of the respective activities/functions will be prepared for the referenced buildings prior to decommissioning. The function/activities of the surrounding buildings do not impact the DOE recommendation for decommissioning the 484-13D D-Area Storage Building under the Simple Model. No change to the 484-13D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

c. Page 7 of 11, 3rd paragraph discusses buried domestic water and process raw water piping and outlines that a portion (drawing M-MA-D_0071) of the process raw water system is no longer used and is disconnected from any pressure source.
   i. Has the process raw water system line been abandoned?

Response. Clarification. The domestic water system has been isolated from the facility. No change to the 484-13D D-Area Storage Building FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

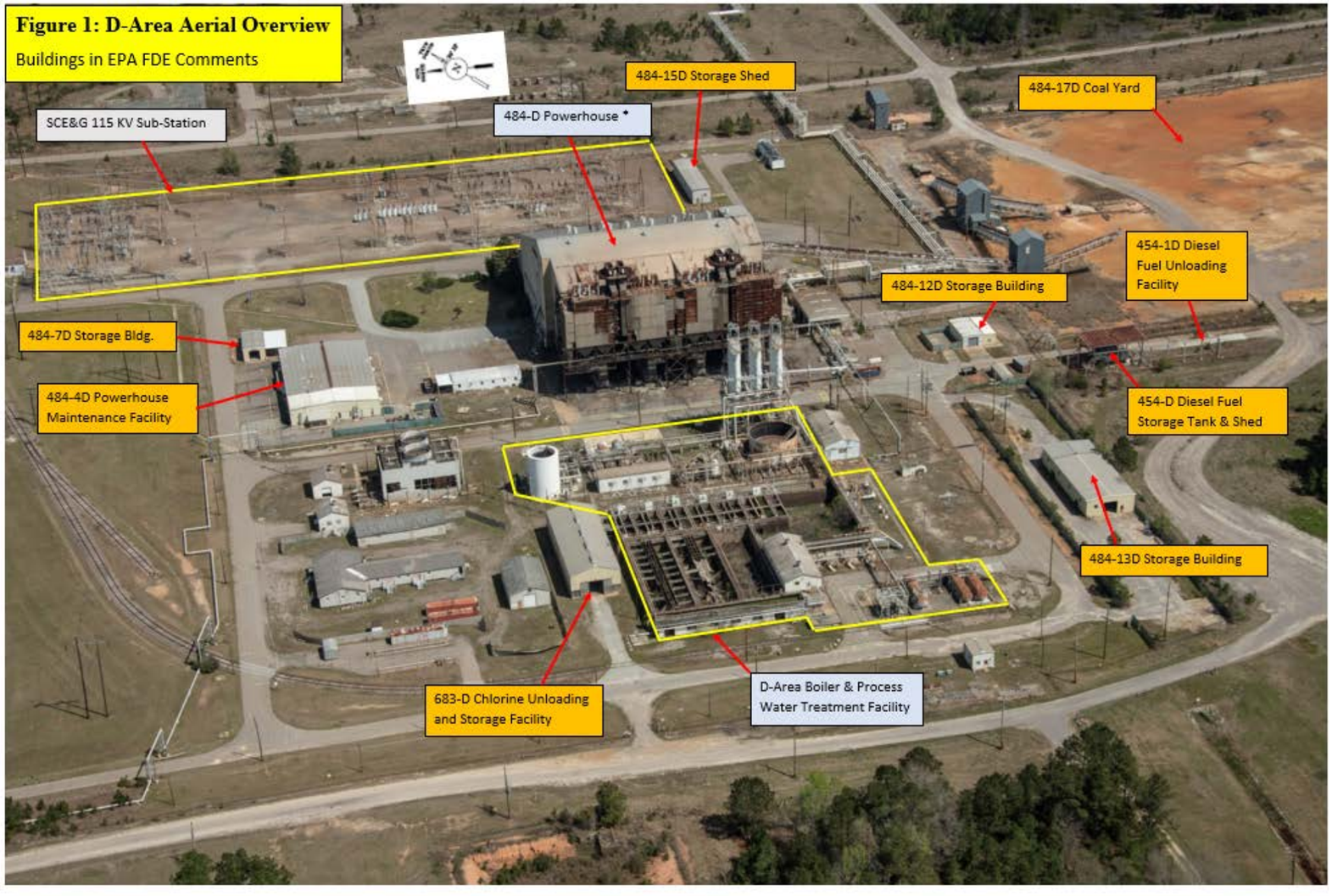

Figure 1. D-Area Aerial Overview

Q-APG-D-00005
REV. 0

ENVIRONMENTAL COMPLIANCE & AREA COMPLETION PROJECTS

Baseline Asbestos Inspection Report of Building 484-4D

Q-APG-D-00005
REV. 0

Savannah River Nuclear Solutions, LLC
A Fluor Daniel Partnership

INTEROFFICE MEMORANDUM

October 30, 2019

Q-APG-D-00005
RSM Track Number 10755

TO: Andrew Macmillan, 730-4B Room 3026

FROM: Ken Padgett, 730-4B

BASELINE ASBESTOS INSPECTION REPORT OF BUILDING 484-4D

On October 10, 2019 a baseline asbestos inspection was performed in building 484-4D. This building is a circa 1980's structure with a footprint of approximately 11,000 SF. The building has been abandoned but it was previously used as a maintenance support facility. It has a steel framed structure with raised seam metal siding and roofing, and sits on a concrete slab. Attached to the west end is a metal covered lean-to type shed. The east end has a metal stand-alone shed that abuts the building. The north side of the building has two small storage rooms constructed of pre-fab metal walls and a metal roof that extends from one to the other forming a shelter in between. The interior has CMU (concrete masonry unit) walls along with wood studded and pre-fabricated metal panel wall systems. Interior finishes include; resilient floor tile, terra cotta tile, painted gypsum board walls, decorative wood paneling, and suspended acoustical ceiling tile systems. On the west end of building 484-4D there is a storage area surrounded by a chain link fence. The south end of the storage area has an approximately 60 SF compressed gas cylinder shed. The shed is constructed of metal with an open front and does not have any suspect Asbestos Containing Materials.

Thirty-one (31) homogenous types of material were evaluated during this inspection. Please see the attached Inspection Survey Table for descriptions, estimated quantities, and location(s) of the materials inspected. Results from SDD-APG-2009-00566 have been reproduced and added to the Inspection Survey Table. The results from this inspection report will serve as the baseline reference of ACM in the building.

SUMMARY

All accessible, visible, suspect ACM was evaluated at the time of this inspection. Visible Thermal Systems Insulation (TSI) includes; Polyisocyanurate insulation, elastomeric foam insulation (Armaflex), high temperature rigid insulation, vinyl faced fiberglass, paper backed fiberglass, mineral wool insulation and ASJ (all-service jacketing) fiberglass. This evaluation was based on facility and material knowledge, document review, and the collection of bulk samples for laboratory analysis. Suspect arc flash protectors were observed in at least one electrical disconnect box. If any other materials are discovered that are not listed on the Inspection Survey Table, please contact a licensed asbestos building inspector for further evaluation.

Samples collected in the SDD-APG-2009-00566 report 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)/Polarized Light Microscopy (PLM). The laboratory ID number is 100642.

Samples in this inspection report were analyzed by Maxxam Analytic A Bureau Veritas Group Company. 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.

Q-APG-D-00005
REV. 0

Savannah River Nuclear Solutions, LLC
A River Diesel Partnership

INTEROFFICE MEMORANDUM

Q-APG-D-00005
RSM Track Number 10755

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.

The removal of all identified ACM and Presumed Asbestos Containing Material (PACM) must be performed by asbestos trained personnel, with proper permitting, and waste disposal procedures.

ASBESTOS INSPECTOR	INSTITUTION	CERT. NO.	STATE	EXP.DATE
William K. Padgett	AAA Environmental	06-1397	SC	04/17/20

(Included on the SRS long-term in-house group license ABS 8021)

ASBESTOS INSPECTOR	INSTITUTION	CERT. NO.	STATE	EXP.DATE
Mikell Autrey	Greenville Tech. College	192-EVT501-005	SC	02/07/20

(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
Mark Wright, 705-3C Room 126

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INSPECTION SURVEY TABLE FOR BUILDING 484-4D

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Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H01OB	Miscellaneous	**Description:** Resilient floor tile/mastic: 12" x 12" White with green streaks **Sample Numbers:** 4844D090429-33A, 4844D090429-33B, 4844D090429-33C 4844D090429-34A, 4844D090429-34B, 4844D090429-34C **Sample Number:** 484D090429-33B was analyzed via TEM Note: Mastic is asbestos containing, floor tile is not.	Approximately 500 SF	POSITIVE	Non-Friable Good Condition
Location: Men's and women's locker room.					
H02OB	Miscellaneous	**Description:** Layer 1 (Top layer): Resilient floor tile/mastic: 12" x 12" grey **Sample Numbers:** 4844D090429-09A, 4844D090429-09B, 4844D090429-09C 4844D090429-10A, 4844D090429-10B, 4844D090429-10C **Sample Numbers:** 4844D090429-09A and 4844D090429-10A were analyzed via TEM **Description:** Layer 2 (Bottom layer): Resilient floor tile/mastic: 12" x 12" brown **Sample Numbers:** 4844D090429-35A, 4844D090429-35B, 4844D090429-35C 4844D090429-36A, 4844D090429-36B, 4844D090429-36C **Sample Number:** 484D090429-35C was analyzed via TEM Note: Bottom layer mastic is asbestos containing, floor tile is not.	Approximately 1200 SF	POSITIVE	Non-Friable Good Condition
Location: Rooms: 001, 002, 003, 004, 005, 006, 007, 008, 009, and corridor (room 12)					
H03OB	Miscellaneous	**Description:** Grey sealant **Sample numbers:** 4844D090429-01A, 4844D090429-01B, 4844D090429-01C	Approximately 2 SF	POSITIVE	Non-Friable Good Condition
Location: On roof – around small piping penetrations on south side, under silicon caulking					
H04OB	Miscellaneous	**Description:** White sealant **Sample numbers:** 4844D090429-02A, 4844D090429-02B, 4844D090429-02C	Approximately 100 SF	POSITIVE	Non-Friable Good Condition
Location: On roof – in seams and joints of metal roof decking of original building and at the top of the exterior metal wall panels for the entire building					

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INSPECTION SURVEY TABLE FOR BUILDING 484-4D

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Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H05OB	Miscellaneous	**Description:** Resilient floor tile/mastic: 12" x 12" Cream with specks **Sample Numbers:** 4844D090429-43A, 4844D090429-43B, 4844D090429-43C 4844D090429-44A, 4844D090429-44B, 4844D090429-44C **Sample Numbers:** 484D090429-43B and 4844D090429-44C were analyzed via TEM	Approximately 300 SF	Negative	Non-Friable Good Condition
Location: West end of men's locker room					
H06OB	Miscellaneous	**Description:** Resilient floor tile/mastic: 12" x 12" Beige with brown specks **Sample Numbers:** 4844D090429-37A, 4844D090429-37B, 4844D090429-37C 4844D090429-38A, 4844D090429-38B, 4844D090429-38C **Sample Numbers:** 484D090429-37B and 4844D090429-38C were analyzed via TEM	Approximately 144 SF	Negative	Non-Friable Good Condition
Location: Room 18					
H07OB	Miscellaneous	**Description:** Resilient floor tile/mastic: 12" x 12" Beige **Sample Numbers:** 4844D090429-05A, 4844D090429-05B, 4844D090429-05C 4844D090429-06A, 4844D090429-06B, 4844D090429-06C **Sample Numbers:** 484D090429-05A and 4844D090429-06B were analyzed via TEM	Approximately 2,400 SF	Negative	Non-Friable Good Condition
Location: Rooms: 9, 13, 14, 15, 21					
H08OB	Miscellaneous	**Description:** Resilient floor tile/mastic: 12" x 12" Tan **Sample Numbers:** 4844D090429-07A, 4844D090429-07B, 4844D090429-07C 4844D090429-08A, 4844D090429-08B, 4844D090429-08C **Sample Numbers:** 484D090429-07B and 4844D090429-08A were analyzed via TEM	Approximately 15 SF	Negative	Non-Friable Good Condition
Location: Room 13, replacement tile used as a patch					

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INSPECTION SURVEY TABLE FOR BUILDING 484-4D

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Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H09OB	Miscellaneous	**Description:** Resilient floor tile/mastic: 12" x 12" Brown with tan streaks **Sample Numbers:** 4844D090429-11A, 4844D090429-11B, 4844D090429-11C 4844D090429-12A, 4844D090429-12B, 4844D090429-12C **Sample Numbers:** 484D090429-11A and 4844D090429-12A were analyzed via TEM	Approximately 8 SF	Negative	Non-Friable Good Condition
Location: Room 14 entry, replacement tile used as a patch					
H10OB	Miscellaneous	**Description:** 6" Brown cove base - mastic **Sample Numbers:** 4844D090429-13A, 4844D090429-13B, 4844D090429-13C **Sample Number:** 484D090429-13C was analyzed via TEM	Approximately 880 SF	Negative	Non-Friable Good Condition
Location: Observed throughout in areas with resilient floor tile					
H11OB	Miscellaneous	**Description:** 4" Brown cove base - mastic **Sample Numbers:** 4844D090429-14A, 4844D090429-14B, 4844D090429-14C **Sample Number:** 484D090429-14A was analyzed via TEM	Approximately 225 SF	Negative	Non-Friable Good Condition
Location: Observed throughout in areas with resilient floor tile					
H12	Miscellaneous	**Description:** Acoustical ceiling tile, 24" x 48" – small fissure **Sample Numbers:** 4844D090429-15, 4844D090429-16, 4844D090429-17	Approximately 1,500 SF	Negative	Friable Good Condition
Location: Observed throughout					
H13	Miscellaneous	**Description:** Acoustical ceiling tile, 24" x 48" – tan gypsum **Sample Numbers:** 4844D090429-21, 4844D090429-22, 4844D090429-23	Approximately 800 SF	Negative	Friable Good Condition
Location: Men's and women's restroom/locker room					
H14	Miscellaneous	**Description:** Acoustical ceiling tile, 24" x 48" – large perforation **Sample Numbers:** 4844D090429-18, 4844D090429-19, 4844D090429-20	Approximately 850 SF	Negative	Friable Good Condition
Location: Observed throughout					
H15	Miscellaneous	**Description:** Acoustical ceiling tile, 24" x 48" – pinhole pattern **Sample Numbers:** 4844D090429-24, 4844D090429-25, 4844D090429-26	Approximately 1,200 SF	Negative	Friable Good Condition
Location: Observed throughout					

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INSPECTION SURVEY TABLE FOR BUILDING 484-4D

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Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H16	Surfacing	**Description:** Joint compound **Sample Numbers:** 4844D090429-27, 4844D090429-28, 4844D090429-29	Approximately 900 SF	Negative	Friable Good Condition
Location: Rooms: 001-009, 9, 12, 13, 14, 15, Men's and Women's locker room					
H17	Miscellaneous	**Description:** Gypsum board **Sample Numbers:** 4844D090429-30, 4844D090429-31, 4844D090429-32	Approximately 900 SF	Negative	Friable Good Condition
Location: Rooms: 001-009, 9, 12, 13, 14, 15, Men's and Women's locker room					
H18OB	Miscellaneous	**Description:** Black mastic on polyisocyanurate pipe insulation **Sample Numbers:** 4844D090429-39A, 4844D090429-39B, 4844D090429-39C **Sample Number:** 484D090429-39C was analyzed via TEM	Approximately 140 SF	Negative	Non-Friable Good Condition
Location: Interior – Cold water (domestic) lines – drops to sinks, commodes, urinals, showers etc. – piping is also above ceiling					
H19	Miscellaneous	**Description:** Fire door insulation **Sample Numbers:** 4844D090429-40, 4844D090429-41, 4844D090429-42	19 each	Negative	Friable Good Condition
Location: Interior and exterior doors					
H20	TSI	**Description:** High temperature rigid insulation in aluminum jacketing **Sample Numbers:** 4844D191010-01, 4844D191010-02, 4844D191010-03	3 LF	Negative	Friable Good Condition
Location: Exterior domestic water supply					
H21	TSI	**Description:** Metal panel wall insulation **Sample Numbers:** 4844D191010-04, 4844D191010-05, 4844D191010-06	Not quantified	Negative	Friable Good Condition
Location: Interior metal panel wall system(s)					
H22OB	Miscellaneous	**Description:** Duct mastic - grey **Sample Numbers:** 4844D191010-07A, 4844D191010-07B, 4844D191010-07C **Sample Number:** 4844D191010-07C was analyzed via TEM	Approximately 20 SF	Negative	Non-friable Good Condition
Location: Exterior HVAC ductwork					

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INSPECTION SURVEY TABLE FOR BUILDING 484-4D

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Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H23	TSI	**Description:** Elastomeric foam w/0.016 aluminum jacketing **Sample Number:** N/A not suspected of containing asbestos. **REF:** SDS #4732-1 Armaflex® (or equivalent foam insulation)	N/A	N/A	N/A
Location: Observed on domestic water lines					
H24	TSI	**Description:** Fiberglass w/white vinyl facing (fiberglass batts) **Sample Number:** N/A, not suspected of containing asbestos **REF:** SDS #25860-1 or equivalent	N/A	N/A	N/A
Location: Used to insulate the structure's walls and ceiling in the high bay					
H25	TSI	**Description:** Polyisocyanurate (rigid foam insulation) **Sample Number:** N/A not suspected of containing asbestos. **REF:** Dyplast ISO-HT™ (SDS #47005-1) or equivalent	N/A	N/A	N/A
Location: Observed on domestic water lines					
H26	TSI	**Description:** All Service Jacketing (ASJ) fiberglass **Sample Numbers:** N/A, not suspected to contain asbestos **REF:** Owens Corning® ASJ (SDS# 51884-1, or equivalent)	N/A	N/A	N/A
Location: Observed on domestic water lines					
H27	TSI	**Description:** Paper-backed fiberglass insulation (batts) **Sample Numbers:** N/A, not suspected to contain asbestos. **REF:** Owens Corning® SDS#8545-1, or equivalent.	N/A	N/A	N/A
Location: Observed above acoustical ceiling tile systems					
H28	TSI	**Description:** Foil Skrim Kraft (FSK) fiberglass **Sample Number:** N/A not suspected to contain asbestos. **REF:** SDS #25860-1 or equivalent.	N/A	N/A	N/A
Location: Observed on HVAC ductwork (interior)					

INSPECTION SURVEY TABLE FOR BUILDING 484-4D

Homogeneous Number	SUSPECT MATERIAL	DESCRIPTION OF MATERIAL and SAMPLE NUMBERS	AMOUNT	TEST RESULTS	FRIABLE-NONFRIABLE
H29	TSI	**Description:** Mineral wool insulation **Sample Number:** N/A, not suspected to contain asbestos. **REF:** Rockwool®, SDS #13974-15 or equivalent.	N/A	N/A	N/A
Location: Observed on exterior HVAC ductwork, under metal jacket					
H30OB	Miscellaneous	**Description:** Grey sealant **Sample Number:** 4844D090429-03A, 4844D090429-03B, 4844D090429-03C **Sample Number:** 484D090429-03A was analyzed via TEM	Approximately 25 SF	Negative	Non-friable Good condition
Location: Roof – in seams and joints of metal roof decking of the building's addition on the west end					
H31OB	Miscellaneous	**Description:** Black sealant **Sample Number:** 4844D090429-04A, 4844D090429-03B, 4844D090429-03C **Sample Number:** 484D090429-04B was analyzed via TEM	Approximately 30 SF	Negative	Non-friable Good condition
Location: Roof – observed on rubber patches and piping penetrations					

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October 25, 2019

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

Bureau Veritas Work Order No A1910188

Reference Activity Code:0BJL15PNDC

Dear Kenny Barrineau:

Bureau Veritas North America, Inc. received 9 samples on October 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: Ken Padgett
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

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BUREAU VERITAS

CASE NARRATIVE **Date:** *25-Oct-19*

CLIENT: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC

Project: Activity Code:0BJL15PNDC

Work Order No A1910188

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.

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CLIENT: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC

Project: Activity Code:0BJL15PNDC

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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 A1910188

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.

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ANALYTICAL RESULTS

Date: *25-Oct-19*

CLIENT: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC
Sample Type: Bulk
Work Order No.: A1910188
Date Received: 10/18/2019
Client Reference: Activity Code:0BJL15PNDC
Report Date: 25-Oct-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	4844D191010-01	HS	10/10/2019	10/24/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Beige Pipe Insulation	None Detected		Opaque fiber	2%	Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
002A	4844D191010-02	HS	10/10/2019	10/24/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Beige Pipe Insulation	None Detected		Opaque fiber	2%	Binder/Filler
					Fibrous glass	1%	

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
003A	4844D191010-03	HS	10/10/2019	10/24/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Beige Pipe Insulation	None Detected		Opaque fiber	1%	Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
004A	4844D191010-04	HS	10/10/2019	10/24/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Brown Insulation Paper	None Detected		Cellulose fiber	98%	Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
005A	4844D191010-05	HS	10/10/2019	10/24/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Brown Insulation Paper	None Detected		Cellulose fiber	98%	Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
006A	4844D191010-06	HS	10/10/2019	10/24/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Brown Insulation Paper	None Detected		Cellulose fiber	98%	Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
007A	4844D191010-07A	SH	10/10/2019	10/21/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Gray Duct Mastic	None Detected		Non-Detected		Binder/Filler

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: _____ 10/25/2019

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ANALYTICAL RESULTS

Date: *25-Oct-19*

CLIENT:	SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC	**Sample Type:**	Bulk
Work Order No.:	A1910188	**Date Received:**	10/18/2019
Client Reference:	Activity Code:0BJL15PNDC	**Report Date:**	25-Oct-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
008A	***4844D191010-07B***	SH	10/10/2019	10/21/2019

Layer	POB	Sample Morphology	Asbestos	%	Other Fibers	%	Particulate
(1)	100	Homogeneous Gray Duct Mastic	None Detected		Non-Detected		Binder/Filler

Lab ID	Client Sample ID	Analyst	Date Sampled	Date Analyzed
009A	***4844D191010-07C***	SH	10/10/2019	10/21/2019

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

Laboratory Limits

Helen Sonsino (HS)

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

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: _____ 10/25/2019

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BUREAU VERITAS

ANALYTICAL RESULTS

Client: SAVANNAH RIVER NUCLEAR SOLUTIONS, LLC
Client Reference No.: Activity Code:0BJL15PNDC
Work Order No.: A1910188 **Date:** *25-Oct-19*

Analytical Method: NYELAP METHOD 198.4 by TEM
Sample Type: Bulk
Reporting Limit (% by Weight): 0.1
Date Received: 10/18/2019 3:13:44 PM
Report Date: 10/25/2019 11:25:21 AM
Grid Box Identification: 10-22-19B-1

Lab Sample No.	Client Sample Identification	Date Sampled	Analysis Date	Analyst	Sample Description (Morphology)	Asbestos Identification	(%)*	Total Asbestos (%)**
A1910188-009A	4844D191010-07C	10/10/19 @12:00 am	10/25/19 @10:26 am	KRP	Gray Duct Mastic	None Detected	--	< 0.1

TEM Microscope Documentation

Instrument	*Magnification	Accelerating Voltage	Calibration Date
TEM 1/D675	14503x	100 KeV	10/17/2019

*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: Khushal Parikh 10/25/2019

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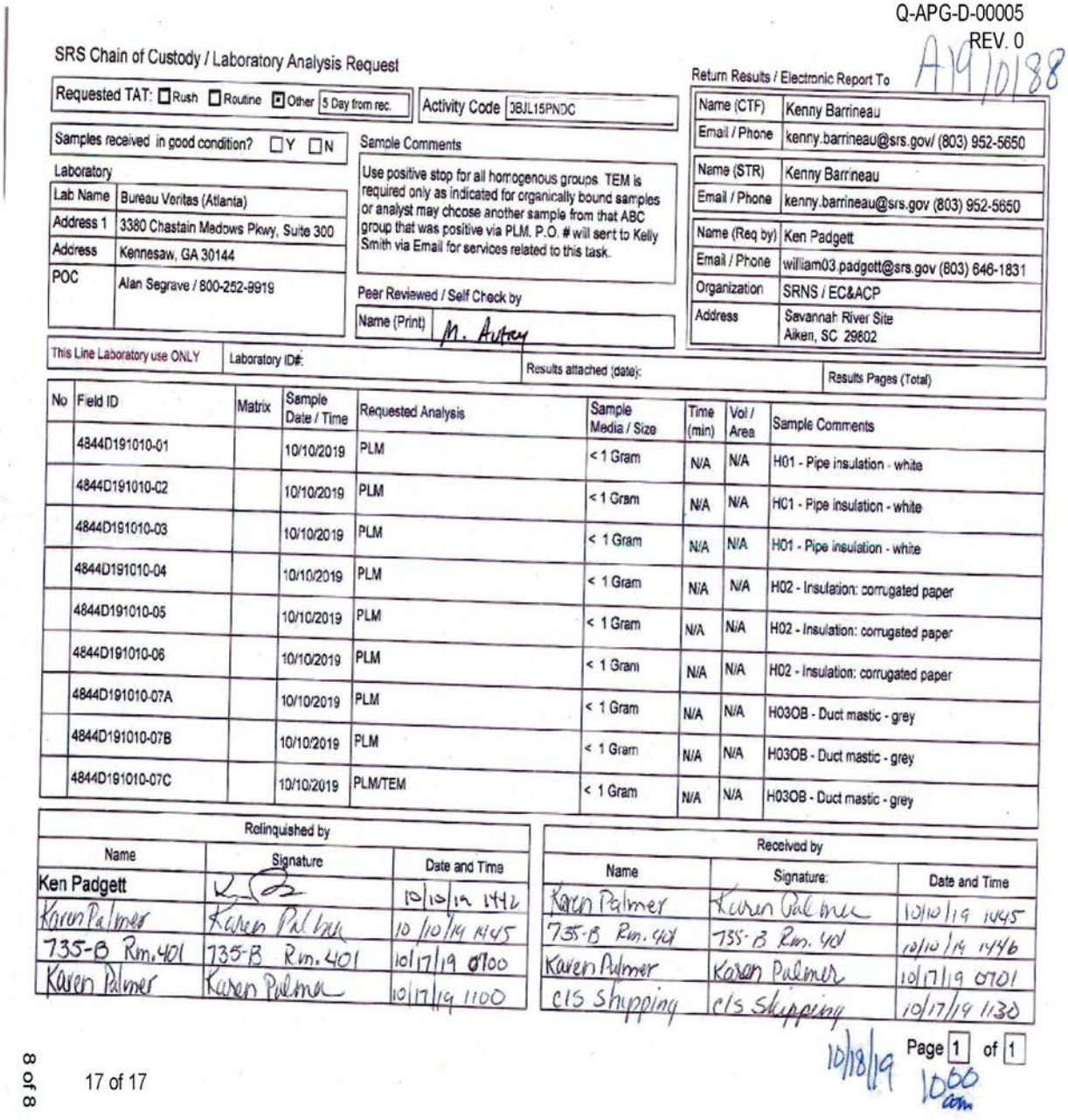

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AH 10188

SRS Chain of Custody / Laboratory Analysis Request

Requested TAT: ☐ Rush ☐ Routine ☒ Other 5 Day from rec. | Activity Code JBJL15PNDC

Samples received in good condition? ☐ Y ☐ N

Laboratory

Lab Name	Bureau Veritas (Atlanta)
Address 1	3380 Chastain Meadows 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
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Name (Req by)	Ken Padgett
Email / Phone	william03.padgett@srs.gov (803) 646-1831
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
	4844D191010-01		10/10/2019	PLM	< 1 Gram	N/A	N/A	H01 - Pipe insulation - white
	4844D191010-02		10/10/2019	PLM	< 1 Gram	N/A	N/A	H01 - Pipe insulation - white
	4844D191010-03		10/10/2019	PLM	< 1 Gram	N/A	N/A	H01 - Pipe insulation - white
	4844D191010-04		10/10/2019	PLM	< 1 Gram	N/A	N/A	H02 - Insulation: corrugated paper
	4844D191010-05		10/10/2019	PLM	< 1 Gram	N/A	N/A	H02 - Insulation: corrugated paper
	4844D191010-06		10/10/2019	PLM	< 1 Gram	N/A	N/A	H02 - Insulation: corrugated paper
	4844D191010-07A		10/10/2019	PLM	< 1 Gram	N/A	N/A	H03OB - Duct mastic - grey
	4844D191010-07B		10/10/2019	PLM	< 1 Gram	N/A	N/A	H03OB - Duct mastic - grey
	4844D191010-07C		10/10/2019	PLM/TEM	< 1 Gram	N/A	N/A	H03OB - Duct mastic - grey

Relinquished by		
Name	Signature	Date and Time
Ken Padgett	K. Padgett	10/10/19 1442
Karen Palmer	Karen Palmer	10/10/19 1445
735-B Rm. 401	735-B Rm. 401	10/17/19 0700
Karen Palmer	Karen Palmer	10/17/19 1100

Received by		
Name	Signature:	Date and Time
Karen Palmer	Karen Palmer	10/10/19 1445
735-B Rm. 401	735-B Rm. 401	10/10/19 1446
Karen Palmer	Karen Palmer	10/17/19 0701
CLS Shipping	CLS Shipping	10/17/19 1130

10/18/19 Page 1 of 1
1000 am

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- Page 7 refers to a Figure 6 but there is no Figure 6 included in the FDE. Please submit.

Response. Figure 6 was inadvertently omitted from the final version of the FDE. The figure is shown below. No change to the FDE is proposed.

Figure 6. Building 484-13D, D-Area Storage Building Floor Stain

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

General Comment

The integrity of the sumps for Diesel Fuel Tank and the Diesel Fuel Unloading Facility are not specifically addressed. Please address.

Response: Clarification. The integrity of the sump was not compromised during the operation of the facility based on the review of operating records, spill reports, and interviews with the D-Area Operations personnel. The facility was a fuel storage area and managed during its operation in accordance with all regulatory requirements and standards up until its shutdown. Based on interviews/conversations with the D-Area Operations personnel, a filter leak on the transfer pump in 454-D occurred resulting in a minor leak that was confined to the diked area and the sump. These same interviews/discussions revealed that any leaks that may have occurred at 454-1D did not result in any oils/stains reaching the 454-1D sump; there was only evidence of minor leaks confined to the pad/containment structure which were immediately cleaned up. In both instances, there was no evidence of spills outside the containment areas. During the 2012 to 2014 timeframe, deactivation of facilities was taking place throughout the D-Area complex. In 2014, as part of the deactivation of 454-D and 454-1D, residual surface stains due to minor spills within the dike area of 454-D and the concrete pad/dike area of 454-1D were pressure washed. The sumps of both facilities were inspected, pressure washed, and filled with rock. The rock will be removed from the sumps and the sumps re-inspected prior to refilling with rock or grout as part of the decommissioning process. Results of the inspection will be provided in the Decommissioning Project Final Report. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Specific Comments

Figure 7, Page 9: Please describe the significance of the blue rectangle which encompasses Building 454-D and Building 484-5D. The later facility is not covered in the FDE.

Response: Clarification. The blue rectangle is an editorial error and should not have been shown on the figure. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Part 2, Evaluation on page 15: Item 2 states, "There was no visible evidence of spills at the truck off-loading station." This statement is contradicted in the second paragraph on page 10. Please resolve this discrepancy.

Response: Clarification. Interviews/discussions with D-Area Operations personnel revealed that any leaks that may have occurred at 454-1D did not result in any oils/stains reaching the 454-1D sump. Minor leaks were confined to the pad/containment structure at the truck off-loading station and were immediately cleaned up. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

General Comment

Photographs are not provided for the inside of the facility. Please provide photographs of the stained areas on the concrete slab in the Main Shop.

Response: Agree. See Figures 1 and 2 below. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Figure 1. Stained Concrete Near East Door

Figure 2. Stained Concrete Near Wall Perpendicular to South Wall

Specific Comments

Facility Description, Page 4: The first paragraph states that portions of the facility were heated for climate control. Please state the energy source that was used.

Response: Clarification. The facility utilized an electrically powered HVAC system consisting of heat pumps. No change to the document is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Process History, Pages 9 & 10: The first paragraph of this section states that there were no chemical processes in the facility yet the Chemical Process table on page 10 includes chemicals. Therefore, a contradiction exists. Please address.

Response: Clarification. Please note that the first paragraph states that "no chemical, mechanical or electrical energy or interaction was performed to change the state of an input material or to produce a new output product". The intended use for the items listed in the Chemical Process table were to clean and lubricate machinery and tools used in the Main Shop and self-contained solvent rinse stations were used. Use of these items in Building 484-

4D did not result in a change in the state of any output products. No change to the document is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov

Part 2, Evaluation on page 12 The information presented in item # 1 is contradictory. It states that the facility contained hazardous materials yet an "X" is in the "No" column, thereby indicating that it did not. Please correct.

Response: Clarification. The question is two-fold – it asks if the "facility ever contained or processed radioactive or hazardous materials other than stored packaged material or materials of construction?" The items used in Building 484-4D for cleaning and lubricating machinery and tools used in the Main Shop would be represented by the latter part of the question. Therefore, the information in the Part 2. Evaluation table is correct. No change to the FDE is proposed.

Responsible Party: William B. Griffin (803-952-6430), William.Griffin@srs.gov