CH2M HILL Plateau Remediation Company

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The purpose of this report is to disclose the results of an asbestos thorough inspection of 234-5ZA Change Room Addition at the Plutonium Finishing Plant Complex

REVIEWERS **Others**

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CWR-PFP-00021
Revision 0

Asbestos NESHAP Thorough Inspection Report at 234-5ZA Change Room Addition

Zone 1 of 234-5Z

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Contractor for the U.S. Department of Energy
under Contract DE-AC06-08RL14788

P.O. Box 1600
Richland, Washington 99352

CWR-PFP-00021
Revision 0

Asbestos NESHAP Thorough Inspection Report at 234-5ZA Change Room Addition

Zone 1 of 234-5Z

Document Type: RPT Program/Project: PFP Closure

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CH2M HILL Plateau Remediation Company

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Executive Summary

The 234-5ZA Change Room Addition (Zone 1) is part of the 234-5Z complex and has been scheduled for demolition under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA).[1] The 234-5ZA Change Room provides clean entry into 234-5Z, 236Z, and 242Z. The Change Room Addition was completed in late 1991. This cinderblock addition is approximately 105 ft long by 53 ft wide (5,565 ft^2). For the purposes of decontamination and demolition, the old guard shack area, which is now the dress out area, is also included in Zone 1 (34 ft by 30 ft or 1,020 ft^2). This gives Zone 1 an approximate square footage of 6,585 ft^2.

The 234-5ZA Change Room Addition is attached to the northeast corner of 234-5Z. The change room houses the men's change room/locker and shower rooms, storage rooms for personal protective equipment and laundry, access control entry system (ACES) 1 station, radiation buffer area boundary, and dress out area.

The Plutonium Finishing Plant (PFP) Closure Project is conducting a CERCLA removal action authorized by DOE/RL-2005-13, *Action Memorandum for the Plutonium Finishing Plant Above-Grade Structures Non-Time Critical Removal Action*.[2] The work is being implemented in accordance with DOE/RL-2011-03, *Removal Action Work Plan for the Deactivation, Decontamination, Decommissioning, and Demolition of the Plutonium Finishing Plant Complex*.[3] The 234-5ZA Change Room Addition is part of the PFP Complex, located in the 200 West Area of the Hanford Site in Washington State. Its demolition is part of the PFP Closure Project.

Prior to demolition, a thorough inspection in accordance with the asbestos 40 CFR 61.145, "National Emission Standards for Hazardous Air Pollutants," "Standard for Demolition and Renovation,"[4] was completed by certified *Asbestos Hazard*

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[1] *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, 42 USC 9601, et seq., Pub. L. 107-377, December 31, 2002. Available at: http://epw.senate.gov/cercla.pdf.

[2] DOE/RL-2005-13, 2005, *Action Memorandum for the Plutonium Finishing Plant Above-Grade Structures Non-Time Critical Removal Action*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://pdw.hanford.gov/arpir/pdf.cfm?accession=DA00914134.

[3] DOE/RL-2011-03, 2014, *Removal Action Work Plan for the Deactivation, Decontamination, Decommissioning, and Demolition of the Plutonium Finishing Plant Complex*, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington. Available at: http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0084836.

[4] 40 CFR 61.145, "National Emission Standards for Hazardous Air Pollutants," "Standard for Demolition and Renovation," *Code of Federal Regulations*. Available at: http://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol8/xml/CFR-2010-title40-vol8-part61.xml.

Emergency Response Act of 1986 (AHERA)[5] Building Inspectors. The purpose of this inspection was to determine the location of any asbestos-containing material (ACM) and its condition and quantity. Samples were taken by a certified AHERA Building Inspector and analyzed by a certified asbestos laboratory. All areas of the facility were accessed.

This report documents the results of a sampling and analysis plan (SAP) created to characterize Zone 1. All suspect materials identified in inspection for the 234-5ZA Change Room Addition were sampled as identified in this document. Table 1 presents the results of these samples and evaluations. No ACMs were identified by analysis or through process knowledge. Appendix A contains the 234-5ZA (Zone 1) SAP.

[5] *Asbestos Hazard Emergency Response Act of 1986*, 15 USC 2641, et seq. Available at: http://www.gpo.gov/fdsys/pkg/USCODE-2009-title15/html/USCODE-2009-title15-chap53-subchapII.htm.

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Terms

ACES	access control entry system
ACM	asbestos-containing material
AHERA	*Asbestos Hazard Emergency Response Act of 1986*
ACWM	asbestos-containing waste material
Cat I	Category I
Cat II	Category II
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
D&D	decontamination and demolition
EPA	U.S. Environmental Protection Agency
EPDM	ethylene propylene diene monomer
N/A	not applicable
NAD	no asbestos detected
NESHAP	“National Emission Standards for Hazardous Air Pollutants” (40 CFR 61)
PFP	Plutonium Finishing Plant
PPE	personal protective equipment
RACM	regulated asbestos-containing material
RAWP	removal action work plan
RBA	radiation buffer area
SAP	sampling and analysis plan
TSI	thermal system insulation

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1 Introduction

The scope of this report is to document the thorough asbestos inspection of the 234-5ZA Change Room Addition (Zone 1). The current Plutonium Finishing Plant (PFP) schedule includes demolition of the 234-5ZA Change Room Addition in 2017.

The U.S. Environmental Protection Agency (EPA) asbestos standard (40 CFR 61, "National Emission Standards for Hazardous Air Pollutants" [NESHAP]) requires that prior to commencement of any demolition activity, a certified *Asbestos Hazard Emergency Response Act of 1986* (AHERA) Building Inspector must perform a thorough inspection of the affected facility and document the inspection to identify the following items:

- Homogeneous areas of asbestos-containing material (ACM) and their locations
- Quantity of ACM
- NESHAP (40 CFR 61) category of ACM (regulated asbestos-containing material [RACM], Category I [Cat I], or Category II [Cat II])
- Condition of all ACM (particularly important if nonfriable Cat I or Cat II ACM is to be left in place during demolition)
- Cat I or Cat II ACM that has become RACM, based on condition
- Cat I or Cat II ACM that can become RACM, based on planned demolition techniques
- Suspect ACM that was determined (through inspection or sampling and analysis) not to be ACM

NESHAP (40 CFR 61) requires the inspection to address hidden ACM. Inspectors had to open up walls, ceilings, crawl spaces, and plenums to address inaccessible areas where hidden materials (e.g., pipe runs and insulated ducts) may have been found.

Each homogenous area needed to be sampled sufficiently to know the asbestos content and prove its consistency. A homogeneous area is uniform in texture, color, and date of application and appears identical in every other respect. Materials installed at different times belong to different homogeneous sampling areas. If there is any reason to suspect that materials might be different, even though they appear uniform, they were assigned to different homogeneous sampling areas.

This report meets all elements of a thorough inspection as defined in NESHAP (40 CFR 61).

1.1 Building History

The 234-5ZA Change Room Addition (Zone 1) was designed and constructed and became operational in late 1991. This cinderblock addition is approximately 105 ft long by 53 ft wide (5,565 ft^2). For the purposes of decontamination and demolition (D&D), the old guard shack area, which is now the dress out area, is also included in Zone 1 (34 ft by 30 ft or 1,020 ft^2). This gives Zone 1 an approximate square footage of 6,585 ft^2.

The 234-5ZA Change Room Addition is attached to the northeast corner of 234-5Z. The Change Room Addition houses the men's change room/locker and shower rooms, storage rooms for personal protective equipment (PPE) and laundry, access control entry system (ACES) 1 station, radiation buffer area (RBA) boundary, and dress out area.

Prior to the commencement of demolition, a thorough inspection of the affected structure will be performed and documented for the presence of asbestos, including Cat I and Cat II nonfriable ACM.

If the U.S. Department of Energy identifies any Cat II ACM that should be allowed to remain in place during demolition, information identifying the planned demolition approach, and a description of how the Cat II ACM will not become crumbled, pulverized, or reduced to powder by the forces expected to act on it during the demolition, will be provided in advance to EPA for approval. Cat I nonfriable ACM remaining in the building for demolition can remain where demolition practices will be used that can be or have been demonstrated to the satisfaction of EPA not to render the Cat I ACM friable, consistent with NESHAP (40 CFR 61). Such Cat I nonfriable ACM must not be in poor condition, and planned demolition activities must not subject the ACM to sanding, grinding, cutting, or abrading.

Cat I nonfriable ACM remaining in the building for demolition can remain where demolition practices will be used that can be or have been demonstrated to the satisfaction of EPA not to render the Cat I ACM friable, consistent with NESHAP (40 CFR 61). Such Cat I nonfriable ACM must not be in poor condition, and planned demolition activities must not subject the ACM to sanding, grinding, cutting, or abrading.

In all cases, ACM that is either friable, or cannot be demonstrated to remain nonfriable during demolition, will be removed prior to such demolition, as required by NESHAP (40 CFR 61). NESHAP also requires performance of a thorough inspection to identify, quantify, and describe all Cat I and Cat II ACMs affected by demolition. This report documents the results from the inspection and sampling of 234-5ZA, Zone 1.

1.2 Building Description

Zone 1 (both the 234-5ZA Change Room Addition and dress out area and the building interior) is described in this section.

1.2.1 234-5ZA (Zone 1) Change Room Addition and Dress Out Area

The 234-5ZA Change Room Addition is a 5,565 ft^2 building, constructed in 1991. The floor plan for Zone 1 is presented in Figure 1. For the purposes of D&D, the old guard house area, which now serves as the dress out area, was added to Zone 1. With this addition, Zone 1 has a total area of 6,585 ft^2.
The building, constructed of cinderblock, is approximately 105 ft long and 53 ft wide. The dress out area is another 34 ft by 30 ft (1,020 ft^2). The 234-5ZA Change Room Addition is attached to the northeast corner of 234-5Z. The following rooms make up Zone 1: 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 722, 724, 726, 728, 729, 730, 731, 732, and 733 (Figure 1). The Change Room Addition houses the men’s change room/locker and shower rooms, storage rooms for PPE and laundry, ACES 1 station, RBA boundary, and dress out area.

The wall separating 234-5ZA from 234-5Z is a 4 hour rated fire resistance barrier. The wall extends the entire length of 234-5ZA, and all doors exiting or entering this barrier are self closing fire rated assemblies. The roof of 234-5ZA was constructed with a 2 hour fire resistance rating. Two roof mounted heating, ventilation, and air conditioning units supply heated and cooled air to this building. The supply and exhaust fans will shut down anytime smoke is detected within the supply duct.

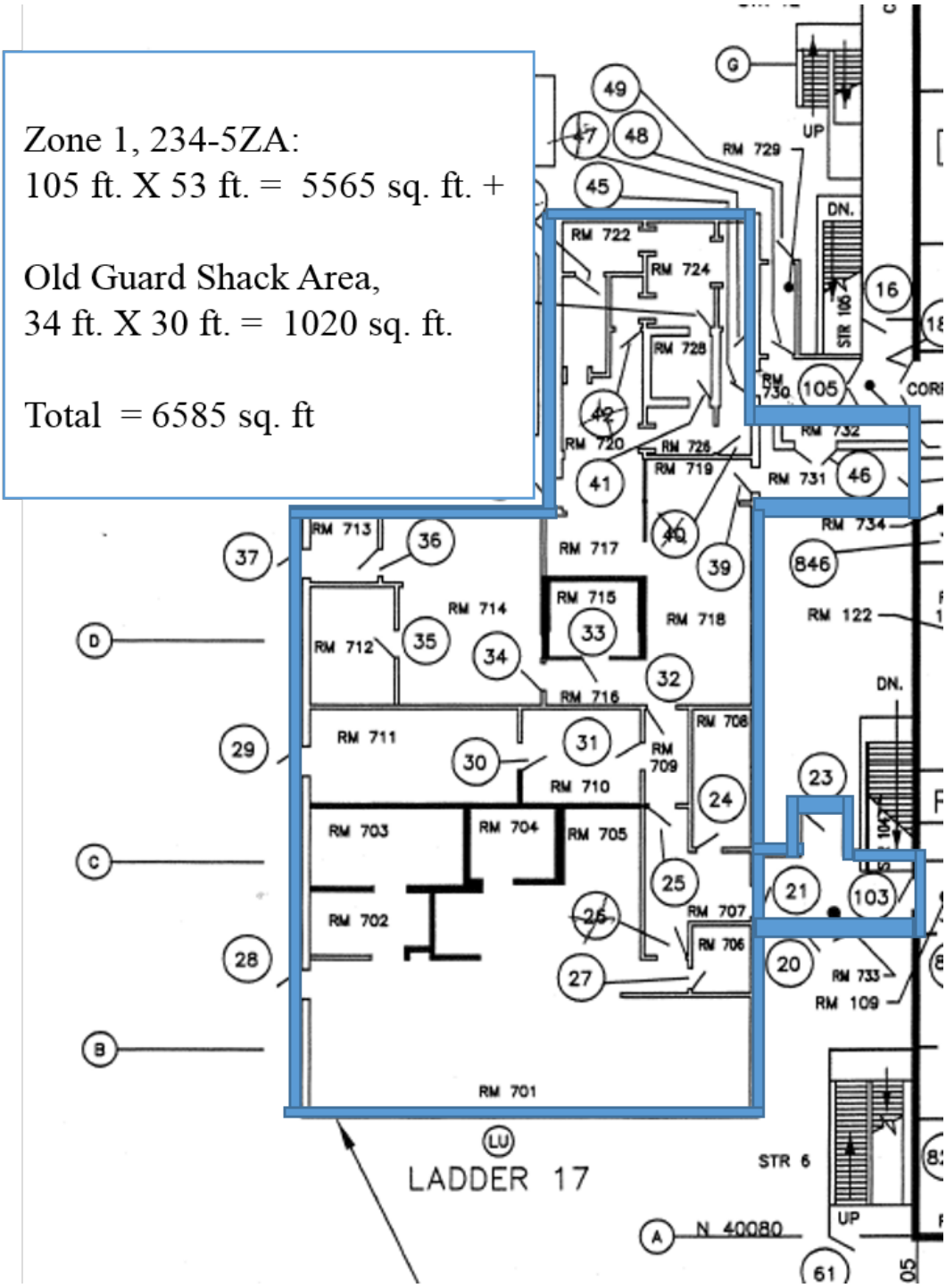

Figure 1. 234-5ZA Zone 1

The 234-5ZA roof is flat with a 2-hour rated roof assembly consisting of an ethylene propylene diene monomer (EPDM) roofing system, polyiso insulation board (R-17), 5/8 in. fire code type X GWN, corrugated structural metal deck, steel bar joist, and metal furring channels (24 in. centers) (details are in as-built drawing H-2-81320, Sheet 8, *Architectural Wall Sections*).

EPDM is an elastomeric compound that is manufactured from ethylene, propylene, and a small amount of diene monomer. These ingredients are synthesized to produce a product that exhibits a high degree of ozone, ultraviolet, weathering and abrasion resistance, and outstanding low temperature flexibility. These ingredients also contribute resistance to acids, alkalis, and oxygenated solvents (e.g., ketones, esters, and alcohols).

EPDM membrane is a vulcanized/thermoset membrane that has been fully cured in the manufacturing process before shipment and delivery to the job site. With aging, EPDM membrane will not leech or emit hazardous chemicals. Its physical properties remain stable, which makes repairs much easier in the unlikely event of cuts or tears (Figure 4).

Based on the age of the roof, walkdown, records search, and as built drawings, the AHERA Building Inspector determined that no suspect ACM was present in the roof materials. Therefore, no samples were taken. The completed process knowledge characterization of the roof resulted in a determination of no asbestos detected (NAD).

The photographs (Figures 2 through 5) are representative of the 234-5ZA exterior (Zone 1).

Figure 2. Northeast Corner of 234-5ZA Building Exterior (Cinderblock Construction)

Figure 3. Southeast Corner of 234-5ZA (234-5Z in Foreground)

Figure 4. 234-5ZA Roof

Figure 5. 234-5ZA Connection to 234-5Z (Taken from Roof along West Side)

1.2.2 234-5ZA Building Interior

An asbestos sampling and analysis plan (SAP) was developed for this building that was designed to incorporate both historical sampling records as well as new sample results. The SAP is included in Appendix A. By the time the building was constructed in late 1991, the use of asbestos in most building material had been banned. Regardless, the same asbestos SAP format developed for 236Z, 2727Z, and 2729Z was used to evaluate 234-5ZA. The plan called for an evaluation of floors, walls, ceiling, caulk, electrical, thermal system insulation (TSI), doors, and gaskets/packings.

A search of site records revealed that there were only two historical samples for 234-5ZA taken in January 2010. Both samples were cinderblock contents from the outside of 234-5ZA. The material was Styrofoam®. Both samples showed NAD. These results are included in Appendix B.

The photographs (Figures 6 through 10) are representative of the 234-5ZA interior (Zone 1).

® Styrofoam is a registered trademark of The Dow Chemical Company, Midland, Michigan.

Figure 6. Room 701, Men's Locker Room (Interior of 234-5ZA)

Figure 7. Room 701, Men's Wash Room

Figure 8. ACES 1 and Rooms 715/716 to the Left of ACES

Figure 9. View from ACES into Room 720; Old Guard Shack to Right (Yellow Wall/Window)

Figure 10. Rooms 717, 718, and Part of 720

1.3 Description of Inspection and Sampling

The thorough inspection and SAP processes are described in this section.

1.3.1 Thorough Inspection Process

DOE/RL-2011-03, *Removal Action Work Plan for the Deactivation, Decontamination, Decommissioning, and Demolition of the Plutonium Finishing Plant Complex* (hereinafter called the removal action work plan [RAWP]), requires that, "Prior to the commencement of the demolition, a thorough inspection of the affected structure will be performed and documented for the presence of asbestos, including Category I and Category II non-friable ACM." The process of completing a thorough inspection of this building consisted of the actions described in the following subsections:

1.3.2 Records Review

Design drawings and other existing information (e.g., renovations and past asbestos surveys) were evaluated to determine the building materials used at the time of construction.

Historical samples identified for 234-5ZA were used to focus the SAP evaluation of specific media. All historical data used for characterization were included in Appendix B.

1.3.3 Walkdowns

Visual inspections and walkdowns were conducted by certified AHERA Building Inspectors: T.A. Hopkins, W.G. Cox, and J.M. Leary (copies of AHERA Building Inspector Certifications are provided in Appendix D):

- Identify all suspect ACM and all suspect materials that would require sampling and analysis.
- Determine sample density (for materials not handled as suspect ACM) as prescribed by AHERA.

- Define homogenous/nonhomogeneous ACM, as appropriate.
- Identify areas requiring special needs (e.g., accessibility for sampling, confined space, and Industrial Hygiene/Safety and Radiation support).

1.3.4 Sampling and Analysis Plan (SAP)

A SAP was created (copy in Appendix A), then sampling was prioritized, scheduled, and executed as follows.

- Samples for 234-5Z were taken by certified AHERA Building Inspector G.A. Murbach.
- Guidance for sampling is provided by DOE/RL-2004-29, *Sampling and Analysis Plan for the Plutonium Finishing Plant Above-Grade Structures*.

1.3.5 Laboratory Analysis

All samples were documented on chain-of-custody forms with sample identification numbers and sent to a certified laboratory for analysis.

Sample results were analyzed by an AHERA Building Inspector/Designer to identify ACM that requires abatement or that can remain in place during demolition. EPA approval was requested/received for ACM to remain in place during demolition.

Results are documented in a report; sample results are summarized in Table 1.

Table 1. Summary of Sample Results for 234-5ZA (Zone 1)

Sample Numbers	Area Name	Location/Room	Field Description	Results	NESHAP Category	Condition/ Extent
15-23527-001-010	234-5ZA Zone 1	712, 714, 734, 728 (30 samples)	Floors/tile; carpet	NAD	N/A	N/A
15-23527-011-019	234-5ZA Zone 1	701, 706, 707, 709, 718 (43 samples)	Drywall and mud	NAD	N/A	N/A
15-23527-020-24	234-5ZA Zone 1	Exterior wall 6 samples	Cinderblock/ interior	NAD	N/A	N/A
15-23257-033-036	234-5ZA Zone 1	720 (8 samples)	Ceiling/acoustic tile/mastic	NAD	N/A	N/A
15-23527-037-042	234-5ZA Zone 1	701, 713, 733, 706 (12 samples)	Caulk	NAD	N/A	N/A
15-23527-43 to 046	234-5ZA Zone 1	714, 706 (11 samples)	Coving and mastic	NAD	N/A	N/A
15-23527-025-032	234-5ZA Zone 1	720, 709, 710, 711	Visual evaluation TSI	NAD fiberglass		

N/A = not applicable

1.4 Sampling and Analysis Plans

NESHAP, AHERA, and the RAWP (DOE/RL-2011-03) require completion of a thorough asbestos inspection for the facility prior to demolition. All suspect ACMs need to be characterized. To fulfill that requirement, a single SAP was developed for Zone 1. This SAP was designed to incorporate both

historical sampling records as well as new sample results. Representative samples were taken, as directed by the SAP. With the execution of the SAP and receipt of results, all Cat I and Cat II nonfriable ACM and friable RACM have been identified and documented in this report.

By strictly adhering to the following SAP format, the AHERA Building Inspector ensured a systematic approach to asbestos characterization for each zone:

- Plaster walls and ceilings
- Acoustic ceiling tile
- Coving and mastic
- Secondary containment surface coating
- Wall texture
- Electrical wiring
- Caulk
- Wall patches
- Doors
- Roofing material
- Insulation on exterior of air ducts

The regulations allowed like materials to be evaluated together. These homogenous areas needed to be sampled sufficiently to know the asbestos content and to prove its consistency. A homogeneous area is an area that is uniform in texture, color, date of application and appears identical in every other respect. Materials installed at different times belong to different homogeneous sampling areas. If there is any reason to suspect the materials might be different, even though they appear uniform, they were assigned to different homogeneous sampling areas. The following homogeneous areas were defined:

- Wall construction: lath and plaster
- Wall construction: drywall/gypsum board
- Ceiling: lath and plaster
- Ceiling: acoustic tile
- Electrical wiring/panels
  - 480 V service
  - 220 V service
  - 110 V service
- Built up roofing material

Note: Historical samples for 234-5ZA can be found in Table 1 and Appendix B.

1.5 Methodology

Visual evaluations and process knowledge are described in this section.

1.5.1 Visual Evaluations

Characterization for doors, metal panels and TSI was conducted by following a process called visual evaluation:

- Defining a common field (e.g., metal panels, fire doors, and TSI)

- Characterizing a representative segment of that field using analytical data or process knowledge
- Applying that standard to field results

1.5.1.1 Visual Evaluation Process for Doors

Facility doors can be categorized into fire, exterior, interior, and elevator doors. From these categories, a representative number of doors were sampled from these categories, and material from the interior of the door sent to a certified laboratory for analysis. Each door was handled as a miscellaneous unit and two samples were taken from the interior contents of the doors from the lower quarter of each door. Results were used to formulate the visual evaluation process. Visual evaluations consisted of the following actions:

- Trained AHERA Building Inspectors would drill a 1 in. hole into the lower portion of the door to be sampled.
- Upon completion of the hole, a visual inspection of the contents of the door would be made by the trained AHERA Building Inspector. A determination of NAD would be made if the door was hollow or contained any of the following materials:
  - Brown paper
  - Fiberglass
  - Urethane/Styrofoam
- If any material other than fiberglass, urethane foam, or brown paper is present, the door would be presumed to contain asbestos or the door would be sampled. Results of this visual evaluation assessment for doors can be found in the Zone 11 report.

1.5.1.2 Visual Evaluation Process for Metal Panels

Visual evaluations for metal panels followed the same process. Interior contents from the panels were evaluated as to whether they were empty, or they contained fiberglass insulation or insulation with asbestos roofing felt. Drilling the panels allowed the AHERA Building Inspector the opportunity to examine the interior contents and characterize the panels.

1.5.1.3 Visual Evaluation Process for Metal TSI

The visual evaluation for TSI was conducted by AHERA Building Inspectors that had abated thousands of feet of asbestos insulation. They were intimately familiar with TSI from this building. The inspector would cut into the insulation and examine the contents. Special attention was paid to joints, elbows, and 90 degree fittings because asbestos mud was often used in these areas, even when the straight runs were fiberglass. When asbestos was identified, the piping was declared presumed ACM and removed prior to demolition. If an unknown material was identified, samples were taken following a written SAP.

1.5.2 Process Knowledge/Suspect ACM

Identification of suspect ACMs was based on process knowledge and the training of AHERA Building Inspectors. In general, the following materials in 234-5ZA were assumed to contain asbestos:

- Ebonite lab counter tops (Cat II) in good condition
- Gaskets/packings (Cat I), present throughout the building and in good condition
- 9 in. red and brown vinyl floor tile (Cat I) in good condition
- Transite panels

2 Sample Information and Results

Asbestos bulk sampling has been conducted at PFP over many years in support of deactivation activities under CERCLA.

2.1 Historic Asbestos Analytical Data

Sample collection was mainly performed upon request in support of specific project activities (e.g., facility modifications and mechanical/electrical isolation). All sample collections were performed by insulators certified as AHERA Building Inspectors. Historical data used for characterization can be found in Table 1 and Appendix B of this report.

2.2 Asbestos Characterization Results

NESHAP, AHERA, and the RAWP (DOE/RL-2011-03) require completion of a thorough asbestos inspection prior to demolition, identification of all Cat I and Cat II nonfriable ACM and all friable RACM, and documentation of those findings.

Samples were taken in accordance with the attached SAPs and submitted to a certified laboratory for analysis. Bulk Asbestos Sample Log sheets and analytical data results were reviewed for each zone. Table 1 summarizes the following information:

- Sample locations
- Types, descriptions, and conditions of the materials
- Analytical results

Table 2 summarizes ACM to be removed prior to demolition, and Table 3 shows Cat I and Cat II ACM that will remain in the building during demolition. In accordance with AHERA requirements and EPA concurrence, nonfriable Cat I and Cat II materials that are in good condition may remain in the building during demolition provided subsequent demolition activities do not render them friable.

Table 2. Summary of ACM to Be Removed Prior to Demolition (234-5ZA, Zone 1)

Area	Room/Location	Field Description	Results	Category: Cat I/Cat II	Aerial Extent (ft^2 or linear ft)
234-5ZA	All rooms in Figure 1	None; no asbestos containing materials or suspect materials identified	None	N/A	N/A

N/A = not applicable

Table 3. Listing of Cat I and Cat II ACM Remaining in 234-5ZA Zone 1 During Demolition

Area	Room/Location	Field Description	Results	Category: Cat I/Cat II	Aerial Extent (ft^2 or linear ft)
234-5ZA	Throughout building	Gaskets/packings; piping and valves	Process knowledge; suspect ACM	Cat I	<1 ft^2 each

In addition to analytical sampling, visual evaluations of doors, metal paneling, walls, ceilings, and electrical wiring/panels were conducted.

Gaskets and packings are found throughout the facility in equipment (e.g., valves, gloveboxes, and not sampled pumps) All gaskets and packings were characterized using process knowledge as suspect ACM and were not sampled. All gaskets and packings are in good condition

All friable ACM will have been removed prior to demolition. All Cat I and Cat II ACM will be managed in accordance with the RAWP (DOE/RL-2011-03), which requires their removal or a demonstration that demolition techniques will not render them friable.

2.3 Non-Asbestos Containing Structures

It is just as important to know non-asbestos materials as it is ACM. Materials (e.g., roofing, carpeting, linoleum flooring, adhesive mastic, sheetrock, and wallboard) were sampled and analyzed. Characterization results for each of these materials can be found in the individual zone reports.

2.4 Controls

During the demolition of areas where ACM Cat I and Cat II are encountered, the project will respond in the following ways:

- Wet methods will be used on ACM items during removal.
- Demolition activity will only use methods that minimize breaking, crushing, pulverizing, or reducing to powder suspect ACM during removal with heavy equipment.
- Cutting and grinding of suspect ACM will not be allowed.
- Operators will be directed to remove suspect ACM in as large of pieces as possible.
- Suspect ACM will be lowered to the ground, not dropped.
- Suspect asbestos-containing waste material (ACWM) will be segregated from other waste to the extent possible. Comingled ACWM and non-ACM waste materials will be treated as ACWM.
- ACWM will be managed in accordance with the substantive requirements of NESHAP (40 CFR 61) and the U.S. Department of Transportation.
- ACWM will be kept adequately wet at all times after demolition and will be kept wet during handling and loading for transport to the disposal site. This ACWM will be transported and disposed of in bulk following applicable site procedures.

2.5 Conclusions

No friable ACM was identified in Zone 1 (234-5ZA). All Cat I and Cat II ACM will be managed in accordance with the RAWP (DOE/RL-2011-03), which requires removal or a demonstration that demolition techniques will not render them friable. Sample results are summarized in Table 1. The abbreviation NAD is used to indicate no asbestos detected. The SAPs with results are provided in Appendix A. Laboratory sample reports are provided in Appendix C. Building inspector and laboratory credentials are provided in Appendix D. Table 2 identifies all ACM that has to be removed prior to demolition of Zone 1. Table 3 identifies Cat I and Cat II ACM that will remain in the building during demolition from Zone 1 (gaskets/packings) with the approval of EPA.

A demolition plan has been to developed to describe the management methods that will be used to ensure that demolition techniques will not render any ACM remaining in the building during demolition friable. Section 2.4 summarizes these controls.

3 References

40 CFR 61, "National Emission Standards for Hazardous Air Pollutants," *Code of Federal Regulations*. Available at: http://www.gpo.gov/fdsys/pkg/CFR-2010-title40-vol8/xml/CFR-2010-title40-vol8-part61.xml.

61.145, "Standard for Demolition and Renovation."

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Appendix A

Sampling and Analysis Plans with Results

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Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
FLOORS, DIRECTIONS: Identify flooring material - If tile or linoleum - schedule for sampling. Minimum of two samples each new type of flooring material (include mastic). Exceptions: Process knowledge, Previous Sampling or determined to be PACM because of radiological conditions.											
Blue Carpet Tile				Room 715, ACES blue carpet tile; Three layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
12-Dec-15	15-23527-001	W512046-01	Zone 1, 234-5ZA	Room 715, Blue carpet/mastic; Sample 1/ blue gray looped carpet with dark gray backing and light gray adhesive; 3 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
12-Dec-15		W512046-01A		Layer 01A: 25% blue gray fiber loops/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
12-Dec-15		W512046-01B		Layer 01B: 74% dark gray backing; 3% fibrous glass; 97% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
12-Dec-15		W512046-01C		Layer 01C: 1% light gray adhesive; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
12-Dec-15	15-23527-002	W512046-02	Zone 1, 234-5ZA	Room 715, Blue carpet/mastic; Sample 2/ blue looped carpet with dark gray backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
		W512046-02A		Layer 02A: 25% blue fiber loops; 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
		W512046-02B		Layer 02B: 75% dark gray backing; 3% fibrous glass; 97% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
GRAY CARPTET											
12-Dec-15	15-23527-003	W512046-03	Zone 2, 234-5ZA	Room 714, gray carpet/ mastic; Sample 1/ gray looped carpet with black backing; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-03A		Layer 03A; 50% gray fiber loops; 100% synthetic fibers;	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-03B		Layer 03B: 50% black backing; 1% fibrous glass; 99% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
12-Dec-15	15-23527-004	W512046-04	Zone 1, 234-5ZA	Room 712, gray carpet/ mastic; Sample 2/ gray looped carpet with black backing; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-04A		Layer 04A; 50% gray fiber loops; 100% synthetic fibers;	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-04B		Layer 04B: 50% black backing; 1% fibrous glass; 99% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
WHITE VINYL TILE											
12-Dec-15	15-23527-005	W512046-05	Zone 1, 234-5ZA	Room 734/ vinyl white tile/mastic Sample 1/ off-white floor tile with yellow mastic; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile/ mastic	NA
		W512046-05A		Layer 05A: 99% off white tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile/ mastic	NA
		W512046-05B		Layer 05B: 1% yellow mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile/ mastic	NA
12-Dec-15	15-23527-006	W512046-06	Zone 1, 234-5ZA	Room 734/ vinyl white tile/mastic Sample 1/ off-white floor tile with yellow mastic; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile/ mastic	NA
		W512046-06A		Layer 06A: 98% off white tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile/ mastic	NA
		W512046-06B		Layer 06B: 2% yellow mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile/ mastic	NA
BLUE CARPET SQUARE											
12-Dec-15	15-23527-007	W512046-07	Zone 1, 234-5ZA	Room 728; blue carpet square./ blue looped carpet with black backing and debris covered adhesive; 3 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ ahesive	NA

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
		W512046-07A		Layer 07A: 25% blue fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
		W512046-07B		Layer 07B: 74% black backing; 1% fibrous glass; 99% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
		W512046-07C		Layer 07C: 1% debris covered adhesive; 20% cellulose fibers; 80% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ adhesive	NA
12-Dec-15	15-23527-008	W512046-08	Zone 1, 234-5ZA	Room 728; blue carpet square./ blue looped carpet with black backing; 2 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-08A		Layer 08A: 25% blue fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-08B		Layer 08B: 75% black backing; 1% fibrous glass; 99% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
BROWN CARPET SQUARES											
12-Dec-15	15-23527-009	W512046-09	Zone 1, 234-5ZA	Room 728; brown carpet square. /gray multi colored looped carpet with black backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-09A		Layer 09A: 25% gray multi colored fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-09B		Layer 09B: 75% black backing; 3% fibrous glass; 97% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
12-Dec-15	15-23527-010	W512046-10	Zone 1, 234-5ZA	Room 728; brown carpet square. /gray multi colored looped carpet with black backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-10A		Layer 10A: 25% gray multi colored fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
		W512046-10B		Layer 10B: 75% black backing; 3% fibrous glass; 97% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Carpet/ backing	NA
	WALLS/ CEILINGS; drywall and mud > 5000 sq. ft. 9 samples										
12-Dec-15	15-23527-011	W512046-11	Zone 1, 234-5ZA	Sample 1: Room 701 above sinks./ white paint, plaster, fibrous material; tan fibrous material; tan plaster. Five layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 11A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 11B: 3% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 11C: 5% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 11D: 5% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 11E: 82% tan plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-012	W512046-12	Zone 1, 234-5ZA	Sample 2: Room 701 near Door 28./ white paint, plaster, fibrous material; tan fibrous material; tan plaster. Five layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 12A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 12B: 3% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
				Layer 12C: 5% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 12D: 5% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 12E: 82% tan plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-013	W512046-13	Zone 1, 234-5ZA	Sample 3. Room 706/ white paint, white plaster, green fibrous material/ tan fibrous material; tan plaster: 5 layers.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 13A; 10% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 13B: 5% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 13C: 15% green fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 13D: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 13E: 50% tan plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-014	W512046-14	Zone 1, 234-5ZA	Sample 4: Room 707 near Door 24/ white paint/ white plaster/ white fibrous material/ tan fibrous material/ white plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 14A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 14B: 10% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 14C: 10% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 14D: 15% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 14E: 60% white plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-015	W512046-15	Zone 1, 234-5ZA	Sample 5: Room 707 near Door 25/ white plaster/ white fibrous material/ tan fibrous material/ off white plaster; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 15A: 2% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 15B: 18% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 15C: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 15D: 60% white plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-016	W512046-16	Zone 1, 234-5ZA	Sample 6: Room 709 near Door 32./ white paint/ white plaster/ white fibrous material/ tan fibrous material/ white plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 16A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 16B: 5% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
				Layer 16C: 20% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 16D: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 16E: 50% white plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-017	W512046-17	Zone 1, 234-5ZA	Sample 7: Room 718, near Door 34. /white paint/ white plaster/ white fibrous material/ tan fibrous material/ white plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 17A; 10% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 17B: 25% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 17C: 20% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 17D: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 17E: 25% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-018	W512046-18	Zone 1, 234-5ZA	Sample 8: Room 714, near Door 36./ white paint/ white plaster/ tan fibrous material/ off white plaster; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 18A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 18B: 10% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 18C: 10% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 18D: 75% off white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
12-Dec-15	15-23527-019	W512046-19	Zone 1, 234-5ZA	Sample 9: Room 713/ white paint/ white plaster/ white fibrous material/ tan fibrous material/ off white crumbled plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 19A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 19B: 5% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 19C: 15% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 19D: 15% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
				Layer 19E: 60% off white plaster; 1% fibrous glass; 99% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	drywall/ mud	NA
CINDER BLOCK / INTERNAL CONTENTS; DIRECTIONS: The outside walls of 234-5Z is concrete block. The construction plans call for vermiculite to be added to the interior of the block for insulation. Approximately 4000 sq ft. of cinderblock wall. Visual inspection. Choose five cinderblocks from the lower section of the wall; break a hole into the wall and inspect. If filled with vermiculite, sample. If filled with styrofoam, note in field log. No further action required. Seven samples (two historic and five current).											

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
12-Dec-15	15-23527-020	W512046-20	Zone 1, 234-5ZA	Sample 1 Access sample area by going through Door 23; sample bottom of cinder block. / small white foam; 100% crumbled white foam;	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	foam	NA
12-Dec-15	15-23527-021	W512046-21	Zone 1, 234-5ZA	Sample 2: Access sample area by going through Door 23; sample bottom of cinder block. / white crumbled foam with grey cement; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	foam/ cement	NA
				Layer 21A; 40% crumbled white foam; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	foam	NA
				Layer 21B: 60% grey cement; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	foam	NA
12-Dec-15	15-23527-022	W512046-22	Zone 1, 234-5ZA	Sample 3: Access sample area by going through Door 23; sample bottom of cinder block. / 100% light gray powder; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray powder	NA
12-Dec-15	15-23527-023	W512046-23	Zone 1, 234-5ZA	Sample 4: Access sample area by going through Door 20; Look to the right/ bottom of wall; sample bottom of cinder block. / light grey powdery matrial; 100% non-fibrous	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray powder	NA
	15-23527-024	VISUAL	Zone 1, 234-5ZA	Sample not taken, no material in cinderblock. Sample 5	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	None	NA
12-Jan-10	234-5ZA-1	W101M00266	Outside	white granuals; SE corner (Content of cinderblocks) Sample 6	NA	NA	NA	Laboratory Analysis (PLM), Verified with TEM	NAD	white granules	NA
12-Jan-10	234-5ZA-1	W101M00267	Outside	white granuals; SE corner (Content of cinderblocks) Sample 7	NA	NA	NA	Laboratory Analysis (PLM), Verified with TEM	NAD	white granules	NA
VOID SPACE ABOVE ROOM 720 ACCESSED LOOKING FOR TSI PIPING. DIRECTIONS: There is no void space for the bulk of this unit, 11 feet to ceiling no void space. There is one exception, there is a drop down ceiling in Room 720. Approximately 4 feet depth. The ceiling is composed of drywall with acoustic tile glued on it. There is an access panel in Room 26 to this area. Visual Inspection required to determine whether or not ACM is present. Open the access and examine the area for ACM/PACM. Sample any suspect material.											
12-Dec-15	15-23527-025	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA
12-Dec-15	15-23527-026	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA
TSI PIPING, Samples on straight runs (3); elbows (3); no samples required if TSI not present or yellow fiberglass insulation.											
12-Dec-15	15-23527-027	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA
12-Dec-15	15-23527-028	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA
12-Dec-15	15-23527-029	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
12-Dec-15	15-23527-030	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA
12-Dec-15	15-23527-031	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA
12-Dec-15	15-23527-032	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NAD	Fiberglass	NA
ACOUSTIC CEILING TILE ROOM 720. Directions: Acoustic tile are glued on a dropped down ceiling made of drywall. Miscellaneous material: two samples of tile and two samples of adhesive.											
12-Dec-15	15-23527-033	W512046-24	Zone 1, 234-5ZA	Acoustic tile; Sample 1/ Tan acoustic tile with white paint;/ Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	tile/ paint	NA
			Zone 1, 234-5ZA	Layer 24A: 3% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	paint	NA
			Zone 1, 234-5ZA	Layer 24B: 97% tan acoustic tile; 30% fibrous glass; 60% cellulose fibers; 10% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	tile	NA
12-Dec-15	15-23527-034	W512046-25	Zone 1, 234-5ZA	Acoustic tile Sample 2/ Tan acoustic tile with white paint;/ Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	tile/ paint	NA
			Zone 1, 234-5ZA	Layer 25A: 4% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	paint	NA
			Zone 1, 234-5ZA	Layer 25B: 96% tan acoustic tile; 30% fibrous glass; 60% cellulose fibers; 10% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	tile	NA
ACOUSTIC TILE ADHESIVE, ROOM 720 Directions: Acoustic tile are glued on a dropped down ceiling made of drywall. Miscellaneous material: two samples of tile and two samples of adhesive.											
12-Dec-15	15-23527-035	W512046-26	Zone 1, 234-5ZA	Acoustic tile adhestive ceiling Room 720./ dark brown material with attached off-white fibrous material. Two Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	tile	NA
			Zone 1, 234-5ZA	Layer 26A: 80% dark brown material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	tile	NA
			Zone 1, 234-5ZA	Layer 26B: 20% off white fibrous material: 30% fibrous glass; 40% cellulose fibers; 30% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	tile	NA
12-Dec-15	15-23527-036	W512046-27	Zone 1, 234-5ZA	Acoustic tile adhestive ceiling Room 720./ dark brown material with attached off-white fibrous material. Two Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	adhesive	NA
			Zone 1, 234-5ZA	Layer 27A: 90% dark brown material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	adhesive	NA
			Zone 1, 234-5ZA	Layer 27B: 10% off white fibrous material: 30% fibrous glass; 40% cellulose fibers; 30% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	adhesive	NA

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
	CAULKING										
12-Dec-15	15-23527-037	VISUAL	Zone 1, 234-5ZA	Room 701 Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NAD	Caulk	NA
12-Dec-15	15-23527-038	VISUAL	Zone 1, 234-5ZA	Room 701: Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NAD	Caulk	NA
12-Dec-15	15-23527-039	VISUAL	Zone 1, 234-5ZA	Room 733: Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NAD	Caulk	NA
12-Dec-15	15-23527-040	VISUAL	Zone 1, 234-5ZA	Room 733: Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NAD	Caulk	NA
12-Dec-15	15-23527-041	W512046-28	Zone 1, 234-5ZA	Room 706; material around electrical conduit. Sample 1/ white paint, red dubbery material; white plaster/ tan fibrous material; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 28A; 25% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 28B: 5% white plaster; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 28C: 10% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 29D: 65% red rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
12-Dec-15	15-23527-042	W512046-29	Zone 1, 234-5ZA	Room 706; material around electrical conduit. Sample 2/ 4 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
				Layer 29A; 10% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
				Layer 29B: 5% white plaster; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
				Layer 29C: 20% metalic foil; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
				Layer 28D: 60% red rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	Caulk	NA
COVING: BROWN: ROOM 706											
12-Dec-15	15-23527-043	W512046-30	Zone 1, 234-5ZA	Brown coving/mop board/ mastic; Sample 1/ tan fibrous material attached to black rubbery material; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	brown coving/ mop board	NA
				Layer 30A: 10% tan fibrous maerial; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	brown coving/ mop board	NA
				Layer 30B: 90% black rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	brown coving/ mop board	NA
	15-23527-044	W512046-31	Zone 1, 234-5ZA	Brown coving/mop board/ mastic; Sample 2/ tan fibrous material attached to black rubbery material; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	brown coving/ mop board	NA

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
				Layer 31A: 10% tan fibrous maerial; 95% cellulose fibers; 5% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	brown coving/ mop board	NA
				Layer 30B: 90% black rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	brown coving/ mop board	NA
COVING: Gray; Room 714											
12-Dec-15	15-23527-045	W512046-32	Zone 1, 234-5ZA	Room 714 gray coving/mastic Sample 1/ gray rubbery moulding/ off white mastic; tan fibrous material; Three layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray coving / mastic	NA
				Layer 32A: 93% gray moulding; 100% non-fibrous	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray coving /	NA
				Layer 32B: 5% off white mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	mastic	NA
				Layer 32C: 2% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray coving	NA
12-Dec-15	15-23527-046	W512046-33	Zone 1, 234-5ZA	Room 714, gray coving/mastic Sample 2/ gray rubber moulding/ off white mastic; tan fibrous material/ white plaster; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray coving / mastic	NA
				Layer 33A: 92% grey moulding; 100% non-fibrous	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray coving /	NA
				Layer 33B: 5% off white mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	mastic	NA
				Layer 33C: 2% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray coving	NA
				Layer 33D: 1% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	plaster	NA
FLOORS; Room 728; sheet linoleum underlying carpet squares.											
12-Dec-15	15-23527-047	W512046-34	Zone 1, 234-5ZA	Miscellaneous: Two samples, sample linoleum and underlying mastic. / off white vinyl with gray backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white linoleum	NA
				Layer 34A: 70% off white vinyl; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white linoleum	NA
				Layer 34B: 30% gray backing; 5% fibrous glass; 95% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray backing	NA
12-Dec-15	15-23527-048	W512046-35		Sample 2: Linoleum/mastic/ off white vinyl with gray backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white linoleum	NA
				Layer 35A: 80% off white vinyl; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white linoleum	NA
				Layer 35B: 20% grey backing; 5% fibrous glass; 95% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	gray backing	NA
FLOORS/ 12" White Tile; Room 728											
12-Dec-15	15-23527-049	W512046-36		Sample 1; 12" white vinyl tile/ grey tile with orange mastic; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile	NA

Table A-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	RJLEE Group/ Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Results	Results: Material	Results: Percentage
				Layer 36A: 97% gray tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile	NA
				Layer 36B: 3% orange mastic; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	mastic	NA
12-Dec-15	15-23527-050	W512046-37		Sample 2: 12" white vinyl tile and mastic. / gray tile with orange mastic; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile	NA
				Layer 37A: 97% grey tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	white tile	NA
				Layer 37B: 3% orange mastic; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	NAD	mastic	NA

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Appendix B

Sample Results – Historical and Current

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Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
FLOORS, DIRECTIONS: Identify flooring material - If tile or linoleum - schedule for sampling. Minimum of two samples each new type of flooring material (include mastic). Exceptions: Process knowledge, Previous Sampling or determined to be PACM because of radiological conditions.												
Blue Carpet Tile				Room 715, ACES blue carpet tile; Three layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
12-Dec-15	15-23527-001	W512046-01	Zone 1, 234-5ZA	Room 715, Blue carpet/mastic; Sample 1/ blue gray looped carpet with dark gray backing and light gray adhesive; 3 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
12-Dec-15		W512046-01A		Layer 01A: 25% blue gray fiber loops/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
12-Dec-15		W512046-01B		Layer 01B: 74% dark gray backing; 3% fibrous glass; 97% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
12-Dec-15		W512046-01C		Layer 01C: 1% light gray adhesive; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
12-Dec-15	15-23527-002	W512046-02	Zone 1, 234-5ZA	Room 715, Blue carpet/mastic; Sample 2/ blue looped carpet with dark gray backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
		W512046-02A		Layer 02A: 25% blue fiber loops; 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
		W512046-02B		Layer 02B: 75% dark gray backing; 3% fibrous glass; 97% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
GRAY CARPTET												
12-Dec-15	15-23527-003	W512046-03	Zone 2, 234-5ZA	Room 714, gray carpet/ mastic; Sample 1/ gray looped carpet with black backing; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-03A		Layer 03A; 50% gray fiber loops; 100% synthetic fibers;	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-03B		Layer 03B: 50% black backing; 1% fibrous glass; 99% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
12-Dec-15	15-23527-004	W512046-04	Zone 1, 234-5ZA	Room 712, gray carpet/ mastic; Sample 2/ gray looped carpet with black backing; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-04A		Layer 04A; 50% gray fiber loops; 100% synthetic fibers;	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-04B		Layer 04B: 50% black backing; 1% fibrous glass; 99% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
WHITE VINYL TILE												
12-Dec-15	15-23527-005	W512046-05	Zone 1, 234-5ZA	Room 734/ vinyl white tile/mastic Sample 1/ off-white floor tile with yellow mastic; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile/ mastic	NA
		W512046-05A		Layer 05A: 99% off white tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile/ mastic	NA
		W512046-05B		Layer 05B: 1% yellow mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile/ mastic	NA
12-Dec-15	15-23527-006	W512046-06	Zone 1, 234-5ZA	Room 734/ vinyl white tile/mastic Sample 1/ off-white floor tile with yellow mastic; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile/ mastic	NA
		W512046-06A		Layer 06A: 98% off white tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile/ mastic	NA
		W512046-06B		Layer 06B: 2% yellow mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile/ mastic	NA
BLUE CARPET SQUARE												
12-Dec-15	15-23527-007	W512046-07	Zone 1, 234-5ZA	Room 728; blue carpet square./ blue looped carpet with black backing and debris covered adhesive; 3 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ ahesive	NA
		W512046-07A		Layer 07A: 25% blue fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA

Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
		W512046-07B		Layer 07B: 74% black backing; 1% fibrous glass; 99% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
		W512046-07C		Layer 07C: 1% debris covered adhesive; 20% cellulose fibers; 80% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ adhesive	NA
12-Dec-15	15-23527-008	W512046-08	Zone 1, 234-5ZA	Room 728; blue carpet square./ blue looped carpet with black backing; 2 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-08A		Layer 08A: 25% blue fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-08B		Layer 08B: 75% black backing; 1% fibrous glass; 99% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
12-Dec-15	15-23527-009	W512046-09	Zone 1, 234-5ZA	Room 728; brown carpet square. /gray multi colored looped carpet with black backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-09A		Layer 09A: 25% gray multi colored fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-09B		Layer 09B: 75% black backing; 3% fibrous glass; 97% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
12-Dec-15	15-23527-010	W512046-10	Zone 1, 234-5ZA	Room 728; brown carpet square. /gray multi colored looped carpet with black backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-10A		Layer 10A: 25% gray multi colored fiber loopes/ 100% synthetic fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
		W512046-10B		Layer 10B: 75% black backing; 3% fibrous glass; 97% non-Fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Carpet/ backing	NA
	WALLS/ CEILINGS; drywall and mud > 5000 sq. ft. 9 samples											
12-Dec-15	15-23527-011	W512046-11	Zone 1, 234-5ZA	Sample 1: Room 701 above sinks./ white paint, plaster, fibrous material; tan fibrous material; tan plaster. Five layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 11A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 11B: 3% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 11C: 5% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 11D: 5% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 11E: 82% tan plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
12-Dec-15	15-23527-012	W512046-12	Zone 1, 234-5ZA	Sample 2: Room 701 near Door 28./ white paint, plaster, fibrous material; tan fibrous material; tan plaster. Five layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 12A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 12B: 3% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 12C: 5% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 12D: 5% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 12E: 82% tan plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA

Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
12-Dec-15	15-23527-013	W512046-13	Zone 1, 234-5ZA	Sample 3. Room 706/ white paint, white plaster, green fibrous material/ tan fibrous material; tan plaster: 5 layers.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 13A; 10% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 13B: 5% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 13C: 15% green fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 13D: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 13E: 50% tan plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
12-Dec-15	15-23527-014	W512046-14	Zone 1, 234-5ZA	Sample 4: Room 707 near Door 24/ white paint/ white plaster/ white fibrous material/ tan fibrous material/ white plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 14A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 14B: 10% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 14C: 10% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 14D: 15% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 14E: 60% white plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
12-Dec-15	15-23527-015	W512046-15	Zone 1, 234-5ZA	Sample 5: Room 707 near Door 25/ white plaster/ white fibrous material/ tan fibrous material/ off white plaster; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 15A: 2% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 15B: 18% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 15C: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 15D: 60% white plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
12-Dec-15	15-23527-016	W512046-16	Zone 1, 234-5ZA	Sample 6: Room 709 near Door 32./ white paint/ white plaster/ white fibrous material/ tan fibrous material/ white plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 16A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 16B: 5% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 16C: 20% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 16D: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 16E: 50% white plaster; 3% cellulose fibers; 1% fibrous glass; 96% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
12-Dec-15	15-23527-017	W512046-17	Zone 1, 234-5ZA	Sample 7: Room 718, near Door 34. /white paint/ white plaster/ white fibrous material/ tan fibrous material/ white plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA

Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
				Layer 17A; 10% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 17B: 25% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 17C: 20% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 17D: 20% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 17E: 25% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
12-Dec-15	15-23527-018	W512046-18	Zone 1, 234-5ZA	Sample 8: Room 714, near Door 36./ white paint/ white plaster/ tan fibrous material/ off white plaster; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 18A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 18B: 10% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 18C: 10% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 18D: 75% off white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
12-Dec-15	15-23527-019	W512046-19	Zone 1, 234-5ZA	Sample 9: Room 713/ white paint/ white plaster/ white fibrous material/ tan fibrous material/ off white crumbled plaster; 5 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 19A; 5% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 19B: 5% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 19C: 15% white fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 19D: 15% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
				Layer 19E: 60% off white plaster; 1% fibrous glass; 99% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	drywall/ mud	NA
	CINDER BLOCK / INTERNAL CONTENTS											
12-Dec-15	15-23527-020	W512046-20	Zone 1, 234-5ZA	Sample 1 Access sample area by going through Door 23; sample bottom of cinder block. / small white foam; 100% crumbled white foam;	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	foam	NA
12-Dec-15	15-23527-021	W512046-21	Zone 1, 234-5ZA	Sample 2: Access sample area by going through Door 23; sample bottom of cinder block. / white crumbled foam with grey cement; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	foam/ cement	NA
				Layer 21A; 40% crumbled white foam; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	foam	NA
				Layer 21B: 60% grey cement; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	foam	NA
12-Dec-15	15-23527-022	W512046-22	Zone 1, 234-5ZA	Sample 3: Access sample area by going through Door 23; sample bottom of cinder block. / 100% light gray powder; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray powder	NA

Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
12-Dec-15	15-23527-023	W512046-23	Zone 1, 234-5ZA	Sample 4: Access sample area by going through Door 20; Look to the right/ bottom of wall; sample bottom of cinder block. / light grey powdery matrial; 100% non-fibrous	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray powder	NA
	15-23527-024	VISUAL	Zone 1, 234-5ZA	Sample not taken, no material in cinderblock.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	None	NA
	VOID SPACE ABOVE ROOM 720 ACCESSED LOOKING FOR TSI PIPING. Samples set aside for disovery. No samples taken if material not present; or insulation on piping fiberglass.											
12-Dec-15	15-23527-025	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
12-Dec-15	15-23527-026	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
	TSI PIPING, Samples on straight runs (3); elbows (3); no samples required if TSI not present or yellow fiberglass insulation.											
12-Dec-15	15-23527-027	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
12-Dec-15	15-23527-028	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
12-Dec-15	15-23527-029	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
12-Dec-15	15-23527-030	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
12-Dec-15	15-23527-031	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
12-Dec-15	15-23527-032	VISUAL	Zone 1, 234-5ZA	Visual inspection; accessed void. Steam pipe insulated with yellow insulation. No sample required.	NA	NA	Good	Visual conducted by AHERA Inspector	NA	NAD	Fiberglass	NA
	ACOUSTIC CEILING TILE ROOM 720											
	Directions: Acoustic tile are glued on a dropped down ceiling made of drywall. Miscellaneous material: two samples of tile and two samples of adhesive.											
12-Dec-15	15-23527-033	W512046-24	Zone 1, 234-5ZA	Acoustic tile; Sample 1/ Tan acoustic tile with white paint;/ Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	tile/ paint	NA
			Zone 1, 234-5ZA	Layer 24A: 3% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	paint	NA
			Zone 1, 234-5ZA	Layer 24B: 97% tan acoustic tile; 30% fibrous glass; 60% cellulose fibers; 10% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	tile	NA
12-Dec-15	15-23527-034	W512046-25	Zone 1, 234-5ZA	Acoustic tile Sample 2/ Tan acoustic tile with white paint;/ Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	tile/ paint	NA

Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
			Zone 1, 234-5ZA	Layer 25A: 4% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	paint	NA
			Zone 1, 234-5ZA	Layer 25B: 96% tan acoustic tile; 30% fibrous glass; 60% cellulose fibers; 10% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	tile	NA
	ACOUSTIC TILE ADHESIVE, ROOM 720											
12-Dec-15	15-23527-035	W512046-26	Zone 1, 234-5ZA	Acoustic tile adhestive ceiling Room 720./ dark brown material with attached off-white fibrous material. Two Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	tile	NA
			Zone 1, 234-5ZA	Layer 26A: 80% dark brown material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	tile	NA
			Zone 1, 234-5ZA	Layer 26B: 20% off white fibrous material: 30% fibrous glass; 40% cellulose fibers; 30% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	tile	NA
12-Dec-15	15-23527-036	W512046-27	Zone 1, 234-5ZA	Acoustic tile adhestive ceiling Room 720./ dark brown material with attached off-white fibrous material. Two Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	adhesive	NA
			Zone 1, 234-5ZA	Layer 27A: 90% dark brown material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	adhesive	NA
			Zone 1, 234-5ZA	Layer 27B: 10% off white fibrous material: 30% fibrous glass; 40% cellulose fibers; 30% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	adhesive	NA
	CAULKING											
12-Dec-15	15-23527-037	VISUAL	Zone 1, 234-5ZA	Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NA	NAD	Caulk	NA
12-Dec-15	15-23527-038	VISUAL	Zone 1, 234-5ZA	Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NA	NAD	Caulk	NA
12-Dec-15	15-23527-039	VISUAL	Zone 1, 234-5ZA	Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NA	NAD	Caulk	NA
12-Dec-15	15-23527-040	VISUAL	Zone 1, 234-5ZA	Sample not taken. AHERA Trained inspectors/insulators installed system. Caulk used non-asbestos.	NA	NA	Good	Process Knowledge	NA	NAD	Caulk	NA
12-Dec-15	15-23527-041	W512046-28	Zone 1, 234-5ZA	Room 706; material around electrical conduit. Sample 1/ white paint, red dubbery material; white plaster/ tan fibrous material; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 28A; 25% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 28B: 5% white plaster; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 28C: 10% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
			Zone 1, 234-5ZA	Layer 29D: 65% red rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
12-Dec-15	15-23527-042	W512046-29	Zone 1, 234-5ZA	Room 706; material around electrical conduit. Sample 2/ 4 layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA

Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
				Layer 29A; 10% white paint; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
				Layer 29B: 5% white plaster; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
				Layer 29C: 20% metalic foil; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
				Layer 28D: 60% red rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	Caulk	NA
	COVING: BROWN											
12-Dec-15	15-23527-043	W512046-30	Zone 1, 234-5ZA	Brown coving/mop board/ mastic; Sample 1/ tan fibrous material attached to black rubbery material; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	brown coving/ mop board	NA
				Layer 30A: 10% tan fibrous maerial; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	brown coving/ mop board	NA
				Layer 30B: 90% black rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	brown coving/ mop board	NA
12-Dec-15	15-23527-044	W512046-31	Zone 1, 234-5ZA	Brown coving/mop board/ mastic; Sample 2/ tan fibrous material attached to black rubbery material; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	brown coving/ mop board	NA
				Layer 31A: 10% tan fibrous maerial; 95% cellulose fibers; 5% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	brown coving/ mop board	NA
				Layer 30B: 90% black rubbery material; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	brown coving/ mop board	NA
	COVING: Gray											
12-Dec-15	15-23527-045	W512046-32	Zone 1, 234-5ZA	Room 714 gray coving/mastic Sample 1/ gray rubbery moulding/ off white mastic; tan fibrous material; Three layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray coving / mastic	NA
				Layer 32A: 93% gray moulding; 100% non-fibrous	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray coving /	NA
				Layer 32B: 5% off white mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	mastic	NA
				Layer 32C: 2% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray coving	NA
12-Dec-15	15-23527-046	W512046-33	Zone 1, 234-5ZA	Room 714, gray coving/mastic Sample 2/ gray rubber moulding/ off white mastic; tan fibrous material/ white plaster; 4 Layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray coving / mastic	NA
				Layer 33A: 92% grey moulding; 100% non-fibrous	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray coving /	NA
				Layer 33B: 5% off white mastic; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	mastic	NA
				Layer 33C: 2% tan fibrous material; 100% cellulose fibers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray coving	NA

Table B-1. Sample Results for Laboratory and Visual Evaluation Zone 1, 234-5ZA

Date Sampled	Site wide Industrial Hygiene Database No.	Lab Sample No.	Area	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m [ft.])	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
				Layer 33D: 1% white plaster; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	plaster	NA
	FLOORS											
12-Dec-15	15-23527-047	W512046-34	Zone 1, 234-5ZA	Room 728; sheet linoleum underlying carpet squares. Miscellaneous: Two samples, sample linoleum and underlying mastic. / off white vinyl with gray backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white linoleum	NA
				Layer 34A: 70% off white vinyl; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white linoleum	NA
				Layer 34B: 30% gray backing; 5% fibrous glass; 95% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray backing	NA
12-Dec-15	15-23527-048	W512046-35	Zone 1, 234-5ZA	Sample 2: Linoleum/mastic/ off white vinyl with gray backing; two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white linoleum	NA
				Layer 35A: 80% off white vinyl; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white linoleum	NA
				Layer 35B: 20% grey backing; 5% fibrous glass; 95% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	gray backing	NA
	FLOORS/ 12" White Tile											
12-Dec-15	15-23527-049	W512046-36	Zone 1, 234-5ZA	Sample 1; 12" white vinyl tile/ grey tile with orange mastic; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile	NA
				Layer 36A: 97% gray tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile	NA
				Layer 36B: 3% orange mastic; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	mastic	NA
12-Dec-15	15-23527-050	W512046-37	Zone 1, 234-5ZA	Sample 2: 12" white vinyl tile and mastic. / gray tile with orange mastic; Two layers	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile	NA
				Layer 37A: 97% grey tile; 100% non-fibrous material	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	white tile	NA
				Layer 37B: 3% orange mastic; 100% non-fibrous material.	NA	NA	Good	PLM, method EPA-600/R-93/116	RJLee Group	NAD	mastic	NA
	HISTORIC SAMPLES											
Date Sampled	Field Sample #	Lab Sample No.	Area (Name or No.)	Field Description	NESHAP Category (e.g., RACM, Cat I)	Extent of ACM (m^2 [ft^2] or Linear m	Condition: Poor or Good	Determination Method	Laboratory	Results	Results: Material	Results: Percentage
12-Jan-10	234-5ZA-1	W101M00266	Outside	white granuals; SE corner (Content of cinderblocks)	NA	NA	NA	Laboratory Analysis (PLM), Verified with TEM	WSCF	NAD	white granules	NA
12-Jan-10	234-5ZA-1	W101M00267	Outside	white granuals; SE corner (Content of cinderblocks)	NA	NA	NA	Laboratory Analysis (PLM), Verified with TEM	WSCF	NAD	white granules	NA

Appendix C

Laboratory Analytical Reports

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RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

December 23, 2015

CH2M Hill PRC
Attn. Bruce Hey
Bruce_E_Hey@rl.gov
509-373-7787

Subject: Bulk Asbestos Analysis Report Group 15-23527

Thirty seven samples were received on 12/21/15 for Bulk analysis of Asbestos. The samples were collected on 12/12/15 and were assigned laboratory ID W512046. The samples were analyzed using Polarized Light Microscopy by test method EPA-600/R-93/116 on 12/21-23/15.

The thirty seven samples contained 105 layers, which were analyzed as separate samples.

The results are as follows:

Lab ID	Client ID
W512046-01	15-23527-001

Sample Description: Blue/gray looped carpet with dark gray backing and light gray adhesive
Sample was non-homogeneous containing 3 layers.

Layer 01A	*Layer 01B*	*Layer 01C*
25% Blue/Gray Fiber Loops	*74% Dark Gray Backing*	*1% Light Gray Adhesive*
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 3% Fibrous Glass 97% Non-fibrous Material	No Asbestos Detected Trace Synthetic Fibers 100% Non-fibrous Material

W512046-02	15-23527-002

Sample Description: Blue looped carpet with dark gray backing
Sample was non-homogeneous containing 2 layers.

Layer 02A	*Layer 02B*	
25% Blue Fiber Loops	*75% Dark Gray Backing*	
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 3% Fibrous Glass 97% Non-fibrous Material	

W512046-03 15-23527-003
Sample Description: Gray looped carpet with black backing
Sample was non-homogeneous containing 2 layers.

Layer 03A	*Layer 03B*	
50% Gray Fiber Loops	*50% Black Backing*	
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 1% Fibrous Glass 99% Non-fibrous Material	

W512046-04 15-23527-004
Sample Description: Gray looped carpet with black backing
Sample was non-homogeneous containing 2 layers.

Layer 04A	*Layer 04B*	
50% Gray Fiber Loops	*50% Black Backing*	
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 1% Fibrous Glass 99% Non-fibrous Material	

W512046-05 15-23527-005
Sample Description: Off-white floor tile with yellow mastic
Sample was non-homogeneous containing 2 layers.

Layer 05A	*Layer 05B*	
99% Off-White Tile	*1% Yellow Mastic*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	

W512046-06 15-23527-06
Sample Description: Off-white floor tile with yellow mastic
Sample was non-homogeneous containing 2 layers.

Layer 06A	*Layer 06B*	
98% Off-White Tile	*2% Yellow Mastic*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	

W512046-07 15-23527-007

Sample Description: Blue looped carpet with black backing and debris covered adhesive
Sample was non-homogeneous containing 3 layers.

Layer 07A	*Layer 07B*	*Layer 07C*
25% Blue Fiber Loops	*74% Black Backing*	*1% Debris Covered Adhesive*
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 1% Fibrous Glass 99% Non-fibrous Material	No Asbestos Detected Trace Synthetic Fibers 20% Cellulose Fibers 80% Non-fibrous Material

W512046-08 15-23527-008

Sample Description: Blue looped carpet with black backing
Sample was non-homogeneous containing 2 layers.

Layer 08A	*Layer 08B*	
25% Blue Fiber Loops	*75% Black Backing*	
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 1% Fibrous Glass 99% Non-fibrous Material	

W512046-09 15-23527-009

Sample Description: Gray/multi colored looped carpet with black backing
Sample was non-homogeneous containing 2 layers.

Layer 09A	*Layer 09B*	
25% Gray/Multi Colored Fiber Loops	*75% Black Backing*	
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 3% Fibrous Glass 97% Non-fibrous Material	

W512046-10 15-23527-010

Sample Description: Gray/multi colored looped carpet with black backing
Sample was non-homogeneous containing 2 layers.

Layer 10A	*Layer 10B*	
25% Gray/Multi Colored Fiber Loops	*75% Black Backing*	
No Asbestos Detected 100% Synthetic Fibers	No Asbestos Detected 3% Fibrous Glass 97% Non-fibrous Material	

W512046-11 15-23527-011

Sample Description: White paint/ white plaster /white fibrous material/ tan fibrous material/tan plaster
Sample was non-homogeneous containing 5 layers.

Layer 11A	*Layer 11B*	*Layer 11C*
5% White Paint	*3% White Plaster*	*5% White Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 11D	*Layer 11E*
5% Tan Fibrous Material	*82% Tan Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 3% Cellulose Fibers 1% Fibrous Glass 96% Non-fibrous Material

W512046-12 15-23527-012

Sample Description: White paint/ white plaster /white fibrous material/ tan fibrous material/off-white plaster
Sample was non-homogeneous containing 5 layers.

Layer 12A	*Layer 12B*	*Layer 12C*
5% White Paint	*5% White Plaster*	*15% White Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 12D	*Layer 12E*
20% Tan Fibrous Material	*55% Off-White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 3% Cellulose Fibers 1% Fibrous Glass 96% Non-fibrous Material

W512046-13 15-23527-013

Sample Description: White paint/ white plaster /green fibrous material/ tan fibrous material/tan plaster
Sample was non-homogeneous containing 5 layers.

Layer 13A	*Layer 13B*	*Layer 13C*
10% White Paint	*5% White Plaster*	*15% Green Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 13D	*Layer 13E*
20% Tan Fibrous Material	*50% Tan Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 3% Cellulose Fibers 1% Fibrous Glass 96% Non-fibrous Material

W512046-14 15-23527-014

Sample Description: White paint/ white plaster /white fibrous material/ tan fibrous material/white plaster
Sample was non-homogeneous containing 5 layers.

Layer 14A	*Layer 14B*	*Layer 14C*
5% White Paint	*10% White Plaster*	*10% White Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 14D	*Layer 14E*
15% Tan Fibrous Material	*60% White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 3% Cellulose Fibers 1% Fibrous Glass 96% Non-fibrous Material

W512046-15 15-23527-015

Sample Description: White plaster /white fibrous material/ tan fibrous material/off-white plaster
Sample was non-homogeneous containing 4 layers.

Layer 15A	*Layer 15B*
2% White Plaster	*18% White Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 15C	*Layer 15D*
20% Tan Fibrous Material	*60% Off-White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 3% Cellulose Fibers 1% Fibrous Glass 96% Non-fibrous Material

W512046-16 15-23527-016

Sample Description: White paint/ white plaster /white fibrous material/ tan fibrous material/off-white plaster
Sample was non-homogeneous containing 5 layers.

Layer 16A	*Layer 16B*	*Layer 16C*
5% White Paint	*5% White Plaster*	*20% White Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 16D	*Layer 16E*
20% Tan Fibrous Material	*50% Off-White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 3% Cellulose Fibers 1% Fibrous Glass 96% Non-fibrous Material

W512046-17 15-23527-017

Sample Description: White paint/ white plaster /white fibrous material/ tan fibrous material/white plaster

Sample was non-homogeneous containing 5 layers.

Layer 17A	*Layer 17B*	*Layer 17C*
10% White Paint	*25% White Plaster*	*20% White Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 17D	*Layer 17E*
20% Tan Fibrous Material	*25% White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected Trace Cellulose Fibers Trace Fibrous Glass 100% Non-fibrous Material

W512046-18 15-23527-018

Sample Description: White paint/ white plaster / tan fibrous material/off-white plaster

Sample was non-homogeneous containing 4 layers.

Layer 18A	*Layer 18B*
5% White Paint	*10% White Plaster*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material

Layer 18C	*Layer 18D*
10% Tan Fibrous Material	*75% Off-White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected Trace Cellulose Fibers Trace Fibrous Glass 100% Non-fibrous Material

W512046-19 15-23527-019

Sample Description: White paint/ white plaster /white fibrous material/ tan fibrous material/off-white crumbled plaster
Sample was non-homogeneous containing 5 layers.

Layer 19A	*Layer 19B*	*Layer 19C*
5% White Paint	*5% White Plaster*	*15% White Fibrous Material*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

Layer 19D	*Layer 19E*
15% Tan Fibrous Material	*60% Off-White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected Trace Cellulose Fibers 1% Fibrous Glass 99% Non-fibrous Material

W512046-20 15-23527-020

Sample Description: Small white foam crumbles
Sample was homogeneous.

Layer 20A		
100% Crumbled White Foam		
No Asbestos Detected 100% Non-fibrous Material		

W512046-21 15-23527-021

Sample Description: White crumbled foam with gray cement-like material
Sample was non-homogeneous containing 2 layers.

Layer 21A	*Layer 21B*	
40% Crumbled White Foam	*60% Gray Cement*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	

W512046-22 15-23527-022

Sample Description: Light gray powdery material
Sample was homogeneous.

Layer 22A		
100% Light Gray Powder		
No Asbestos Detected 100% Non-fibrous Material		

W512046-23 15-23527-023
Sample Description: Light gray powdery material
Sample was homogeneous.

Layer 23A		
100% Light Gray Powder		
No Asbestos Detected Trace Cellulose Fibers 100% Non-fibrous Material		

W512046-24 15-23527-033
Sample Description: Tan acoustic tile with white paint
Sample was non-homogeneous containing 2 layers.

Layer 24A	*Layer 24B*	
3% White Paint	*97% Tan Acoustic Tile*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 30% Fibrous Glass 60% Cellulose Fibers 10% Non-fibrous Material	

W512046-25 15-23527-034
Sample Description: Tan acoustic tile with white paint
Sample was non-homogeneous containing 2 layers.

Layer 25A	*Layer 25B*	
4% White Paint	*96% Tan Acoustic Tile*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 30% Fibrous Glass 60% Cellulose Fibers 10% Non-fibrous Material	

W512046-26 15-23527-035
Sample Description: Hard dark brown material with attached off-white fibrous material
Sample was non-homogeneous containing 2 layers.

Layer 26A	*Layer 26B*	
80% Dark Brown Material	*20% Off-White Fibrous Material*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 30% Fibrous Glass 40% Cellulose Fibers 30% Non-fibrous Material	

W512046-27 15-23527-036

Sample Description: Hard dark brown material with attached off-white fibrous material
Sample was non-homogeneous containing 2 layers.

Layer 27A	*Layer 27B*	
90% Dark Brown Material	*10% Off-White Fibrous Material*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 30% Fibrous Glass 40% Cellulose Fibers 30% Non-fibrous Material	

W512046-28 15-23527-041

Sample Description: White paint/red rubbery material/white plaster/tan fibrous material
Sample was non-homogeneous containing 4 layers.

Layer 28A	*Layer 28B*
25% White Paint	*5% White Plaster*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected Trace Cellulose Fibers 100% Non-fibrous Material

Layer 28C	*Layer 28D*
10% Tan Fibrous Material	*60% Red Rubbery Material*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 100% Non-fibrous Material

W512046-29 15-23527-042

Sample Description: White paint/red rubbery material/white plaster/metallic foil
Sample was non-homogeneous containing 4 layers.

Layer 29A	*Layer 29B*
10% White Paint	*5% White Plaster*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material

Layer 29C	*Layer 29D*
20% Metallic Foil	*65% Red Rubbery Material*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 100% Non-fibrous Material

W512046-30 15-23527-043
Sample Description: Tan fibrous material attached to black rubbery material
Sample was non-homogeneous containing 2 layers.

Layer 30A	*Layer 30B*	
10% Tan Fibrous Material	*90% Black Rubbery Material*	
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected 100% Non-fibrous Material	

W512046-31 15-23527-044
Sample Description: Tan fibrous material attached to black rubbery material
Sample was non-homogeneous containing 2 layers.

Layer 31A	*Layer 31B*	
10% Tan Fibrous Material	*90% Black Rubbery Material*	
No Asbestos Detected 95% Cellulose Fibers 5% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	

W512046-32 15-23527-045
Sample Description: Gray rubber moulding/ off-white mastic/tan fibrous material
Sample was non-homogeneous containing 3 layers.

Layer 32A	*Layer 32B*	*Layer 32C*
93% Gray Moulding	*5% Off-White Mastic*	*2% Tan Fibrous Material*
No Asbestos Detected Trace Synthetic Fibers on surface 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Cellulose Fibers

W512046-33 15-23527-046
Sample Description: Gray rubber moulding/ off-white mastic/tan fibrous material/white plaster
Sample was non-homogeneous containing 4 layers.

Layer 33A	*Layer 33B*
92% Gray Moulding	*5% Off-White Mastic*
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material

Layer 33C	*Layer 33D*
2% Tan Fibrous Material	*1% White Plaster*
No Asbestos Detected 100% Cellulose Fibers	No Asbestos Detected Trace Fibrous Glass 100% Non-fibrous Material

W512046-34 15-23527-047
Sample Description: Off-white vinyl with gray backing
Sample was non-homogeneous containing 2 layers.

Layer 34A	*Layer 34B*	
70% Off-White Vinyl	*30% Gray Backing*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 5% Fibrous Glass 95% Non-fibrous Material	

W512046-35 15-23527-048
Sample Description: Off-white vinyl with gray backing
Sample was non-homogeneous containing 2 layers.

Layer 35A	*Layer 35B*	
80% Off-White Vinyl	*20% Gray Backing*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 5% Fibrous Glass 95% Non-fibrous Material	

W512046-36 15-23527-049
Sample Description: Gray tile with orange mastic
Sample was non-homogeneous containing 2 layers.

Layer 36A	*Layer 36B*	
97% Gray Tile	*3% Orange Mastic*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	

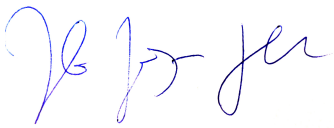
W512046-37 15-23527-050
Sample Description: Gray tile with orange mastic
Sample was non-homogeneous containing 2 layers.

Layer 37A	*Layer 37B*	
97% Gray Tile	*3% Orange Mastic*	
No Asbestos Detected 100% Non-fibrous Material	No Asbestos Detected 100% Non-fibrous Material	

Samples are analyzed with a stereomicroscope followed by a polarized light microscopic analysis. The results of these analyses are generally sufficient for identification and quantitation of major concentrations of asbestos. Since floor tiles may contain fibers too small to be resolved by PLM detection of those fibers by this method may not be possible. Asbestos may be detected at concentrations less than one percent by volume, but this detection is highly material dependent and alternate techniques may be considered.

The results provided in this report relate only to the items tested. Samples were received in acceptable condition unless otherwise noted in the comments above.

We certify that this data package is in compliance with the SOW. Both technically and for completeness, including a full description of, explanation of, and corrective actions for, any and all deviations, from either the analyses requested or the case narrative requested. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager (or a designee) and the laboratory's client services representative (or designee) as verified by their signatures on this report.



12/23/2015

Laboratory Manager, Heinz Huber Date

12/23/2015

Analyst, Susan Adami Date

If you have any questions, please feel free to contact Susan Adami or Heinz Huber at 509-545-4989.

SWIHD - Chain of Custody

INDUSTRIAL HYGIENE CHAIN OF CUSTODY AND LABORATORY REQUEST

W512046

Lab: RJ Lee Pasco WA	**Turnaround Needed:** 5 Days
Contractor: CH2M Hill Plateau Remediation Company	**CACN:** **COA:** JPRC
Billing POC: Keas, Tami L **Email:** Tami_L_Keas@rl.gov **Phone:** (509)373-1622	303531
Email Report To: IH_Management@rl.gov; Bruce_E_Hey@rl.gov	**Date Sampled:** 12/12/2015
Project IH: Midili, Russ Midili A **Phone:** (509)942-6483	**Survey No.:** 15-23527 - PFP - 234-5ZA Unit 1 Asbestos Characterization
Instructions and Comments for Lab: N/A	
RAD: No	

Sample ID/Type/Description	Required Analysis
15-23527-001 / Bulk (container) *15-23527-001*	Asbestos
15-23527-002 / Bulk (container) *15-23527-002*	Asbestos
15-23527-003 / Bulk (container) *15-23527-003*	Asbestos
15-23527-004 / Bulk (container) *15-23527-004*	Asbestos
15-23527-005 / Bulk (container) *15-23527-005*	Asbestos
15-23527-006 / Bulk (container) *15-23527-006*	Asbestos
15-23527-007 / Bulk (container) *15-23527-007*	Asbestos
15-23527-008 / Bulk (container) *15-23527-008*	Asbestos
15-23527-009 / Bulk (container) *15-23527-009*	Asbestos
15-23527-010 / Bulk (container) *15-23527-010*	Asbestos
15-23527-011 / Bulk (container) *15-23527-011*	Asbestos
15-23527-012 / Bulk (container) *15-23527-012*	Asbestos

	Signature	Printed Name	Date	Time
Relinquished By:		Russell M. Midili	12-21-15	1000
Received By:		DW Brotherton, Jr CHPRC	DEC 21 2015	1000
Relinquished By:		DW Brotherton, Jr CHPRC	DEC 21 2015	1131
Received By:		C. LOPEZ RJ LEE GROUP	DEC 21 2015	1131
Relinquished By:				
Received By:				

SWIHD - Chain of Custody

INDUSTRIAL HYGIENE CHAIN OF CUSTODY AND LABORATORY REQUEST

Lab: RJ Lee Pasco WA W512046	**Turnaround Needed:** 5 Days
Contractor: CH2M Hill Plateau Remediation Company	**CACN:** **COA:** JPRC
Billing POC: Keas, Tami L **Email:** Tami_L_Keas@rl.gov **Phone:** (509)373-1622 303531	
Email Report To: IH_Management@rl.gov; Bruce_E_Hey@rl.gov	**Date Sampled:** 12/12/2015
Project IH: Midili, Russ Midili A **Phone:** (509)942-6483	**Survey No.:** 15-23527 - PFP - 234-5ZA Unit 1 Asbestos Characterization
Instructions and Comments for Lab: N/A	
RAD: No	

Sample ID/Type/Description	Required Analysis
15-23527-013 / Bulk (container) *15-23527-013*	Asbestos
15-23527-014 / Bulk (container) *15-23527-014*	Asbestos
15-23527-015 / Bulk (container) *15-23527-015*	Asbestos
15-23527-016 / Bulk (container) *15-23527-016*	Asbestos
15-23527-017 / Bulk (container) *15-23527-017*	Asbestos
15-23527-018 / Bulk (container) *15-23527-018*	Asbestos
15-23527-019 / Bulk (container) *15-23527-019*	Asbestos
15-23527-020 / Bulk (container) *15-23527-020*	Asbestos
15-23527-021 / Bulk (container) *15-23527-021*	Asbestos
15-23527-022 / Bulk (container) *15-23527-022*	Asbestos
15-23527-023 / Bulk (container) *15-23527-023*	Asbestos
15-23527-033 / Bulk (container) *15-23527-033*	Asbestos

	Signature	Printed Name	Date	Time
Relinquished By:		Russell M. Midili	12-21-15	1000
Received By:		DW Brotherton, Jr CHPRC	DEC 21 2015	1000
Relinquished By:		DW Brotherton, Jr CHPRC	DEC 21 2015	1131
Received By:		C. LOPEZ RJ LEE GROUP	DEC 21 2015	1131
Relinquished By:				
Received By:				

SWIHD - Chain of Custody

INDUSTRIAL HYGIENE CHAIN OF CUSTODY AND LABORATORY REQUEST

Lab: RJ Lee Pasco WA W512046	**Turnaround Needed:** 5 Days
Contractor: CH2M Hill Plateau Remediation Company	**CACN:** **COA:** JPRC
Billing POC: Keas, Tami L **Email:** Tami_L_Keas@rl.gov **Phone:** (509)373-1622 303531	
Email Report To: IH_Management@rl.gov; Bruce_E_Hey@rl.gov	**Date Sampled:** 12/12/2015
Project IH: Midili, Russ Midili A **Phone:** (509)942-6483	**Survey No.:** 15-23527 - PFP - 234-5ZA Unit 1 Asbestos Characterization
Instructions and Comments for Lab: N/A	
RAD: No	

Sample ID/Type/Description	Required Analysis
15-23527-034 / Bulk (container) *15-23527-034*	Asbestos
15-23527-035 / Bulk (container) *15-23527-035*	Asbestos
15-23527-036 / Bulk (container) *15-23527-036*	Asbestos
15-23527-041 / Bulk (container) *15-23527-041*	Asbestos
15-23527-042 / Bulk (container) *15-23527-042*	Asbestos
15-23527-043 / Bulk (container) *15-23527-043*	Asbestos
15-23527-044 / Bulk (container) *15-23527-044*	Asbestos
15-23527-045 / Bulk (container) *15-23527-045*	Asbestos
15-23527-046 / Bulk (container) *15-23527-046*	Asbestos
15-23527-047 / Bulk (container) *15-23527-047*	Asbestos
15-23527-048 / Bulk (container) *15-23527-048*	Asbestos
15-23527-049 / Bulk (container) *15-23527-049*	Asbestos

	Signature	Printed Name	Date	Time
Relinquished By:		Russell Midili	12-21-15	1000
Received By:		DW Brotherton, Jr CHPRC	DEC 2 1 2015	1000
Relinquished By:		DW Brotherton, Jr CHPRC	DEC 2 1 2015	1131
Received By:		C.LOPEZ RJ LEE GROUP	DEC 2 1 2015	1131
Relinquished By:				
Received By:				

SWIHD - Chain of Custody

INDUSTRIAL HYGIENE CHAIN OF CUSTODY AND LABORATORY REQUEST

Lab: RJ Lee Pasco WA W512046	**Turnaround Needed:** 5 Days
Contractor: CH2M Hill Plateau Remediation Company	**CACN:** **COA:** JPRC
Billing POC: Keas, Tami L **Email:** Tami_L_Keas@rl.gov **Phone:** (509)373-1622 303531	
Email Report To: IH_Management@rl.gov; Bruce_E_Hey@rl.gov	**Date Sampled:** 12/12/2015
Project IH: Midili, Russ Midili A **Phone:** (509)942-6483	**Survey No.:** 15-23527 - PFP - 234-5ZA Unit 1 Asbestos Characterization
Instructions and Comments for Lab: N/A	
RAD: No	

Sample ID/Type/Description	Required Analysis
15-23527-050 / Bulk (container) *15-23527-050* ✓ TP	Asbestos

	Signature	Printed Name	Date	Time
Relinquished By:		Russell M. Cat.	12-21-15	1000
Received By:		DW Brotherton, Jr CHPRC	DEC 2 1 2015	1000
Relinquished By:		DW Brotherton, Jr CHPRC	DEC 2 1 2015	1131
Received By:		LOPEZ RJ LEE GROUP	DEC 2 1 2015	1131
Relinquished By:				
Received By:				

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Appendix D

Building Inspector Certifications

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Certificate of Completion
This is to certify that
James M. Leary

Has satisfactory Completed 24 hours of Initial training as an
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 763 & Missouri State RSMo 643.230

Michael J. Moore
Instructor/Consultant

R.H. Welch, Inc.

Course Presented By R. H. Welch, Inc.
AHERA Building Inspector Refresher

R.H. Welch, Inc.
Certificate # RHW-BI-15-005

Course Completion Date: **2-19-15**
Refresher Required By: **2-19-16**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Certificate of Completion
This is to certify that
James M. Leary

Has satisfactory Completed 24 hours of Initial training as an
AHERA Project Designer
In compliance with TSCA Title II AHERA 40 CFR Part 763 & Missouri State RSMo 643.230

Robert H. Welch PhD (ABD
Safety Engineer/Consultant

R.H. Welch, Inc.

Course Presented By R. H. Welch, Inc.
AHERA Project Designer Refresher

R.H. Welch, Inc.
Certificate # RHW-PD-15-007

Course Date: **3-31-15 – 4-2-15**
Refresher Required By: **4-2-16**

Certificate of Completion
This is to certify that
William G. Cox

Has satisfactory Completed 24 hours of Initial training as an
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 763 & Missouri State RSMo 643.230

Michael J. Moore
Instructor/Consultant

R.H. Welch, Inc.

Course Presented By R. H. Welch, Inc.
AHERA Building Inspector Refresher

R.H. Welch, Inc.
Certificate # RHW-BI-15-003

Course Completion Date: **2-19-15**
Refresher Required By: **2-19-16**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Certificate of Completion
This is to certify that
William G. Cox

Has satisfactory Completed 24 hours of Initial training as an
AHERA Project Designer
In compliance with TSCA Title II AHERA 40 CFR Part 763 & Missouri State RSMo 643.230

Robert H. Welch PhD (ABD
Safety Engineer/Consultant

R.H. Welch, Inc.

Course Presented By R. H. Welch, Inc.
AHERA Project Designer Refresher

R.H. Welch, Inc.
Certificate # RHW-PD-15-004

Course Date: **3-31-15 – 4-2-15**
Refresher Required By: **4-2-16**

Certificate of Completion
This is to certify that
William G. Cox

Has satisfactory Completed 8 hours of Refresher training as an
AHERA Project Designer
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

RH WELCH INC
Michael J. Moore
Training Director/Instructor

Certificate of Completion
This is to certify that
Ted A. Hopkins

Has satisfactory Completed 4 hours of refresher training as an
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

RH WELCH INC
Michael J. Moore
Training Director/Instructor

Certificate of Completion
This is to certify that
William G. Cox

Has satisfactory Completed 4 hours of refresher training as an
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

RH WELCH INC
Michael J. Moore
Training Director/Instructor

Certificate of Completion
This is to certify that
Ted A. Hopkins

Has satisfactory Completed 24 hours of Initial training as an
AHERA Project Designer
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

R.H. Welch, Inc.
Robert H. Welch PhD (ABD
Safety Engineer/Consultant

Certificate of Completion
This is to certify that
James M. Leary

Has satisfactory Completed 24 hours of Initial training as an
AHERA Project Designer
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

R.H. Welch, Inc.
Robert H. Welch PhD (ABD
Safety Engineer/Consultant

Certificate of Completion
This is to certify that
Ted A. Hopkins

Has satisfactory Completed 24 hours of Initial training as an
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

R.H. Welch, Inc.
Michael J. Moore
Instructor/Consultant

Certificate of Completion
This is to certify that
James M. Leary

Has satisfactory Completed 24 hours of Initial training as an
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

R.H. Welch, Inc.
Michael J. Moore
Instructor/Consultant

Certificate of Completion
This is to certify that
Ted A. Hopkins

Has satisfactory Completed 8 hours of Refresher training as an
AHERA Project Designer
In compliance with TSCA Title II AHERA 40 CFR Part 763 &
Missouri State RSMo 643.230

RH WELCH INC
Michael J. Moore
Training Director/Instructor

Course Presented By R. H. Welch, Inc.
AHERA Project Designer Refresher

RH WELCH INC.

Certificate # RHW-PDR-16-010

ourse Date: **March 11, 2016**
efresher Required By: **March 11, 2017**

02 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Course Presented By R. H. Welch, Inc.
AHERA Building Inspector Refresher

RH WELCH INC.

Certificate # RHW-BIR-16-017

Course Date: **February 4, 2016**
Refresher Required By: **February 4, 2017**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Course Presented By R. H. Welch, Inc.
AHERA Building Inspector Refresher

RH WELCH INC.

Certificate # RHW-BIR-16-048

urse Date: **May 3, 2016**
fresher Required By: **May 3, 2017**

)2 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Course Presented By R. H. Welch, Inc.
AHERA Project Designer Refresher

R.H. Welch, Inc.

Certificate # RHW-PD-15-006

Course Date: **3-31-15 – 4-2-15**
Refresher Required By: **4-2-16**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Course Presented By R. H. Welch, Inc.
AHERA Project Designer Refresher

R.H. Welch, Inc.

Certificate # RHW-PD-15-007

Course Date: **3-31-15 – 4-2-15**
Refresher Required By: **4-2-16**

Course Presented By R. H. Welch, Inc.
AHERA Building Inspector Refresher

R.H. Welch, Inc.

Certificate # RHW-BI-15-004

Course Completion Date: **2-19-15**
Refresher Required By: **2-19-16**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Course Presented By R. H. Welch, Inc.
AHERA Building Inspector Refresher

R.H. Welch, Inc.

Certificate # RHW-BI-15-005

Course Completion Date: **2-19-15**
Refresher Required By: **2-19-16**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Course Presented By R. H. Welch, Inc.
AHERA Project Designer Refresher

RH WELCH INC.

Certificate # RHW-PDR-16-011

Course Date: **March 2, 2016**
Refresher Required By: **March 2, 2017**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Certificate of Completion
This is to certify that
James M. Leary

Has satisfactory Completed 4 hours of refresher training as an
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 763 & Missouri State RSMo 643.230

RH WELCH INC.

Michael J. Moore
Training Director/Instructor

Course Presented By R. H. Welch, Inc.
AHERA Project Designer Refresher

RH WELCH INC.

Certificate # RHW-PDR-16-012

Course Date: **March 22, 2016**
Refresher Required By: **March 22, 2017**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com

Certificate of Completion
This is to certify that
James M. Leary

Has satisfactory Completed 8 hours of Refresher training as an
AHERA Project Designer
In compliance with TSCA Title II AHERA 40 CFR Part 763 & Missouri State RSMo 643.230

RH WELCH INC.

Michael J. Moore
Training Director/Instructor

Course Presented By R. H. Welch, Inc.
AHERA Building Inspector Refresher

RH WELCH INC.

Certificate # RHW-BIR-16-018

Course Date: **February 4, 2016**
Refresher Required By: **February 4, 2017**

96902 E. Kaitlyn Rd. Kennewick, WA 99338 m.j.moore@frontier.com