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 MO2308, MO2501 and MO2502 at the Plutonium Finishing Plant Complex

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Asbestos NESHAP Thorough Inspection Report at MO2308, MO2501 and MO2502

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

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Asbestos NESHAP Thorough Inspection Report at MO2308, MO2501 and MO2502

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Executive Summary

Mobile office (MO) facilities (MO2308, MO2501, and MO2502) have been scheduled for demolition under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*. These structures were designed to provide toilet and shower facilities to support operations at the Plutonium Finishing Plant.

Although these three units (MO2308, MO2501, and MO2502) are designated as MOs, they provided shower and toilet services. These trailers were manufactured in the United States by Pacific Mobile and Modular Buildings from 2006 to 2009. Being mobile units, the buildings were leveled, set on jack stands, skirted, and insulated to prevent freezing. MO2308 is a toilet trailer 3 by 7 by 2 m (10 by 24 by 8 ft) and was manufactured in 2006. MO2501 and MO2502 are shower trailers (10.7 by 2.7 by 2 m [35 by 9 by 8 ft]) manufactured in 2009.

This report documents results of the MO2308, MO2501, and MO2502 inspection. Appendix A contains the sampling and analysis plan for MO2308, MO2501, and MO2502. Letters and emails from the manufacturers certifying that no asbestos-containing material (ACM) was used in the construction of these units is included in Appendix B. Based on the certifications provided, visual evaluations were conducted to verify no suspect ACMs were present. No suspect ACMs were identified that required sampling. No laboratory samples were taken, and no further evaluation is recommended.

Table ES-1. Summary of Evaluation Methods

Evaluation Methods	Number of Samples Taken
Visual evaluation	0
Historical samples	0
Current laboratory samples	0
Process knowledge	45
Total	45
Positive Hits	0

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Terms

ACM	asbestos-containing material
ACWM	asbestos-containing waste material
AHERA	*Asbestos Hazard Emergency Response Act of 1986*
Cat I	Category I
Cat II	Category II
CERCLA	*Comprehensive Environmental Response, Compensation, and Liability Act of 1980*
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
MO	mobile office
N/A	not applicable
NAD	no asbestos detected
NESHAP	"National Emission Standards for Hazardous Air Pollutants" (40 CFR 61)
PACM	presumed asbestos-containing material
PFP	Plutonium Finishing Plant
RACM	regulated asbestos-containing material
RAWP	removal action work plan
SAP	sampling and analysis plan
TSI	thermal system insulation

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1 Introduction

The Plutonium Finishing Plant (PFP) Closure Project is conducting removal actions under the *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA). The project will be demolishing three ancillary structures, mobile office (MO) facilities MO2308, MO2501, and MO2502.

The 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*. 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*, hereinafter called the removal action work plan (RAWP).

Demolition of MO2308, MO2501, and MO2502 will be conducted as part of the CERCLA removal action and is scheduled to occur in 2017. The CERCLA RAWP (DOE/RL-2011-03) identifies substantive requirements from 40 CFR 61, "National Emission Standards for Hazardous Air Pollutants" (NESHAP) regulations as applicable or relevant and appropriate requirements to the work being performed. This information includes the requirement to perform a thorough inspection to identify quantify and describe all friable, Category I (Cat I), and Category II (Cat II) asbestos-containing materials (ACMs) affected by demolition. This report documents the results from the inspection of MO2308, MO2501, and MO2502.

MO2308, MO2501, and MO2502 are 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 NESHAP (40 CFR 61.145, "Standard for Demolition and Renovation") was completed by certified *Asbestos Hazard Emergency Response Act of 1986* (AHERA) Building Inspectors. The purpose of this inspection was to determine the location of any ACM and its condition and quantity. Based on a walkdown of the building, process knowledge, and a review of historic files/drawings conducted by a certified AHERA Building Inspector, neither suspect asbestos-containing material nor known ACM was identified. Therefore, no asbestos sampling was required. All construction materials were either steel or material of known composition. All areas of the facility were accessed.

The scope of this report is to document the thorough asbestos inspection of MO2308, MO2501, and MO2502. The current PFP schedule includes demolition of MO2308, MO2501, and MO2502 in 2017.

The U.S. Environmental Protection Agency (EPA) asbestos NESHAP (40 CFR 61) regulations require that prior to commencement of any demolition activity, a certified AHERA Building Inspector must perform a thorough inspection of the affected facility and document the inspection to identify the following items:

- Homogeneous areas of ACM and their locations
- Quantity of ACM
- NESHAP (40 CFR 61) ACM Category (regulated asbestos-containing material [RACM], Cat I, or 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 that the inspection addresses hidden ACM. AHERA Building Inspectors had to open up walls, ceilings, crawl spaces, plenums, and other spaces to address inaccessible areas where hidden materials (e.g., pipe runs and insulated ducts) may have been found.

In addition, each homogenous area needed to be sampled sufficiently to know the asbestos content and to prove its consistency. A homogeneous area is a location 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, these 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 Hanford Site is owned by the U.S. Department of Energy (DOE), and the PFP Complex is currently being operated by CH2M HILL Plateau Remediation Company. MO2308, MO2501, and MO2502 buildings are part of the PFP Complex. Located in the 200 West Area of the Hanford Site in Washington State, PFP and its operations began in 1949. The primary mission for PFP was processing plutonium metal into hockey puck sized buttons for defense purposes. Plutonium was separated and recovered from liquid and solid process streams. In 1991, the mission changed to plutonium-bearing material stabilization, cleanup, decontamination and demolition, and environmental restoration. Material stabilization campaigns and the mission for storage of stabilized plutonium materials were completed in December 2009, when the final containers of stored material were shipped offsite.

A review of design drawings and other existing information was conducted to determine what building materials were used at the time of construction and whether any renovations had been made. A search was conducted to determine if any past asbestos survey or laboratory information was available.
No renovations or past asbestos surveys were found, and no historical sample data exist for these MOs. The builder, Pacific Mobile was contacted regarding building materials for these units. According to the builder representative, no materials containing asbestos were used in the construction of these units.

MO2308 is a men’s and women’s 22.3 m^2 (240 ft^2) toilet facility manufactured in 2006. MO2501 and MO2502 each have men’s and women’s showers separated by a room housing hot water heaters and water supply tanks. These units were manufactured in 2009 and are approximately 29.3 m^2 (315 ft^2) each. Skirting and insulation was installed for each of these units to prevent freezing.

1.2 Building Description

The three ancillary buildings covered in this report were used as support buildings for personnel working at the PFP. These units are designated as MOs. Two of these were used as shower facilities (MO2501 and MO2502), while the other (MO2308) was used as a toilet facility (Table 1). MO2501 and MO2502 are located in the north storage yard of the 234-5Z building, while MO2308 is located directly north and east of the 234-5Z building.

Table 1. Mobile Office Footprints

Ancillary Building to be Demolished	Function	Manufacture Date	Area Floor Footprint (m^2 [ft^2])
MO2308	Toilet facility	2006	22.3 (240)
MO2501	Shower facility	2009	29.3 (315)
MO2502	Shower facility	2009	29.3 (315)

Figure 1 shows the building footprints. Figures 2 through 12 are photographs of the three ancillary structures designated for asbestos characterization and demolition.

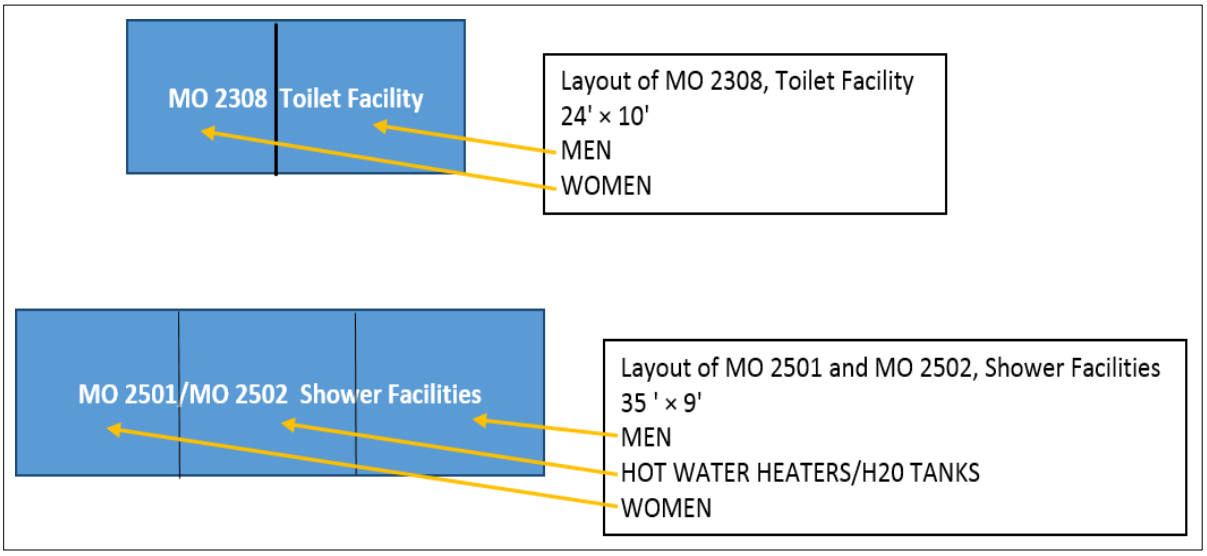

Figure 1. Layout of MO2308, MO2501, and MO2502

Figure 2. MO2308 Exterior, North Side

Figure 3. MO2308, South Side

Figure 4. MO2308 Interior Women's Side

Figure 5. MO2308 Interior, Men's Side

Figure 6. MO2501 Shower Facility, Exterior South Side

Figure 7. MO2501 Interior, Hot Water Heater and Water Supply Tank Room

Figure 8. MO2501 Interior View of Shower Rooms

Figure 9. MO2502, Shower Facility, Exterior View South Side

Figure 10. MO2502 Exterior View, North Side; Doors to Hot Water Heater/Supply Tank Room

Figure 11. MO2502 Hot Water Tank and Water Supply Tank Room, North Side

Figure 12. MO2502, Shower Stall

1.3 Description of Inspection and Sampling

MO2308, MO2501, and MO2502 were last used to support PFP Complex deactivation operations. These buildings contained finished walls, ceilings, and floors. Supply water lines were insulated with fiberglass and skirting was insulated using STYROFOAM™ blocks.

The same asbestos sampling and analysis plan (SAP) format that was developed for 236Z, 2727Z, and 2729Z was used to evaluate MO2308, MO2501, and MO2502. The plan called for an evaluation of floors, walls, ceiling, caulk, electrical, thermal system insulation (TSI), doors, and gaskets/packings. The SAP format was designed to incorporate both historical sampling records as well as new sample results. A search of site records revealed that there were no historical samples for these buildings.

A walkdown of the buildings confirmed the absence of suspect materials. The electrical system is 110 V with non-asbestos wiring.

™ STYROFOAM is a trademark of The Dow Chemical Company, Midland, Michigan.

1.4 Thorough Inspection Process

The RAWP (DOE/RL-2011-03) requires that prior to the start of 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.

1.4.1 Records Review

Design drawings and other existing information were evaluated to determine what building materials were used at the time of construction. Renovations and a past asbestos survey were also considered.

1.4.2 Walkdowns

In February 2016, visual inspections were conducted by certified AHERA Building Inspectors T.A. Hopkins and W.G. Cox (copies of AHERA certifications are provided in Appendix C). The purpose of the visual inspection was to identify all suspect ACM and all suspect materials that would require sampling and analysis. For ACM/suspect ACM or suspect material, the following information would need to be determined:

- Asbestos classification (miscellaneous, surfacing material, or thermal surfaces insulation)
- Asbestos type (RACM, Cat I, or Cat II)
- Quantity (square feet or linear feet)
- Condition (poor/good)
- Location
- Sample density (for materials not handled as suspect ACM) as prescribed by AHERA (homogeneous/nonhomogeneous)
- Accessibility for sampling

After the walkdowns, an SAP was created (Appendix A). Based on the walkdown, records review, and process knowledge of the certified AHERA Building Inspector, no suspect ACM was identified; therefore, no sampling was conducted. In the opinion of the inspector, there is no asbestos associated with these structures; therefore, no further evaluation will be required.

1.4.3 Sampling and Analysis Plans

A SAP was created to outline a systematic process covering all building components (Appendix A). Sampling was then prioritized, scheduled, and executed. No suspect materials were identified during the walkdown and visual evaluating of these buildings; therefore, no samples were taken.

NESHAP (40 CFR 61), AHERA, and the RAWP (DOE/RL-2011-03) require that a thorough asbestos inspection of the facility be completed prior to demolition. All suspect ACMs need to be characterized. To fulfill that requirements, a single SAP was developed for these mobile units (Appendix A). With execution of the SAP, all ACM present in the building were identified, including Cat I and Cat II nonfriable and all friable RACM (TSI). These results have been documented in this report. By strictly

following the SAP format, the AHERA Building Inspector was able to follow a systematic approach to asbestos characterization. The format for these SAPs includes the following material types:

- 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 prove its consistency. A homogeneous area is an area that 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 diversions from uniformity, the materials were assigned to different homogeneous sampling areas specifically defined as follows:

- Wall construction: pre-formed panels
- Ceiling: acoustic tile
- Electrical wiring/panels: 480 V, 220 V, and 110 V service
- Built up roofing material.

1.4.4 Laboratory Analysis

No samples were taken from this facility, as the visual evaluations that were conducted verified that no suspect materials were present. Visual evaluation results are summarized in Appendix A.

1.5 Methodology

Visual evaluations and process knowledge are described in this section. This report will serve as the documentation for those evaluations.

1.5.1 Visual Evaluations

Visual evaluations were conducted to verify the manufacturer’s certification that no asbestos-containing building materials were used. The visual evaluation focused on TSI, walls, ceilings and other insulation.

1.5.2 Process Knowledge/Suspect ACM

The identification of suspect ACMs were based on process knowledge, the manufacture date of these facilities, and training of the AHERA Building Inspectors. The manufacturers have provided certifications that these MO units do not contain asbestos-containing building materials.

2 Sample Information and Results

Due to the absence of suspect ACM coupled with the manufacturer's certifications no samples were taken from MO2308, MO2501, and MO2502.

2.1 Historic Asbestos Analytical Data

No historical samples are associated with these MO facilities. The manufacturers have provided letters or emails certifying no asbestos-containing building materials were used in the construction of these MO facilities.

2.2 Asbestos Characterization Results

NESHAP (40 CFR 61), AHERA, and the RAWP (DOE/RL-2011-03) require that prior to demolition, a thorough asbestos inspection report be completed. This report must identify all Cat I and Cat II nonfriable ACM and all friable RACM and document those findings.

Samples (if required) were taken according to the attached SAPs (Appendix A). If laboratory samples were required, the samples would be submitted to a certified laboratory for analysis. Bulk Asbestos Sample Log sheets and analytical data results were reviewed. For laboratory sample results, Appendix B contains the following summary information:

- Sample locations
- Material types and descriptions
- Condition of the materials
- Analytical results

Characterization data are summarized in the following tables: Table 2 summarizes sample results, and Table 3 summarizes ACM to be removed prior to demolition. Table 4 summarizes Cat I and Cat II ACM that will remain in the building during demolition. In accordance with AHERA requirements and with EPA concurrence, non-friable 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.

In addition to process knowledge, analytical sampling and visual evaluations of doors, metal paneling, walls, ceiling and electrical wiring/panels were conducted, as required. Based on the walkdown, process knowledge, and experience of the AHERA Building Inspector, no samples were required to characterize this facility as having no asbestos detected (NAD). These facilities were constructed in the United States from 2006 to 2009, and the manufacturer verified that only non-ACMs were used. The walkdowns included the skirting areas. All insulation present were either STYROFOAM or fiberglass.

Other than Cat I gaskets/packings associated with valves in the water piping, no ACMs were identified in MO2308, MO2501, and MO2502.

Note 1: Gaskets and packings were found in good condition in piping/valves. All gaskets and packings were characterized using process knowledge as suspect ACM and were not sampled.

Note 2: No friable ACM was identified during the inspection.

Note 3: 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. If left in the building for demolition, Cat I and/or Cat II ACM require EPA approval.

Table 2. Summary of Sample Results for MO2308, MO2501, and MO2502

Material	Visual Evaluation	Historical	Analytical (Lab) Samples	Process Knowledge	Positive	RACM, Cat I and II	Total Samples	Results	Extent
Floors/mastic sheet linoleum	0	0	0	3	0	N/A	3	NAD	N/A
Coving/none present	0	0	0	3	0	N/A	3	NAD	N/A
Walls/plastic wall panels/ fiberglass insulation	0	0	0	3	0	N/A	3	NAD	N/A
Ceiling/plastic wall panels/ fiberglass insulation	0	0	0	3	0	N/A	3	NAD	N/A
Walls exterior metal	0	0	0	3	0	N/A	3	NAD	N/A
TSI piping/fiberglass insulation	0	0	0	3	0	N/A	3	NAD	N/A
Inaccessible areas/soffits/space above ceiling	0	0	0	3	0	N/A	3	NAD	N/A
Caulk	0	0	0	3	0	N/A	3	NAD	N/A
Gaskets/packings	0	0	0	3	3	N/A	3	NAD	N/A
Doors	0	0	0	0	0	N/A	0	NAD	N/A
Roof	0	0	0	12	0	N/A	12	NAD	N/A
Skirting	0	0	0	3	0	N/A	3	NAD	N/A
Electrical	0	0	0	3	0	N/A	3	NAD	N/A
TOTAL	0	0	0	45	3	N/A	45	N/A	N/A

N/A = not applicable

Table 3. Summary of ACM to be Removed Prior to Demolition from MO2308, MO2501, and MO2502

Area	Room/Location	Field Description	Results	Category	Aerial Extent
MO2308			NONE		
MO2501			NONE		
MO2502			NONE		

Table 4. Listing of Cat I and Cat II ACM Remaining in MO2308, MO2501, and MO2502 During Demolition

Area	Room/Location	Field Description	Results	Category	Aerial Extent
MO2308			NONE		
MO2501			NONE		
MO2502			NONE		

2.3 Description of Inspection and Sampling

The inspection process is described in this section.

2.3.1 Description of Thorough Inspection Process

As noted in Section 1.3, the RAWP (DOE/RL-2011-03) 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 following actions:

- Walkdowns were completed in April 2016. Special attention was given to areas for which access was restricted (e.g., suspended ceilings) and would require additional means of access for the purposes of inspection. Notes were taken during the walkdown identifying sampling needs (e.g., inaccessible areas, special access requirements [confined spaces and ladders], removal of access plates/panels, and electrical isolations).
- Suspect building materials were evaluated for homogeneity (e.g., homogeneous areas).
- An asbestos SAP developed for this facility (Appendix A) enabled the AHERA Building Inspector to review the building in a systematic process and covered the following items: floors, walls, ceiling, void spaces, electrical wiring/panels, caulking, wall patches, gaskets/packings, doors, coving, TSI, and miscellaneous.
- Based on the records review, walkdown, SAP, and process knowledge, asbestos sampling was not indicated; therefore, no further evaluation is required.
- This report will serve as the documentation to that evaluation.

2.3.2 Non Asbestos-Containing Structures

It is just as important to know non-asbestos materials as it is ACM. The manufacturer's certifications that no asbestos-containing building materials were used in construction can be found in Appendix B.

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 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.

3 Conclusions

This report documents the results of the thorough asbestos inspection of MO2308, MO2501, and MO2502. Characterization was completed using process knowledge from the manufacturers and a visual verification of the MO units. The evaluation methods employed are provided in Table 5.

Table 5. Summary of Evaluation Methods

Evaluation Methods	Number of Samples Taken
Visual evaluation	0
Historical samples	0
Current laboratory samples	0
Process knowledge	45
Total	45
Positive Hits	0

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 the ACM friable. Sample results are summarized in Table 2, and Table 3 identifies Cat I and Cat II ACM that will remain in the building during demolition.

SAPs with results are provided in Appendix A. The manufacturer's letters and emails can be found in Appendix B. Building inspector and laboratory credentials are provided in Appendix C.

A demolition plan has been developed that describes in detail 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 2.3 summarizes these controls.

MO2308, MO2501, and MO2502 contain no ACM. No further evaluations are required.

4 References

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Appendix A

Sampling and Analysis Plans

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Sample Location: Constructed by Pacific Mobile Builders in 2006, MO2308 is an approximately 24 ft by 10 ft = 240 ft^2 toilet trailer located northeast of 234-5Z that formerly supported that site's operations. This sample plan is based on historical data (file search, photographs, engineering plans, etc.) and walkdowns completed in April 2016. An AHERA trained inspector will verify accuracy during the sampling event and is authorized to modify this plan in the field as required. All sampling will be conducted in accordance with IHSP-D&D-003, *Determination Sampling for Presumed Asbestos-Containing Material* . Sampling to be conducted by AHERA certified inspector. Photographs will be taken of each sample location and a unique SWIHDs number will be assigned to each room for each sample phases.

SYSTEM/ SWIHDs #	DIRECTIONS for sampling/evaluation and a DESCRIPTION of the material	VERIFICATION		Sample required	Results	Cat I/II, RACM	Homogenous material?	Condition of material sampled: Good or Poor	Extent of material sampled (ft^2 or linear ft)
		Present	Not accessible						
Floors	**DIRECTIONS:** Identify flooring material; if tile or linoleum, schedule for sampling. Exceptions: process knowledge, previous sampling, or determined to be PACM because of radiological conditions.								
Process knowledge	Sheet linoleum	YES		NO	NAD	N/A	N/A	N/A	N/A
Coving/mastic									
Process knowledge	Gray coving/mastic	YES		NO	NAD	N/A	N/A	N/A	N/A
Walls	**DIRECTIONS:** Identify wall construction material; sample if anything other than concrete.								
Process knowledge	Plastic wall panels/fiberglass insulation behind	YES		NO	NAD	N/A	N/A	N/A	N/A
Ceiling	**DIRECTIONS:** Gypsum board covered with a hard paper-like finish.								
Process knowledge	Plastic lined wall panels	YES		NO	NAD	N/A	N/A	N/A	N/A
Roof	**DIRECTIONS:** Area must be investigated for various ACM items (e.g., sprayed on insulation, textured coating, coated piping, coated ducting).								
Process knowledge	Metal roof insulated with fiberglass	YES		NO	NAD	N/A	N/A	N/A	N/A
Electrical/wire and panels	**DIRECTIONS: PRIOR TO SAMPLING ANY ELECTRICAL MATERIAL (WIRE/PANELS/COMPONENTS), SYSTEM MUST BE COLD AND DARK AND VERIFIED AS SUCH BY AN ELECTRICIAN**. Evaluate electrical wires from conduit, junction boxes, or panels for presence of asbestos. Project to determine sample or treat as PACM. If wiring will be left in place during demolition, project must determine whether wire is ACM or presume the wire is PACM and apply for a justification from EPA (would need to know how much wire is in place and its condition.)								
	Electrical wire in conduit and panels. Identify types of wiring present and PACM in panel boxes. Sample each variety of wire; estimate the quantity of wire present; sample or identify any PACM in electrical boxes/panels.								
Process Knowledge	Electrical wire; simple 110 V lighting system	YES		NO	NAD	N/A	N/A	N/A	N/A

Caulking	**DIRECTIONS:** Sample each type of caulk. Miscellaneous each type of caulk; two samples.								
Process Knowledge	Around pipe penetrations	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Wall patches	**DIRECTIONS:** Identify all areas where pipe penetrations through wall have been patched. If results show material is predominantly asbestos, handle all remaining patches as PACM. If that determination is made, the inspector will have to identify all patches (their size and number). This information will be included in a justification to EPA for leaving them during demolition.								
Process knowledge	None	**NO**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Gaskets/ packings	**DIRECTONS:** Gaskets are Cat I material provided they are in good condition. When identified, note the condition of gaskets/packings, including any gaskets associated with gloveboxes that will be removed during demolition.								
Process knowledge	Gaskets/packings in piping/valves	**YES**		**NO**	**20-95% chrysotile**	**Cat I**	**NO**	**Good**	**<2 ft^2 each**
Doors	**DIRECTIONS:** Project to determine (sample or treat as PACM). Project must determine how to manage these doors. (Options include remove prior to demolition, seek justification to leave during demolition, or sample each door.) **Identify each door and its location.**								
Process knowledge	Steel metal; four doors	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Miscellaneous	**DIRECTIONS:** Look for PACM not previously identified in this sample plan. If present, sample and record material sampled.								
Process knowledge	Skirting around trailers insulated with styrofoam	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
TSI piping	**DIRECTIONS:** If TSI is present, confirm that it is scheduled for abatement prior to demolition.								
Process knowledge	Pipe insulated with fiberglass	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**

Sampling Notes:
- All sampling excursions will be conducted (with no exceptions) by an AHERA Certified Building Inspector, who will adhere to all regulatory requirements.
- All sampling plans have been developed by an AHERA Certified Building Inspector using historical drawings, documents, and photographs as well as interviews with engineers and subject matter experts.
- During the sampling campaign while in the field, the AHERA Certified Building Inspector has the latitude to modify the plan as needed.

Sample Location: Constructed by Pacific Mobile Builders in 2009, MO2501 is an approximately 35 ft by 9 ft = 315 ft^2 shower trailer located north and northeast of 234-5Z that supported that site's operations. **This sample plan is based on historical data (file search, photographs, engineering plans etc.) and walkdowns completed in April 2016. An AHERA trained inspector will verify accuracy during the sampling event and is authorized to modify this plan in the field as required. All sampling will be conducted in accordance with IHSP-D&D-003, *Determination Sampling for Presumed Asbestos-Containing Material* . Sampling to be conducted by AHERA certified inspector. Photographs will be taken of each sample location and a unique SWIHDs number will be assigned to each room for each sample phases.**

SYSTEM/ SWIHDs #	DIRECTIONS for sampling/evaluation and a DESCRIPTION of the material	VERIFICATION		Sample required	Results	Cat I/II, RACM	Homogenous material?	Condition of material sampled: Good or Poor	Extent of material sampled (ft^2 or linear ft)
		Present	Not accessible						
Floors/mastic	**DIRECTIONS**: Identify flooring material; if tile or linoleum, schedule for sampling. Exceptions: process knowledge, previous sampling, or determined to be PACM because of radiological conditions.								
Process knowledge	Sheet linoleum	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Coving/mastic									
Process knowledge	Gray coving/mastic	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Walls	**DIRECTIONS**: Identify wall construction material; sample if anything other than concrete.								
Process knowledge	Plastic wall panels/fiberglass insulation behind	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Ceiling	**DIRECTIONS**: Gypsum board covered with a hard paper-like finish.								
Process knowledge	Plastic lined wall panels	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Roof	**DIRECTIONS:** Area must be investigated for various ACM items (e.g., sprayed-on insulation, textured coating, coated piping, coated ducting, etc.).								
Process Knowledge	Metal roof insulated with fiberglass	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Electrical/wire and panels	**DIRECTIONS: PRIOR TO SAMPLING ANY ELECTRICAL MATERIAL (WIRE/PANELS/COMPONENTS), SYSTEM MUST BE COLD AND DARK AND VERIFIED AS SUCH BY AN ELECTRICIAN.** Evaluate electrical wires from conduit, junction boxes, or panels for presence of asbestos. Project to determine sample or treat as PACM. If wiring will be left in place during demolition, project must determine whether the wire is ACM or presume the wire is PACM and apply for a justification from EPA (would need to know how much wire is in place and its condition.)								
	Electrical wire in conduit and panels. Identify types of wiring present and PACM in panel boxes. Sample each variety of wire; estimate the quantity of wire present; sample or identify any PACM in electrical boxes/panels. **East wall open four phase wire is exposed.**								
Process knowledge	Electrical wire; simple 110 V lighting system	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**

Caulking	**DIRECTIONS**: Sample each type of caulk. Miscellaneous each type of caulk; two samples.								
Process knowledge	Around pipe penetrations	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Wall patches	**DIRECTIONS**: Identify all areas where pipe penetrations through wall have been patched. If results show material is predominantly asbestos, handle all remaining patches as PACM. If that determination is made, the inspector will have to identify all patches (their size and number). This information will be included in a justification to EPA for leaving them during demolition.								
Process knowledge	None	**NO**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Gaskets/ packings	**DIRECTONS**: Gaskets are Cat I material provided they are in good condition. When identified, note the condition of gaskets/packings, including any gaskets associated with gloveboxes that will be removed during demolition.								
Process knowledge	Gaskets/packings in piping/valves	**YES**		**NO**	**20-95% chrysotile**	**Cat I**	**NO**	**Good**	**<2 ft^2 each**
Doors	**DIRECTIONS**: Project to determine sample or treat as PACM. Project must determine how to manage these doors. (Options include removing prior to demolition, seeking justification to leave during demolition, or sampling each door.) **Identify each door and its location.**								
Process knowledge	Steel metal; four doors	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Miscellaneous	**DIRECTIONS**: Look for PACM not previously identified in this sample plan. If present, sample and record material sampled.								
Process knowledge	Skirting around trailers insulated with styrofoam	**NO**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
TSI piping	**DIRECTIONS**: If TSI is present, confirm that it is scheduled for abatement prior to demolition.								
Process knowledge	Pipe insulated with fiberglass	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**

Sampling Notes:
- All sampling excursions will be conducted (with no exceptions) by an AHERA Certified Building Inspector, who will adhere to all regulatory requirements.
- All sampling plans have been developed by an AHERA Certified Building Inspector using historical drawings, documents, and photographs as well as interviews with engineers and subject matter experts.
- During the sampling campaign while in the field, the AHERA Certified Building Inspector has the latitude to modify the plan as needed.

Sample Location: Constructed by Pacific Mobile Builders in 2009, MO2502 is an approximately 35 ft by 9 ft = 315 ft^2 shower trailer located north and northeast of 234-5Z that formerly supported 234-5Z operations. This sample plan is based on historical data (file search, photographs, engineering plans, etc.) and walkdowns completed in April 2016. An AHERA trained inspector will verify accuracy during the sampling event and is authorized to modify this plan in the field as required. All sampling will be conducted in accordance with IHSP-D&D-003, *Determination Sampling for Presumed Asbestos-Containing Material* . Sampling to be conducted by AHERA certified inspector. Photographs will be taken of each sample location and a unique SWIHDs number will be assigned to each room for each sample phases.

SYSTEM/ SWIHDs #	DIRECTIONS for sampling/evaluation and a DESCRIPTION of the material	VERIFICATION		Sample required	Results	Cat I/II, RACM	Homogenous material?	Condition of material sampled: Good or Poor	Extent of material sampled (ft^2 or linear ft)
		Present	Not accessible						
Floors/mastic	**DIRECTIONS:** Identify flooring material; if tile or linoleum, schedule for sampling. Exceptions: process knowledge, previous sampling, or determined to be PACM because of radiological conditions.								
Process knowledge	Sheet linoleum	YES		NO	NAD	N/A	N/A	N/A	N/A
Coving/mastic									
Process knowledge	Gray coving/mastic	YES		NO	NAD	N/A	N/A	N/A	N/A
Walls	**DIRECTIONS:** Identify wall construction material; sample if anything other than concrete.								
Process knowledge	Plastic wall panels/fiberglass insulation behind	YES		NO	NAD	N/A	N/A	N/A	N/A
Ceiling	**DIRECTIONS:** Gypsum board covered with a hard paper-like finish.								
Process knowledge	Plastic-lined wall panels	YES		NO	NAD	N/A	N/A	N/A	N/A
Roof	**DIRECTIONS:** Area must be investigated for various ACM items (e.g., sprayed-on insulation, textured coating, coated piping, coated ducting, etc.).								
Process knowledge	Metal roof insulated with fiberglass	YES		NO	NAD	N/A	N/A	N/A	N/A
Electrical/wire and panels	**DIRECTIONS: PRIOR TO SAMPLING ANY ELECTRICAL MATERIAL (WIRE/PANELS/COMPONENTS), SYSTEM MUST BE COLD AND DARK AND VERIFIED AS SUCH BY AN ELECTRICIAN.** Evaluate electrical wires from conduit, junction boxes, or panels for presence of asbestos. Project to determine sample or treat as PACM. If wiring will be left in place during demolition, Project must determine whether the wire is ACM or presume the wire is PACM and apply for a justification from EPA (would need to know how much wire is in place and its condition.)								
	Electrical wire in conduit and panels. Identify types of wiring present and PACM in panel boxes. Sample each variety of wire; estimate the quantity of wire present; sample or identify any PACM in electrical boxes/panels.								
Process knowledge	Electrical wire; simple 110 V lighting system	YES		NO	NAD	N/A	N/A	N/A	N/A

Caulking	**DIRECTIONS:** Sample each type of caulk. Miscellaneous each type of caulk; two samples.								
Process knowledge	Around pipe penetrations	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Wall patches	**DIRECTIONS:** Identify all areas where pipe penetrations through wall have been patched. If results show material is predominantly asbestos, handle all remaining patches as PACM. If that determination is made, the inspector will have to identify all patches (their size and number). This information will be included in a justification to EPA for leaving them during demolition.								
Process knowledge	None	**NO**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Gaskets/ packings	**DIRECTONS:** Gaskets are Cat I material provided they are in good condition. When identified, note the condition of gaskets/packings, including any gaskets associated with Gloveboxes that will be removed during demolition.								
Process knowledge	Gaskets/packings in piping/valves	**YES**		**NO**	**20-95% chrysotile**	**Cat I**	**NO**	**Good**	**<2 ft^2 each**
Doors	**DIRECTIONS:** Project to determine sample or treat as PACM. Project must determine how to manage these doors. (Options include remove prior to demolition, seek a justification to leave during demolition, or sample each door.) **Identify each door and its location.**								
Process knowledge	Steel metal; four doors	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
Miscellaneous	**DIRECTIONS:** Look for PACM not previously identified in this Sample Plan. If present, sample and record material sampled.								
Process knowledge	Skirting around trailers insulated with styrofoam	**NO**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**
TSI piping	**DIRECTIONS:** If TSI is present, confirm that it is scheduled for abatement prior to demolition.								
Process knowledge	Pipe insulated with fiberglass	**YES**		**NO**	**NAD**	**N/A**	**N/A**	**N/A**	**N/A**

Sampling Notes:
- All sampling excursions will be conducted (with no exceptions) by an AHERA Certified Building Inspector, who will adhere to all regulatory requirements.
- All sampling plans have been developed by an AHERA Certified Building Inspector using historical drawings, documents, and photographs as well as interviews with engineers and subject matter experts.
- During the sampling campaign while in the field, the AHERA Certified Building Inspector has the latitude to modify the plan as needed.

Appendix B

Process Knowledge Results

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Northwest Building Systems
405 E. Boeing Lane
Boise, Idaho 83716-5245
Fax: (208) 345-0420
Ph: (208) 344-3527

March 15, 2016

Re: ASBESTOS IN BUILDINGS BUILT BY NWBS

Attn: Pacific Mobile,

NWBS has made every effort to insure that no asbestos products have been used in the construction of any buildings that we have produced since the late 1980's. The late 1980's is when we began to actively monitor the composition of the materials we were installing in our buildings. We guaranteed that there are no asbestos products in any NWBS building constructed after that time.

NWBS labels each building with a 5-digit code where the first two digits are the year of manufacture and the last 3 digits are the job number for that year. Therefore, any modules with the first two digits with 1990 (e.g. 90###) or after are guaranteed of no asbestos products. After the year 2000 the numbers restarted at 00###, 01###, etc.

If you have any questions, please call: (208) 344-3527 Ext. 6

Sincerely,

Kent Adamson, P.E.
Operations Manager/Civil Engineer

Hopkins, Ted A

From: Russ McMillen <Russ@pacificmobile.com>
Sent: Wednesday, May 04, 2016 9:17 AM
To: Hopkins, Ted A
Subject: RE: Shower and Bathroom Trailers

I had a restroom trailer on the scale recently and the driver tells me it was 12,445#

For this type of building a good rough weight is 35# per square foot, on doubles or open sided units use 27# per square foot

From: Hopkins, Ted A [mailto:Ted_A_Hopkins@rl.gov]
Sent: Wednesday, May 4, 2016 9:12 AM
To: Russ McMillen <Russ@pacificmobile.com>
Subject: RE: Shower and Bathroom Trailers

Thank you for your efforts on our behalf.

Waste Management has requested one additional piece of information.
Do you have an estimated weight for the shower trailers (2) and the bathroom trailer?

Regards
Ted A. Hopkins

From: Russ McMillen [mailto:Russ@pacificmobile.com]
Sent: Monday, May 02, 2016 9:38 AM
To: Hopkins, Ted A <Ted_A_Hopkins@rl.gov>
Cc: Karschnia, Paul T <Paul_T_Karschnia@rl.gov>; Clinton, Richard (Rich) <Richard_Rich_Clinton@rl.gov>; Leary, James M <James_M_Leary@rl.gov>; Cox, William G (Bill) <William_G_Bill_Cox@rl.gov>; Layton Lowe <layton@pacificmobile.com>
Subject: RE: Shower and Bathroom Trailers

Good Morning Ted,

Per our phone conversation, all the building sold or in our lease fleet are built with the greenest materials and processes we can achieve. PMSI has specified that all buildings built since 1987 use materials that are asbestos and formaldehyde free. I can safely assure you that any building built after 1990 fully meet our specifications and is asbestos free.

The two manufacturers we use for all buildings in the Hanford area are Blazer Industries and Northwest Buildings. Attached are letters from each regarding asbestos.

Please let me know if you require anything additional.

Regards,

Russ McMillen / VP of Corporate Services
Pacific Mobile Structures, Inc. - P.O. Box 1404 Chehalis, WA 98532
P 971.233.0230 F 503.722.2988 W pacificmobile.com

1

From: Hopkins, Ted A [mailto:Ted_A_Hopkins@rl.gov]
Sent: Monday, May 2, 2016 9:03 AM
To: Russ McMillen <Russ@pacificmobile.com>
Cc: Karschnia, Paul T <Paul_T_Karschnia@rl.gov>; Clinton, Richard (Rich) <Richard_Rich_Clinton@rl.gov>; Leary, James M <James_M_Leary@rl.gov>; Cox, William G (Bill) <William_G_Bill_Cox@rl.gov>
Subject: Shower and Bathroom Trailers

Mr. McMillian:
The Plutonium Finishing Project at Hanford is demolishing three trailers that were built by Pacific Mobile during the period 2006-2009. Would you please verify that these trailers were constructed with non-asbestos materials.

Thank you
Ted A. Hopkins
PFP Asbestos Characterization

MO 2308 10 X 24 = 240 X 35 lb/sq = 8400 lbs

2501 35X9 = 315 X 35 = 11,025 lbs
2502

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Appendix C

Building Inspector Certifications

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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

This is to certify that
Ted A. Hopkins

Has satisfactory Completed 4 hours of refresher training as a
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/Instruct

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 ar
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 (AI
Safety Engineer/Consulta

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

Has satisfactory Completed 24 hours of Initial training as a
AHERA Building Inspector
In compliance with TSCA Title II AHERA 40 CFR Part 76
Missouri State RSMo 643.230

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

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

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
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/Instruc

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

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

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

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 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-15-003

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

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

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

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**