FACILITY STATUS CHANGE FORM

Date Submitted:	Area: 200 East	Control Number: D4-B Plant-060
Originator: D. Turlington / E. Eberlein	Facility ID: 292B	Phone: 509-373-0176

Action Memorandum/Removal Action Work Plan:
Action Memorandum: DOE/RL-2010-22, Rev. 1
Removal Action Work Plan: DOE/RL-2010-33, Rev. 0

This form documents the status of facility decontamination, deactivation, decommissioning, and demolition operations or debris removal in accordance with the applicable regulatory decision documents.

Section 1: Facility Status

☒ All D4 operations required by action memo complete.

Description of Completed Activities and Current Conditions:

The required facility removal actions were performed in accordance with the DOE/RL-2010-33, Rev. 0, *Removal Action Work Plan for Central Plateau General Decommissioning Activities.*

292B is was a ~350 ft^2 building comprised of concrete masonry blocks and a wooden subframe. It was located on the south side of B Plant. It was constructed in 1944 and served as a stack exhaust monitoring station for B Plant.

Building was electrically and mechanically isolated and concrete slab penetrations were plugged and grouted. Building was sampled for beryllium and cleared. Building was sampled for asbestos. Hazardous materials were removed prior to demolition, where required. Building was demolished to slab on grade. Slab was surveyed and a 6" gravel cap was placed on top of the slab and contoured to remove tripping hazards and aid water run-off.

B Plant Ancillary Facilities (217B, 2716B and 292B) D4 Field Execution Work started on 5/25/17. Activities associated with inspections and placing a soil cap was completed on 8/20/17.

Total D4 Cost for the Facility:
Estimated Total Cost: $223,370
Total Waste: 86.22 Tons

Section 2: Underlying Soil Status

☐ No waste site(s) present. No additional actions anticipated.
☐ Documented waste site(s) present. Cleanup and closeout to be addressed under a separate CERCLA Response Action.
☒ Potential waste site discovered during D4 operations. Waste site identification number <to be> assigned. Cleanup and closeout to be addressed under a separate CERCLA Response Action.

Description of Current/As-Left Conditions:
Above Grade structure completely removed down to grade, the slab was left in place, all penetrations were grouted and plugged and a minimum 6" gravel (5/8 minus) cap was placed over and contoured.

Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):
A Fixed Contamination Area (FCA) remains that will be covered by the gravel cap. Therefore, the area will be posted as an Underground Radioactive Material Area (URMA). Attachment 4 – WIDS Summary Report for New WIDS Site.

Section 3: List of Attachments

Attachment 1 – 292B pictures: Before demolition, during demolition, and after demolition
Attachment 2 – Beryllium Verification Report
Attachment 3 – Asbestos Report

FACILITY STATUS CHANGE FORM (continued)

Date Submitted:	Area: 200 East	Control Number: D4-B Plant-060

Section 3: List of Attachments

Attachment 4 – Waste Information Data System (WIDS); 200-E-319

Other supporting documents:

1. Radiological Survey RC-1700391 and RC-1701198
2. Historical and Cultural Review Letter HCRC#2017-200-037, ECR-2017-253

DOE-RL	Print	Signature	Date
	Oliver Farabee		9/20/17

FACILITY STATUS CHANGE FORM (continued)		
Date Submitted:	Area: 200 East	Control Number: D4-B Plant-060

292B Before Demolition

292B During Demolition

292B After Demolition

Beryllium Verification Report For 292B/200E 6/15/2017

Executive Summary

292B is a building that is being prepared for demolition. Verification sampling was conducted in the building on June 1, 2017 to confirm that it is beryllium cleared prior to demolition. The sampling results indicate that 292B is beryllium cleared. The electrical distribution equipment inside of 292B does not require beryllium sampling. No further sampling is required prior to demolition.

Introduction

292B is a vacant, unoccupied building that contains approximately 350 ft^2. The building was formerly a B Plant Stack Monitoring Exhaust Station. The building is a CMU structure. There is an overhead open inaccessible small mezzanine, but no demising walls within the building. Due to its relatively small size the entire building was characterized as one survey unit. The building is located on the south side of B Plant.

Beryllium verification sampling was conducted on June 1, 2017 in accordance with the Hanford Site Assessment & Characterization /Verification of Buildings Procedure described in DOE-0342-002, Rev 2 including the requirement that buildings must be sampled for beryllium prior to being demolished or removed.

Sample Strategy & Methodology

There are no demising walls within the structure, therefore, due to its relatively small size the entire building was characterized as a single small survey unit in the Verification Sampling Plan. A total of 6 surface and bulk samples were collected and analyzed for beryllium. In addition, personal air monitoring was performed on the IHT collecting the samples and the RCT supporting the verification sampling.

Deviations

None

Summary

All 6 surface and bulk samples collected indicated concentrations below the respective Hanford Site Trigger Levels for beryllium. The three (3) surface sample concentrations were also below the Reporting Detection Limit (RDL) of 0.025 $\mu g/100\ cm^2$. The three (3) bulk samples collected were below the trigger level of 1.0 $\mu g/g$ and the highest result being 0.38 $\mu g/g$. Comparison of the results to the Hanford Site Control Levels and Trigger Levels indicate that no further beryllium sampling is required.

Two personal air samples were collected on the IHT collecting the samples and the RCT supporting the verification sampling. The airborne concentrations of beryllium were compared to the Hanford Site Action Level of 0.1 $\mu g/m^3$

for an 8 hour TWA. The results for both air samples were less than the Action Level and below the RDL of 0.025 $\mu g/m^3$.
The results of the verification sampling are provided in Appendix A.

Conclusions/Recommendations

The results of the Verification Sampling support a conclusion that the building is beryllium cleared. No further sampling is required prior to demolition.

References

None

Signatures

Completed By: Vern Holden CIH CSP ARM

6/19/17
Reviewed By: Scott Seydel, CIH

Attachments
Beryllium Sample Results
SWIHD Sample Reports including Photos of Sample Locations
Verification Sampling Plan

APPENDIX A

292B/200E Beryllium Surface Sample Results June 1, 2017			
Sample Number	**Sample Result ($\mu g/100\ cm^2$)**	**Control Level ($\mu g/100\ cm^2$)**	**Sample Location**
17-21443-001	<0.025	0.2	Front of 292B-PP-B Power Panel B
17-21443-002	<0.025	0.2	Front of 292B-ATS-D Auto Transfer Switch Panel
17-21443-003	<0.025	0.2	291-B-1 Main Stack Monitor Inlet

292B/200E Beryllium Bulk Results June 1, 2017			
Sample Number	**Sample Result ($\mu g/g$)**	**Control Level ($\mu g/g$)**	**Sample Location**
17-21444-001	0.38	2.0	Top of 291-B-1 Instrument Panel
17-21444-002	0.31	2.0	Floor below fixed ladder to mezzanine
17-21444-002	0.32	2.0	Floor near south exit door

Asbestos Building Inspection
217-B, 2716-B, 292-B/200 East Area
August 1, 2017

- **Introduction**

The purpose of this asbestos building inspection report is to identify asbestos containing material in 217-B, 2716-B, and 292-B/200 East Area; which is scheduled to be demolished. The facility was thoroughly inspected by a certified AHERA Building Inspector. Material identified as suspect or Presumed Asbestos Containing Material (PACM) was sampled to determine the nature and types of Asbestos Containing Materials (ACM) or will be handled and disposed of as ACM.

2.0 Buildings Description's

- 217B is a vacant, unoccupied building that contains approximately 460 ft². It is a high bay structure that was formerly a demineralized water treatment facility. The building was originally constructed in 1953 at PUREX and sometime between 1965 and 1967 the building and water demineralizer were moved to B Plant to support B Plant operations in the high level waste partitioning mission. The building houses an Illinois Water Treatment demineralizer system and contains an operating area with two ion exchange columns, a sodium hydroxide make-up tank and service piping. The system provided demineralized water to both B Plant and WESF.

- 2716B is a vacant, unoccupied building that contains approximately 240 ft². The building was originally a Radiation Monitoring Checkout Station and later used as a change room. The building is a steel frame metal clad vacant structure. It is located on the east end of B Plant near the rail cut into the tunnel.

- 292B is a vacant, unoccupied building that contains approximately 350 ft². The building was formerly a B Plant Stack Monitoring Exhaust Station. The building is a CMU structure. There is an overhead open inaccessible small mezzanine, but no demising walls within the building. Due to its relatively small size the entire building was characterized as one survey unit. The building is located on the south side of B Plant.

3.0 Sampling Methods

A total of 37 bulk samples were collected. Samples were taken of designated PACM identified by a certified AHERA Building Inspector during the inspection except for:

- 217-B: Cement Asbestos Board (CAB), heat cloth on interior of incandescent lighting fixtures, ceramic insulators on upper northern exterior, and 10-12" exterior steam line pipe.

- 2716-B: Heat cloth on interior of incandescent lighting fixtures, and roof mastic. Material presumed ACM due to being inaccessible is roof material, flashing.

- 292-B: Heat cloth on interior of incandescent lighting fixtures and ceramic insulators on upper northern exterior. Material presumed ACM due to being inaccessible is roofing material.

All three of the B Plant buildings have some material in them that will be considered ACM and therefore managed as ACM. However, samples that were collected were done so using AHERA sampling methodology and EPA guidance. PACM was classified as thermal system insulation (TSI), surfacing materials or miscellaneous materials. The number and location of samples was determined based on this classification.

TSI sampled:

- 217-B: North Door – collect 3 layered samples if door is insulated, emergency shower pipe – collect 3 samples, pipe insulation in southwest corner – collect 3 samples on elbow, 3" straight

lines – collect 3 samples, 4" straight lines – collect 3 samples, 5" straight lines – collect 3 samples, 3" diameter elbows – collect 3 samples, 4" diameter elbows – collect 3 samples, 5" diameter elbows – collect 3 samples.

- 2716-B: Door – collect 3 layered samples if door is insulated.
- 292-B: 3 samples for each steam line straight run per homogenous group, 3 samples for each homogenous group of elbows/fittings, 1 sample for every patched section of the line or fitting.

Surfacing materials sampled:

- 217-B: None observed.
- 2716-B: None observed.
- 292-B: None observed.

Miscellaneous materials sampled:

- 217-B: Roofing material – collect 2 samples. Ensure samples includes all layers of roofing material, flashing at roof edge – collect 2 layered samples if suspected, turbine ventilator roof flashing – collect 2 layered samples if suspected, window caulk – collect 2 samples, door caulk – collect 2 samples, west drain pipe - collect 2 samples, south electrical wire sheathing – collect 2 samples if suspected, exterior drain pipe - collect 2 samples, caulking/putty window frame of door – collect 2 samples.
- 2716-B: Window caulk – collect 2 samples, door caulk – collect 2 samples if insulated.
- 292-B: Door caulk – collect 2 samples.

Bulk samples were shipped to RJ Lee in Pasco, WA for asbestos analysis using PLM. RJ Lee is accredited by NVLAP. A layered analysis of each sample was requested for substrate identification and qualitative and quantitative analysis. The analytical laboratory report and sample information is included in SWIHD Survey 17-21735 and 17-22028. Photographs of sample locations are provided in the IH Survey Report.

4.0 217-B, 2716-B, 292-B Bulk Sampling Results

Sample Number	Asbestos	Non-Asbestos	Comments
17-21735-001		X	2716-B Exterior caulking on North Door Frame (left in good condition)
17-21735-002		X	2716-B Exterior caulking on South Window Frame
17-21735-003		X	2716-B Left door frame caulking, <1% chrysotile
17-21735-004		X	2716-B Right door frame caulking, <1% chrysotile
17-21735-005		X	292-B Door caulking
17-21735-006		X	292-B Door caulking, <1% chrysotile
17-21735-007		X	217-B East Exterior window caulking
17-21735-008		X	217-B West Exterior window caulking
17-21735-009	X		217-B South Exterior door caulking on frame. 1% chrysotile

17-21735-010	X		217-B Layer 1, North Exterior door caulking on frame, 5% chrysotile
17-21735-010		X	217-B Layer 2, North Exterior door caulking on frame
17-21735-011		X	217-B Layer 1, West exterior drain pipe 90 degree angle (left in good condition)
17-21735-011		X	217-B Layer 2, West exterior drain pipe 90 degree angle
17-21735-011		X	217-B Layer 3, West exterior drain pipe 90 degree angle
17-21735-011		X	217-B Layer 4, West exterior drain pipe 90 degree angle
17-21735-012		X	217-B South Door window caulking
17-21735-013		X	217-B North Door window caulking
17-21735-014		X	217-B Layer 1, Inside shower piping insulation (left in good condition)
17-21735-014		X	217-B Layer 2, Inside shower piping insulation
17-21735-014		X	217-B Layer 3, Inside shower piping insulation
17-21735-014		X	217-B Layer 4, Inside shower piping insulation
17-21735-015		X	217-B Layer 1, Inside shower piping insulation
17-21735-015		X	217-B Layer 2, Inside shower piping insulation
17-21735-015		X	217-B Layer 3, Inside shower piping insulation
17-21735-015		X	217-B Layer 4, Inside shower piping insulation
17-21735-016		X	217-B Layer 1, Inside shower piping insulation
17-21735-016		X	217-B Layer 2, Inside shower piping insulation
17-21735-016		X	217-B Layer 3, Inside shower piping insulation
17-21735-016		X	217-B Layer 4, Inside shower piping insulation
17-21735-017		X	217-B Interior South West elbow 3 " diameter pipe elbow (left in good condition)
17-21735-018		X	217-B Layer 1, Interior South West 3 " diameter straight pipe (left in good condition)
17-21735-018		X	217-B Layer 2, Interior South West 3 " diameter straight pipe
17-21735-018		X	217-B Layer 3, Interior South West 3 " diameter straight pipe
17-21735-018	X		217-B Layer 4, Interior South West 3 " diameter

			straight pipe, 20% Chrysotile
17-21735-019		X	217-B Layer 1, Interior South West 3 " diameter straight pipe
17-21735-019		X	217-B Layer 2, Interior South West 3 " diameter straight pipe
17-21735-019		X	217-B Layer 3, Interior South West 3 " diameter straight pipe
17-21735-019		X	217-B Layer 4, Interior South West 3 " diameter straight pipe
17-21735-020		X	217-B Layer 1, Interior South West 3 " diameter straight pipe
17-21735-020		X	217-B Layer 2, Interior South West 3 " diameter straight pipe
17-21735-020		X	217-B Layer 3, Interior South West 3 " diameter straight pipe
17-21735-020		X	217-B Layer 4, Interior South West 3 " diameter straight pipe
17-21735-021		X	217-B West Interior 4 " Diameter straight pipe (left in good condition)
17-21735-022		X	217-B West Interior 4 " Diameter straight pipe
17-21735-023	X		217-B West Interior 4 " Diameter straight pipe
17-22028-001		X	217-B South end 5 inch diameter insulation elbow (left in good condition)
17-22028-002		X	217-B South end 5 inch diameter insulation elbow (left in good condition)
17-22028-003		X	217-B South end west side 4 inch diameter insulation elbow (left in good condition)
17-22028-004		X	217-B South end west side 4 inch diameter insulation elbow (left in good condition)
17-22028-005		X	217-B Roof material, South east corner Layer 1 (left in good condition)
17-22028-005		X	217-B Roof material, South east corner Layer 2 (left in good condition)
17-22028-006		X	217-B Roof material, south end western quadrant of building Layer 1 (left in good condition)
17-22028-006		X	217-B Roof material, south end western quadrant of building

			Layer 2 (left in good condition)
17-22028-007		X	217-B South side 5 inch diameter insulation straight pipe layer 1 (left in good condition)
17-22028-007		X	217-B South side 5 inch diameter insulation straight pipe layer 2 (left in good condition)
17-22028-007		X	217-B South side 5 inch diameter insulation straight pipe layer 3 (left in good condition)
17-22028-008		X	217-B South end 5 inch insulation elbow (left in good condition)
17-22028-009		X	217-B South side 5 inch diameter insulation straight pipe layer 1 (left in good condition)
17-22028-009		X	217-B South side 5 inch diameter insulation straight pipe layer 2 (left in good condition)
17-22028-009		X	217-B South side 5 inch diameter insulation straight pipe layer 3 (left in good condition)
17-22028-010		X	217-B South side 4 inch diameter insulation straight pipe (left in good condition)
17-22028-011		X	217-B South side 4 inch diameter insulation straight pipe (left in good condition)
17-22028-012		X	217-B South end 4 inch diameter insulation elbow (left in good condition)
17-22028-013		X	217-B South side 4 inch diameter insulation straight pipe (left in good condition)
17-22028-014		X	217-B South side 5 inch diameter insulation straight pipe (left in good condition)

5.0 Conclusion

217-B, 2716-B, and 292-B do have ACM Class I materials. The following items will be abated prior to building demolition:

- 217-B: Cement Asbestos Board (CAB), heat cloth on interior of incandescent lighting fixtures, ceramic insulators on upper northern exterior, 10-12" exterior steam line pipe. Any non-homogenous materials sampled from the emergency shower pipe insulation, pipe insulation in southwest corner, 3" straight insulation pipe lines, 4" straight insulation pipe lines, 5" straight insulation pipe lines, 3" diameter elbow insulation pipe, 4" diameter elbow insulation pipe, and 5" diameter elbow insulation pipe.

- 217-B may generate 1900 sq. feet of CAB, 460 sq. feet of Miscellaneous Material, and 300 linear feet of TSI.
- 2716-B: Heat cloth on interior of incandescent lighting fixtures.
- 2716-B may generate 50 sq. feet of Miscellaneous Material.
- 292-B: Heat cloth on interior of incandescent lighting fixtures, ceramic insulators on upper northern exterior, TSI interior, and TSI exterior.
- 292-B may generate 225 sq. feet of Miscellaneous Material, and 100 linear feet of TSI.

217-B, 2716-B, and 292-B do have ACM/PACM Class II materials. The following items will be left in place during building demolition, material is classified as non-friable and are all in good condition. These materials are deemed as either Class II ACM or PACM, PACM materials were not sampled and will stay intact during demolition:

- 217-B: Roofing material, roof mastic, flashing at roof edge, turbine ventilator flashing, door caulking, window caulking, electrical wire sheathing, and caulking/putty around window frame of door.
- 217-B will generate TSI approximately 150 linear feet, miscellaneous material with approximately 460 sq. feet of roofing material, 1 cubic foot of caulking, and 60 linear feet of wiring.
- 2716-B: Roofing mastic, door caulking, window caulking, door caulking.
- 2716-B will generate Miscellaneous Material with approximately 15 sq. feet of roofing material and 1 cubic foot of caulking.
- 292-B: Roofing material, roof mastic, flashing at roof edge, door caulking.
- 292-B will generate Miscellaneous Material with approximately 350 sq. feet of roofing material and 1 cubic foot of caulking.
- Unanimous for all three buildings; 217-B, 2716-B, and 292-B; during the building inspection electrical sheathing and wire insulation was deemed PACM and not sampled. The material was left in placed with the condition of the sheathing being intact and non-friable.

Demolition will be completed using asbestos controls for Class II materials. All demolition debris will be disposed of as ACM.

Please contact Jacob Havlovick at 373-0283 or Vern Holden at 373-1770 for additional information.

Prepared by:

Jacob Havlovick

Jacob Havlovick, PIH
Professional Industrial Hygienist
AHERA Building Inspector

Waste Information Data System
General Summary Report

Code: 200-E-319 **Classification:** Discovery

Names: 200-E-319; 292-B Demolished Building Contaminated Slab; 292-B URMA

Type:	Foundation	**OU/WMA:**	TBD
Pipe Type:	Not Specified	**Hanford Area:**	200E
Status:	Inactive	**Implementation Area:**	Not Specified
Start Date:		**SQUID:**	Not Specified
End Date:			

Description:

The waste site is a posted Underground Radioactive Material Area on the contaminated concrete slab of the demolished 292-B building.

Process Description:

292B was a 350 square foot building constructed of concrete masonry blocks and a wooden subframe. It was constructed in 1944 to serve as a stack exhaust monitoring station 291-B stack.

Comment:

The above grade 292B structure was completely removed down to grade. The slab was left in place. All penetrations were grouted and plugged and a minimum 6 inch gravel (5/8 minus) cap was placed over and contoured.

The direct radiological readings on the concrete slab ranged from 450 counts per minute to 5000 counts per minute. The foundation was then posted with Underground Radioactive Material Area signs.

Regulatory Information:

Programmatic Responsibility

Responsible Contractor/Subcontractor:
Reclassifying Contractor/Subcontractor:
Responsible Project:

Site Evaluation

Solid Waste Management Unit:
TPA Waste Management Unit Type :

Permitting

RCRA Part B Permit:
RCRA Part A Permit:
RCRA Permit Status:
Septic Permit:
Inert LandFill:
Air Operating Permit:
Air Operating Permit Number(s):
TSD Number:
Closure Plan:
216/218 Permit:
NPDES:
State Waste Discharge Permit:

Tri-Party Agreement

Lead Regulatory Agency:

Unit Category:

TPA Appendix:

Remediation and Closure

Decision Document:

Decision Document Status:

Closure Document:

Closure Type:

Post Closure Requirments:

References:

1. Daniel Turlington, 9/11/2017, Facility Status Change Form, D4-B Plant-060.
2. Daniel Turlington, 9/11/2017, Facility Status Change Form, D4-B Plant-060.
3. Seamus Hanley, 8/30/2017, Radiological Survey Report, RC-1701198.