

# D4-B Plant-011 Building 222-B

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

**CH2MHILL**  
Plateau Remediation Company

**P.O. Box 1600**  
**Richland, Washington 99352**

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Date Published  
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**APPROVED**  
*By Julia Raymer at 2:46 pm, Sep 04, 2019*

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Release Approval

Date

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## FACILITY STATUS CHANGE FORM

Date Submitted: 9-18-2018	Area: 200 East	Control Number: D4-B Plant-011
Originator: D. Turlington/ S. Guillen	Facility ID: 222-B	Phone: 509-373-0176

**Action Memorandum/Removal Action Work Plan:**

DOE/RL-2010-102, 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:**

**Description of Completed Activities and Current Conditions:**

The required facility removal actions were performed in accordance with the DOE/RL-2010-102, Rev. 0, *Action Memorandum for Decontamination, Deactivation, Decommissioning, and Demolition (D4) Activities for the 200 East Tier 2 Buildings/Structures*.

222B was a 7,474 ft<sup>2</sup> building constructed of hollow, load-bearing concrete blocks with a concrete slab floor. It was located in the 200E Area on the south side of the 221-B (B Plant) building. The building was constructed in the early 1940s and was first used as a laboratory to support B plant operations until 1952 when it was closed. In the 1960s, the lab utilities and change room facilities were removed and the entire building was converted to office space and then further renovated during the 1990s.

The building was electrically and mechanically isolated. Concrete slab penetrations were plugged and grouted. The building was sampled for beryllium and cleared. Building was sampled for asbestos. Hazardous materials were removed prior to demolition, where required. The building was demolished to slab on grade and waste disposed at ERDF. 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.

UIC wells (Class V) have been decommissioned, PER Washington State Administrative Code 173-218-120, by filling or plugging the well so that it will not result in an environmental, public health or safety hazard, and will not serve as a channel for movement of water or pollution.

B Plant Ancillary Facility 222B Field Execution Work started on 1/08/18. Activities associated with inspections and placing a gravel cap was completed on 07/19/18.

**Total D4 Cost for the Facility:**

Estimated Total Cost: \$982,600  
Total Waste: 1,176.57 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.

**FACILITY STATUS CHANGE FORM (continued)**

Date Submitted: 9-18-2018

Area: 200 East

Control Number: D4-B Plant-011

**Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):**

The two Fixed Contamination Areas (FCAs) that existed prior to demolition were physically removed, closed prior to slab being covered by the gravel cap and no longer exist (Reference Attachment 6). Due to its location within the B-Plant boundary, the slab area will be posted as an Underground Radioactive Material Area (URMA). Reference Attachment 4, Attachment 6 and Radiological Survey Reports in "Other supporting documents."

**Section 3: List of Attachments**

- Attachment 1 - 222B pictures: Before demolition, during demolition, and after demolition
- Attachment 2 - Beryllium Verification Report
- Attachment 3 - Asbestos Report
- Attachment 4 - Waste Information Data System (WIDS); Code: 200-E-323
- Attachment 5 - 222B Underground Injection Control (UIC) Wells
- Attachment 6 - 222-B Pad URMA

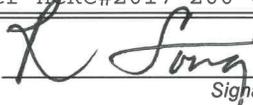
**Other supporting documents:**

1. Radiological Survey Report No. RC-1800757 and RC-1800044
2. Historical and Cultural Review Letter HCRC#2017-200-037, ECR-2018-247

**ROBERT LONG**

DOE-RL

*Print First and Last Name*



*Signature*

**9/25/2018**

*Date*

NOTE: The information on this form also satisfies the related DOE 430.1B Facility Closeout Reporting Requirements.

**FACILITY STATUS CHANGE FORM** (continued)

Date Submitted: 9-18-2018

Area: 200 East

Control Number: D4-B Plant-011



**222B Before Demolition**



**222B During Demolition**



**222B After Demolition**

**Beryllium Verification Report  
for 222-B Rev1  
2/20/2018**

**Executive Summary**

222-B is a vacant building that is being prepared for demolition. Verification sampling was conducted on 222-B to confirm that it is beryllium cleared prior to demolition or shipment to the Environmental Restoration Disposal Facility.

Based on the sampling results, 222-B can be considered to be beryllium cleared with the exception of the uncharacterized electrical distribution equipment present. The electrical distribution equipment inside of 222-B doesn't require sampling.

**Introduction**

222-8 is a vacant, unoccupied building located in the 200E Area on the south side of the 221-B (B plant) building. The building was constructed in the early 1940s and was originally a laboratory to support B plant operations. In 1980 the lab utilities and change room facilities were removed and the whole building was converted to office space. In the 1990's the facility was renovated with new carpet, suspended ceiling, paint, etc. The building is approximately 7,474 ft<sup>2</sup>.

Verification sampling was conducted to satisfy the requirement that buildings must be sampled prior to being demolished or removal.

**Sample Strategy & Methodology**

Sampling was conducted in accordance with DOE-0342-002, Rev 2. *Hanford Site Wide Assessment and Characterization/Verification of Buildings Procedure*. Based on its size, previous sampling results, and past usage, 30 samples were required by the Verification Sampling Plan. The sampling plan is attached to this report. 28 Surface samples and 2 Bulk samples were collected. Approximately 12% of the samples were collected overhead at heights exceeding 6 ft.

**Deviations**

None.

**Results Summary:**

The sample results are described in the following IH surveys in SWIHD:

- 18-20186
- 18-20185
- 18-20183

All 28 surface samples collected were below the reporting detection limit of 0.095 µg/100 cm<sup>2</sup>. The two bulk samples collected were below the trigger level of 1.0 µg/g with the highest result being 0.332 µg/g. The sample results are shown in Table 1 and Table 2 attached. Comparison of the results to the Test Critical Value (TCV) table determined that at a minimum of 13 samples needed to be collected. Therefore, no further sampling is required.

**Conclusions/Recommendations**

The sample results support a conclusion that the building can be considered beryllium cleared.

No recommendations at this time.

**References**

None.

**Signatures**

 2/22/10  
\_\_\_\_\_  
Completed By: Jacob Havlovick

 2/22/10  
\_\_\_\_\_  
Reviewed By: Vern Holden, CIH

**Attachments**

- Sample Data Tables/Summary of Data
- SWIHD Sample Reports With Photos of Sample Locations
- Verification Sampling Plan

**Asbestos Building Inspection**  
**222-B/200 East Area**  
**March 5, 2018**

## 1.0 Introduction

The purpose of this asbestos building inspection report is to identify asbestos containing material in 222-B Building/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 Building Description

222-B is a vacant, unoccupied building located in the 200 East area on the south side of the 221-B (B Plant) building. The building was constructed in the early 1940's and was originally a laboratory to support B plant operations. In 1980, the lab utilities and change room facilities were removed and the whole building was converted to office space. In the 1990's the facility was renovated with new carpet, suspended ceiling, paint, etc. The building is approximately 7,474 ft<sup>2</sup>.

## 3.0 Sampling Methods

A total of 29 bulk samples were collected. Samples were taken of PACM identified by a certified AHERA Building Inspector during the inspection except for:

- Heat cloth on interior of incandescent lighting fixtures, bathroom stall doors of the men and women's toilets. Interior pink Thermal System Insulation (TSI), and asbestos labeled white TSI piping, window caulking, and wire insulation.
- The door's interior was found void of material and was not sampled, therefore it was not considered ACM or PACM.

These materials as mentioned as above will be treated as ACM without sampling and will be handled and disposed of as ACM. Samples were collected using AHERA sampling methodology and EPA guidance. PACM was classified as TSI, surfacing materials or miscellaneous materials. The number and location of samples was determined based on this classification.

TSI sampled:

- 222-B: North and South Door - collect 3 layered samples if door is insulated, 2" green interior insulated pipe straight line - collect 3 samples, 2" green interior insulated pipe elbow - collect 3 samples, 2" pink interior insulated pipe straight line - collect 3 samples, 2" pink interior insulated pipe elbow - collect 3 samples, 2" white interior insulated pipe straight line - collect 3 samples, 2" pink interior insulated pipe elbows - collect 3 samples, wire insulation - collect 3 samples, A/C system insulation - collect 3 samples, exterior 1" pipe insulation - collect 3 samples.

Surfacing materials sampled:

- 222-B: None observed.

Miscellaneous materials sampled:

- 222-B: Roofing material - collect 2 samples. Ensure samples includes all layers of roofing material, window caulk - collect 2 samples if suspect, door caulk - collect 2 samples is present, ceiling tile material- collect 2 samples. Bathroom door material - collect 2 samples. Wall acoustic material - collect 2 samples. Floor tile material - collect 2 samples. Ventilator gasket material- collect 2 samples. Exterior hole caulk - collect 2 samples. Carpet mastic - 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 reports and sample information is included in SWIHD Surveys 18-20196, 18-20233, and 18-20272. Photographs of sample locations are provided in the III Survey Reports.

#### 4.0 222-B Bulk Sampling Results

Samole Number	Asbestos	Non-Asbestos	Comments
18-20196-001		X	222-B ventilation room fan filter gasket unit 2. Layer 1.
18-20196-001		X	222-B ventilation room fan filter gasket unit 2. Layer 2.
18-20196-002		X	222-B ventilation room fan filter gasket unit 1. Layer 1.
18-20196-002		X	222-B ventilation room fan filter gasket unit 1. Layer 2.
18-20196-003		X	222-B Hall way carpet sample. Layer 1.
18-20196-003		X	222-B Hall way carpet sample. Layer 2.
18-20196-004		X	222-B Hall way carpet sample. Layer 1.
18-20196-004		X	222-B Hall way carpet sample. Layer 2.
18-20196-005		X	222-B Hall way on floor tile area, tile and mastic. Layer 1.
18-20196-005		X	222-8 Hall way on floor tile area, floor tile and mastic. Layer 2.
18-20196-006		X	222-B Floor Tile area near west door, floor tile and mastic. Layer 1.
18-20196-006		X	222-B Tile area near west door, tile and mastic. Layer 2.
18-20196-007		X	222-B ceiling tile in sub ceiling above false ceiling in kitchen. Layer 1.
18-20196-007		X	222-8 ceiling tile in sub ceiling above false ceiling in kitchen. Layer 2.
18-20196-007		X	222-8 ceiling tile in sub ceiling above false ceiling in kitchen. Layer 3.
18-20196-008		X	222-B ceiling tile in sub ceiling above false ceiling in room 14. Layer 1.
18-20196-008		X	222-B ceiling tile in sub ceiling above false ceiling in room 14. Layer 2.
18-20196-008		X	222-B ceiling tile in sub ceiling above false ceiling in room 14. Layer 3.
18-20196-009		X	222-B wall fiber tile in room 7. Layer 1.
18-20196-009		X	222-B wall fiber tile in room 7. Layer 2.
18-20196-009		X	222-B wall fiber tile in room 7. Layer 3.
18-20196-010		X	222-8 room 7 back west wall fiber tile. Layer 1.
18-20196-010		X	222-B room 7 back west wall fiber tile. Layer 2.
18-20196-010		X	222-B room 7 back west wall fiber tile. Layer 3.
18-20196-011		X	222-B room 7 east wall fiber tile. Layer 1.
18-20196-011		X	222-B room 7 east wall fiber tile. Layer 2.

18-20196-011		X	222-B room 7 east wall fiber tile. Layer 3.
18-20196-012		X	222-B room 7 back room east wall fiber tile. Layer 1.
18-20196-012		X	222-B room 7 back room east wall fiber tile. Layer 2.
18-20196-012		X	222-B room 7 back room east wall fiber tile. Layer 3.
18-20196-013		X	222-B Room 13B above ceiling tile green painted insulation line mudded elbow. Layer 1 (Left in good condition)
18-20196-013		X	222-B Room 13B above ceiling tile green painted insulation line mudded elbow. Layer 2 (Left in good condition)
18-20196-013		X	222-B Room 13B above ceiling tile green painted insulation line mudded elbow. Layer 3 (Left in good condition)
18-20196-014		X	222-B Room 13B west wall above ceiling tile, green painted straight insulation line. Layer 1 (Left in good condition)
18-20196-014		X	222-B Room 13B west wall above ceiling tile, green painted straight insulation line. Layer 2 (Left in good condition)
18-20196-014		X	222-B Room 13B west wall above ceiling tile, green painted straight insulation line. Layer 3 (Left in good condition)
18-20196-014		X	222-B Room 13B west wall above ceiling tile, green painted straight insulation line. Layer 4 (Left in good condition)
18-20196-015		X	222-B Room 13B east wall above ceiling tile, green painted insulation line by union. Layer 1 (Left in good condition)
18-20196-015		X	222-B Room 13B east wall above ceiling tile, green painted insulation line by union. Layer 2 (Left in good condition)
18-20196-015		X	222-B Room 13B east wall above ceiling tile, green painted insulation line by union. Layer 3 (Left in good condition)
18-20196-015		X	222-B Room 13B east wall above ceiling tile, green painted insulation line by union. Layer 4 (Left in good condition)
18-20196-016		X	222-B Room 13B east wall above ceiling tile, green insulation line mudded elbow. Layer 1 (Left in good condition)
18-20196-016		X	222-B Room 13B east wall above ceiling tile, green insulation line mudded elbow. Layer 2 (Left in good condition)
18-20196-016		X	222-B Room 13B east wall above ceiling tile, green insulation line mudded elbow. Layer 3 (Left in good condition)

18-20196-017		X	222-B Room 13B above door, above ceiling tile at hanger. Layer 1. (Left in good condition)
18-20196-017		X	222-B Room 13B above door, above ceiling tile at hanger. Layer 2. (Left in good condition)
18-20196-017		X	222-B Room 13B above door, above ceiling tile at hanger. Layer 3. (Left in good condition)
18-20196-017		X	222-B Room 13B above door, above ceiling tile at hanger. Layer 4. (Left in good condition)
18-20196-018		X	222-B Room 2A, east wall above ceiling tile, green insulation elbow. Layer 1 (Left in good condition)
18-20196-018		X	222-B Room 2A, east wall above ceiling tile, green insulation elbow. Layer 2 (Left in good condition)
18-20196-018		X	222-B Room 2A, east wall above ceiling tile, green insulation elbow. Layer 3 (Left in good condition)
18-20196-018		X	222-B Room 2A, east wall above ceiling tile, green insulation elbow. Layer 4 (Left in good condition)
18-20233-001		X	222-B south side exterior piping on west end of the elbow, with metal. Layer 1. (Left in good condition)
18-20233-002		X	222-B south side exterior piping on west end, with metal. Layer 1. (Left in good condition)
18-20233-002		X	222-B south side exterior piping on west end, with metal. Layer 2. (Left in good condition)
18-20233-002		X	222-B south side exterior piping on west end, with metal. Layer 3. (Left in good condition)
18-20233-003		X	222-B south side rear middle of building, vertical pipe, black with white paint. Layer 1. (left in good condition)
18-20233-003		X	222-B south side rear middle of building, vertical pipe, black with white paint. Layer 1. (left in good condition)
18-20233-004		X	222-B south side exterior pipe near middle, horizontal pipe, black with white paint. Layer 1. (left in good condition)
18-20233-004		X	222-B south side exterior pipe near middle, horizontal pipe, black with white paint. Layer 1. (left in good condition)
18-20233-005	X		222-B caulking on the exterior of building on the west end. Layer 1. 10% chrysotile.
18-20233-005		X	222-B caulking on the exterior of building on the west end. Layer 2.
18-20233-006	X		222-B caulking on the exterior of building east end. Layer 1. 10% chrysotile.

18-20233-006		X	222-B caulking on the exterior of building east end. Layer 2.
18-20233-007		X	222-B caulking next to metal plate covering hole. Layer 1.
18-20233-008		X	222-B caulking next to metal plate covering hole. Layer 1.
18-20233-009	X		222-B caulking on the exterior north side of the building near ground. Layer 1. 10% Chrysotile
18-20233-009		X	222-B caulking on the exterior north side of the building near ground. Layer 2.
18-20272-001		X	222-B Roof East half SE Corner. Layer 1.
18-20272-002		X	222-B Roof West half SW Corner. Layer 1.
18-20272-002		X	222-B Roof West half SW Corner. Layer 2.

## 5.0 Conclusion

222-B has materials that are assumed to be ACM Class I materials. The following items will be abated prior to building demolition:

- 222-B: Heat cloth on interior of incandescent lighting fixtures, pink insulated interior pipe, white insulated asbestos labeled pipe. The toilet stall doors in the restrooms.
- 222-B may generate 300 sq. feet of Miscellaneous Material, and 500 linear feet of TSI.

The following items will be left in place during building demolition. These materials are classified as non-friable and are intact and in stable and solid condition to remain non-friable during demolition activities. These materials are deemed as Class II ACM or PACM. These materials were not sampled and will stay intact during demolition:

- 222-B: Door caulking, electrical wire sheathing, and caulking/putty around window frame of door.

Note: Door's interior was inspected and the interior did not contain insulation. Therefore it was neither PACM nor ACM. Based on the status of the door's interior there were no samples collected.

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, PIH  
Professional Industrial Hygienist  
AHERA Building Inspector

9/25/2018

## Waste Information Data System General Summary Report

Code: 200-E-323

Classification: Discovery

Page 1

**Names:** 200-E-323; Stabilized Building Foundation from the 222-B Demolition

<b>Type:</b>	Foundation	<b>OU/WMA:</b>	TBD
<b>Pipe Type:</b>	Not Specified	<b>Hanford Area:</b>	200E
<b>Status:</b>	Inactive	<b>Implementation Area:</b>	Not Specified
<b>Start Date:</b>		<b>SQUID:</b>	B Plant Main
<b>End Date:</b>			

**Description:**

The waste site is the gravel covered foundation remaining after the 222-B Laboratory building was demolished in July 2018. The slab is posted with a WIDS identification sign. The gravel area is within a larger, posted Underground Radioactive Material Area.

**Location Description:**

The waste site is located south of 221-B and east of 224-B.

**Construction:**

222-B had been a concrete block building on a concrete slab foundation.

**Process Description:**

The 222-B building was constructed in the September 1944. It was originally used as a laboratory to support the bismuth phosphate process at B plant. This process separated plutonium from irradiated fuel rods. Samples were collected during the separation process and analyzed in the 222-B laboratory. A Hot Sink inside the building was used to dispose of sample waste. This waste stream was originally sent to the 216-B-6 reverse well and later to the 216-B-10A crib. 222-B was a laboratory until 1952 when it was closed. In the 1960s, the lab utilities and change room facilities were removed. The entire building was converted to office space and then further renovated during the 1990s.

For reference, the T Plant fuel separations facility was constructed and operated identically to the B Plant fuel separations facility.

The reverse wells at 222-T and 222-B were installed to provide disposal for the laboratory hot sink and sample table (slurper waste). During the bismuth phosphate fuel separation process, batch samples were collected from 221-T and 221-B. These samples were analyzed in the 222-T and 222-B laboratories. The sinks were connected to reverse wells. The reverse wells were active from 1944 to 1949.

In 1949, the effluent from the Hot sinks were re-routed to cribs (216-T-8 and 216-B-10A). The pipelines that fed the reverse wells were blanked off at the wells and extended to the crib locations. HW-4850, written in 1945, states that the 222-T laboratory was discharging approximately 2.6 curies of fission products and 600 milligrams of plutonium to the adjacent reverse well per month. Since similar work was done at the 222-B Laboratory, similar waste inventory can be assumed to have been discharged to the 216-B-6 reverse well.

**Associated Structures:**

216-B-6 Reverse Well, 216-B-10A crib and the 200-E-174-PL pipeline.

**Comment:**

Prior to demolition, 222-B was electrically and mechanically isolated. Concrete slab penetrations were plugged and grouted. The building was sampled for beryllium and cleared. Building was sampled for asbestos. Hazardous materials were removed prior to demolition.

Code: 200-E-323

Classification: Discovery

Page 2

The 222-B building was demolished to slab on grade. The slab was radiologically surveyed. Two preexisting Fixed Contamination Areas (FCA) were identified, removed and closed prior to the building demolition and the slab being covered by a 6 inch gravel cap.

A 6" gravel cap was placed on top of the slab and contoured to remove tripping hazards and aid water run-off.

The 222-B facility was an operating laboratory supporting the plutonium separation process from 1945 through 1952. Analysis of liquid radioactive material was conducted and disposed into a hot sink located within this building. The pipeline (200-E-174-PL) from the hot sink to the 216-B-6 reverse well still remains partially beneath the slab and the demolition gravel cap. Penetrations related to the hot sink that transverse through the slab were confirmed to be plugged. The potential exists for radioactive contamination to be beneath the concrete slab. The slab is within a larger, posted Underground Radioactive Material Area.

Eighteen Underground Injection Wells (UIC) that surrounded the foundation were properly dispositioned before the gravel cap was installed.

### **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:**

**TSD Number:**

**RCRA Part A Permit:**

**Closure Plan:**

**RCRA Permit Status:**

**Septic Permit:**

**216/218 Permit:**

**Inert LandFill:**

**NPDES:**

**State Waste**

**Air Operating Permit:**

**Discharge Permit:**

**Air Operating Permit**

**Number(s):**

#### **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:**

**Images:**

**Pathname:**

**Date Taken:** 8/14/2018

**Description:**

Image shows the 222-B foundation after the gravel cap was installed.

**References:**

1. 7/16/2018, Radiological Survey Report, RC-1800757.
2. Daniel Turlington, 8/9/2018, Request WIDS Number for 222B Slab.
3. D. Turlington, 8/15/2018, Facility Status Change Form (Draft), D4-B Plant-011.
4. 4/17/2018, 222B Underground Injection Control Wells.

## 222B Underground Injection Control (UIC) Wells

A site visit to the 222B building was performed on April 17<sup>th</sup>, 2018 to identify and GPS locate the UIC wells in the vicinity. Eighteen structures were identified as possible UIC wells based on their construction, positioning, and process knowledge. The locations were captured by GPS and post-processed to align with the mapped building location and aerial imagery. The eighteen locations are shown on the attached map.

222B UIC Well Number	SIS UIC Code	WA State Plane		Geographic Coordinates		Photo
		Easting	Northing	Longitude	Latitude	
1	2E-U-329	573525	136389	-119.54108	46.556386	
2	2E-U-330	573516	136389	-119.541196	46.556387	
3	2E-U-331	573507	136389	-119.541305	46.556388	

4	2E-U-332	573503	136389	-119.541364	46.556388	
5	2E-U-333	573495	136389	-119.541467	46.556388	
5A	2E-U-334	573497	136386	-119.541448	46.556361	
5B	2E-U-335	573495	136384	-119.541475	46.556349	

5C	2E-U-336	573492	136389	-119.541511	46.556389	
6	2E-U-337	573483	136384	-119.541624	46.556349	
7	2E-U-338	573479	136389	-119.541677	46.556393	
8	2E-U-339	573486	136403	-119.54158	46.556519	

8A	2E-U-340	573485	136403	-119.541593	46.556519	
9	2E-U-341	573502	136403	-119.541371	46.556519	
9A	2E-U-342	573498	136403	-119.541435	46.55652	
10	2E-U-343	573507	136403	-119.541313	46.556519	

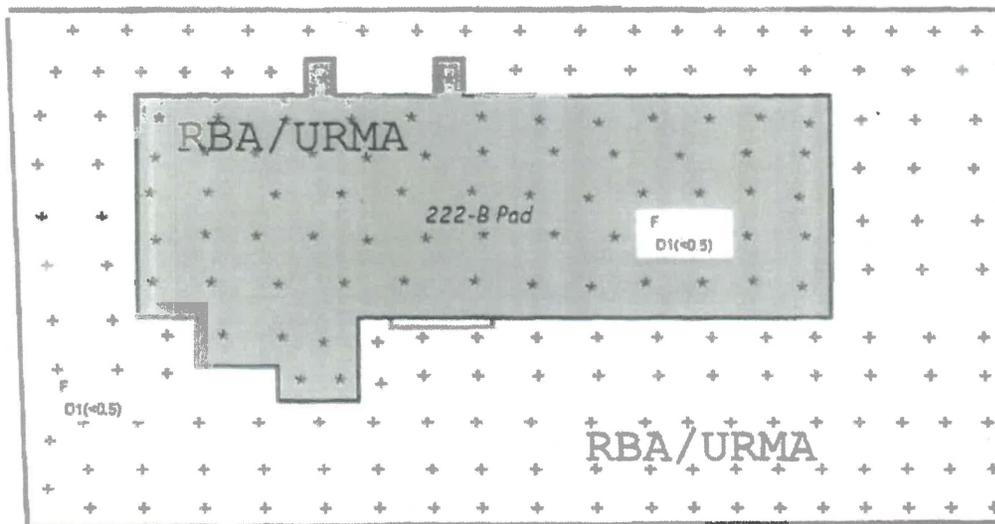
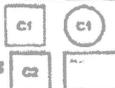
10A	2E-U-344	573512	136403	-119.541241	46.556518	
11	2E-U-345	573522	136403	-119.541123	46.556516	
12	2E-U-346	573523	136403	-119.541106	46.556516	

Three additional locations for UIC wells are indicated on historical drawings (W-70344 and W-76426) where no structures were visible in the field. These UIC wells may have been removed during previous modifications to the building, or may remain in place and could be obscured by gravel/pavement. The locations are shown on the attached map.

222B UIC Well Number	SIS UIC Code	WA State Plane		Geographic Coordinates		Notes
		Easting	Northing	Longitude	Latitude	
P1	2E-U-347	573495	136403	-119.541469	46.556519	Patched hole in wall observed
P2	2E-U-348	573526	136395	-119.541065	46.556444	Patched hole in wall observed
P3	2E-U-349	573489	136384	-119.541554	46.556348	Location approximated from drawing

Map/Sketch

- \* Approximate locations of Direct and Renewable contamination surveys
- + Approximate locations of Direct and Transferable contamination surveys



SURVEY PERFORMED WITH NO INDICATION OF PREVIOUSLY IDENTIFIED FCA 22B-010 AND 011, POSTED DEMO AND DEBRIS REMOVED. CONFIRMED WITH PERFORMING RCT THAT HAS SINCE LEFT THE COMPANY. THIS INFORMATION WAS USED TO CLOSE OUT THE FCA LOG AND ANNUAL ROUTINE SURVEILLANCE TASK FOR THESE FCA'S  
*[Signature]* 2/1/18

Map Name: 222-B RBA

Map Description: Survey Locations

Legend	Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	Transferability	Field	Contact	Other Distance	Other Measurement
	#	▲	⊕	⊥	⊠	T#	F#	C#	D#	O#
----- (designation inside) ----- Radiological Area Boundary										Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 07/19/2018

SURVEY PERFORMED WITH NO INDICATION OF PREVIOUSLY IDENTIFIED FCA 22B-010 and 011, posted demo and debris removed. A-6004-663-SS (Rev. 4)  
 Confirmed with performing RCT that has since left the company. This information was used to close out the FCA LOG and Annual Routine Surveillance Task for these FCA's."

ATTACHMENT 6