

# FACILITY STATUS CHANGE FORM

# 1215193

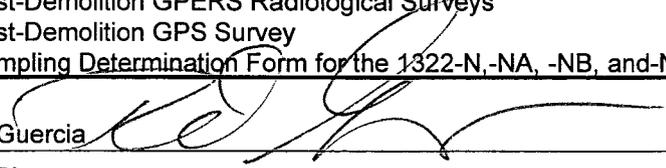
will not be required by the D4 organization to demonstrate that cleanup criteria have been met for the 1322-N Facility. However, further actions associated with verification sampling of the underlying soils of the 1322-N facilities are being deferred to the Field Remediation Organization for remediation and closeout of waste sites co-located with, and adjacent to, the 1322-N facilities. Verification sampling for those waste sites provides sufficient coverage and overlap of the footprint of the 1322-N facilities. Those waste sites will be closed out in accordance with the CERCLA Record of Decision (ROD) and Remedial Action work documents.

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

7 WIDS sites are in the general proximity of the 1322-N Facilities. Excavation for removal of the 1322-N Facilities resulted in removal of waste sites UPR-100-N-4, UPR-100-N-8, UPR-100-N-31, and 100-N-84:8, and partial removal of 100-N-63:2, and 100-N-84:6 pipelines. The 100-N-84:3 and :7 pipelines are filtered and potable water lines that will be sampled by Field Remediation to determine future remedial actions, if necessary. The remaining sites, and/or any remaining portions of the sites will be addressed under the 100-NR-1/100-NR-2 OU Interim Action ROD. A description of the sites, as well as a diagram depicting the excavation dimensions and corresponding WIDS locations are available in Attachment 1.

**Section 3: List of Attachments**

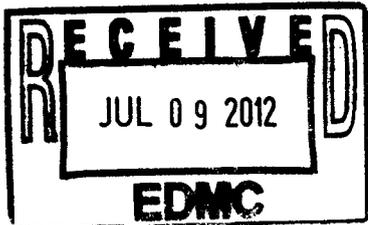
1. Facility Information - Building History and Characterization
2. Pre- and Post-Demolition Photographs
3. Post-Demolition GPERS Radiological Surveys
4. Post-Demolition GPS Survey
5. Sampling Determination Form for the 1322-N, -NA, -NB, and-NC Facilities (SDF-100N-009)

Rudy Guercia 	6/25/12
DOE-RL	Date
Nina Menard 	6/25/12
Lead Regulator <input type="checkbox"/> EPA <input checked="" type="checkbox"/> Ecology	Date

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## FACILITY STATUS CHANGE FORM

<b>Date Submitted:</b> 6-7-2012 <b>Originator:</b> David Warren <b>Phone:</b> (509) 539-6040	<b>Area:</b> 100-N <b>Facility ID:</b> 1322-N, -NA, -NB, and -NC <b>Action Memorandum:</b> 100-N Ancillary Facilities	<b>Control #:</b> D4-100N-0034
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**This form documents agreement among the parties listed below on the status of the facility D&D operations and the disposition of underlying soil in accordance with the applicable regulatory decision documents.**

### Section 1: Facility Status

- All D4 operations required by action memo complete.
- D4 operations required by action memo partially complete, remaining operations deferred.

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

Deactivation: Utility isolation was performed on the 1322-N Facilities prior to beginning facility decontamination.

Decontamination and Decommissioning: The following hazardous materials, if present, were removed prior to facility demolition: batteries, light bulbs, oils, grease, asbestos-containing material (ACM), mercury, refrigerant and polychlorinated biphenyls. Hazardous material removal and waste disposition was performed in accordance with *Removal Action Work Plan for 100-N Ancillary Facilities*, DOE/RL-2002-70, Revision 2 (RAWP).

Demolition: Demolition of the above and below-grade structures began in July of 2010, and was completed in September 2010. Load-out activities occurred during this same time period. The contaminants of concern for demolition were radionuclides and asbestos. There were no anomalies encountered during the demolition of the 1322-N Facilities.

#### **Description of Deferral (as applicable):**

Further actions associated with verification sampling of the underlying soils of the 1322-N facilities are being deferred to the Field Remediation Organization for remediation and closeout of waste sites co-located with, and adjacent to, the 1322-N facilities. Verification sampling for those waste sites provides sufficient coverage and overlap of the footprint of the 1322-N facilities. Those waste sites will be closed out in accordance with the CERCLA Record of Decision (ROD) and Remedial Action work documents.

### 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 Record of Decision.
- Potential waste site discovered during D4 operations. Waste site identification number <to be> assigned. Cleanup and closeout to be addressed under Record of Decision.

#### **Description of Current/As-Left Conditions:**

The above and below grade structures of the 1322-N Facilities were completely demolished. All that remained at the completion of D4 activities was an excavation approximately 108-feet by 87-feet, with piping was exposed in the side slopes. The Field Remediation organization has since performed further remediation in that area to include removal of remaining WIDS sites and radiological contamination. The post demolition photographs and December 2, 2010 Civil GPS Survey depict the condition of the area at the conclusion of D4 activities.

The Sampling Determination Form (Attachment 5) is part of a process implemented by the *Removal Action Work Plan for 100-N Area Ancillary Facilities*, DOE/RL-2002-70, Revision 3. The Sampling Determination Form for the 1322-N Facilities (SDF-100N-009) represents a regulatory agreement between DOE and the Lead Regulator (Ecology), and indicates whether or not the requirements of the Action Memorandum have been met with respect to demonstrating that cleanup criteria, MTCA Method B for Chemical Constituents and 15 mRem above Hanford Site background for Radiological Constituents, have been achieved for soils and structures remaining after facility removal. Further action

D4 Project Facility Completion Form

**Attachment 1: Facility Information (8 pages)**

## D4 Project Facility Completion Form

### Facility Information

#### Introduction

This document provides information regarding the history and characterization of the 1322-N, 1322-NA, 1322-NB, and 1322-NC facilities and final status at the completion of deactivation, decontamination, decommissioning, and demolition (D4) activities.

#### Site Information

The 1322-N Liquid Waste Treatment Pilot Plant Facility (1322-N Complex), constructed in 1964, was located approximately 200 feet north of the 1310-N Radioactive Liquid Waste Treatment Facility (Golf Ball) and comprised of the:

- 1322-N Waste Treatment Pilot Plant
- 1322-NA Effluent Water Pilot Plant
- 1322-NB Crib Effluent Iodine Monitoring Facility
- 1322-NC Crib Sample Pump Pit.

The 1322-N Waste Treatment Pilot Plant was a reinforced concrete structure with a flat concrete roof and foundation that measured 27-feet by 26-feet by 24.5-feet high that extended 15-feet below grade. It housed a drainage tank and valve pit used to divert effluent waste from the reactor plant to the crib or the chemical waste tank.

The 1322-NA Effluent Water Pilot Plant was a rectangular, one-story, pre-engineered corrugated metal structure with a poured concrete foundation. It contained the automated sequential sampling equipment for the 12-inch and 36-inch radioactive drain lines and the riverbank springs and was used for pilot testing ion exchange (IX) columns for the 107-N facility. Eight IX columns were contained inside of the open concrete sump 11-feet by 4-feet, 3-feet deep.

The 1322-NB Crib Effluent Iodine Monitoring Facility was a rectangular, one-story, pre-engineered corrugated metal structure on a poured concrete foundation that measured 30-feet by 15-feet. The building was previously 119-B in the 100-BC Area where it was used as part of the 105B Reactor stack sampling system. 1322-NB was used as a station for valving and sampling.

The 1322-NC Crib Sample Pump Pit was a small rectangular concrete pit with a corrugated metal roof that measured 14-feet by 6-feet, 4-feet of which was above grade. Entrance to the structure was through a hatch in the roof. 1322-NC was connected to the east side of the 1322-NB building and was used for sampling of effluent prior to discharge to the crib.

The site was deactivated in 1997, which included the removal of residual liquids in the piping. Excavation and demolition of the structures was performed in 2010.

Figure 1 of this Attachment illustrates the basic underground piping associated with the facility.

**Radiological and Industrial Hygiene Baseline Surveys**

There were multiple radiological and IH scoping surveys performed on the 1322-N Facilities. The survey results are summarized in Table 1.

**Table 1. Summary of Radiological and Industrial Hygiene Scoping Surveys**

<b>Type</b>	<b>Quantity</b>	<b>Method Detection Limits</b>	<b>Results</b>
Radiological Scoping Surveys  (Each survey included multiple sample locations and consisted of technical smears and direct readings)	Multiple, both recent and historical.	Alpha – 20 removable / 100 fixed (dpm/100cm <sup>2</sup> ) Beta-gamma – 1,000 removable / 5,000 fixed (dpm/100cm <sup>2</sup> )  Alpha – 20 removable / 500 fixed (dpm/100cm <sup>2</sup> ) Beta-gamma – 1,000 removable / 5,000 fixed (dpm/100cm <sup>2</sup> )  Alpha – 100 fixed (dpm/100cm <sup>2</sup> ) Beta-gamma – 1,000 removable / 5,000 fixed (dpm/100cm <sup>2</sup> )	Scoping and historical surveys of the 1322-N facilities confirmed that the structures were contaminated. The Initial Hazard Categorization (IHC) document summarized the Radiological Inventory of the facility and classified the facility as less than Category 3.
Industrial Hygiene Scoping Surveys	Multiple	N/A	No evidence of spills or any anomalies were noted. All atmospheric direct readings were considered to be within the normal acceptable range. The facility was classified as a non-beryllium contaminated facility.

**Post Demolition Radiological Surveys**

In process and post demolition health and safety based Radiological Surveys were routinely performed for worker protection measures and to identify the proper posting and boundaries of the 1322-N Facility during WCH demolition operations. A summary of the data would prove insignificant as the facility was turned over to the WCH Field Remediation (FR) organization for final remediation of co-located and adjacent WIDS site, and ultimately verification that cleanup goals have been met for the soils below.

## D4 Project Facility Completion Form

Global Positioning Environmental Radiological Surveyor (GPERS) surveys were conducted at the site on various occasions. The surveys indicated that considerable amounts of contamination still existed in and adjacent the excavation required for removal of the 1322-N Facilities. The 1322-N area was transferred over to WCH FR to perform additional remediation of the co-located and adjacent WIDS sites followed by subsequent verification sampling. The GPERS surveys are included in Attachment 3. The surveys, as well as the method detection limits, are summarized in Table 2 below.

**Table 2. Summary of Radiological Down-posting Surveys**

Type	Quantity	Method Detection Limits	Results
Post Demolition GPERS Surveys	Multiple. Each survey included multiple sample locations.	N/A	Surveys reveal that considerable contamination existed in the excavation area and slopes. It should be noted that readings that are under two times the background count are considered insignificant. (See Attachment 3)

### **Facility & Waste Characterization Sampling**

Certified asbestos inspections were conducted on the 1322-N Facility in August of 2006 and June of 2009. 5 samples were taken of which 1 was found to contain greater than 1% Asbestos, and 2 materials were presumed to contain Asbestos. The remainder of sampling conducted at the facility was performed for the purposes of characterization of the materials for disposal at the ERDF. The table below summarizes the samples that were taken for the purposes mentioned above, and should not be confused with verification sampling that will be performed by the Field Remediation organization for closure WIDS site co-located, and adjacent to, the 1322-N Facilities.

D4 Project Facility Completion Form

**Table 3. Summary of Characterization Data**

<b>Attachment 1 – 1322-N Complex Characterization Sample Data</b>						
<b>HEIS #</b>	<b>Sample Date</b>	<b>Logbook</b>	<b>Logbook Page</b>	<b>Description</b>	<b>Location</b>	<b>Location Detail</b>
J14BM0	1-16-07	EL-1516-11	38-39	Joint compound	1322-NA	East wall
J14BM1	1-16-07	EL-1516-11	38-39	Caulking	1322-N	North Exterior wall
J14BM2	1-16-07	EL-1516-11	38-39	Insulation	1322-NA	West wall
J14BM3	1-16-07	EL-1516-11	38-39	Wall board	1322-NA	West wall
J14BM4	1-16-07	EL-1516-11	38-39	Wall board	1322-NA	East ceiling
J14BM7	1-16-07	EL-1516-11	38-39	Grit media	1322-N	West of 1322-N on ground
J14Y01	3-27-07	EL-1516-11	72-73	Insulation	1322-N	B4-1-55 feed sub
J14Y02	3-27-07	EL-1516-11	72-73	Insulation	1322-N	B4-1-55 feed sub
J19L06	2-23-10	EL-1516-16	20-21	Soil	1322-N	South of 1322N @ 4-ft.
J19VX3	4-6-10	EL-1516-16	30	Pipe coupon	1322-N	12-in drain line
J19VX4	4-6-10	EL-1516-16	30	Pipe coupon	1322-N	36-in drain line
J19VX5	4-6-10	EL-1516-16	30	Water	1322-N	36-in drain line
J19VX5-A	4-6-10	EL-1516-16	30	Water	1322-N	36-in drain line
J19Y16	4-26-10	EL-1516-16	34	Pipe wrap	1322-N	36-in drain line
J1C0X7	10-13-10	EL-1516-16	74-75	IX resin	1322-NA	IX column
J1C0X8	10-13-10	EL-1516-16	74-75	IX resin	1322-NA	IX column

**Demolition**

Demolition and load-out of the 1322-N Facilities began in July of 2010 and was complete in September of 2010. All structures were removed except for sections of 100-N-63:2 and 100-N-84:6/:7 piping that ran outside of the edge of the excavation boundary. This piping is already part of 100-N-63:2 RCRA pipelines, which is also described in Table 4 below. The 100-N-84:3/:7 pipelines are filtered and potable water lines that will be sampled to determine future remedial actions, if necessary. The remaining contamination identified by the GPERs surveys was deferred to WCH Field Remediation (FR) organization. Cleanup and closeout of the remaining waste sites, and demonstration that cleanup goals have been met will be addressed under the 100 NR-1/NR-2 Interim Action Record of Decision.

**Contaminants of Concern**

Radionuclides and Asbestos were the only contaminants of concern for Demolition of the 1322-N Facilities.

**Civil Survey Information**

A post demolition GPS survey of the 1322-N site was conducted on December 2, 2010. The survey information is attached in Attachment 4.

**Anomalies**

There were no anomalies discovered during demolition of the 1322-N Facilities.

D4 Project Facility Completion Form

**Status of WIDS Sites Associated with the Building Site**

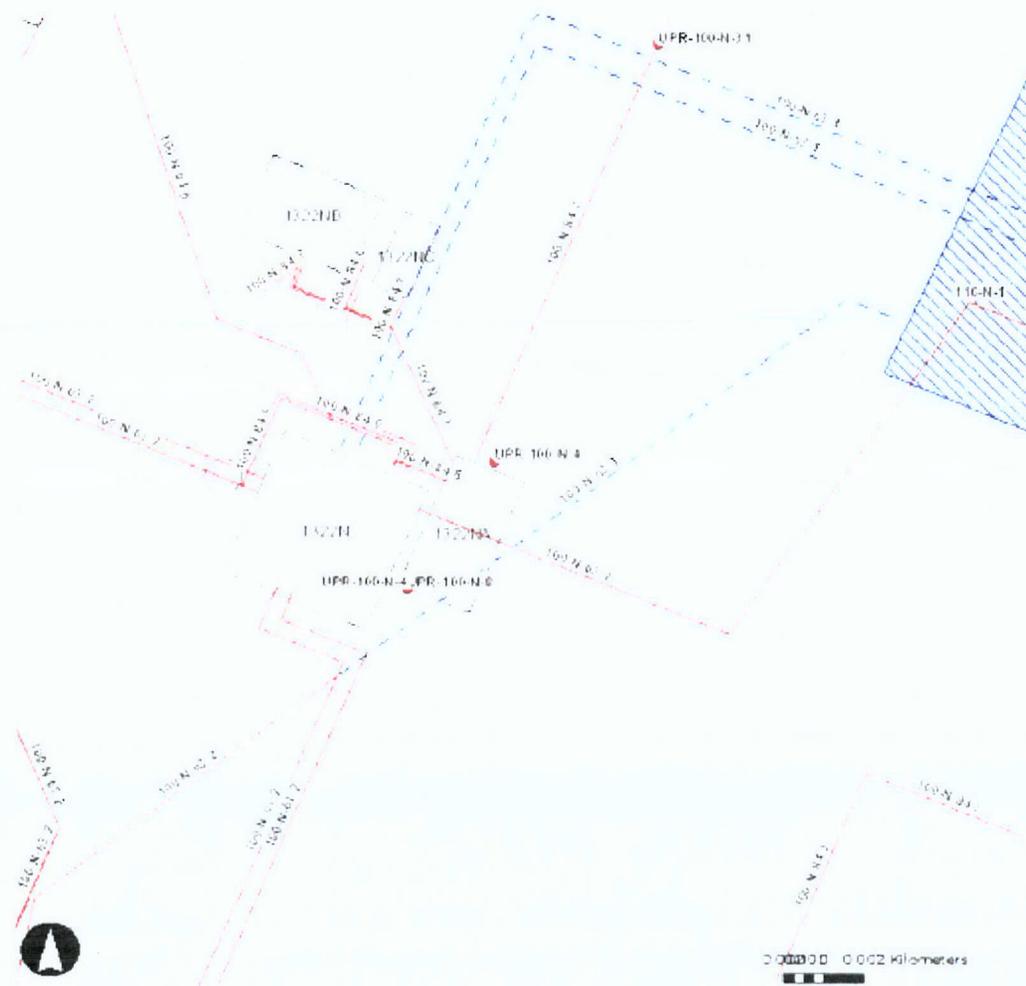
Table-4 below lists each waste site, an abbreviated description, and whether or not the site was affected by D4 activities. Figure-1 (below) shows the excavation layback in light blue and the excavation toe in tan. The wastes sites can be seen in red with black type.

**Table 4. WIDS Sites at 1322-N**

Site	Description/Status	Affected by D4 Activities
UPR-100-N-4	1322-A Sump Overflow / Accepted.	Yes
UPR-100-N-8	1322-A Sump Overflow / Accepted	Yes
UPR-100-N-31	Radioactive effluent water spill near 1301-N / Accepted	Yes
100-N-63:2	100-N-63:2, Pipelines Between 109N, 105N, 107N, 1310N, 1322N, 1926N And 36" Process Drain to Outfall / Accepted	Yes
100-N-84:6	100-N-84:6, 100-N Area Chemical and Process Sewer Pipelines / Accepted	Yes
100-N-84:8	100-N Area Unidentified pipelines within planned excavations	Yes
100-N-84:3 and :7	100-N-84:3, 100-N Area Filtered and Potable Water Pipelines, 100-N-84:7, 100-N Area Unidentified and Other Miscellaneous Pipelines / Accepted	Yes

The SIS/WIDS reports for these waste sites will be updated when the Cleanup Verification Package (CVP) is written and the Waste Site Reclassification Form (WSRF) is approved. The removal of RCRA piping (100-N-63:2) is tracked and accounted for annually in an updated figure as part of a RCRA permit requirement.

**Figure 1. Map of 1322-N Facilities**



**Final Building Status and Underlying Soil**

At the completion of D4 activities, all that remained of the 1322-N Facilities was an excavation approximately 108-feet by 87-feet and about 12-feet deep, with piping exposed around the edges of the excavation. The December 2, 2010 Civil GPS Survey depicts the final condition of the 1322-N area when it was transferred to the FR project for remediation of co-located and adjacent WIDS sites. All D4 work is complete and an assessment of the contaminants of concern is presented in Table 5. A visual inspection was not conducted of the excavation as further remediation by the FR organization will occur at this location. Additionally, radiological contamination identified remaining in the soil was not removed based on that same premise.

**Table 5. Contaminants of Concern for Facility Demolition**

Contaminant of Concern	Management Practice/Determination of No Impact to the Soil
Radionuclides	The structure was demolished under radiological controls because historical records and process knowledge identified the 1322-N facility as being contaminated. The excavation area was surveyed following removal of the structures. Those surveys identified substantial amounts of contamination remaining in the soil, which will be removed and verification sampled by FR during remediation of the co-located and adjacent WIDS sites.
Asbestos	Class II asbestos associated with the mastic coating on the buried piping associated with the structures was not removed prior to demolition. Asbestos controls, including perimeter air asbestos sampling, were in place during demolition and loadout of these materials. Visual inspections were performed to downpost the asbestos areas following removal of the piping.

D4 Project Facility Completion Form

**Attachment 2. Pre and post demolition Photographs  
(3 Pages)**

Photo 1. 1322-N Facilities prior to demolition



Photo 2. Aerial Photo of 1322-N Facilities prior to demolition

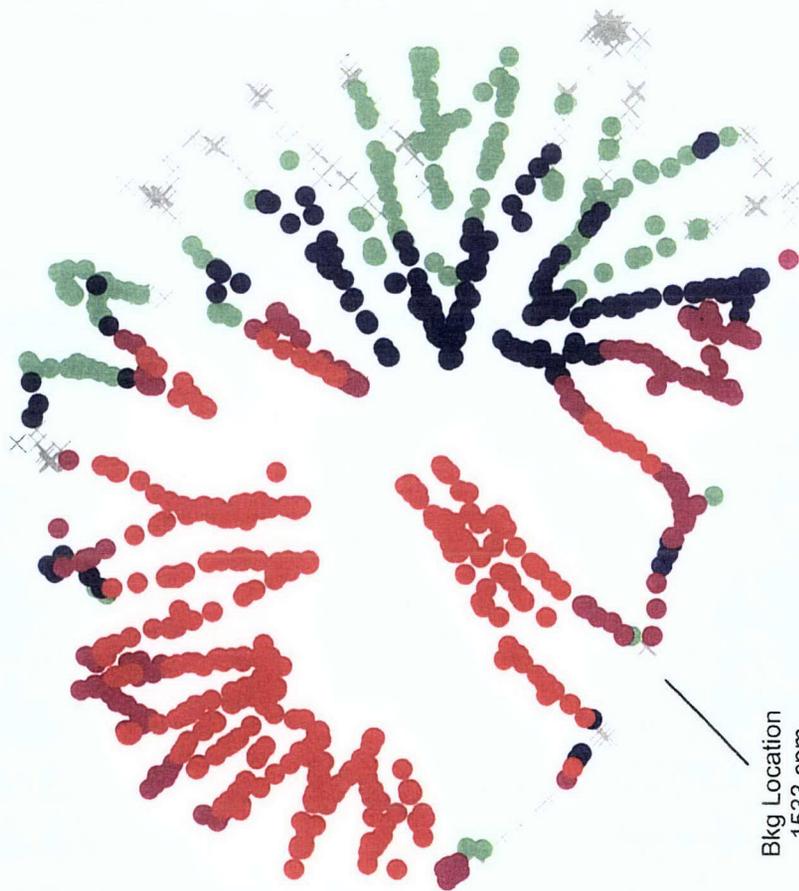


Photo 3. Aerial Photo of 1322-N Facilities following demolition



D4 Project Facility Completion Form

**Attachment 3. Post Demolition GPERS Surveys (3 Pages)**



Site View



Copy

Legend

- NET CPM
- X < 3066
- 3066 - 5000
- 5000 - 10000
- 10000 - 25000
- > 25000

Summary Statistics

Coverage File: N322B  
Number of Data Pnts: 2164  
Type of Survey: Gamma  
Max GCPM: 949164  
Avg Bkg CPM: 1533  
Survey Date: 1/18/2010  
Area Surveyed: 709 m<sup>2</sup>  
Project File: N322B  
Pdf File: ESRFRM100146GC

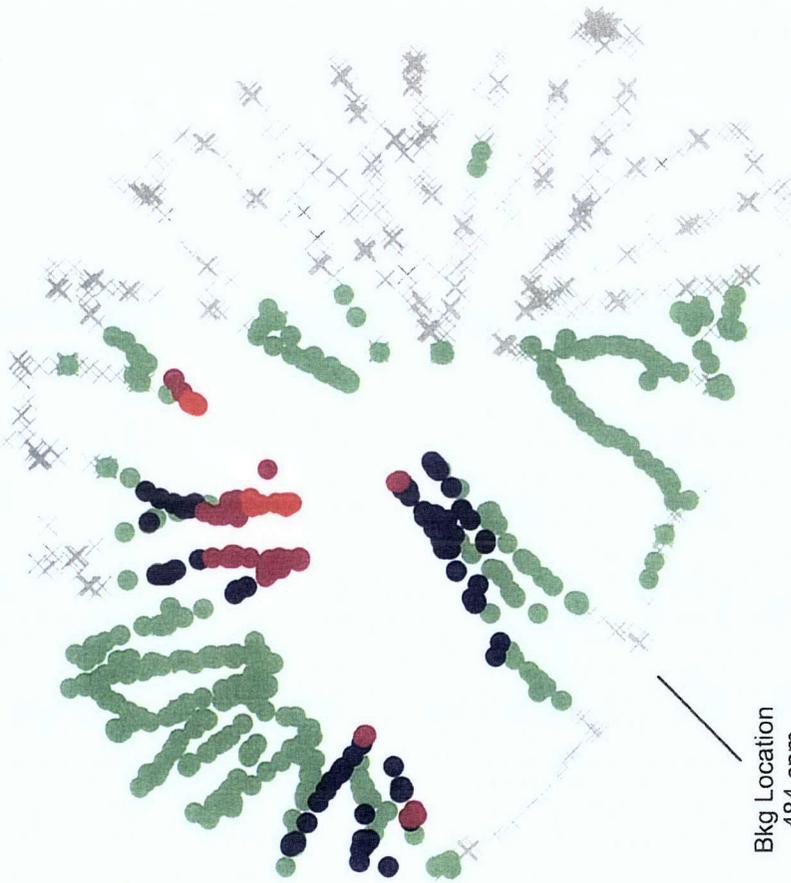
# 100N D4 1322-Ns GPERs Radiological Survey Gamma Track Map



Survey Map Prepared By Bruce Coomer, ESI



Site View



Bkg Location  
484 cpm  
43 meters

Copy



0 2 4 6 8 10 Meters

Survey Map Prepared By Bruce Coomer, ESI

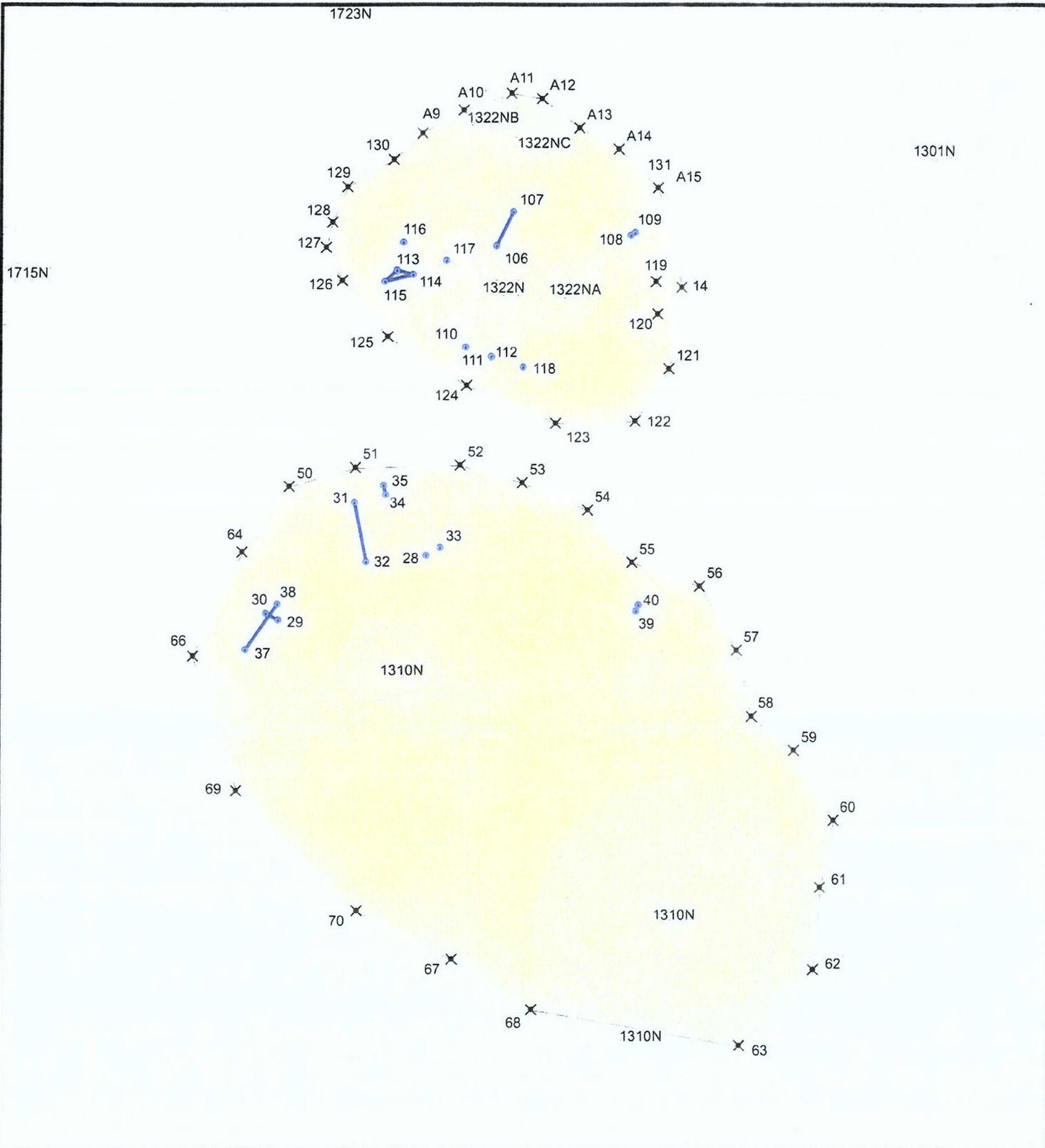
## 100N D4 1322Ns

# GPERs Radiological Survey BetaTrack Map

<b>Legend</b>	<b>Summary Statistics</b>
NET CPM	Coverage File: N322B
X < 968	Number of Data Pnts: 2164
● 968 - 5000	Type of Survey: 'Beta'
● 5000 - 10000	Max GCPM: 95987
● 10000 - 25000	Avg Bkg CPM: 484
● > 25000	Survey Date: 1/18/2010
	Area Surveyed: 709 m <sup>2</sup>
	Project File: N322B
	Pdf File: ESRFRM100146BC

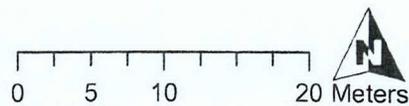
D4 Project Facility Completion Form

**Attachment 4. Post demolition GPS Survey (4 Pages)**



- ✕ GPS Survey Points (See Survey Report for Point Details)
- Pipe Features
- Remaining Pipe Features
- Top of Excavation
- Pre-Demolition Buildings & Structures

1310N, 1322N, 1322NA, -  
1322NB, & 1322NC  
Post Demolition GPS Survey



# Post Demo GPS Survey Report for the 1310N & 1322N, NA, NB & NC Buildings

*Project : 1310N-postdemo*

User name	maaye	Date & Time	4:59:42 PM 12/2/2010
Coordinate System	US State Plane 1983	Zone	Washington South 4602
Project Datum	NAD 1983 (Conus)		
Vertical Datum	NAVD88	Geoid Model	GEOID99 (Conus)
Coordinate Units	Meters		
Distance Units	Meters		
Height Units	Meters		

Survey Project Name:	1310N Post Demo Survey
Date:	12/2/2010
Equipment:	5800, Laser Impulse
Survey Purpose:	Map the excavation footprint for 1310N Area
Requested By:	John Harrie, Clay McCurley
Location:	100N
Charge Code:	R1322NJ451
Field Surveyor:	Margo Aye
Survey Software Used:	Trimble Survey Controller, and Geomatics Office V.11.4
Survey Equipment Used:	5800
Control Monuments Used:	N-2
Survey Method:	RTK
Horizontal Precision:	.20m
Vertical Precision:	.30m
Fieldwork Start Date:	10/28/10
Fieldwork Completion Date:	11/3/10
Notes:	Points A9-A14 were mapped using a GeoXH accuracy ~ .50 m.

All other points were mapped using a laser.  
Pipe Diameters are estimates.

GPS Name	Northing	Easting	Elevation	Feature Code
14	149674.511m	571411.955m	139.753m	pipe-offset3
28	149649.082m	571387.706m	135.819m	24in pipe
29	149642.951m	571373.749m	138.392m	10in pipe
30	149643.558m	571372.568m	137.635m	10in pipe-base
31	149654.113m	571380.914m	138.323m	4in pipein-base
32	149648.471m	571382.073m	134.191m	4in pipein-end
33	149649.818m	571389.044m	136.319m	12in pipe
34	149654.851m	571383.887m	138.186m	12in pipe
35	149655.730m	571383.705m	138.735m	12in pipe-base
37	149640.171m	571370.598m	137.897m	2.5in pipe-base
38	149644.455m	571373.676m	137.700m	2.5in pipe-end
39	149643.819m	571407.694m	138.086m	2.5in pipe-end
40	149644.414m	571407.940m	138.368m	2.5in pipe-base
50	149655.621m	571374.701m	139.413m	top
51	149657.456m	571380.980m	139.389m	top
52	149657.685m	571390.860m	139.699m	top
53	149656.027m	571396.819m	139.850m	top
54	149653.420m	571403.033m	139.726m	top
55	149648.471m	571407.272m	139.760m	top
56	149646.197m	571413.769m	139.612m	top
57	149640.164m	571417.302m	139.423m	top
58	149633.907m	571418.749m	139.239m	top

59	149630.716m	571422.844m	139.195m	top
60	149624.128m	571426.637m	139.115m	top
61	149617.769m	571425.368m	139.136m	top
62	149609.963m	571424.685m	139.245m	top
63	149602.717m	571417.584m	139.148m	top
64	149649.432m	571370.237m	139.573m	top
66	149639.571m	571365.633m	139.716m	top
67	149610.921m	571390.197m	139.446m	top
68	149606.137m	571397.758m	139.133m	top
69	149626.883m	571369.748m	139.963m	top
70	149615.530m	571381.222m	139.467m	top
106	149678.402m	571394.254m	137.125m	24in pipe-end
107	149681.611m	571395.883m	137.173m	24in pipe-base
108	149679.386m	571407.093m	139.176m	14in pipe-end
109	149679.652m	571407.541m	139.492m	14in pipe-end
110	149668.831m	571391.383m	138.150m	30in pipe 24in pipe
111	149667.897m	571393.851m	137.199m	24in pipe-base
112	149667.943m	571393.797m	137.178m	24in pipe-base
113	149676.086m	571384.873m	137.636m	pipe-debris
114	149675.689m	571386.341m	137.261m	pipe-debris
115	149675.003m	571383.725m	138.266m	pipe-debris
116	149678.715m	571385.422m	137.190m	36in pipe-base
117	149677.000m	571389.544m	137.277m	36in pipe-end
118	149666.968m	571396.900m	137.393m	pipe-unk
119	149675.063m	571409.486m	139.856m	top
120	149671.992m	571409.671m	139.800m	top
121	149666.817m	571410.746m	139.653m	top
122	149661.867m	571407.526m	139.654m	top
123	149661.669m	571399.915m	139.886m	top
124	149665.238m	571391.444m	139.414m	top
125	149669.848m	571383.980m	139.431m	top
126	149675.129m	571379.624m	139.551m	top
127	149678.257m	571378.108m	139.728m	top
128	149680.639m	571378.674m	139.651m	top
129	149683.974m	571380.076m	139.759m	top
130	149686.553m	571384.496m	139.684m	top
131	149683.921m	571409.665m	140.192m	top
A10	149691.217m	571391.093m	?	top
A11	149692.792m	571395.623m	?	top
A12	149692.322m	571398.551m	?	top
A13	149689.560m	571402.087m	?	top
A14	149687.547m	571405.888m	0.000m	top
A15	149683.921m	571409.665m	0.000m	top
A9	149689.035m	571387.143m	?	
N-2	149644.178m	571811.158m	144.908m	

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D4 Project Facility Completion Form

**Attachment 5. Sampling Determination Form for the 1322-N, -NA, -NB, and -NC  
Facilities (9 Pages)**

# 100-N ANCILLARY FACILITIES REMOVAL ACTION SAMPLING DETERMINATION FORM

Determination Number  
SDF-100N-009

## A. INSTRUCTIONS

This form must be completed to: 1) document existing data in order to determine if current data is suitable to prove completion of 100-N Ancillary Facilities, or 2) document that site-specific sampling and analyses are needed to provide completion for 100-N Ancillary Facilities.

## B. GENERAL INFORMATION

Waste Treatment Pilot Plant, Effluent Water Pilot  
Building Name: Plant Annex, Crib Effluent Iodine Monitoring Facility, and Crib Sample Pump Pit  
Building Number: 1322-N, 1322-NA, 1322-NB, and 1322-NC

WIDS Sites Associated or Adjacent:

• Associated: (All WIDS sites below are classified as Accepted unless otherwise noted)  
UPR-100-N-4, UPR-100-N-8, UPR-100-N-31, 100-N-63:1 (Interim Closed Out), 100-N-63:2, 100-N-84:3, 100-N-84:6, 100-N-84:7, 100-N-84:8 (intersects 100-N-84: 3 & 6)

Other:

## C. INFORMATION SOURCES

Available information (list document number for each if applicable):

<p>Historical Site Assessment for Historical Site Assessment: 1322-N, 1322-NA, 1322-NB, 1322-NC/100N: CCN 124147</p> <p>IH Characterization Report: N/A</p> <p>Initial Hazard Categorization IHC/FHC Document: Documentation Form for the 1322-N Complex: IHC-2007-0011</p> <p>Post-Demolition Summary Report for the 1322-N, 1322-NA, 1322-NB, and 1322-NC Waste PDSR: Treatment Pilot Plant Facility Complex: CCN 157108</p> <p>Waste Characterization Checklist: N/A</p>	<p>Site Walkdown: N/A</p> <p>Radiological Survey: Global Positioning Environmental Radiological Surveys (GPERS): ESR-FRM-05-0265 &amp; ESR-FRM-10-0146</p> <p>RCC Stewardship Information System (SIS) Facility Summary Reports: 1322-N, 1322-NA, WIDS/SIS: 1322-NB, and 1322-NC WIDS reports for UPR-100-N-4, UPR-100-N-8, and UPR-100-N-31.</p> <p>Asbestos Inspection and Sampling Facility Inspection: Reports for the 1322-N Complex: CCN 131955 &amp; CCN 144944</p> <p>Summary Report: N/A</p>
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Other:

- 100 Area D4 Project Building Completion Report: WCH-473
- Pre-Existing Conditions Survey of Hanford Site Facilities to be Managed by BHI, Phase II: Doc Num BHI-00221
- Documentation of 1322-N Water Sample Results: CCN 024095
- Documentation of 1322-N Water Sample Results: CCN 025950
- Documentation of 1322-N Water Sample Results: CCN 030867
- GIS Field Remediation Overlay Map: Attached to this form
- Remediation Designs: 0100N-DD-C0252 / C0298
- Photograph of 1322-N Facilities Pre-Demolition, No Time Stamp: SIS Facility Summary Report for 1322-N pg. 3 (partial time stamp); CCN 157108 pg. 9; CCN 157108 pg. 10 (partial time stamp)
- Photographs of 1322-N Facilities Pre-Demolition, With Time Stamp: SIS Facility Summary Report for 1322-N pg. 4 (1/18/2006) & pg. 5 (10/31/2005); SIS Facility Summary Report for 1322-NB pg. 4 (6/11/2002); CCN 124147 pg. 7 (1/24/2006) & (6/11/2002); and CCN 124147 pg. 8 (6/11/2002)
- Photograph of 1322-N Facilities Post-Demolition, No Time Stamp: CCN 157108 pg. 11

## D. HAZARDOUS SUBSTANCES

Check all that apply:

None     
  Asbestos containing material     
  Lead     
  PCBs/PCB Articles     
  Oils/Greases

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Chemicals List: Refrigerants: IHC-2007-0011 pg. 3 & BHI-00221 pg. 3-94

Radiological Contamination  Mercury/Mercury Devices

- Other:
- Metals (contained in sand blasting media): CCN 124147 pg. 4
  - Aerosol paint cans: BHI-00221 pgs. (3-92) - (3-95)
  - Standing liquid in 1322-N building sump: BHI-00221 pg. 3-92
  - Unknown contents (held in 55-gallon drum): CCN 124147 pg. 4 & BHI-00221 pg. 3-93

**References/Comments:**

- Asbestos containing material (ACM): IHC-2007-0011 pg. 3, CCN 124147 pg. 3, and CCN 131955 pg. 1 & Attachment 4
- Lead: IHC-2007-0011 pg. 3, CCN 124147 pg. 3, and BHI-00221 pgs. (3-92) - (3-94)
- PCBs/PCB Articles: IHC-2007-0011 pg. 3 & CCN 124147 pg. 3
- Radiological Contamination: ESR-FRM-10-0146, CCN 124147 pg. 2, and BHI-00221 pgs. (3-92) - (3-95)
- Mercury/Mercury Devices: IHC-2007-0011 pg. 3, CCN 124147 pg. 3, and BHI-00221 pg. 3-94

Liquids:  Yes  No

If yes, describe source and nature of liquids:

The 1322-N facility contained a drainage tank that was used during the diversion of radioactive effluent waste that originated at the 105-N reactor plant (WCH-473 pg. 5). The processes conducted at the other facilities within the 1322-N complex also utilized this radioactive effluent waste (IHC-2007-0011 pg. 1).

Were the hazardous substances removed from the facility prior to demolition?  Yes  No

As verified by what documentation:

All known hazardous substances were removed from the facilities prior to demolition (WCH-473 pg. 15).

Was there potential for hazardous substances to be introduced into the soils during facility operations or demolition?  Yes  No  N/A

**References/Comments:**

Each of these facilities were identified as potentially contaminated (CCN 124147 pg. 1). Furthermore, radioactive contamination was identified at these facilities (CCN 124147 pg. 1, ESR-FRM-05-0265, and ESR-FRM-10-0146). Accordingly, there was potential for hazardous substances to be introduced into the soils during facility operations and/or demolition.

List any hazardous materials left in the building for demolition:

Based on text within the 100 Area D4 Project Building Completion Report it seems that no hazardous materials were left in the building for demolition (WCH-473 pg. 15). This was not verified through review of pertinent Hazardous Material Removal Work Packages because the Field Remediation organization will be responsible to perform final closeout at this location. See the "Comments" section below for further details.

Does review of historical records and process knowledge indicate a potential for radiological or chemical contamination to be present in the facility?

GPERS surveys conducted at the facility indicate the presence of elevated radiological levels (ESR-FRM-05-0265 & ESR-FRM-10-0146). Both the beta and gamma radiological levels exceeded twice their corresponding background radiological levels at the time of the survey (ESR-FRM-10-0146).

**Comments:**

Each of these facilities has been demolished, including their respective foundations (WCH-473 pgs. 5-8 & pg. 15). The location where these facilities used to exist has been transferred to the Field Remediation organization (WCH-473 pgs. 5-8 & CCN 157108 pg. 7). Verifying the attainment of cleanup standards at this location will be determined as part of a remedial action (WCH-473 pg. 16 & CCN 157108 pg. 7). All waste sites associated with these facilities will be closed out by the Field Remediation organization (CCN 157108 pg. 4). The planned excavation boundaries for the associated waste sites cover the historical footprints of these facilities in entirety (GIS Field Remediation Overlay Map--attached to this form).

Backfilling at this location will be performed in conjunction with remedial action activities (WCH-473 pgs. 5-8).

Multiple samples were taken from water at 1322-N (CCN 024095, CCN 025950, and CCN 030867). These samples were analyzed for radiological constituents and subsequently failed multiple radiological evaluations (CCN 025950). Accordingly, the water at 1322-N was not released from radiological controls (CCN 025950).

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### E. FIELD OBSERVATIONS

#### Visual Inspection

Were any stained soils/anomalies discovered during or after demolition of the facility?  Yes  No

References/Comments:  
No stains were identified prior to demolition of these facilities (CCN 124147 pg. 2). No anomalies were discovered during demolition of the facilities (CCN 157108 pg. 6).

Were samples taken of the stained soils/anomalies?  Yes  No  N/A

References/Comments:  
Neither stained soils nor anomalies were discovered, so this question is not applicable.

Do results of the samples indicate that chemical contamination exists?  Yes  No  N/A

References/Comments:  
Neither stained soils nor anomalies were discovered, so this question is not applicable.

Is the area potentially a discovery site?  Yes  No

References/Comments:  
Neither stained soils nor anomalies were discovered.

#### Radiological Surveys

Did radiological surveys (GPERS or equivalent) identify contamination?  Yes  No

References/Comments:  
ESR-FRM-05-0265 & ESR-FRM-10-0146

Were samples taken of the radiologically contaminated soils?  Yes  No  N/A

References/Comments:  
It was not determined during review of these facilities if the radiologically contaminated soils were sampled because the Field Remediation organization will be responsible to perform closeout of this location.

Is the area potentially a discovery site?  Yes  No

References/Comments:  
The GPERS surveys identified elevated levels of radiological contamination.

Were the contaminated materials removed?  Yes  No  N/A

References/Comments:  
It was not determined during review of these facilities if the radiologically contaminated soils were removed because the Field Remediation organization will be responsible to perform closeout of this location.

### F. WIDS SITES

Were there any WIDS sites affected by D4 activities?  Yes  No

If yes, list the WIDS sites:  
The following WIDS sites were presumed to have been removed by D4 activities: UPR-100-N-4, UPR-100-N-8, and UPR-100-N-31 (CCN 157108 pg. 4).

The following WIDS sites were partially removed by D4 activities: 100-N-63:2 & 100-N-84:6 (CCN 157108 pg. 4).

Were the WIDS site(s) completely removed?  Yes  No

References/Comments:  
As indicated above, only UPR-100-N-4, UPR-100-N-8, and UPR-100-N-31 were presumed to have been removed.

Will the Ancillary Facility Footprint be deferred to FR to be closed out with a co-located Waste Site?  Yes  No

References/Comments:  
The WIDS sites that were presumed to have been removed by D4 activities will undergo verification sampling by the Field Remediation organization, if necessary (CCN 157108 pg. 4). Verification sampling for UPR-100-N-4, UPR-100-

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N-8, and UPR-100-N-31 will provide sufficient coverage of the 1322-N, NA, NB, & NC removal excavation (See attached GIS Field Remediation Overlay map and FR design drawings). The WIDS sites that were partially removed by D4 activities are within the Field Remediation organization's scope of work (CCN 157108 pg. 4).

### G. COPCs, SOCs, AND OTHER CONTAMINANTS REMAINING AFTER DEMOLITION

What are the potential contaminants of concern for the remaining below-grade soil?

None     SVOC     VOC     Metals     TPH     Rad     PCBs

Other (Specify): \_\_\_\_\_

Comments:

The COPCs associated with these facilities were not identified for use with this form because the Field Remediation organization will perform closeout of this location. Accordingly, the remedial action will identify and address COPCs associated with this facility.

Summary of in-process soil sampling requirements:

N/A

Constituents detected / concentrations / rationale  
Consult results from the samples identified below.

### Sample Collection Summary

- Joint compound at 1322-NA: Sample (HEIS) Number J14BM0 (CCN 157108 Attachment 1 & CCN 131955 Attachment 4)
- Caulking at 1322-N: Sample (HEIS) Number J14BM1 (CCN 157108 Attachment 1 & CCN 131955 Attachment 4)
- Insulation at 1322-NA: Sample (HEIS) Number J14BM2 (CCN 157108 Attachment 1 & CCN 131955 Attachment 4)
- Wall board at 1322-NA: Sample (HEIS) Numbers J14BM3 & J14BM4 (CCN 157108 Attachment 1 & CCN 131955 Attachment 4)
- Grit media at 1322-N: Sample (HEIS) Number J14BM7 (CCN 157108 Attachment 1)
- Insulation at 1322-N: Sample (HEIS) Numbers J14Y01 & J14Y02 (CCN 157108 Attachment 1)
- Soil at 1322-N: Sample (HEIS) Number J19L06 (CCN 157108 Attachment 1)
- Pipe coupon at 1322-N: Sample (HEIS) Numbers J19VX3 & J19VX4 (CCN 157108 Attachment 1)
- Water at 1322-N: Sample (HEIS) Numbers J19VX5 & J19VX5-A (CCN 157108 Attachment 1)
- Pipe wrap at 1322-N: Sample (HEIS) Number J19Y16 (CCN 157108 Attachment 1)
- IX Resin at 1322-NA: Sample (HEIS) Numbers J1C0X7 & J1C0X8 (CCN 157108 Attachment 1)
- TSD piping scale at 1322-N: Sample (HEIS) Number B0YC82 (SIS Facility Summary Report for 1322-N pg. 1)
- Water at 1322-N: Sample (HEIS) Numbers S5079-01.J20, S5079-02.J20, S5079-04.J20, and S5079-06.J20 (CCN 024095 & CCN 030867)

### H. NOTES / ADDITIONAL INFORMATION

Check here if additional information / data / maps / sketches are attached to this form.

If checked, list the attachment(s):  
GIS Field Remediation Overlay Map  
FR Excavation Design Drawings 0100N-DD-C0252 and 0100N-DD-C0298

### I. SAMPLING

Are soil samples required to demonstrate that remaining structure or below-grade soils meet cleanup standards?

Yes     No

Based on the above information it was determined that sampling:  will     will not be required in order to demonstrate that cleanup criteria have been met.

The individual below acknowledges that the review of this facility has been completed. He or she also commits to provide to the Department of Energy (DOE) and the Washington State Department of Ecology (Ecology) any available information that could alter the sampling decision established in this form.

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Information Reviewer Signature <i>David Warren</i>	Printed Name David Warren	Date <i>5/21/12</i>
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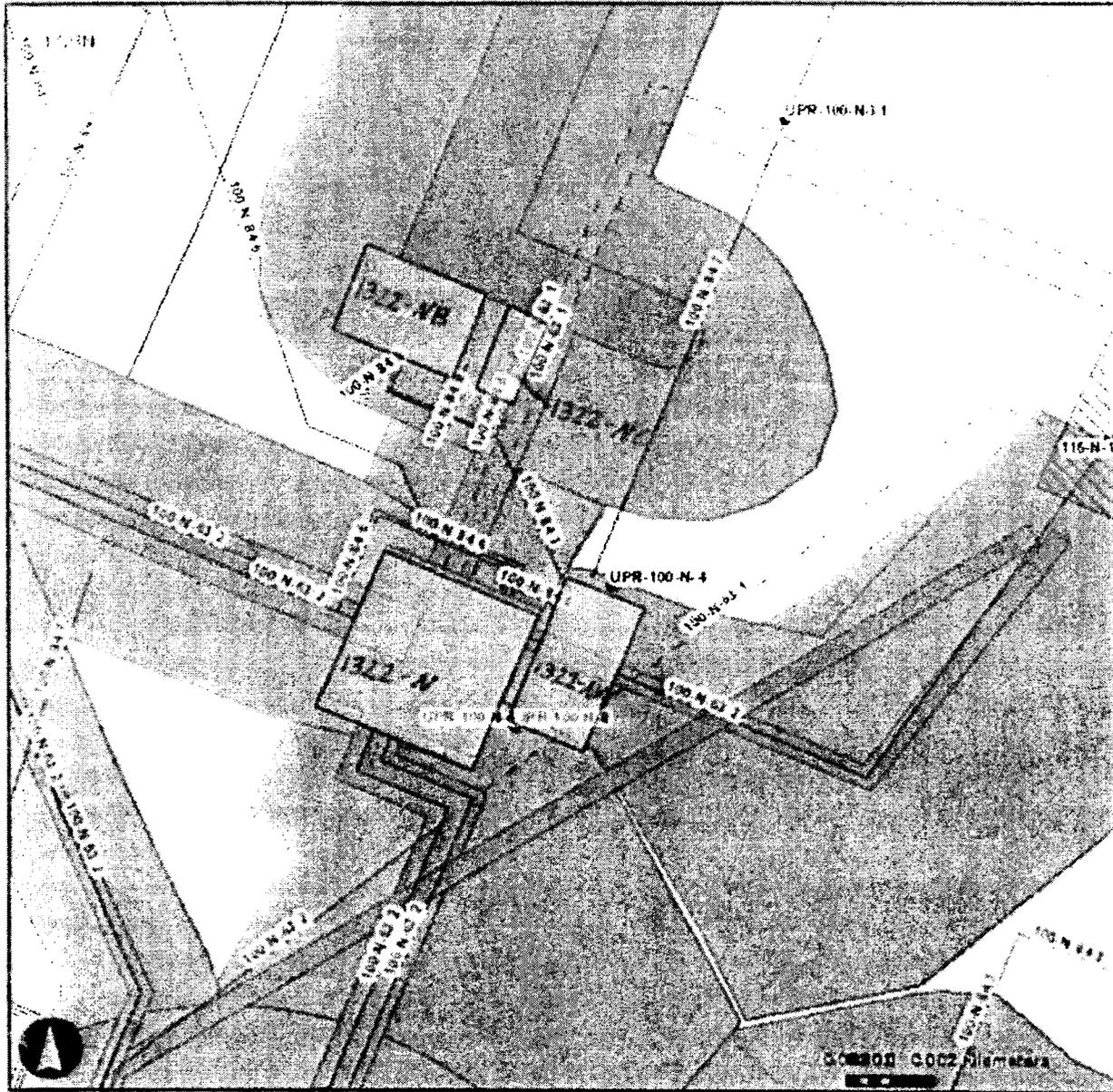


The regulatory representative below agrees with the decision outlined in section I of this form for the indicated facility and supports implementation of that decision based on the information currently available.

DOE Signature <i>[Signature]</i>	Printed Name <i>RF Guerra</i>	Date <i>5/15/12</i>
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Ecology Signature <i>Nina M. Menard</i>	Printed Name NINA M. Menard	Date <i>5/29/12</i>
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# Map



- Buildings**
- └─┘
- WasteSitePoints**
- Sitecode Missing in SIS
  - Accepted,
  - + Accepted, Closed Out
  - ▲ Accepted, Consolidated
  - + Accepted, Interim Closed Out

- WasteSitesLine (continued)**
- Accepted, Rejected
  - Discovery,
  - Not Accepted,
- WasteSitePolys**
- Sitecode Missing in SIS
  - Accepted,
  - Accepted, Closed Out

- Waste Point Labels**
- N\_EXC\_Toe
  - N\_EXC\_Daylight
  - Main Roads
  - Railroads



