

## FACILITY STATUS CHANGE FORM

<b>Date Submitted:</b> 6-30-2013 <i>[Signature]</i> <b>Originator:</b> Dan Saueressig <b>Phone:</b> 509-521-5326	<b>Area:</b> 100-N <b>Facility ID:</b> 100-N AOC Area 6 <b>Action Memorandum:</b> 100-N Ancillary Facilities	<b>Control #:</b> D4-100N-0062
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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**

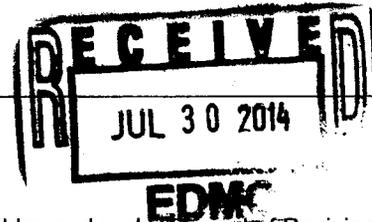
- All D4 operations required by action memo complete.
- D4 operations required by action memo partially complete, remaining operations deferred.

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

The 100-N AOC Are 6 consists of 2 smaller areas. One small area was right next to the steep slope heading down to the lower bench next to the Columbia River. A portion of the perimeter fence surrounding the 100-N area was in this location and was removed during final cleanup of the area. The other area contained a railroad track and bed that provided railcar access to the 1314-N building. The railroad track, ties and bedding were removed as part of miscellaneous restoration activities in the area prior to surveying the area for radiological contamination.

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

Not applicable



**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 100-N AOC Are 6 consists of 2 smaller areas. One small area was right next to the steep slope heading down to the lower bench next to the Columbia River. A portion of the perimeter fence surrounding the 100-N area was in this location and was removed during final cleanup of the area. The other area contained a railroad track and bed that provided railcar access to the 1314-N building. The railroad track, ties and bedding were removed as part of miscellaneous restoration activities in the area prior to surveying the area for radiological contamination.

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

N/A

**Section 3: List of Attachments**

Sample Determination Form (SDF-100N-0037)

DOE-RL <i>[Signature]</i>	Date 7/8/14
Lead Regulator <input type="checkbox"/> EPA <input checked="" type="checkbox"/> Ecology	Date

## FACILITY STATUS CHANGE FORM

**DISTRIBUTION:**

EPA: Dennis Faulk, B1-46

Ecology: Wanda Elliott, H0-57

DOE: Rudy Guercia, A3-04

Document Control, H4-11 H0-30

Administrative Record, H6-08 100-NR-1

SIS Coordinator: Benjamin Cowen, H4-22

D4 EPL: Chris Strand, L4-45

Sample Design/Cleanup Verification: Theresa Howell, H4-23

FR Engineering: Rich Carlson, H4-22

FR EPL: Dan Saueressig, X8-02

## 100-N ANCILLARY FACILITIES REMOVAL ACTION SAMPLING DETERMINATION FORM

Determination Number  
SDF-100N-037

### 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

Building Name: 100-N AOC Area 6

Building Number: N/A

WIDS Sites Associated or Adjacent:

Historical information reviewed indicates AOC Area 6 functioned primarily as a road and railroad tracks between the 105N Reactor Building and 1314N Liquid Waste Loadout Station. A significant part of the southern portion of the area consisted of an asphalt road providing access to the west side of the reactor. Aerial photographs of AOC Area 6 are provided in Attachment 1. WIDS Sites surrounding and within 10 feet of AOC Area 6 perimeter include:

100-N-63:2, Pipelines Between 109N, 105N, 107N, 1310N, 1322N, 1926N and 36" Process Drain to Outfall, Interim Closed Out, CVP 2013-00001, WSRF No. 2013-048, Transmittal Letter dated October 9, 2013 (CCN 172912).

100-N-84:1, Accepted, No Action, RSVP-2010-019, WSRF No. 2010-019, This site will support future unrestricted land uses that can be represented (or bounded) by a rural-residential scenario. No institutional controls are required for this site to prevent uncontrolled drilling or excavation into deep zone [i.e., below 4.6 m (15 ft)], December 12, 2012, (CCN 169002)

100-N-84:2, 100-N Area Fuel and Foam Pipelines, Accepted, Portions of the 100-N-63:2, 100-N-64, 100-N-84:2, 100-N-84:3, 100-N-84:4, and 100-N-84:5 pipelines waste sites were removed during 100-N-57 group of waste sites remediation activities. The remaining portions of these waste sites will be remediated and a separate closure document prepared at a later date.

100-N-84:3, Accepted, No Action, This site will support future unrestricted land uses that can be represented (or bounded) by a rural-residential scenario. No institutional controls are required for this site to prevent uncontrolled drilling or excavation into deep zone [i.e., below 4.6 m (15 ft)], RSVP-2010-020, WSRF No. 2010-020, November 14, 2012, (CCN 168594).

100-N-84:5, 100-N Area Sanitary Pipelines, Accepted, DOE and Ecology have agreed to leave the portion of the 100-N-84:5 100-N Area Sanitary Pipelines subsite that was installed as part of the H-677 project, in place with no action required (169555).

100-N-84:7, Accepted, No Action, This site will support future unrestricted land uses that can be represented (or bounded) by a rural-residential scenario. No institutional controls are required for this site to prevent uncontrolled drilling or excavation into deep zone [i.e., below 4.6 m (15 ft)], RSVP-2011-092, WSRF No. 2011-092, May 30, 2012, (CCN 165808).

100-N-89, 117-NVH French Drain, Interim Closed Out' RSVP-2013-082' WSRF No. 2013-082, Transmittal Letter dated November 7, 2013 (CCN 173716)

100-N-106, Shallow Petroleum-Only Releases, Accepted.

118-N-1, 100-N Area Silos, 100-N Area Spacer Silos, 118-N, 1303-N Spacer Silos, 1303-N Radioactive Dummy Burial Facility, Interim Closed Out, RSVP-2013-076, WSRF No. 2013-076, Transmittal Letter dated August 28, 2013 (CCN 172436).

124-N-3, 1607-N3, 124-N-3 Septic Tank, 100-N Sanitary Sewer System No. 3, Interim Closed Out, RSVP-2013-049, WSRF No. 2013-049, Transmittal Letter dated August 6, 2013 (CCN 172202).

Other:

Buildings adjacent the northern portion of AOC Area 6 include 1313N Change and Control Building (demolished in 2006), 1314N Liquid Waste Loadout Station (soils deferred to approved ROD), 1914N Reactor Diversion Valve House

## 100-N ANCILLARY FACILITIES REMOVAL ACTION SAMPLING DETERMINATION FORM

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(demolished in 2011), and 166N Unloading Station (soils deferred to approved ROD).

Wells within or 10 feet from AOC Area 6 include groundwater wells 199-N-18, 199-N-19, 199-N-20, 199-N-21, 199-N-22, 199-N-47, and 199-N-172.

### C. INFORMATION SOURCES

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

Historical Site Assessment: N/A

Site Walkdown: See Attachment 3

IH Characterization Report: N/A

Radiological Survey: See Attachments 4 and 5

IHC/FHC Document: N/A

WIDS/SIS: N/A

PDSR: N/A

Facility Inspection: Visual Inspection (Attachment 3)

Waste Characterization Checklist: N/A

Summary Report: N/A

Other:

### D. HAZARDOUS SUBSTANCES

Check all that apply:

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

Chemicals    List: \_\_\_\_\_

Radiological Contamination     Mercury/Mercury Devices

Other: \_\_\_\_\_

References/Comments:

Liquids:  Yes     No

If yes, describe source and nature of liquids:

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

As verified by what documentation:

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

References/Comments:

List any hazardous materials left in the building for demolition:

N/A

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

No

Comments:

### E. FIELD OBSERVATIONS

#### Visual Inspection

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

## 100-N ANCILLARY FACILITIES REMOVAL ACTION SAMPLING DETERMINATION FORM

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References/Comments:

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

References/Comments:

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

References/Comments:

Is the area potentially a discovery site?  Yes  No

References/Comments:

### Radiological Surveys

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

References/Comments:

Radiological surveys of AOC Area 6 for beta and gamma contamination using GPERS identified no contamination greater than 1.5 x background. Composite diagrams of the surveys are presented in Attachment 4. The fence line along the western boundary of 100-N was surveyed by hand. No contamination was identified in the fence excavation, fence materials, or excavator bucket (RSR-100NFR-14-0291). A copy of the RSR is provided in Attachment 5.

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

References/Comments:

Is the area potentially a discovery site?  Yes  No

References/Comments:

Were the contaminated materials removed?  Yes  No  N/A

References/Comments:

### F. WIDS SITES

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

If yes, list the WIDS sites:

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

References/Comments:

WIDS Sites adjacent to AOC Area 6 were removed.

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

References/Comments:

### G. COPCs FOR SOILS AND STRUCTURES 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): \_\_\_\_\_

## 100-N ANCILLARY FACILITIES REMOVAL ACTION SAMPLING DETERMINATION FORM

Determination Number  
SDF-100N-037

Comments:

Summary of in-process soil sampling requirements:

Constituents detected / concentrations / rationale

Sample Collection Summary

### H. NOTES / ADDITIONAL INFORMATION

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

If checked, list the attachment(s):

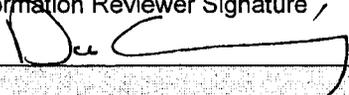
- Attachment 1. Photographs of AOC Area 6
- Attachment 2. WIDS Sites and Wells Around AOC Area 6
- Attachment 3. Visual Inspection of 100-N AOC Area 6
- Attachment 4. Global Positioning Environmental Radiological Surveyor (GPERS) Surveys of AOC Area 6
- Attachment 5. Radiological Survey Record (RSR-100NFR-14-0291)

### 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.

Information Reviewer Signature 	Printed Name Dan Saueressig	Date 06/23/2014
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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 	Printed Name Dan Saueressig	Date 6/23/14
Ecology Signature 	Printed Name KIM WELSCH	Date 7/8/14

# **Attachment 1**

Photographs of AOC Area 6

Photo 1. Location of AOC Area 6 Relative to Other Structures at 100-N



Photo 2. AOC Area 6 at 100-N

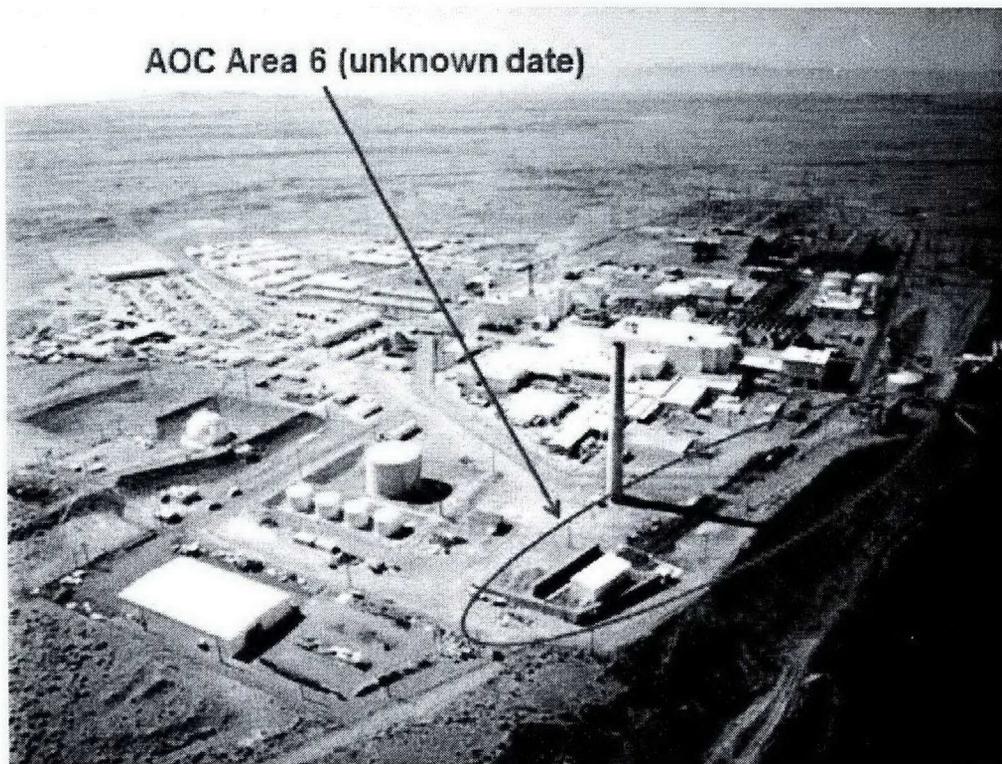


Photo 3. AOC Area 6 in October 2006

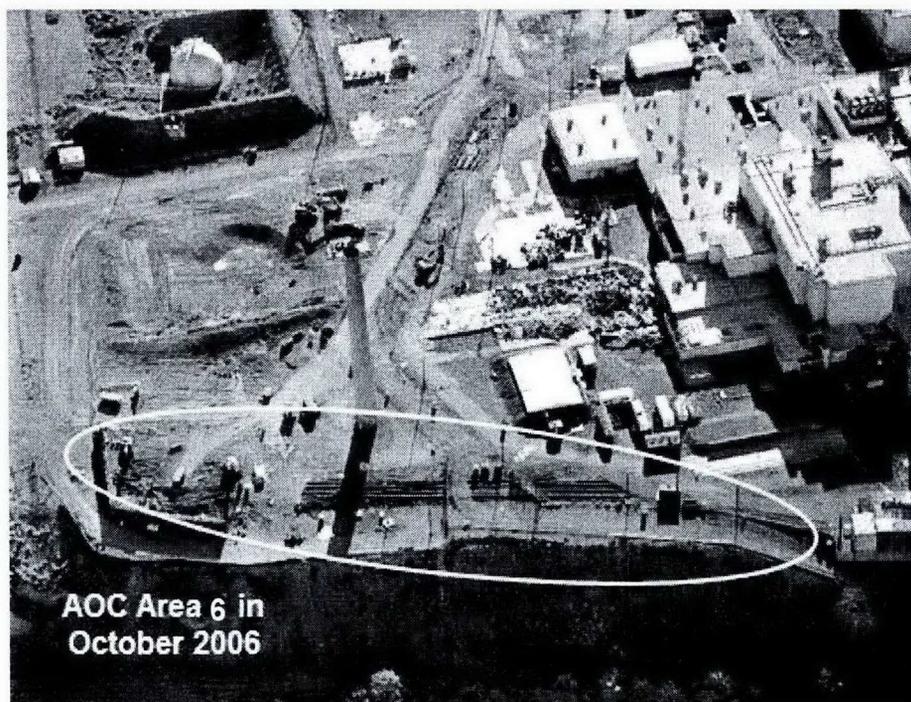
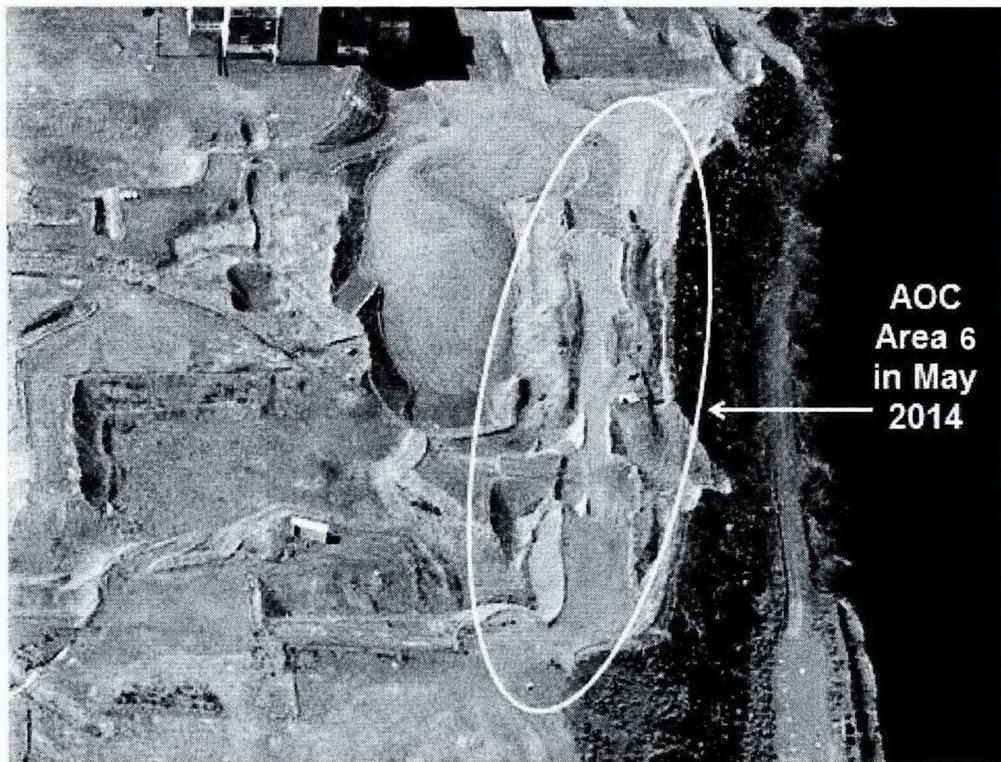


Photo 4. AOC Area 6 in September 2012



Photo 5. AOC Area 6 in May 2014



## **Attachment 2**

WIDS Sites and Wells Around AOC Area 6



## **Attachment 3**

Visual Inspection of 100-N AOC Area 6

176289

**^WCH Document Control**

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**From:** McCurley, Clay D  
**Sent:** Thursday, June 12, 2014 12:38 PM  
**To:** ^WCH Document Control  
**Subject:** FW: Visual Inspection of 100-N AOC Area 6

**Attachments:** Visual Inspection Photographs.doc

Folks. Please print the attachment in color and chron with this email as documentation that 100-N AOC Area 6 was visually inspected. Let me know which number was assigned. Thanks. Clay

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**From:** McCurley, Clay D  
**Sent:** Thursday, June 12, 2014 10:38 AM  
**To:** Allen, Mark E  
**Subject:** Visual Inspection of 100-N AOC Area 6

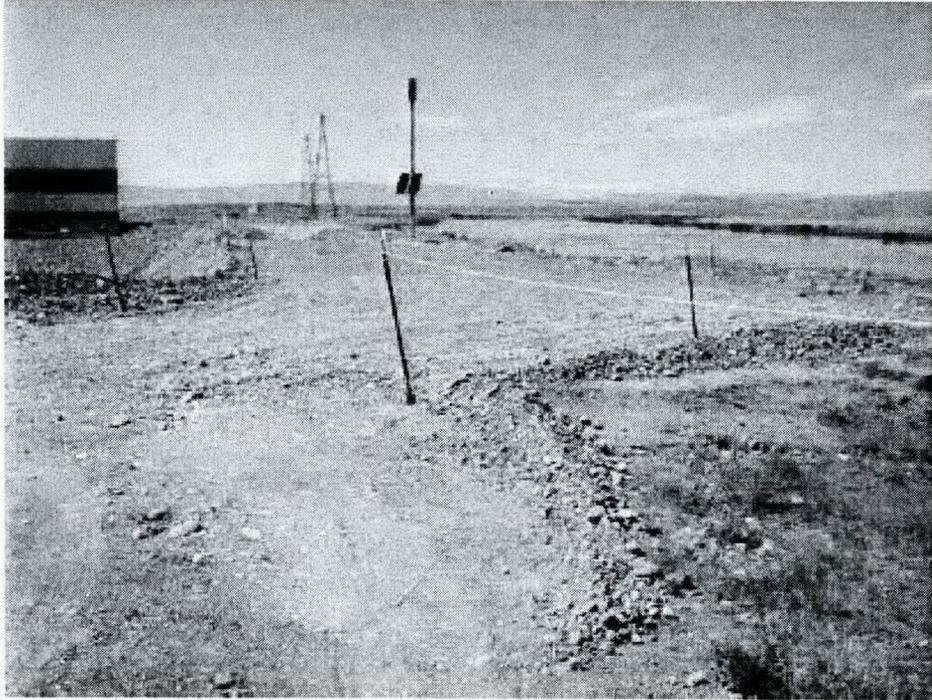
Mark. I went out to 100-N on Tuesday, inspected AOC Area 6, and took photographs (attached). I didn't see any stains or anomalies. The area looks good. Contact me if you have any questions. Clay



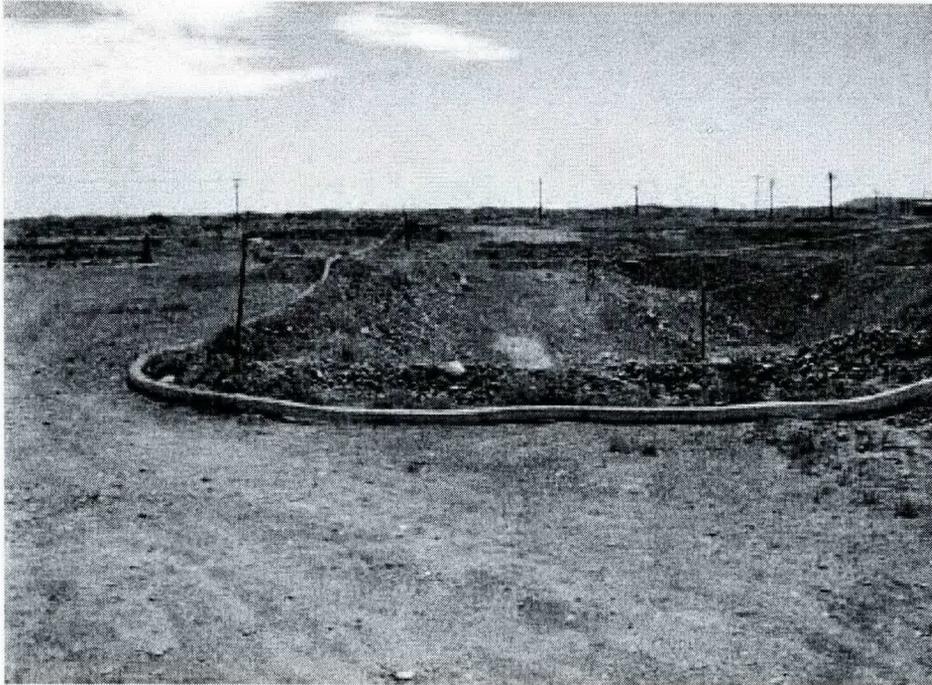
Visual Inspection  
Photographs.....

**Visual Inspection Photographs of 100-N AOC Area 6**  
June 10, 2014

**Photo 1. AOC Area 6 (facing south)**



**Photo 2. North Part of AOC Area 6 (facing east)**

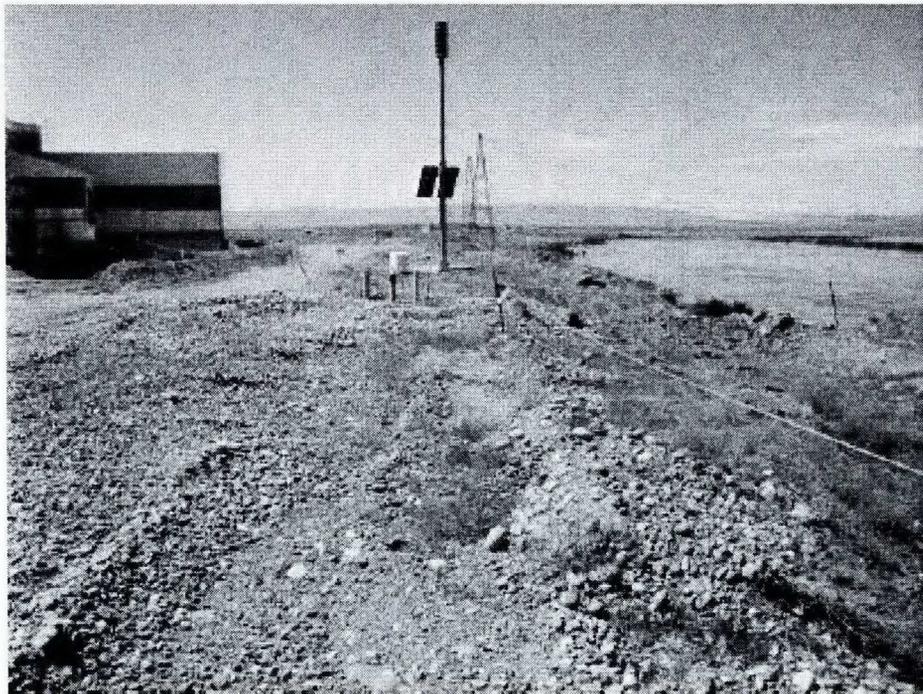


**Visual Inspection Photographs of 100-N AOC Area 6**  
June 10, 2014

**Photo 3. Center Portion of AOC Area 6 (facing northeast)**

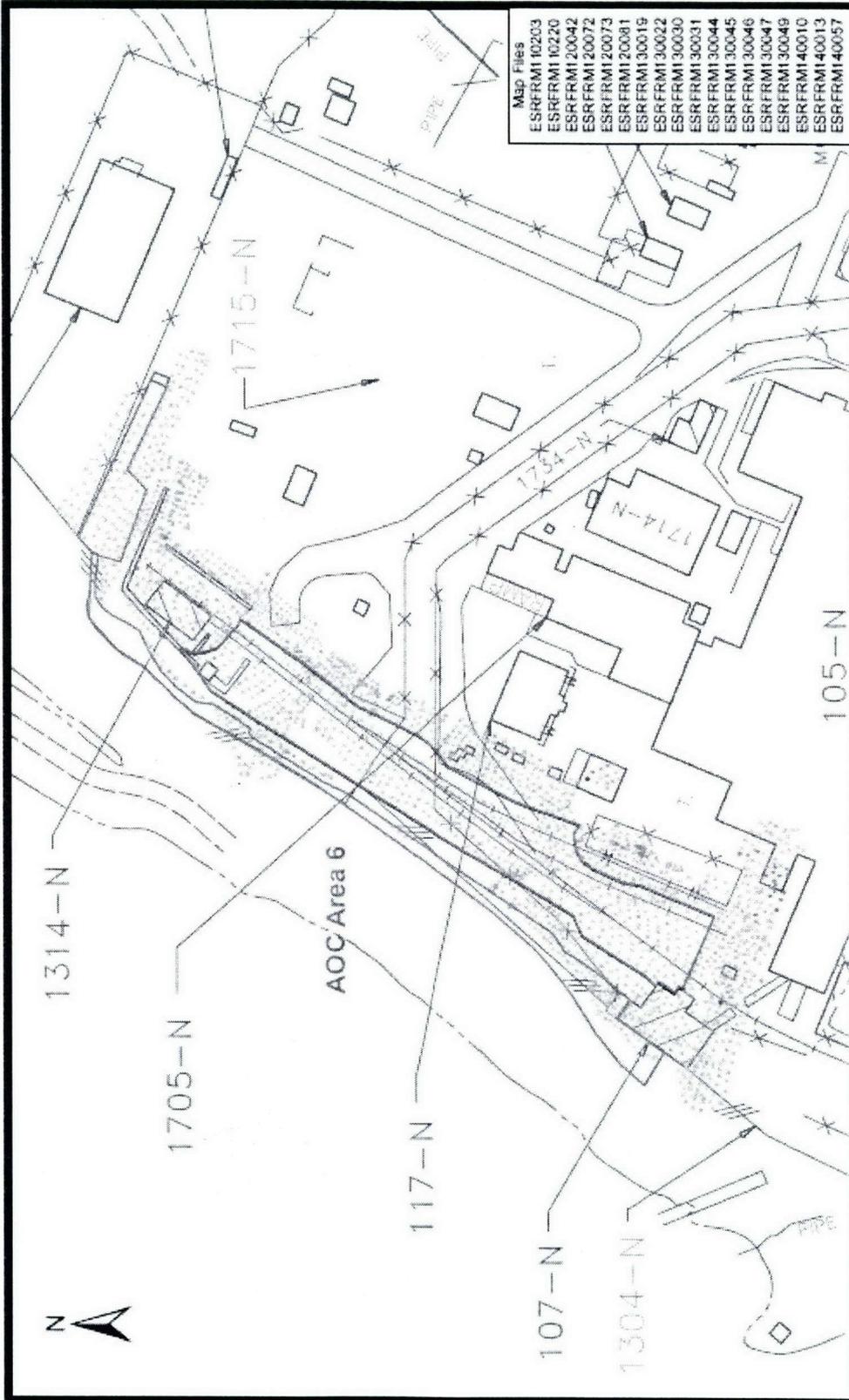


**Photo 4. Western Edge of AOC Area 6 (facing south)**



## **Attachment 4**

Global Positioning Environmental Radiological Surveyor (GPERS) Surveys of AOC  
Area 6



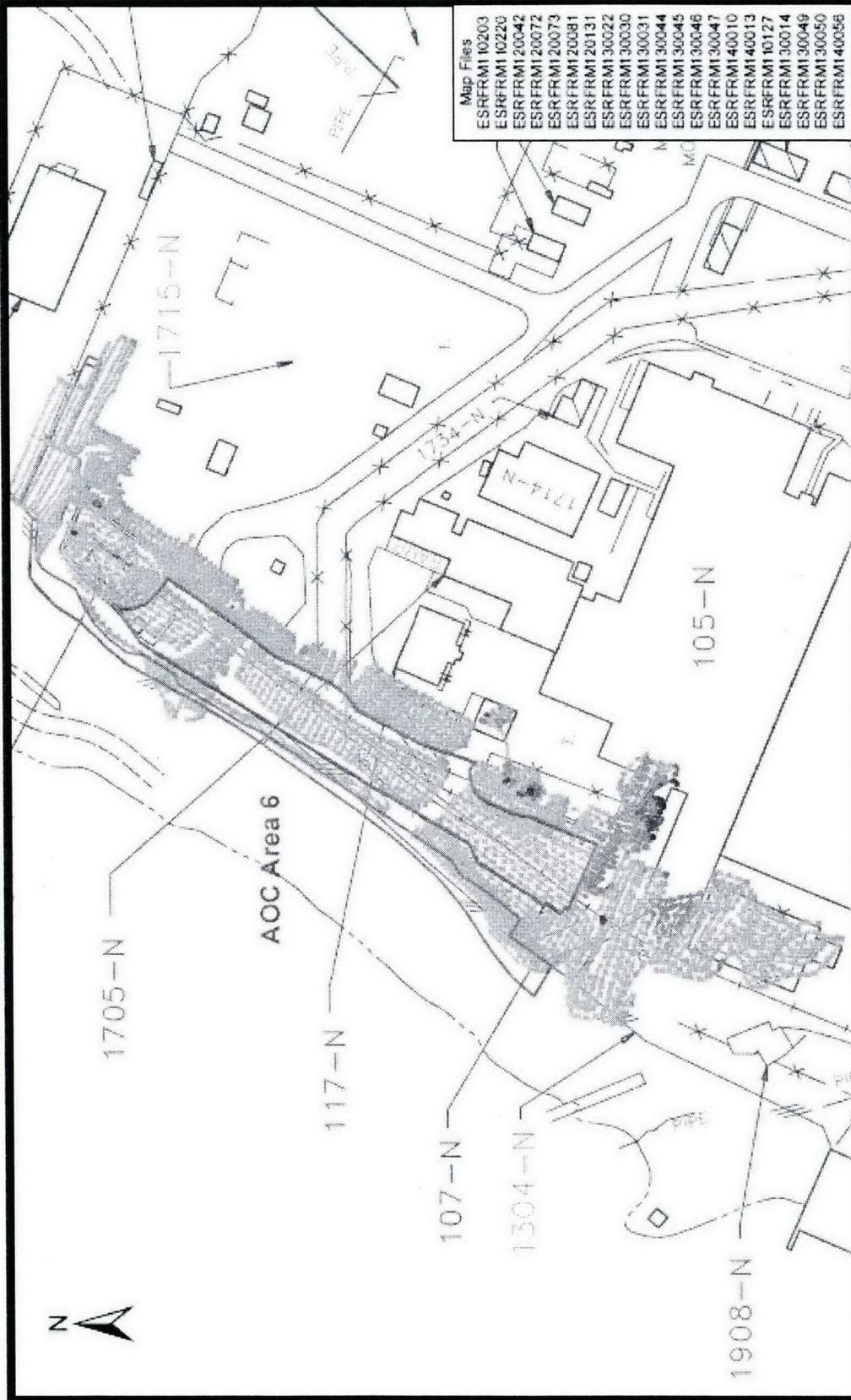
Map Files  
 ESRFRM10203  
 ESRFRM10220  
 ESRFRM120042  
 ESRFRM120072  
 ESRFRM120073  
 ESRFRM120081  
 ESRFRM130019  
 ESRFRM130022  
 ESRFRM130030  
 ESRFRM130031  
 ESRFRM130044  
 ESRFRM130045  
 ESRFRM130046  
 ESRFRM130047  
 ESRFRM130049  
 ESRFRM140010  
 ESRFRM140013  
 ESRFRM140057

0 10 20 30 40 50 Meters

Survey Map Prepared By Brook Colman, ESI

# 100N AOC Area 6 GPERs Radiological Survey Beta Track Map

Legend		Summary Statistics	
NET CPM		Number of Data Pnts	3,418
X	<1.5	Type of Survey	Beta
x	1.5x bkg	Max GCPM	6,634
●	5000	Avg Bkg CPM	303
●	10000	Survey Dates	12/18/2011 through 06/18/2014
●	25000	Area Surveyed	13,417 m <sup>2</sup>
●		Project File	100N_AOC_6B
		Plot File	100N_AOC_6B.plt



- Map Files
- ESRFRM10203
  - ESRFRM10220
  - ESRFRM120042
  - ESRFRM120072
  - ESRFRM120073
  - ESRFRM120081
  - ESRFRM120131
  - ESRFRM130022
  - ESRFRM130030
  - ESRFRM130031
  - ESRFRM130044
  - ESRFRM130045
  - ESRFRM130046
  - ESRFRM130047
  - ESRFRM140010
  - ESRFRM140013
  - ESRFRM10127
  - ESRFRM130014
  - ESRFRM130049
  - ESRFRM130050
  - ESRFRM140056

0 1020304050 Meters

**EBERLINE SERVICES**

Survey Map Prepared By Bruce Cochran, ESI

## 100N AOC Area 6 GPERS Radiological Survey Gamma Track Map

Legend		Summary Statistics	
NET CPM		Number of Data Points	51,813
X	<1.5x bkg	Type of Survey	Gamma
●	1.5x bkg - 5000	Max GCPM	99,190
●	5000 - 10000	Avg Bkg CPM	1,258
●	10000 - 25000	Survey Dates	10/18/11 through 08/11/13
●	25000	Area Surveyed	16,128 m <sup>2</sup>
		Project File	100N_AOC_6G
		P of File	100N_AOC_6G_12

## **Attachment 5**

Radiological Survey Record (RSR-100NFR-14-0291)

# RADIOLOGICAL SURVEY RECORD

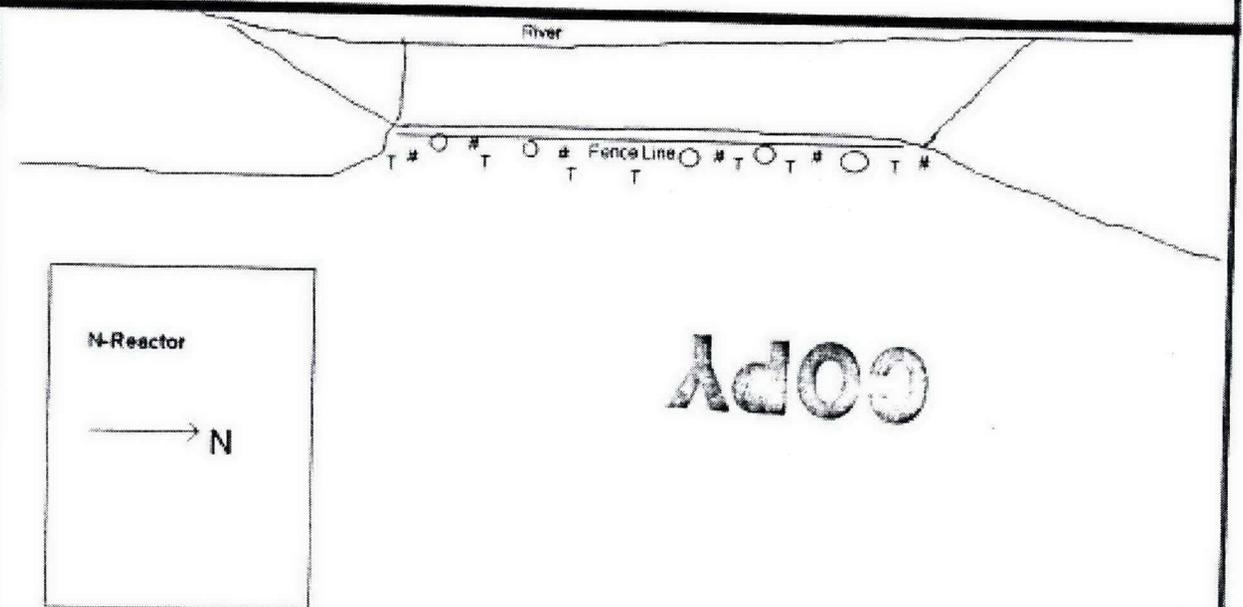
Page 1 of 2

Type of Survey <input checked="" type="checkbox"/> Work Progress <input type="checkbox"/> Routine			Survey # RSR-100NFR-14-0291
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RWP # / Rev. # 100NFR-12-002 Rev. 02	Date 03/25/14	Time 1500	Location 100NFR
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**Description**  
MR, West Fence Site site excavation. Survey of Excavator 3962 (PIN KMTPC192ES4A10300, Bucket Env 13212) and fencing material.

**References:** (e.g., SRTA, ASER, LASER, RSP, Work Package)  
TA-10-SR-01/0



Smears, Transferables, and Directs taken prior to removal of fence. Once fence was removed, survey was performed on fencing material, Smears and Directs. No counts above background detected.

Smears and directs also performed on excavator bucket. No counts above background detected

CA Contamination Area	HCA High Contamination Area	RBA Radiological Buffer Area	ARA Airborne Radioactivity Area	SCA Soil Contamination Area	RMA Radioactive Materials Area	RA Radiation Area	HRA High Radiation Area	VHRA Very High Radiation Area	RCA Radiologically Controlled Area	SOP Stop Off Pad	
<input type="checkbox"/> Technical Sheet	# Direct	M Large Area Wipe	T Transferable	General Area Dose Rates (Unconnected Meter Reading (uR/hr))	All radiation readings are γ dose rates in units of mR/hr unless otherwise indicated		Contact 30 min	N Neutron (nR/hr)	Δ Micro Risk (uR/hr)	[AS] All Sample Locations	URMA Underground Radioactive Material Area

RCT Name/Signature/Date: Paul F. Muth <i>Paul Muth</i> 3/25/14	RadCon Supervisor Name/Signature/Date: <i>[Signature]</i> 3/25/14
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# RADIOLOGICAL SURVEY RECORD

Page: 2 of 2

Survey #  
RSR - 100NFR-14-0291

## Instruments

Model	ID #	Efficiency %		Cal Due Date	Model	ID #	Efficiency %		Cal Due Date
		$\alpha$	$\beta\gamma$				$\alpha$	$\beta\gamma$	
2360	SCLLB-0137	N/A	N/A	09/04/14	43-93	DTLLP-0184	14.2	10	09/04/14
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## Contamination Measurement Information<sup>1</sup>

Circled values indicate Removable  $\beta$  contamination in mrad/hr  $\beta$

No.	Description of Item or Location	Removable (dpm/100 cm <sup>2</sup> )				Total (dpm/100 cm <sup>2</sup> )			
		$\alpha$ bkgd (cpm)	$\alpha$ Activity	$\beta$ - $\gamma$ bkgd (cpm)	$\beta$ - $\gamma$ Activity	$\alpha$ bkgd (cpm)	$\alpha$ Activity	$\beta$ - $\gamma$ bkgd (cpm)	$\beta$ - $\gamma$ Activity
N/A	All Smears	4	<20	185	<1,000	N/A	N/A	N/A	N/A
N/A	All Directs	N/A	N/A	N/A	N/A	4	<500	185	<5,000
N/A	All transferables	4	<20	185	<1,000	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

<sup>1</sup> Unless stated otherwise in the "References" section, exempted  $\beta$ - $\gamma$  (i.e., C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, Eu-155) contamination levels are  $\leq 10$  times the  $\beta$ - $\gamma$  contamination levels shown above.

## Corrected Dose Rate Calculations

Show all work. CF = 1 unless noted.

Location	Contact Readings		30 cm Readings	
	$\beta$ (mrad/hr) (WO-WC) X CF = DR	$\gamma$ (mR/hr) WC X CF = DR	$\beta$ (mrad/hr) (WO-WC) X CF = DR	$\gamma$ (mR/hr) WC X CF = DR
100N CTA General area.	N/A	N/A	<0.5	<0.5
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A