

**WCH** Washington  
Closure  
Hanford

158342

**Interoffice Memorandum**

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TO: S. W. Callison N3-30

DATE: April 27, 2011

COPIES: See Below

FROM: M. L. Proctor *mlp*  
Sample Design & Cleanup Verification  
Manager  
H4-22/372-9227SUBJECT: **300-290, RADIOLOGICAL DEBRIS AREA EAST OF HORN RAPIDS DISPOSAL  
LANDFILL FOR REMEDIAL ACTION**

This interoffice memorandum is to advise you that the 300-290 waste site will require remedial action. The attached *300-290 Radiological Debris Area East of Horn Rapids Disposal Landfill Remove, Treat, and Dispose Report* documents the basis for remediation and other relevant information for use by Field Remediation Engineering in preparing the remedial design for this site.

If you have any questions concerning the information, please call me at 372-9227.

MLP:lrs

Attachment: *300-290 Radiological Debris Area East of Horn Rapids Disposal Landfill Remove, Treat, and Dispose Report*Copies: w/a

J. R. Davidson H4-23

T. M. Blakley N3-30

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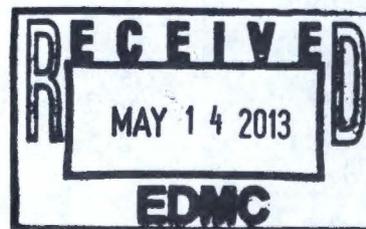
L. D. Habel H4-23

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M. L. Proctor H4-22

WCH Document Control H4-11



300-ff-2

13pgs

**300-290 RADIOLOGICAL DEBRIS AREA EAST OF  
HORN RAPIDS DISPOSAL LANDFILL  
REMOVE, TREAT, AND DISPOSE REPORT**

**1.0 RECOMMENDATIONS**

The 300-290 Radiological Debris Area East of Horn Rapids Disposal Landfill waste site is recommended for remove, treat, and dispose (RTD). This report provides background and supporting information for this recommendation.

**2.0 PURPOSE**

The purpose of this RTD report is to provide documentation to support the remedial action decision for the 300-290 waste site as required by the *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington* (ROD) (EPA 2001). The 300-290 waste site is included as a “plug-in” site in accordance with the ROD and the *Explanation of Significant Differences for the 300-FF-2 Operable Unit Interim Remedial Action Record of Decision* (2009 ESD) (EPA 2009). Per the 2009 ESD (EPA 2009), plug-in sites are documented in the Administrative Record, and an annual fact sheet will be published by the U.S. Department of Energy identifying sites that have been added.

**3.0 GENERAL SITE INFORMATION AND BACKGROUND**

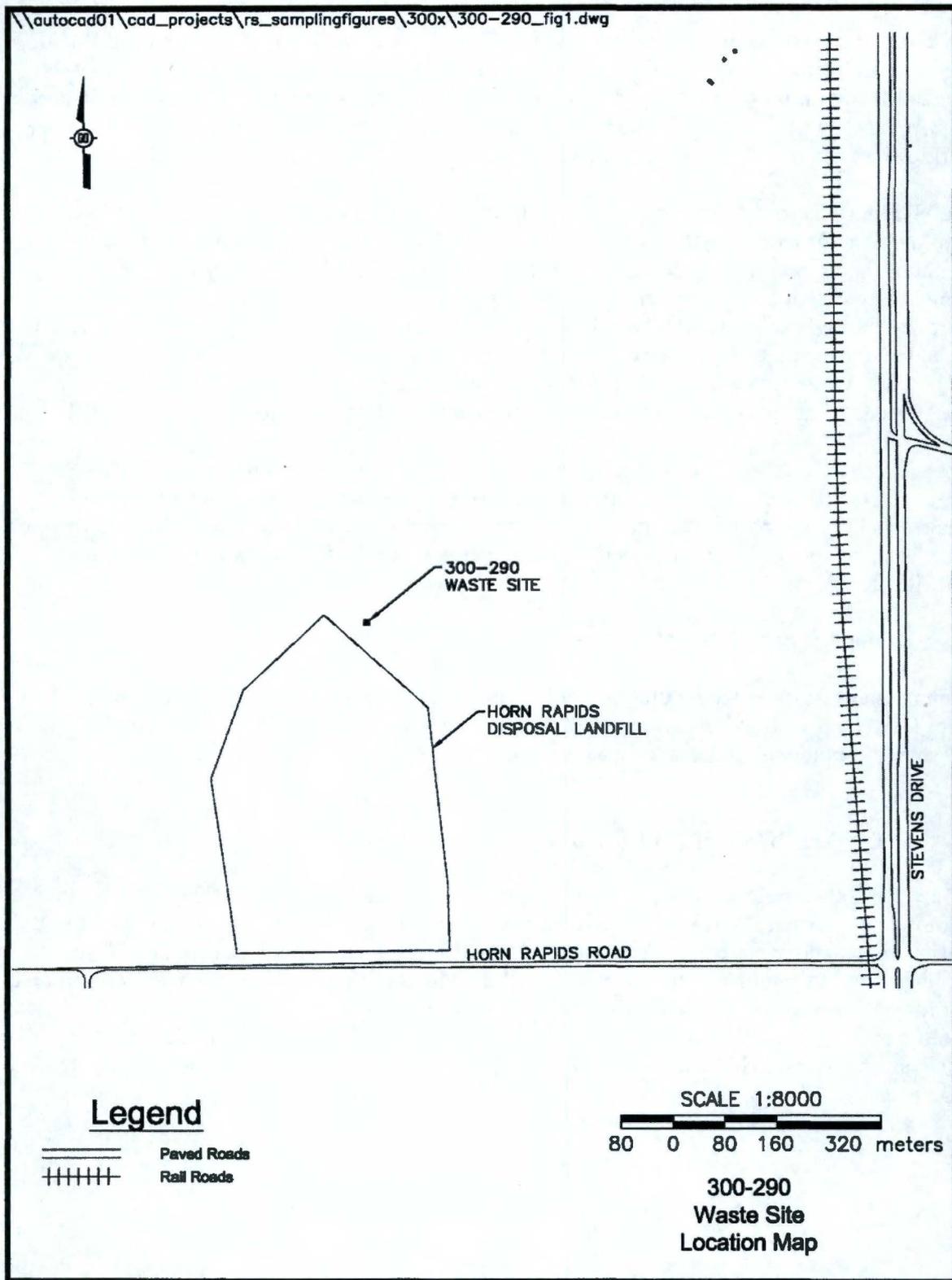
**3.1 Site Description**

The 300-290 Radiological Debris Area East of Horn Rapids Disposal Landfill waste site, part of the 300-FF-2 Operable Unit, is a posted radiological material area (RMA). According to the Waste Information Data System (WIDS) and the Stewardship Information System reports (Appendix A), the waste site consists of debris, mostly rusted metal automotive parts, scraps of crumpled sheet metal, electrical wire debris, and engine gaskets inside a posted RMA.

**3.2 Location**

The 300-290 waste site is located approximately 70 m (230 ft) east of the northern most point of the Horn Rapids Disposal Landfill (Figure 1). The center of the site is at Washington State Plane coordinates N 1146363, E 592787. WIDS lists the dimensions of the site as 8 by 8 m (26 by 26 ft).

**Figure 1. The 300-290 Waste Site Location Map.**



### 3.3 History

The debris at this waste site is consistent with the debris that was deposited in the Horn Rapids Disposal Landfill, which operated as an uncontrolled landfill from the late 1940s to the 1970s. The landfill is currently inactive, and was remediated in accordance with the *Record of Decision: Hanford 1100-Area (USDOE)* (EPA 1993). The landfill has been taken off the National Priorities List and it was capped and put under institutional controls (DOE-RL 2008).

In 2008, Fluor Hanford conducted field walkdowns of the area where this waste site is located to assess the area for land transfer issues. During the walkdown, piles of metal shop waste, aluminum sheets, and light ballasts were observed near the Horn Rapids Disposal Landfill. During the first visit to the transfer land, eight light ballasts were observed. After closer inspection during a subsequent visit, 11 ballasts were found, some of which were half-buried in the sand. No digging was performed. It is possible that more ballasts or other metallic waste may be buried underground. The ballasts were assumed to contain polychlorinated biphenyls (PCBs) because the marking was missing and the debris around the ballasts was circa 1964.

The ballasts had fixed alpha readings up to 216 disintegrations per minute per 100 cm<sup>2</sup>. Beta-gamma emissions and removable contamination were not detected. The ballasts were managed as PCB items and were moved to a storage location in the 400 Area. After removal of the ballasts, no contamination was detected in the area where PCB ballasts were found (DOE-RL 2008).

### 3.4 Ecological and Cultural

Reconnaissance surveys for natural or cultural resources have not been performed to date. Such surveys will be performed prior to initiation of any remedial actions and will assist in the assessment of potential impacts to sensitive sites or receptors.

## 4.0 SITE WALKDOWN SUMMARY

On July 22, 2009 a field walkdown for orphan sites was conducted (WCH 2009). During this walkdown, the posted RMA was located (Figure 2). The material in the RMA consisted mostly of rusted metal automotive parts, scraps of crumpled sheet metal, electrical wire debris, and engine gaskets. A phone number provided on the RMA posting sign was called, and the orphan walkdown team spoke with the Radiation Control supervisor for the Fluor Daniels Hanford Landlord Radiation Protection Group. The supervisor stated that one of his radiological technicians had surveyed the debris and found contamination. The site was posted as an RMA on October 27, 2008.

**Figure 2. The 300-229 Waste Site at Time of July 22, 2009 Walkdown.**



## **5.0 GEOPHYSICAL SURVEY RESULTS**

Prior to remedial activities, a geophysical survey of the 300-290 waste site will be performed. The purpose of the survey will be to identify any subsurface features that may be indicative of pipelines, electrical lines, or disturbed areas.

## **6.0 CONTAMINANTS OF POTENTIAL CONCERN**

Based on information from the 2008 and 2009 walkdowns discussed in Sections 3.3 and 4.0, the following contaminants of potential concern were developed for the 300-290 waste site: PCBs, gross alpha, gamma-emitting radionuclides (GEA), and metals. If gross alpha activity is detected above background, the GEA data will be evaluated to determine if further alpha-specific analysis is necessary.

## 7.0 CONCLUSIONS AND REMEDIATION CONSIDERATIONS

The 300-290 waste site was recommended for RTD based on previous investigations that determined the site contained electrical ballasts that are a potential source of PCBs and the posting of the site as an RMA. In designing the 300-290 remediation, the following items should be considered.

- The Field Remediation Closure and Waste Operations projects will need to review site information and make a determination about whether existing data and waste profiles are suitable or if additional waste characterization sampling is necessary to support waste characterization and designation.
- Estimate the vertical and lateral extent of contamination at this waste site.
- A cleanup verification sample design to verify adequacy of remediation will need to be developed after remediation, which will require regulatory approval prior to sampling.

## 8.0 REFERENCES

- DOE-RL, 2008, *Port of Benton Transfer Land All Appropriate Inquiry Report*, DOE/RL-2008-68, Rev. 0, U.S. Department of Energy, Richland Operations Office, Richland, Washington.
- EPA, 1993, *Record of Decision: Hanford 1100-Area (USDOE)*, Washington, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.
- EPA, 2001, *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.
- EPA, 2009, *Explanation of Significant Differences for the 300-FF-2 Operable Unit Interim Remedial Action Record of Decision*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington.
- WCH, 2009, *Orphan Sites*, Logbook EL-1616-2, p. 83, Washington Closure Hanford, Richland, Washington.

**APPENDIX A**

**WASTE INFORMATION DATA SYSTEM  
GENERAL SUMMARY REPORT**

**AND**

**STEWARDSHIP INFORMATION SYSTEM  
SITE SUMMARY REPORT**

**Waste Information Data System  
General Summary Report**

03/23/2011

Site Code: 300-290

Site Classification: Accepted

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Site Names: 300-290, Radiological Debris Area East of Horn Rapids Disposal Landfill  
 Site Type: Dumping Area Start Date:  
 Status: Inactive End Date:  
 Hanford Area: 300 Pipe Type:  
 OU/WMA: 300-FF-2  
 Closure Zone:

Site Description: The site consists of a posted Radiological Materials Area (RMA) measuring approximately 8 meters by 8 meters (26.3 feet by 26.3 feet). The material in the RMA consisted mostly of rusted metal automotive parts, scraps of crumpled sheet metal, electrical wire debris, and engine gaskets.

Location Description: The area is located approximately 70 meters (229.7 feet) east of the northerly most point of the Horn Rapids Landfill.

References: 1. Cearlock, Chris, 6/14/10 WCH request for 17 new sites in 300-FF-2 OU, 300-FF-2 new sites.

**Dimensions:**

<b>Regulatory Information:</b>	
DOE Program:	<b>Programmatic Responsibility</b>
DOE Division:	Confirmed By Program:
Responsible Contractor/Subcontractor:	
Reclassifying Contractor/Subcontractor:	
Responsible Project:	<b>Site Evaluation</b>
Solid Waste Management Unit:	No
TPA Waste Management Unit Type:	Unplanned Release Unit
	<b>Permitting</b>
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 Discharge Permit:
Air Operating Permit:	
	<b>Tri-Party Agreement</b>
Lead Regulatory Agency:	
Unit Category:	
TPA Appendix:	
	<b>Remediation and Closure</b>

**Decision Document:**

**Decision Document Status:**

**Remediation Design Group:**

**Closure Document:**

**Closure Type:**

**WAC 173-340 (2007) Cleanup Comparison by Ecology:**

**Post Closure Requirements:**

**ResidualWaste:**

**RCC Stewardship Information System  
Site Summary Report**

03/23/2011

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Site Classification Status: Accepted

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<b>Site Names:</b>	Radiological Debris Area East of Horn Rapids Disposal Landfill		
<b>Site Type:</b>	Dumping Area	<b>Start Date:</b>	
<b>Status:</b>	Inactive	<b>End Date:</b>	
<b>Decision Unit:</b>	300	<b>Coordinates:</b>	
<b>Operable Unit:</b>	300-FF-2	(E)	592786.5
<b>Hanford Area:</b>	300	(N)	114363.3
<b>QC Code:</b>		<b>QC Date:</b>	Washington State Plane

**Cleanup Activities:**

**Cleanup Summary:**

**Contaminants of Concern:**

<b>Excavation Depth (m):</b>	<b>Depth to GW below excavation (m):</b>
<b>Excavation Area (sq. m):</b>	<b>Material disposed at ERDF (metric tons):</b>
<b>Site Revegetated (Yes/No):</b>	
<b>Site Downposted (Yes/No):</b>	
<b>Institutional Controls Required (Yes/No):</b>	
<b>Institutional Controls:</b>	

**Historical Summary:**

**Site Description:** This feature consists of debris, mostly rusted metal automotive parts, scraps of crumpled sheet metal, electrical wire debris, and engine gaskets in a posted Radiological Material Area.

**Process Description:** The debris in this feature is consistent with the debris that was deposited in the Horn Rapids Landfill, which operated as an uncontrolled landfill from the late 1940's to the 1970's. The landfill is currently inactive, and was remediated in accordance with EPA/ROD/R10-93/063, Hanford 1100-Area (USDOE). The landfill has been taken off the National Priorities List (NPL), and it was capped and put under institutional controls (DOE/RL-2008-68).

On 7-22-2009, a field walkdown for orphan sites of the area was conducted. During this walkdown, a posted RMA (Radiological Materials Area) was located approximately 70 meters east of the northerly most point of the Horn Rapids Landfill. The size of the RMA is approximately 8 by 8 meters. The material in the RMA consisted mostly of rusted metal automotive parts, scraps of crumpled sheet metal, electrical wire debris and engine gaskets. A phone number (509-373-1910) provided on the RMA posting sign was called, and the orphan walkdown team spoke with the Radiation Control supervisor for the Fluor Daniels Hanford Landlord Radiation Protection Group. The supervisor stated that one of his radiological technicians had surveyed the debris and found contamination. The site was posted as an RMA on October 27, 2008.

**Location Description:** This feature is located approximately 32 m NNE of the NE boundary of WIDS HRD (Horn Rapids Disposal).

**Associated Structures:** WIDS- HRD (Horn Rapids Disposal).

**Site Comment:** In 2008, Fluor Hanford conducted field walkdowns of the area where this feature was located, to assess the area for land transfer issues. During the walkdown, piles of metal shop waste, aluminum sheets, and light ballasts were observed near the Horn Rapids Landfill. During the first visit to the transfer land, eight light ballasts were observed. After closer inspection during a subsequent visit, 11 ballasts were found, some of which were half-buried in the sand. No digging was performed. It is possible that more ballasts or other metallic waste may be buried underground. The ballasts were assumed to contain PCB (polychlorinated biphenyls) because the marking was missing and the debris around the ballasts was circa 1964. The ballasts have fixed alpha readings up to 216 dpm/100 cm<sup>2</sup>. Beta-gamma emissions and removable contamination were not detected. The ballasts were managed as PCB items and were moved to a storage location in the 400 Area. After removal of the ballasts, no contamination was detected in the area where PCB ballasts were found (DOE/RL-2008-68).

**RCC Stewardship Information System  
Site Summary Report**

03/23/2011

Site Code: 300-290

Site Classification Status: Accepted

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**Regulatory Info:**

**RCRA Permitting:**

TSD Number:

RCRA Part A Permit: No

RCRA Part B Permit: No

Closure Plan: No

RCRA Closure Type:

Residual Waste:

**Other Permitting:**

2126/218 Permit: No

NPDES: No

Air Operating Permit  
Numbers():

**Remediation and Closure:**

Closure Contractor: WCH. Washington Closure Hanford, LLC

ESD Document:

Decision Document None

Closure Document:

**Site References:**

1. DOE/RL-2008-68, 12/01/2008, Port of Benton Transfer Land All Appropriate Inquiry Report, Rev. 0, U.S. Department of Energy - Richland Operations Office
2. DOE/RL-92-67, 11/16/1992, Final Remedial Investigation/ Feasibility Study Report for the 1100-EM-1 Operable Unit, Hanford, Rev. A, U.S. Department of Energy - Richland Operations Office
3. EL-1616-02, 02/11/2008, Orphan Site Evaluation Field Logbook, Washington Closure Hanford, LLC

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**Image:**

Date Taken: 7/22/2009

Historical Photo Number: 300FF2-121-2068

Description: RMA site showing debris and posting.



Document/CCN Number: 158342

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