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WASTE SITE RECLASSIFICATION FORM

Operable Unit: 600 Area **Control No.:** 2017-032

Waste Site Code(s)/Subsite Code(s): 600-393

Reclassification Category: Interim ☐ Final ☒

Reclassification Status: Closed Out ☒ No Action ☐ Rejected ☐
RCRA Post closure ☐ Consolidated ☐ None ☐

Approvals Needed: DOE ☒ Ecology ☐ EPA ☒

Description of current waste site condition:

The 600-393 waste site was a collection of pre-Hanford dry cell battery debris located in an area of various other farmstead debris. The 600-393 waste site was located north of Horn Rapids Road and east of the Hammer facility at coordinates E591582/N114082.

The 600-393 waste site was remediated by hand-removal of the surface debris on September 6, 2017. Visible battery debris on the ground surface and two to three inches of underlying soil was removed using hand tools. Shovels were used to probe the soil to a depth of about six inches beneath the excavation. No additional subsurface debris was located. An estimated six cubic feet of contaminated soil and debris was removed from the 600-393 waste site and disposed at the Environmental Restoration Disposal Facility (ERDF). Verification soil samples were collected on September 14, 2017.

The removal of the debris and the underlying soil does not require backfill to be performed for restoration. The site will be revegetated.

Remedial action at the 600-393 waste site has been performed in accordance with the remedial action objectives and goals established by the "Hanford Site 300 Area Record of Decision for the 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1," U.S. Environmental Protection Agency, Region 10, Seattle, Washington (300 Area ROD) (EPA 2013) and the "Remedial Design Report/Remedial Action Work Plan for 300-FF-2 Soils," DOE/RL-2014-13-ADD1, 2016, U.S. Department of Energy, Richland Operations Office, Richland, Washington. The selected remedy involved (1) debris removal at the site to the extent required to meet the specified remedial action goals, (2) disposing of contaminated materials at the ERDF, (3) demonstrating through verification sampling that cleanup goals have been achieved, and (4) proposing the site for reclassification as Final Closed Out.

Basis for reclassification:

Verification sampling conducted on September 14, 2017, determined that the 600-393 waste site has been remediated in accordance with the 300-FF-2 RDR/RAWP (DOE/RL-2014-13-ADD1) to meet the cleanup levels specified in the 300 Area ROD (EPA 2013). The cleanup verification sampling results were evaluated in comparison to the cleanup levels. In accordance with this evaluation, the verification sampling results support a reclassification of the 600-393 waste site to Final Closed Out. The current site conditions achieve the remedial action objectives and goals established in the (300 Area ROD) (EPA 2013) and the 300-FF-2 RDR/RAWP (DOE/RL-2014-13-ADD1).

The results of verification sampling show that residual contaminant concentrations do not preclude any future uses (as bounded by the residential scenario) and allow for unrestricted use of shallow zone soils. The results also demonstrate that residual contaminant concentrations are protective of groundwater and the Columbia River. The site does not have residual contamination concentrations in the vadose zone that would require any institutional controls.

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Regulator comments:

Waste Site Controls:

Engineered Controls:	☐ Yes ☒ No	Institutional Controls:	☐ Yes ☒ No	O&M Requirements:	☐ Yes ☒ No

If any of the Waste Site Controls are checked Yes, specify control requirements including reference to the Record of Decision, TSD Closure Letter, or other relevant documents:

Residual soil at the 600-393 waste site has been sampled, analyzed, and compared to cleanup levels. Results indicate the site has met the criteria for unlimited use and unrestricted exposure. Consequently, the 600-393 waste site is verified to be remediated in accordance with the 300 Area ROD (EPA 2013), does not require backfill, and may be revegetated.

Mark French	M French	10/31/17
DOE Federal Project Director (printed)	Signature	Date
N/A	N/A	N/A
Ecology Project Manager (printed)	Signature	Date
Ben Simes		11/1/17
EPA Project Manager (printed)	Signature	Date

Backup information for Waste Site Reclassification Form #2017-032

600-393: Potential Battery Components Debris Area

The 600-393 waste site is a collection of pre-Hanford dry cell batteries (Figure 1) located in an area of various other farmstead debris. A field test of the battery debris and surrounding soil was negative for the presence of lead, and historic evidence indicates the composition could be the remnants of discarded zinc-carbon cell batteries. Sampling data from similar sites across the Hanford complex have not indicated lead in soil above direct exposure cleanup levels.

The remediation of this site on September 6, 2017, included removal of the visible battery debris on the ground surface and 2-3 inches of affected soils using hand tools (Figure 2). Hand tools were used to probe approximately 6 inches below the surface below affected soil to determine the extent of debris and no additional debris was detected. Care was taken during the removal of the batteries to ensure that there was no disturbance to the remaining artifacts in the area, as required by the cultural review for this waste site.

Verification sampling was performed on September 14, 2017. A focused sample of the soil beneath each of the four distinct areas where battery debris was removed was collected, including a duplicate and a split sample at one of the sampling locations (Figure 3). The contaminants of concern are RCRA metals, anions and soil pH (Table 1). Specific requirements for sample handling, custody, preservation, containers, holding times, field and laboratory quality control (QC), instrument calibration and maintenance, field documentation, and waste management are specified in the 300 Area SAP. Verification sampling analytical results (Table 2) support a determination that this waste site can be reclassified as Final Closed Out in accordance with the remedial action objectives specified in the 300 Area ROD.

Table 1. Sample Summary Table for 600-393

Waste Site	Sample Location	WSP Coordinate Locations (m)		COCs [a]
		Northing	Easting	
600-393	VS-1	114081.63	591581.70	ICP Metals + Mercury pH IC Anions
	VS-2	114083.69	591581.10	
	VS-3	114067.49	591581.34	
	VS-4	114067.07	591582.44	
Duplicate	VS-2 Dup	114083.69	591581.10	
Split	VS-2 Split	114083.69	591581.10	
Equipment blank[b]	NA	NA	NA	ICP Metals + Mercury pH IC Anions

[a] Grab samples were collected at each location and sample analysis was performed using the methods specified in Table 1, consistent with DOE/RL-2001-48, 2014, *300 Area Remedial Action Sampling and Analysis Plan*, requirements.

[b] If samples are collected with disposable tools (e.g. plastic sampling scoops and bags), then an equipment blank is not required, per the 300 Area SAP.

COC = contaminant of concern
NA = not applicable
WSP = Washington State Plane

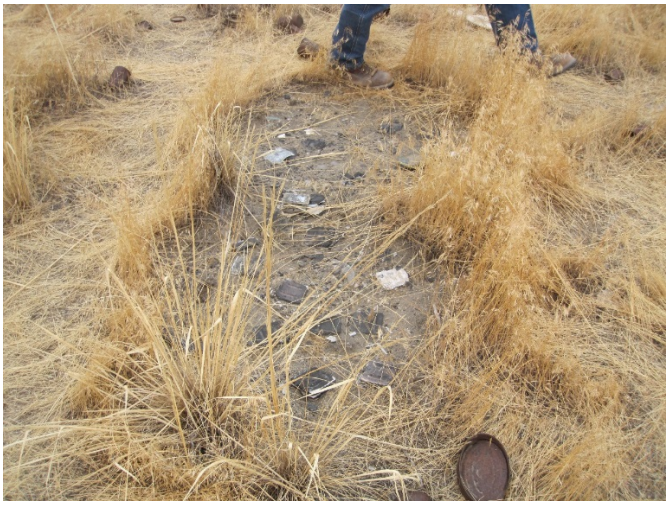

Figure 1. 600-393 Pre-remediation

Figure 2. 600-393 In-process remediation

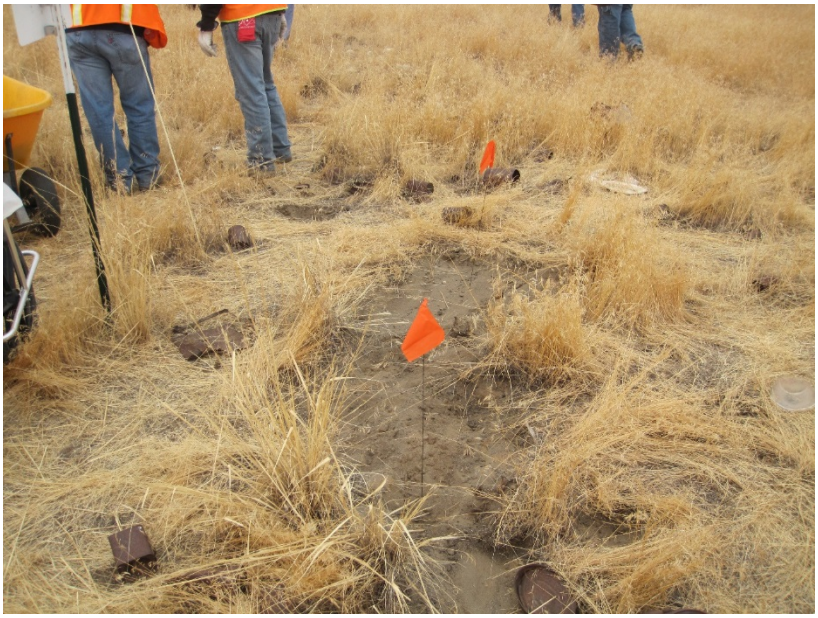

Figure 3. 600-393 Post-excavation with pin flags marking sample location

Table 2. 600-393 Final Data (Analytical Report 9/29/17)

Waste Site	HEIS Number	Sample Date	Fluoride			Nitrogen in Nitrate			Nitrogen in Nitrite			Sulfate			Chloride		
			300.0_ANIONS_IC			300.0_ANIONS_IC			300.0_ANIONS_IC			300.0_ANIONS_IC			300.0_ANIONS_IC		
			mg/kg	Q	MDL	mg/kg	Q	MDL	mg/kg	Q	MDL	mg/kg	Q	MDL	mg/kg	Q	MDL
600-393	B3DCB9	9/14/17	0.48	B	0.15	1.8		0.055	0.055	U	0.055	1.8	B	0.5	1.4	B	0.2
600-393	B3DCC0	9/14/17	0.7	B	0.15	6.8		0.056	0.056	U	0.056	6.5		0.51	5.8		0.2
600-393	B3DCC1	9/14/17	0.36	B	0.15	3.8		0.056	0.056	U	0.056	3.9	B	0.51	5.8		0.2
600-393	B3DCC2	9/14/17	0.64	B	0.14	5.1		0.055	0.055	U	0.055	2.2	B	0.5	4.5		0.2
600-393	B3DCC3	9/14/17	0.55	B	0.14	1.7		0.055	0.055	U	0.055	2.7	B	0.5	1.8	B	0.2
MAX			0.7	B	0.15	6.8		0.056	0.056	U	0.056	6.5		0.51	5.8		0.2
CUL			4,800			13,600			999			75,600			69,600		

Waste Site	HEIS Number	Sample Date	Arsenic			Barium			Cadmium			Chromium			Lead		
			6010_METALS_ICP			6010_METALS_ICP			6010_METALS_ICP			6010_METALS_ICP			6010_METALS_ICP		
			mg/kg	Q	MDL	mg/kg	Q	MDL	mg/kg	Q	MDL	mg/kg	Q	MDL	mg/kg	Q	MDL
600-393	B3DCB9	9/14/17	1.3	BD	1.2	73	D	7.2	3.2	D	0.72	8.9	D	1.2	5.2	D	1.11.2
600-393	B3DCC0	9/14/17	5	D	1.1	71.4	D	6.4	5.6	D	0.64	9.4	D	1.1	29.4	D	1.1
600-393	B3DCC1	9/14/17	3	BD	1.2	93.4	D	7	7.9	D	0.7	10.6	D	1.2	27.5	D	1.2
600-393	B3DCC2	9/14/17	2.3	BD	1.1	71.9	D	6.7	14	D	0.67	11	D	1.1	8.1	D	1.1
600-393	B3DCC3	9/14/17	4.4	UD	1.1	71.4	D	6.7	3.8	D	0.67	9.2	D	1.1	13.1	D	1.1
MAX			5	D	1.1	93.4	D	7	14	D	0.67	11	D	1.1	29.4		
CUL			20			16,000			80			120,000			250		

Waste Site	HEIS Number	Sample Date	Selenium			Silver			Mercury			pH
			6010_METALS_ICP			6010_METALS_ICP			7471_HG_CVAA			
			mg/kg	Q	MDL	mg/kg	Q	MDL	mg/kg	Q	MDL	
600-393	B3DCB9	9/14/17	1.2	UD	1.2	1.2	UD	1.2	0.09		0.01	5.88
600-393	B3DCC0	9/14/17	1.2	BD	1.1	1.1	UD	1.1	0.93		0.011	5.93
600-393	B3DCC1	9/14/17	2.2	BD	1.2	1.2	UD	1.2	0.5		0.011	5.82
600-393	B3DCC2	9/14/17	1.1	UD	1.1	1.1	UD	1.1	0.13		0.011	5.52
600-393	B3DCC3	9/14/17	1.1	UD	1.1	1.1	UD	1.1	1.6		0.011	6.11
MAX			2.2	BD	1.2	1.2	UD	1.2	1.6		0.011	
CUL			302			400			8.5			

QUALIFIERS:

B = Estimated result. Result is less than the Reporting Limit, but greater than the Method Detection Limit

D = The reported value is from a dilution.

U = Analyzed for but not detected.