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[0081254H]

WASTE SITE RECLASSIFICATION FORM

Operable Unit: 300-FF-2 **Control No.:** 2015-022

Waste Site Code(s)/Subsite Code(s): 300-15:5

Reclassification Category: Interim ☐ Final ☒

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

Approvals Needed: DOE ☒ Ecology ☐ EPA ☒

Description of current waste site condition:

The 300-15, 300 Area Process Sewer System waste site, part of the 300-FF-2 Operable Unit, was identified as a waste site requiring remediation in the *Hanford Site 300 Area, Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1, Hanford Site, Benton County, Washington* (300 Area Final Action ROD), U.S. Environmental Protection Agency, Region 10, Seattle, Washington (EPA 2013). Based on historical information and sampling results, the 300-15:5 subsite meets the remedial action objectives (RAOs) established by the 300 Area Final Action ROD and can be reclassified as No Action. The 300-15:5 subsite consists of 4,300 ft of 10-in. high-density polyethylene pipe which ran from the 342 Lift Station to the 310 Treated Effluent Disposal Facility/Retention Transfer System (TEDF/RTS). A second segment of 300-15:5 ran from 310 TEDF/RTS to the 3906S Lift Station and consists of 5,900 ft of 3-in. PVC piping.

The 300-15:5 subsite consists of a pipeline system that carried nonradiological and nonhazardous process wastewater from the 342 Lift Station to the 310 TEDF. The 310 TEDF was a nonhazardous, nonradiological facility that treated 300 Area process wastewater than was subsequently discharged to the Columbia River in accordance with the National Pollutant Discharge Elimination System (NPDES) permit. The 310 TEDF was eventually deactivated and reconfigured into the 310 RTS, which operated until 2013 when the system was permanently shut down. During RTS operation, the return leg of sanitary sewer piping was used as a process sewer line, and is included in the 300-15:5 subsite. This return length of piping runs from 310 RTS to 3906S Lift Station (LS-10) in the southern 300 Area. Both the above-grade 310 TEDF portions of the original facility and the later 310 RTS have been demolished and disposed of at the Environmental Restoration Disposal Facility. A historical records search that included 310 TEDF and 310 RTS operational histories documented no known releases from plant operations or from associated piping systems.

Pipe smears and samples from beneath exposed piping were collected from the 300-15:5 subsite for evaluation. The evaluation provided in Attachment 1 demonstrates that the 300-15:5 subsite meets RAOs established by the 300 Area Final Action ROD (EPA 2013) and can be reclassified as No Action.

Basis for reclassification:

Wipe samples were collected from the interior of the piping where the process sewer exited the 342 Collection Sump and where it entered LS-10. Analytical results indicated that some contaminants were present, but at low levels. Additional information on the sampling event, locations, and results, are provided in Attachment 1. The results support a reclassification of the 300-15:5 subsite to Final No Action. Institutional controls to maintain industrial land use are not required for the 300-15:5 subsite. The basis for reclassification is described in detail in Attachment 1.

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WASTE SITE RECLASSIFICATION FORM

Operable Unit: 300-FF-2 **Control No.:** 2015-022

Waste Site Code(s)/Subsite Code(s): 300-15:5

Regulator comments:

As-built engineering drawings of the remaining 300-15:5 segment are retained by the Department of Energy (DOE) in the event this system is chose for reuse in future industrial development.

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:

M. French	M S French	5/8/15
DOE Federal Project Director (printed)	Signature	Date
NA		
Ecology Project Manager (printed)	Signature	Date
B. Simes		5/13/15
EPA Project Manager (printed)	Signature	Date

300-15:5, 310 RETENTION TRANSFER SYSTEM SUBSITE

Attachment to Waste Site Reclassification Form 2015-022

May 2015

300-15:5 CLOSE-IN-PLACE EVALUATION

INTRODUCTION

This evaluation supports a determination that 300-15:5 subsite meets 300 Area Final Action ROD (EPA 2013) remedial action objectives (RAOs) and cleanup levels (CULs) and therefore is reclassified as "No Action". The evaluation provides both a qualitative and quantitative basis for reclassification, and includes the operational history of the 300-15:5 piping and associated facilities.

SYSTEM SUMMARY

The 300-15:5 piping was designed to convey non-radiological and nonhazardous process waste water from the 342 Lift Station to the 310 Treated Effluent Disposal Facility (TEDF). The 310 TEDF was a nonhazardous, nonradiological, Clean Water Act facility that treated 300 Area process waste water that was subsequently discharged to the Columbia River in accordance with a National Pollutant Discharge Elimination System (NPDES) permit. In later years of operation, 310 TEDF was deactivated and reconfigured into the 310 Retention Transfer System (RTS). In this latter configuration, the RTS served to accumulate process sewer effluent from the 325 Building, screen the effluent for radiological contamination and pH, then batch discharge the effluent into the combined 300 Area process/sanitary sewer, which was in turn discharged to the City of Richland Publically Owned Treatment Works (POTW). Discharge to the POTW was performed in accordance with an Industrial Waste Water Discharge Permit issued by the City of Richland. During RTS operation, the return leg of sanitary sewer piping was used as process sewer and is included in this proposal. This return length of piping runs from 310 RTS to 3906S Lift Station (LS-10) in the southern 300 Area.

The original segment from 342 to 310 TEDF/RTS consists of 4,300 ft of 10-in. high-density polyethylene pipe. The return segment from 310 TEDF/RTS consists of 5,900 ft of 3-in. polyvinyl chloride pipe. A site sewer plan showing 300-15:5 is included as Figure 1.

It is assumed the piping system was hydrostatically tested following construction, as this is the industry standard procedure and a requirement of federal facility construction. During deactivation of the original 310 TEDF, all plant piping systems were cleaned and flushed back to the City of Richland POTW. During RTS deactivation, no flushing was performed. Rather, the system was pumped and drained to the maximum extent possible. As-built engineering drawings of the remaining 300-15:5 segment are retained by DOE in the event this system is chosen for reuse in future industrial development.

Figure 1. 300 Area Site Plan Showing 300-15:5.

TEDF PROCESS OPERATIONS

The 310 TEDF was constructed in 1994 and was designed to treat industrial wastewaters, primarily from the 300 Area process sewers, prior to discharge to the Columbia River. During operation, 310 TEDF was a Clean Water Act, nonhazardous NPDES permitted facility. In 2009, the 310 TEDF was reconfigured and converted to the 310 RTS and operated until 2013 when the system was permanently shut down. Both the above-grade 310 TEDF portions of the original facility and the later 310 RTS have been demolished and disposed of at the Environmental Restoration Disposal Facility.

A 1999 aerial photograph showing the original configuration of the 310 TEDF facilities is included as Figure 2.

Figure 2. Aerial Photograph of the 310 TEDF, June 1999.

310 TEDF PHYSICAL DESCRIPTION

The 310 chemical processing building was a one-level, high-bay, 150 ft long by 90 ft wide metal structure on a concrete slab floor. Building services included potable water, electricity,

telephone, and sanitary sewer. Outside the west wall was an electrical transformer and switchgear, as well as HVAC units. Adjacent to the east wall was a covered drum storage area, four bulk storage chemical tanks, and a chemical unloading area. There were roll-up doors on the north, south, and east walls. The building contained nearly all of the equipment required to treat the process wastewaters. In general, the equipment and lines within the facility were cleaned out before transition for demolition.

Outside the west wall of the 310 Building were the two open-top clarifier tanks, 310-T-7A and 310-T-7B. Each tank was 30 ft in diameter and 15 ft high, with an 80,000 gal operating capacity.

310 TEDF FACILITY HISTORY

The 310 TEDF was constructed in 1994 and was designed to treat industrial wastewaters. Most of this wastewater originated from the 300 Area process sewers, although some industrial wastewater from other Hanford Site operations was also treated. The primary wastewater constituents requiring removal were low levels of heavy metals, mercury, organics, and cyanide. After receipt from the 342 Waste Collection Sump/Lift Station, the wastewater was processed at a nominal 300 GPM sequentially through an iron co-precipitation system to remove heavy metals, an ion-exchange system to remove mercury, and a hydrogen-peroxide/ultraviolet radiation system to destroy organics and cyanide. The primary process chemicals, stored in tanks just outside the east wall, included ferric chloride (6,000 gal tank), sodium hydroxide (6,000 gal tank), sulfuric acid (4,000 gal tank), and hydrogen peroxide (1,000 gal tank).

Two clarifiers were part of the iron co-precipitation process. Following addition of chemicals and a flocculant, the wastewater was gravity-fed to the clarifiers where solids precipitated. Clarified wastewater overflowed the tanks for further processing, and the solids were pumped to a filter press for dewatering and eventual disposal.

The MO-744 and MO-745 mobile trailers were used as engineering and administration offices for the TEDF staff. They were not used for operations or maintenance functions, or as storage for any process materials.

QUALITATIVE ASSESSMENT OF 300-15:5 PIPING

The 300-15:5 piping segment from the 342 Complex to 310 TEDF was a modern system installed in 1996 and operated until 2014. From 2009, the sanitary sewer from the reconfigured 310 RTS back to LS-10 in the southern 300 Area conveyed process sewer effluent that was ultimately discharged to the City of Richland POTW in accordance with an industrial wastewater discharge permit. The 300-15:5 segment of the 300 Area process sewer operated within significantly more stringent regulating parameters than did older process sewer segments, some of which date back to the Manhattan project and World War II.

Prior to startup of 310 TEDF, a detailed quantitative assessment of generating facilities effluent was conducted as part of plant design validation (WHC-SD-L045H-TM-001). The DOE prime

contractor at the time instituted a program of physical and administrative controls designed to reduce contaminants in process sewer effluent. Wastewater characterization data prior to implementation of these controls were used to estimate "worst case" concentrations and served as a design basis parameter. The highest concentration of contaminants of concern (COCs) were reported in microgram per liter concentrations, or part per billion levels as documented in Table 2-1 of WCH-SD-L045H-TM-001, *Facility Description Manual – Hanford 300 Area Treated Effluent Disposal Facility*, Westinghouse Hanford Company, 1994 (Figure 3).

Figure 3. WHC-SD-LO45H-TM-001, Table 2-1.

WHC-SD-L045H-TM-001
Rev 0

Table 2-1
TEDF Design Feedwater Concentrations

CONTAMINANT	CONCENTRATION (µg/l)	CONTAMINANT	CONCENTRATION (µg/l)
Acetone	70	Bisthanolethanedithiol	1
Bis(ethylhexyl)phthalate	80	2-Butoxyethanol	1
2-(2-butoxy ethoxy)ethanol	100	Bromodichloromethane	1.5
Bromomethane	14	Chlorodifluoromethane	20
Chloroform	40	1,1-Dichloroethane	40
Dichlorodifluoromethane	3	Ethyl alcohol	3
Methyl ethyl ketone	5	Methylene chloride	5.1
m-Xylene	1	o-,p-Xylene	1
2-Propanol	4	Tetrachloroethylene	10
Toluene	6.4	1,1,1-Trichloroethane	10
Trichloroethene	0.4	Trichlorofluoromethane	1
Aluminum	418	Ammonia (total)	541
Arsenic (III)	10	Arsenic (penta)	10
Barium	60	Beryllium	30
Boron	25	Bromide	4
Cadmium	10	Calcium	30,000
Chloride	60,000	Chromium (III)	10
Chromium (VI)	10	Copper	80
Cyanide	50	Fluoride	200
Iron	600	Lead	60
Lithium	60	Magnesium	5,000
Manganese	60	Mercury	3
Nickel	60	Nitrate	6,000
Nitrite	400	Phosphate	1,000
Phosphorus (total)	33	Potassium	1,000
Selenium	6	Silicon	3,000
Silver	20	Sodium	40,000
Strontium	100	Sulfate	30,000
Sulfide	100	Tin	100
Titanium	21	Uranium	10
Vanadium	8	Zinc	211
Alkalinity	60,000	Bicarbonate	65,274
BOD-5 day	6,534	COD	50,245
Carbon (total)	47,646	Coliform (#/100 ml)	230
Conductivity-field (uS)	250	Hardness	65,194
pH-field (pH units)	9	POX-Br	14
POX-Cl	62	Suspended solids	9,000
Total Dissolved Solids	120,000	Total organic carbon	29,905
TOX-Br	21	TOX-Cl	153
Alpha activity (pCi/l)	9	Beta activity (pCi/l)	40
Am-241 (pCi/l)	0.6	Cs-137 (pCi/l)	46
Co-60 (pCi/l)	1	H-3 (tritium) (pCi/l)	401
Pm-147 (pCi/l)	9	Pu-238 (pCi/l)	0.05
Pu-239/240 (pCi/l)	0.2	Pu-241 (pCi/l)	40
Radium total (pCi/l)	0.2	Ru-106 (pCi/l)	4
Sr-90 (pCi/l)	1	Sr-total (pCi/l)	2.8
Uranium total (pCi/l)	8		

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These low levels of contaminants were verified through flow proportionate composite sampling of influent wastewaters during the entire operational history of the plant. The last five years of analytical results are documented in Table 2 of HNF-36096 Rev. 1, *300 Area TEDF Shutdown Plan*, CH2MHill Plateau Remediation Company, 2009 (Figure 4). These results confirm that influent contaminant levels were measured at very low levels, in the part per billion range.

Figure 4. 310 TEDF Influent Data for the Last Five Operational Years.

300 Area TEDF Shutdown Plan HNF-36096 Rev. 1. Table 2 TEDF Influent Data Summary. Data summary for previous five years of one month flow proportional composite samples for nonvolatiles and monthly grab samples for volatile constituents.

Constituent	Average	Maximum	Minimum
Aluminum	125.90	840.00	15.70
Manganese	27.48	214.00	2.16
Nickel	4.43	42.20	0.91
Silver	0.74	6.04	0.00
Antimony	0.51	3.50	0.00
Barium	45.10	164.00	9.00
Beryllium	0.00	0.06	0.00
Cadmium	0.22	1.36	0.00
Chromium	3.44	19.20	0.00
Cobalt	2.78	21.00	0.22
Copper	113.99	564.00	20.00
Lead	5.53	30.40	0.00
Mercury	0.22	1.03	0.00
Molybdenum	1.35	4.15	0.48
Arsenic	1.11	6.75	0.00
Selenium	0.34	2.92	0.00
Thallium	0.15	0.70	0.00
Uranium	6.58	32.50	0.62
Vanadium	5.70	124.00	0.40
Zinc	131.39	1220.00	14.30
Calcium	32439.4	61400.0	22800.0
Iron	6036.0	34600.0	292.0
Magnesium	6732.9	14200.0	4530.0
Potassium	1974.4	5680.0	0.0
Sodium	46797.9	118000.0	8320.0
Ammonia (ppm)	0.36	11.20	0.00
Cyanide	0.00	0.00	0.00
Total organic carbon (ppm)	2.5	23.6	0.6
TSS (ppm)	19.4	155.0	0.0
Chloride (ppm)	62.8	285.0	6.6
Nitrate (ppm)	1.4	4.1	0.0
Nitrite (ppm)	0.0	0.8	0.0
Phosphate (ppm)	0.0	0.4	0.0
Sulfate (ppm)	20.5	34.7	9.9
1, 1 -dichloroethane	0.00	0.00	0.00
1, 1,1 -trichloroethane	0.00	0.00	0.00
Bis (2-ethyihexyl) phithalate	0.13	6.20	0.00
Chloroform	7.45	16.00	0.00
Bromodichloromethane	0.00	0.00	0.00
Methylene chloride	0.00	0.00	0.00
Tetrachloroethene	0.00	0.00	0.00
Acetone	1.38	36.00	0.00
Toluene	0.06	3.9	0.00
Trichloroethene	0.00	0.00	0.00
Gross alpha (pCi/L)	4.34	16.00	0.00
Gross beta (pCi/L)	4.35	19.00	0.00
H-3 (pCi/L)	11.51	340.00	0.00
Ra-226 (pCi/L)	0.25	12.00	0.00

Units ppb unless otherwise noted.

A historical records search that included 310 TEDF and 310 RTS operational histories documented no known releases either from plant operations or from associated piping systems. Records included deactivation and turnover plans prior to demolition of both facility configurations.

Following discussions and agreement in 2013 with EPA Hanford representatives, samples were collected of pipe internals where the process sewer exited the 342 Collection Sump and where it enters LS-10. If sediment was unavailable in sufficient quantities for lab analysis, smears were to be collected of internal pipe surfaces and analyzed for the COCs listed on the *North of Apple Verification Work Instruction*, 0300X-WI-G0034 (342 sample location), and *South of Apple Verification Work Instruction*, 0300X-WI-G0035. During sampling, it was determined there was insufficient sediment or scale material existing within the pipe, so smears were taken in lieu of sediment samples. Figures 5 and 6 show piping sample locations. From a qualitative perspective, analytical results for the smears do show some contaminants were present, but also at low levels. Table 1 shows smear analytical results for the 342 outlet piping north of Apple COCs. Table 2 shows smear analytical results for the LS-10 inlet piping south of Apple COCs. Because results are per sample, a direct comparison to CULs is not possible.

Figure 5. Sample Location at Outlet from 342 (# J1TLF7).

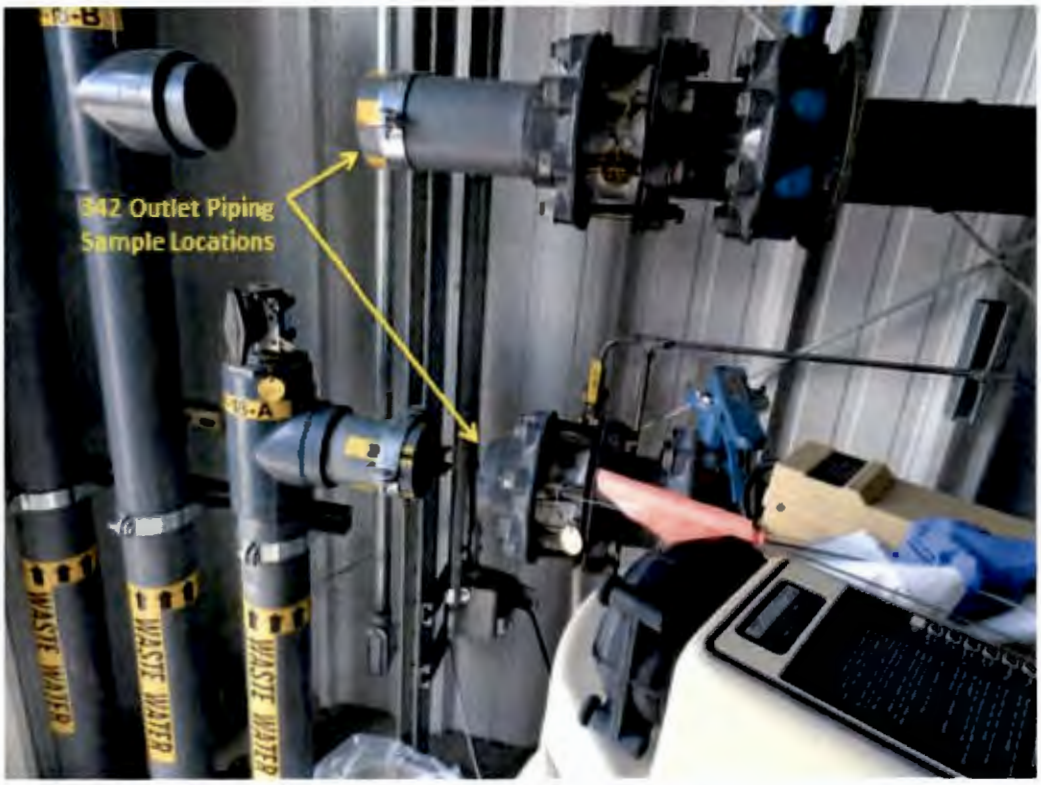

Figure 6. Sample Location at Inlet to LS-10 (# J1TL51).

Table 1. Smear Analytical Results for J1TLF7, 342 Outlet Pipelines.

Constituent [a]	Analytical Result (pCi/sample)
Uranium-238	75.9 [b]
Contaminant of Concern [a]	**Analytical Result (mg/sample)**
Barium	0.00145
Chromium (total)	0.00026
Cobalt	0.00175
Copper	0.0198
Manganese	0.0208
Nickel	0.000271
Uranium (total)	0.000296
Vanadium	0.00014
Zinc	0.0665
Nitrogen in nitrate	0.117
TPH – motor oil	0.259

[a] Only results for detected analytes are reported.

[b] The J1FLF7 smear was taken from approximately 20 ft of internal piping surface and undoubtedly biased the result high.

TPH = total petroleum hydrocarbons

Table 2. Smear Analytical Results for J1TL51, LS-10 Inlet Pipeline.

Contaminant of Concern [a]	Analytical Result (pCi/sample)
Uranium-238	72.834 [b]
Uranium-233/234	1.917
Contaminant of Concern [a]	**Analytical Result (mg/sample)**
Antimony	0.00045
Barium	0.00363
Cadmium	0.000051
Chromium (total)	0.000377
Cobalt	0.000098
Copper	0.0216
Lead	0.00225
Manganese	0.00158
Nickel	0.000221
Uranium (total)	0.000057
Vanadium	0.000276
Zinc	0.0457
Nitrogen in nitrate	0.164
TPH – motor oil	0.259

[a] Only results for detected analytes are reported.

[b] The J1TL51 smear was taken from approximately 20 ft of internal piping surface and undoubtedly biased the result high.

TPH = total petroleum hydrocarbons

In order to achieve a direct comparison with CULs, a second set of samples were collected on September 22, 2014. These samples included both pipe coupons and beneath-pipe soils at the former 342 Complex and 310 TEDF. Samples were collected at coordinates 117.280.00 N, 593.714.17 E (310 pipe and soils) and 116.275.37 N, 594.120.71 E Sample (342 pipe and soils), respectively. Because the LS-10 lift station remains in service, no other samples were taken. However, no piping enters the 310 TEDF to LS-10 line downstream of the 310 sample location; therefore, the samples collected at 310 are considered representative of the entire length back to LS-10. Tables 3 through 6 show results and comparison to CULs for detected analytes.

Table 3. Comparison of Contaminant Concentrations to Residential Cleanup Levels for the J1V0D5 342 Pipe Coupons Sample.

COC	Maximum Result[a] (pCi/g)	Residential Radionuclide Direct Exposure CULs[b] (pCi/g)	Residential Radionuclide Groundwater and River Protection CULs[b] (pCi/g)	Does the Result Exceed CULs?
Gross beta	6.28	--	--	NA
Uranium-238	3.54	26.2	--	No
COC	**Maximum Result[a] (mg/kg)**	**Residential Nonradionuclide Direct Exposure CULs[b] (mg/kg)**	**Residential Nonradionuclide Groundwater and River Protection CULs[b] (mg/kg)**	**Does the Result Exceed CULs?**
Arsenic	0.501 (<BG)	20	20	No
Barium	11.0 (<BG)	16,000	--	No
Beryllium	0.101 (<BG)	160	--	No
Cadmium	0.137 (<BG)	80	176	No
Chromium (total)	1.86 (<BG)	120,000	--	No
Cobalt	1.38 (<BG)	24	--	No
Copper	22.3	3,200	3,400	No
Lead	2.0 (<BG)	250	1,480	No
Lithium	0.372 (<BG)	160	--	No
Manganese	45.0 (<BG)	11,200	--	No
Mercury	0.0306	24	8.5	No
Nickel	1.77 (<BG)	1,600	--	No
Silver	0.196	400	--	No
Uranium	0.0762 (<BG)	81	102	No
Vanadium	6.76 (<BG)	400	--	No
Zinc	21.5 (<BG)	24,000	64,100	No
Nitrate	0.371 (<BG)	568,000	13,600	No

[a] Background values from DOE-RL 1996, 2001, and 2013.
[b] CULs obtained from Table 4 of the 300 Area ROD (EPA 2013)

-- = not applicable
BG = background
COC = contaminant of concern
CUL = cleanup level
ROD = record of decision

Table 4. Comparison of Contaminant Concentrations to Residential Cleanup Levels for the J1V0D7 342 Under Pipe Soil Sample.

COC	Maximum Result [a] (pCi/g)	Residential Radionuclide Direct Exposure CULs [b] (pCi/g)	Residential Radionuclide Groundwater and River Protection CULs [b] (pCi/g)	Does the Result Exceed CULs?
Gross beta	2.03	--	--	NA
Europium-152	0.0152	3.3	--	No
COC	**Maximum Result [a] (mg/kg)**	**Residential Nonradionuclide Direct Exposure CULs [b] (mg/kg)**	**Residential Nonradionuclide Groundwater and River Protection CULs [b] (mg/kg)**	**Does the Result Exceed CULs?**
Barium	65.4 (<BG)	16,000	--	No
Beryllium	1.35 (<BG)	160	--	No
Cadmium	0.358 (<BG)	80	176	No
Chromium (total)	9.66 (<BG)	120,000	--	No
Cobalt	9.84 (<BG)	24	--	No
Copper	8.98 (<BG)	3,200	3,400	No
Lithium	7.54 (<BG)	160	--	No
Manganese	298 (<BG)	11,200	--	No
Mercury	0.0192	24	8.5	No
Nickel	9.31 (<BG)	1,600	--	No
Silver	0.572	400	--	No
Strontium	17.9	48,000	--	No
Uranium	0.749 (<BG)	81	102	No
Vanadium	51.8 (<BG)	400	--	No
Zinc	30.5 (<BG)	24,000	64,100	No
Fluoride	0.666	4,800	--	No
Nitrate	2.04 (<BG)	568,000	13,600	No

[a] Background values from DOE-RL 1996, 2001, and 2013.
[b] CULs obtained from Table 4 of the 300 Area ROD (EPA 2013)

-- = not applicable
BG = background
COC = contaminant of concern
CUL = cleanup level
ROD = record of decision

Table 5. Comparison of Contaminant Concentrations to Residential Cleanup Levels for the J1V0D4 310 TEDF Pipe Coupons Sample.

COC	Maximum Result [a] (pCi/g)	Residential Radionuclide Direct Exposure CULs [b] (pCi/g)	Residential Radionuclide Groundwater and River Protection CULs [b] (pCi/g)	Does the Result Exceed CULs?
Gross beta	10.5	--	--	NA
Uranium-238	12.4	26.2	--	No
COC	**Maximum Result [a] (mg/kg)**	**Residential Nonradionuclide Direct Exposure CULs [b] (mg/kg)**	**Residential Nonradionuclide Groundwater and River Protection CULs [b] (mg/kg)**	**Does the Result Exceed CULs?**
Barium	1.05 (<BG)	16,000	--	No
Chromium (total)	0.149 (<BG)	120,000	--	No
Cobalt	0.151 (<BG)	24	--	No
Copper	5.02 (<BG)	3,200	3,400	No
Lead	0.834 (<BG)	250	1,480	No
Manganese	3.30 (<BG)	11,200	--	No
Mercury	0.0165	24	8.5	No
Nickel	0.191 (<BG)	1,600	--	No
Uranium	0.0584 (<BG)	81	102	No
Vanadium	0.206 (<BG)	400	--	No
Zinc	4.68 (<BG)	24,000	64,100	No
Nitrate	0.410 (<BG)	568,000	13,600	No

[a] Background values from DOE-RL 1996, 2001, and 2013.
[b] CULs obtained from Table 4 of the 300 Area ROD (EPA 2013)

-- = not applicable
BG = background
COC = contaminant of concern
CUL = cleanup level
ROD = record of decision

Table 6. Comparison of Contaminant Concentrations to Residential Cleanup Levels for the J1V0D6 310 Under Pipe Soil Sample.

COC	Maximum Result [a] (pCi/g)	Residential Radionuclide Direct Exposure CULs [b] (pCi/g)	Residential Radionuclide Groundwater and River Protection CULs [b] (pCi/g)	Does the Result Exceed CULs?
Gross beta	1.73	--	--	NA
Europium-155	0.0125	125	--	No
Uranium-238	1.28	26.2	--	No
COC	**Maximum Result [a] (mg/kg)**	**Residential Nonradionuclide Direct Exposure CULs [b] (mg/kg)**	**Residential Nonradionuclide Groundwater and River Protection CULs [b] (mg/kg)**	**Does the Result Exceed CULs?**
Arsenic	0.772 (<BG)	20	20	No
Barium	53.2 (<BG)	16,000	--	No
Beryllium	1.2 (<BG)	160	--	No
Cadmium	0.253 (<BG)	80	176	No
Chromium (total)	7.0 (<BG)	120,000	--	No
Cobalt	8.51 (<BG)	24	--	No
Copper	8.87 (<BG)	3,200	3,400	No
Lithium	6.97 (<BG)	160	--	No
Manganese	247 (<BG)	11,200	--	No
Nickel	9.19 (<BG)	1,600	--	No
Silver	0.310	400	--	No
Strontium	20.3	48,000	--	No
Uranium	0.572 (<BG)	81	102	No
Vanadium	49.9 (<BG)	400	--	No
Zinc	24.9 (<BG)	24,000	64,100	No
Fluoride	0.626	4,800	--	No
Nitrate	0.896 (<BG)	568,000	13,600	No

[a] Background values from DOE-RL 1996, 2001, and 2013.
[b] CULs obtained from Table 4 of the 300 Area ROD (EPA 2013)

-- = not applicable
BG = background
COC = contaminant of concern
CUL = cleanup level
ROD = record of decision

CONCLUSIONS

The known operational history of the 310 TEDF/310 RTD and associated process sewer piping; quantitative characterization of the 310 TEDF influent contaminants; qualitative data from smear

samples at piping segments left in place; and quantitative data from pipe coupons and soils are supportive of reclassification of the 300-15:5 subsite to Final No Action.

Results from the 300-15:5 subsite indicate that the site supports future and uses that can be represented (or bounded) by the residential land-use scenario and poses no threat to groundwater or the Columbia River. Because the subsite meets the requirements of a residential land-use scenario, institutional controls are not required.