Date Submitted: 06/05/08 Originator: J. M. Capron Phone: 372-9227	**WASTE SITE RECLASSIFICATION FORM** Operable Unit(s): 100-FR-1 Waste Site Code: 100-F-44:4 Type of Reclassification Action: Closed Out ☐ Interim Closed Out ☐ No Action ☒ RCRA Postclosure ☐ Rejected ☐ Consolidated ☐	Control Number: 2008-030

This form documents agreement among parties listed authorizing classification of the subject unit as Closed Out, Interim Closed Out, No Action, RCRA Postclosure, Rejected, or Consolidated. This form also authorizes backfill of the waste management unit, if appropriate, for Closed Out and Interim Closed Out units. Final removal from the NPL of No Action and Closed Out waste management units will occur at a future date.

Description of current waste site condition:

The 100-F-44:4, Discovery Pipeline in Silica Gel Pit subsite is located in the 100-FR-1 Operable Unit of the Hanford Site, near the location of the former 110-F Gas Storage Tanks structure. The 100-F-44:4 subsite is a steel pipe discovered October 17, 2004, during trenching to locate the 118-F-4 Silica Gel Pit. The pipe is approximately 5 cm (2 in.) in diameter and 0.9 m (3 ft) below grade. The pipe was not further excavated to determine its extent, nor was the pipe or underlying soil sampled at that time. Other inert debris was uncovered as the trench excavation proceeded, including electrical conduit and concrete blocks.

The area remained essentially unchanged from the time of the reactor's construction in 1944 until the demolition of nearby structures (i.e., 115-F Gas Recirculation Facility) in 1984. There are no pipelines indicated on the engineering drawings for this area. Water, sewer, fire, and steam lines were all north of the 110-F structure and entered the Gas Recirculation Building. The nearest waste site was the 118-F-4 Silica Gel Pit. According to historical records, silica gel was deposited there during a single event in 1949 and did not involve any installation of pipelines.

Basis for reclassification:

Based on visual inspection and confirmatory investigation sampling data, the 100-F-44:4 subsite is a piece of non-hazardous electrical conduit debris. Thus, the 100-F-4:4 pipeline subsite meets the remedial action objectives specified in the *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington*, U.S. Environmental Protection Agency, Region 10, Seattle, Washington. The 100-F-44:4 subsite supports unrestricted future use of shallow zone soil (i.e., surface to 4.6 m [15 ft]) and is protective of groundwater and the Columbia River. No residual contamination exists within the deep zone; therefore, no deep zone institutional controls are required. The basis for the No Action reclassification is described in detail in the *Attachment to Waste Site Reclassification Form 2008-030: 100-F-44:4, Discovery Pipeline in Silica Gel Pit* (attached).

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. S. French DOE Federal Project Director (printed)	Signature	9/18/08 Date
N/A Ecology Project Manager (printed)	Signature	Date
R. A. Lobos EPA Project Manager (printed)	Signature	9/23/08 Date

REMAINING SITES VERIFICATION PACKAGE FOR THE 100-F-44:4, DISCOVERY PIPELINE IN SILICA GEL PIT

Attachment to Waste Site Reclassification Form 2008-030

June 2008

REMAINING SITES VERIFICATION PACKAGE FOR THE 100-F-44:4, DISCOVERY PIPELINE IN SILICA GEL PIT

STATEMENT OF PROTECTIVENESS

This report demonstrates that the 100-F-44:4 waste site meets the objectives for reclassification as No Action as established in the *Remedial Design Report/Remedial Action Work Plan for the 100 Area* (RDR/RAWP) (DOE-RL 2005b) and the *Interim Action Record of Decision for the 100-BC-1, 100-BC-2, 100-DR-1, 100-DR-2, 100-FR-1, 100-FR-2, 100-HR-1, 100-HR-2, 100-KR-1, 100-KR-2, 100-IU-2, 100-IU-6, and 200-CW-3 Operable Units, Hanford Site, Benton County, Washington* (Remaining Sites ROD) (EPA 1999). Confirmatory site evaluation demonstrates the 100-F-44:4 discovery pipeline is non-hazardous electrical conduit debris. Residual contaminant concentrations do not preclude any future uses (as bounded by the rural-residential scenario) and allow for unrestricted use of shallow zone soils (i.e., surface to 4.6 m [15 ft] deep). The results also demonstrate that residual contaminant concentrations are protective of groundwater and the Columbia River.

A comparison against ecological risk screening levels has been made for the site contaminants of potential concern and other constituents. Screening levels were not exceeded, with the exception of barium, boron, cadmium, lead, manganese, molybdenum, and vanadium. Exceedance of screening values does not necessarily indicate the existence of risk to ecological receptors. It is believed that the presence of these constituents does not pose a risk to ecological receptors because concentrations of cadmium, manganese, and vanadium are below site background levels; barium and lead are within the range of Hanford Site background levels; and boron and molybdenum concentrations are consistent with those seen elsewhere at the Hanford Site (no established background value is available for boron and molybdenum). A more complete quantitative ecological risk assessment will be presented in the baseline risk assessment for the river corridor portion of the Hanford Site and will be used to support the final closeout decision for this site.

GENERAL SITE INFORMATION AND BACKGROUND

The 100-F-44:4, Discovery Pipeline in Silica Gel Pit subsite is located in the 100-FR-1 Operable Unit of the Hanford Site, south of the location of the former 110-F Gas Storage Tanks structure (Figure 1). The 100-F-44:4 subsite is a steel pipe discovered October 17, 2004, during trenching to locate the 118-F-4 Silica Gel Pit. Figure 2 shows the approximate location of the discovered pipe relative to the 118-F-4 confirmatory sample locations collected in October 2004. The 110-F Gas Storage Tanks consisted of two low-pressure (carbon dioxide) storage tanks, 33 high-pressure (helium) storage tanks, an unloading platform, and a rail tank-car spot (Gerber 1993). The area is believed to have remained essentially unchanged from the time of the reactor's construction in 1944 until the demolition of nearby structures (i.e., 115-F Gas Recirculation Facility) in 1984. There are no pipelines indicated on historical drawings for this area. Water, sewer, fire, and steam lines were all north of the 110-F structure and entered the 115-F Gas Recirculation Building. The nearest waste site was the 118-F-4 Silica Gel Pit. According to

Figure 1. Location of the 100-F-44:4 Waste Site.

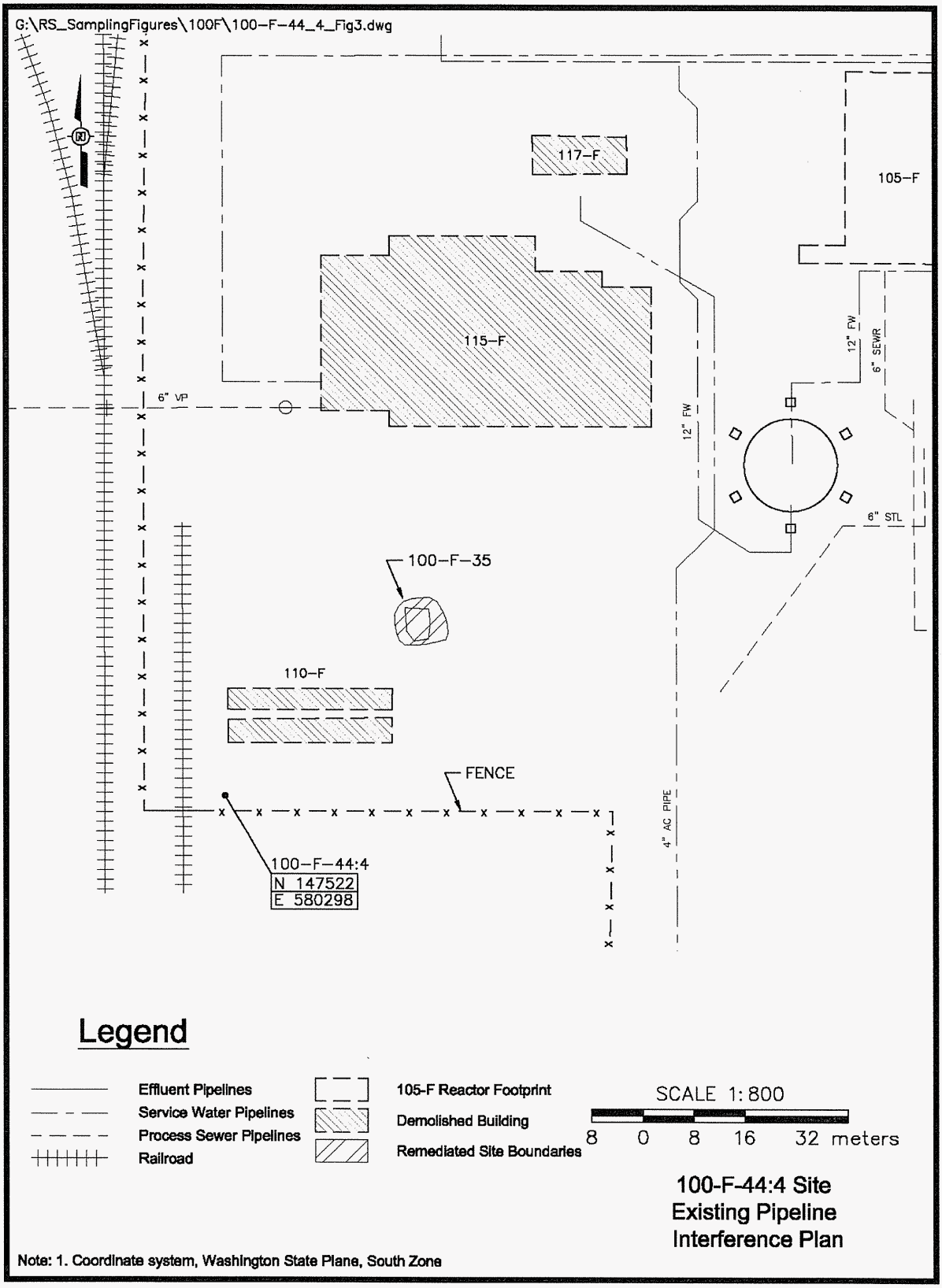
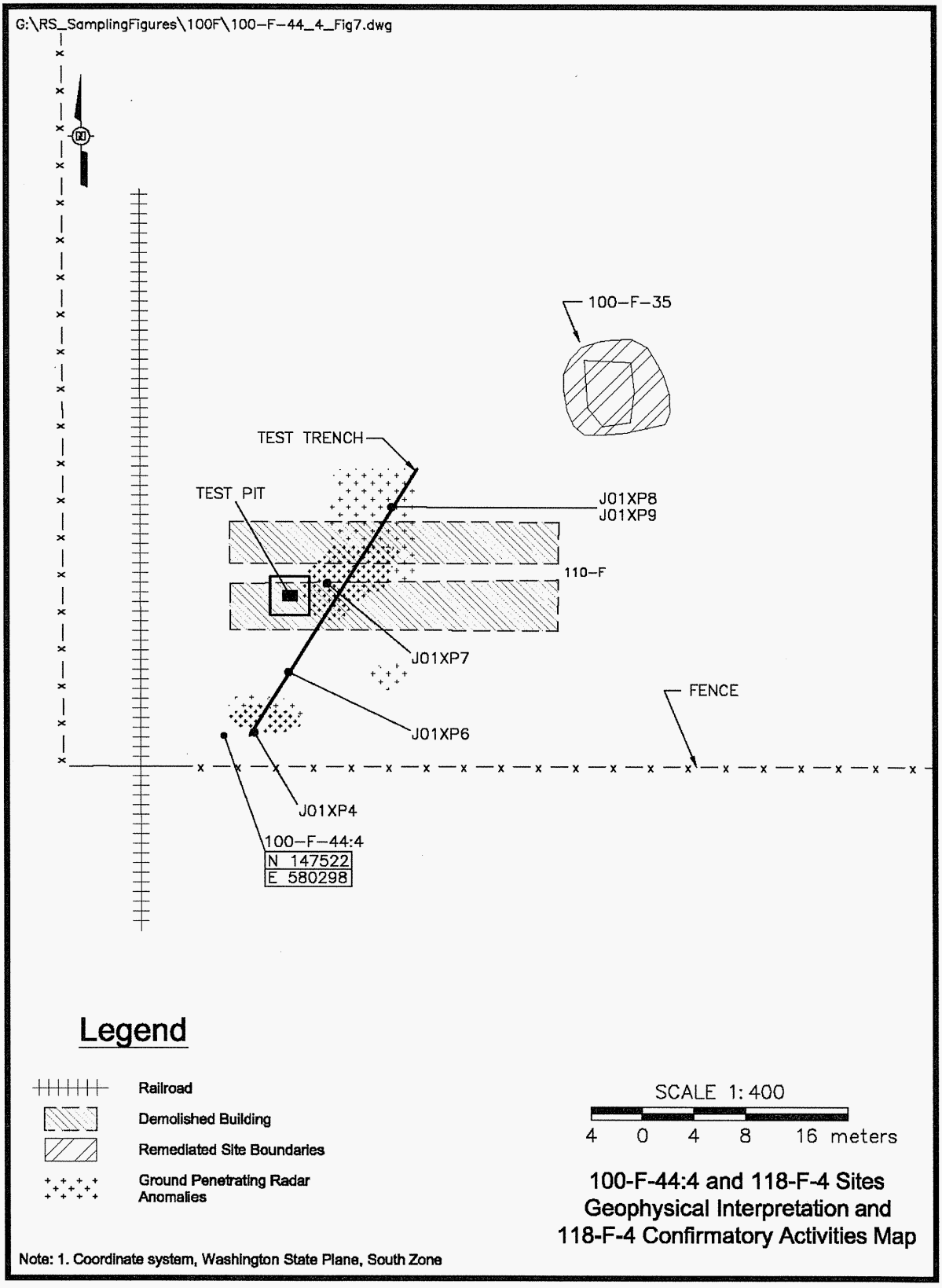


Figure 2. 100-F-44:4 Location in Relation to Confirmatory Sampling for 118-F-4.



historical records, silica gel was deposited there during a single event in 1949 and did not involve any installation of pipelines. Another site (100-F-35, Soil Contamination Area, Figure 1 and Figure 2) is north of the 110-F structure and was remediated in 2002 (BHI 2003); this site was not related to any potential piping installations.

A geophysical survey was performed in January 2007 using a 240 m^2 (2,580 ft^2) grid in the southwest corner of the fenced 105-F exclusion area (WCH 2007). The geophysical survey did not reveal the pipe. Equipment interferences due to the proximity of a nearby fence and the presence of coal ash in the topsoil prevented reliable data acquisition.

CONFIRMATORY SAMPLING ACTIVITIES

Sampling activities at the 100-F-44:4 subsite began on February 13, 2008 (WCH 2008). An exploratory test trench approximately 5 to 6 m (15 to 20 ft) long was excavated as shown in Figure 3. However, the pipe was not found at that location. On February 21, 2008, another trench was dug approximately 6 m (20 ft) due east of the first trench and of approximately the same length. This time the pipe was found and observed to be approximately 5 cm (2 in.) in diameter and 0.9 m (3 ft) below grade. Figure 4 shows the first and second test trenches. Figure 5 shows the pipe in the second test trench. The pipe length was determined to be 6 m (20 ft) (Figure 6).

The visual evidence indicates this pipe is a piece of electrical conduit debris and not a process pipeline or sewer pipeline. The evidence for this conclusion includes:

- The high frequency of pipe bending (Figure 4 and Figure 5) indicative of a thin-wall construction typical of electrical conduit
- The flanged end typical of electrical conduit (Figure 7 and Figure 8)
- The visual observation of a thin-wall construction typical of electrical conduit (Figure 9).

Though the pipe was identified as non-hazardous conduit debris, part of the confirmatory samples planned for the waste site were collected. On February 25, 2008 the pipe was cut and a sample of about 250 ml of soil was taken from inside the pipe. See Table 1 for sample summary information. The part of the confirmatory sample design calling for a soil sample under the pipe, a duplicate soil sample, and an equipment blank was not performed.

Radiological field screening was used to determine if any field-detectable residual radiological contamination is present, which would be flagged for focused sampling. The results of the field screening indicated no detectable radiological contamination.

Volatile organic compounds (VOCs) were not detected by field screening methods. However, laboratory volatile organic analysis (VOA) was performed as indicated in the field logbook (WCH 2008). The VOC data are included in Appendix A.

Figure 3. 100-F-44:4 Test Trench Locations.

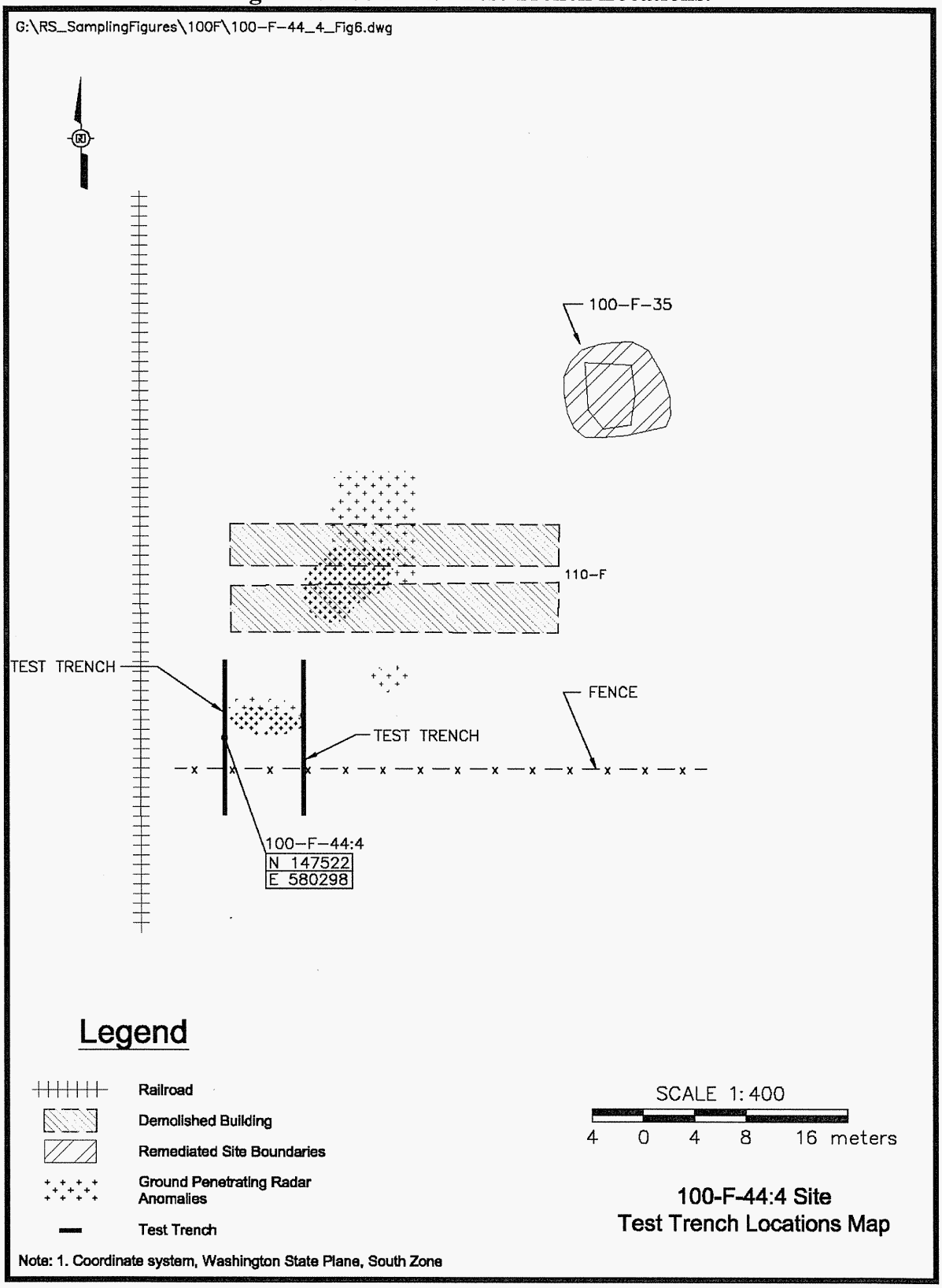


Figure 4. 100-F-44:4 Site Test Trench Excavations.

Figure 5. 100-F-44:4 Site With Pipe in Second Test Trench.

Figure 6. 100-F-44:4 Site With Pipe Lying on Ground.

Figure 7. 100-F-44:4 Site Showing Flanged Pipe End.

Figure 8. 100-F-44:4 Site Showing Close-up of Flanged Pipe End.

Figure 9. 100-F-44:4 Site Showing Pipe Thin-Wall Construction

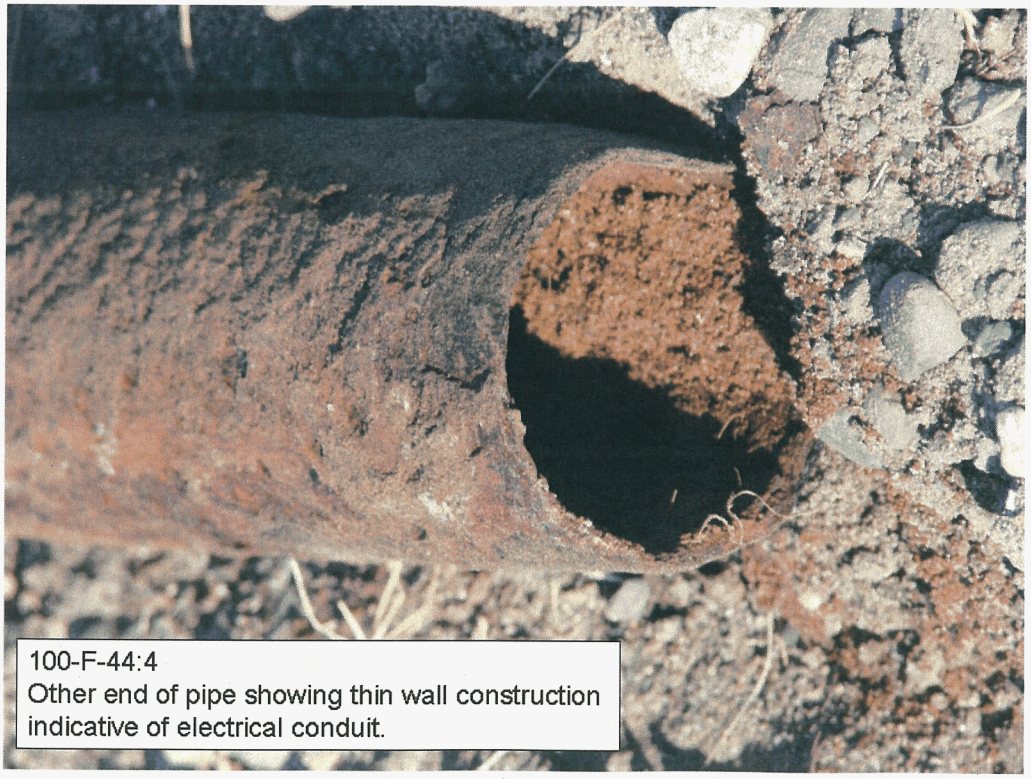


Table 1. 100-F-44:4 Subsite Sample Summary Table.

Location	Sample Media	Sample Number	Coordinate Locations	Depth	Sample Analysis
Pipe	Pipe contents	J169P1	N 147522 E 580304	Pipe brought to surface	GEA, gross alpha, gross beta, SVOA, PCB, TPH, ICP metals[a], mercury
		J169P6			Hexavalent chromium

[a] The expanded list of ICP metals was performed to include antimony, arsenic, barium, beryllium, boron, cadmium, chromium (total), cobalt, copper, lead, manganese, molybdenum, nickel, silver, selenium, vanadium, and zinc in the analytical results package.

GEA = gamma energy analysis
ICP = inductively coupled plasma
PCB = polychlorinated biphenyl
NA = not applicable
SVOA = semivolatile organic analysis
TPH = total petroleum hydrocarbons

Sample Results

All samples were analyzed using analytical methods approved by the U.S. Environmental Protection Agency (DOE-RL 2005a). The laboratory-reported data results for all constituents are stored in the Environmental Restoration project-specific database prior to submission for archival in the Hanford Environmental Information System site-wide database and are summarized in Appendix A.

Comparisons of the maximum results for analytes with the shallow zone RAGs for the samples are summarized in Table 2. Contaminants that were not detected by laboratory analysis are excluded from this table. Calculated cleanup levels are not presented in the *Cleanup Levels and Risk Calculations Database* (Ecology 2005) under *Washington Administrative Code* (WAC) 173-340-740(3) for aluminum, calcium, iron, magnesium, potassium, silicon, and sodium; therefore, these constituents are not considered site contaminants of concern. Potassium-40, radium-226, radium-228, thorium-228, and thorium-232 were detected in samples collected at the site, but are not considered within Table 2, as these isotopes are not related to the operational history of the site and were detected below background levels (based on an assumption of secular equilibrium, the background activities for radium-228 and thorium-228 are equal to the statistical background activity of 1.32 pCi/g for thorium-232 provided in DOE-RL [1996]).

Evaluation of the results listed in Table 2 from confirmatory investigative sampling indicates that all COPCs listed are less than the direct exposure cleanup level. In addition, the vadose zone underlying the pipe is approximately 7.8 m (25 ft) thick. Therefore, residual concentrations of these contaminants are predicted to be protective of groundwater and the Columbia River.

The mercury result in the data table in Appendix A is flagged "UR" and is discussed in the Data Quality Assessment section of this document. The "U" flag indicates that mercury was not detected. However, the "R" flag indicates that the mercury result was rejected due to a matrix spike recovery below 10%. Thus, analytical data for one COPC is not available for decision-making purposes. However, the COPCs listed in Table 2 are available and they provide

information to supplement the visual inspection result that this pipe is non-hazardous electrical conduit debris.

Other Sample Results

Comparing Figure 2 and Figure 3 demonstrates that the 100-F-44:4 pipe is near the sampling locations used for confirmatory sampling of the 118-F-4 Silica Gel Pit site. The *Remaining Sites Verification Package for the 118-F-4, 115-F Pit* concluded that, "The analytical results from underlying soil samples were shown to meet the cleanup objectives for direct exposure, groundwater protection, and river protection" (WCH 2005). This result provides additional evidence to support the conclusion that the 100-F-44:4 subsite does not present an adverse risk to human health.

Table 2. Comparison of Maximum Contaminant Concentrations to Action Levels for the 100-F-44:4 Discovery Pipeline in Silica Gel Pit Confirmatory Sampling Event (2 Pages).

COC/COPC	Kd Value (mL/g)	Maximum Result (pCi/g)	Soil Cleanup Levels (pCi/g)[a]			Does the Maximum Result Exceed RAGs?	Does the Maximum Result Pass RESRAD Modeling?
			Direct Exposure	Protective of Groundwater	Protective of the River		
Cesium-137	50	4.46	6.2	1,465[b]	1,465[b]	No	--
Uranium-233/234	2	0.758 (<BG)	1.1[c]	1.1[c]	1.1[c]	No	--
Uranium-238	2	0.678 (<BG)	1.1[c]	1.1[c]	1.1[c]	No	--
COC/COPC	**Kd Value (mL/g)**	**Maximum Result (mg/kg)**	**Soil Cleanup Levels (mg/kg)[a]**			**Does the Maximum Result Exceed RAGs?**	**Does the Maximum Result Pass RESRAD Modeling?**
			Direct Exposure	**Protective of Groundwater**	**Protective of the River**		
Arsenic	3	4.9 (<BG)	20	20	20	No	--
Barium	25	383.0	5,600	132[c]	224	Yes	Yes[d]
Beryllium	790	0.54 (<BG)	10.4[e]	1.51[c]	1.51[c]	No	--
Boron[f]	3	48.4	16,000	320	--[g]	No	--
Cadmium	30	0.58 (<BG)	13.9[e]	0.81[c]	0.81[c]	No	--
Chromium (total)	200	18.3 (<BG)	80,000	18.5[c]	18.5[c]	No	--
Cobalt	50	7.5 (<BG)	1,600	32	--[g]	No	--
Copper	22	24.2	2,960	59.2	22.0[c]	Yes	Yes[d]
Lead	30	18.8	353	10.2[c]	10.2[c]	Yes	Yes[d]
Manganese	50	440 (<BG)	11,200	512[c]	512[c]	No	--
Molybdenum[f]	20	3.1	400	8	--[g]	No	--
Nickel	65	19.8	1,600	19.1[c]	27.4	Yes	Yes[d]
Silver	90	1.3	400	8	0.73[c]	Yes	Yes[d]
Uranium	2	1.1 (<BG)	240	3.21[h]	3.21[h]	No	

Table 2. Comparison of Maximum Contaminant Concentrations to Action Levels for the 100-F-44:4 Discovery Pipeline in Silica Gel Pit Confirmatory Sampling Event (2 Pages).

COC/COPC	Kd Value (mL/g)	Maximum Result (mg/kg)	Soil Cleanup Levels (mg/kg)[a]			Does the Maximum Result Exceed RAGs?	Does the Maximum Result Pass RESRAD Modeling?
			Direct Exposure	Protective of Groundwater	Protective of the River		
Vanadium	1,000	46.5 (<BG)	560	85.1[c]	--[g]	No	--
Zinc	30	42.4 (<BG)	24,000	480	67.8[c]	No	--
Gamma-Chlordane	51	0.0019	2.86	0.025[i]	0.02[j]	No	--
2,4-dichlorophenoxyacetic acid (2,4-D)	0.0294	0.042	800	7	--[g]	No	--
Beta-BHC	2.14	0.001	0.556	0.00486	0.00554	No	--
2-Methylnaphthalene	2.98	0.032	320	3.2	--[g]	No	--
Napththalene	1.19	0.030	1,600	16.0	988	No	--
Phenanthrene[k]	23.5	0.019	24,000	240	1,920	No	--

[a] Obtained from the 100 Area RDR/RAWP (DOE-RL 2005b) or calculated per WAC-173-340-720, WAC-173-340-730, and WAC-173-340-740, Method B, unless otherwise noted

[b] Revised lookup value per (*100 Area Radionuclide and Nonradionuclide Lookup Values for the 1995 Interim Remedial Action Record of Decision*) (BHI 2004).

[c] The soil cleanup level is below the Hanford-specific soil background concentration. The value presented is the Hanford-specific soil background concentration.

[d] Based on the 100 Area Analogous Sites RESRAD Calculations (BHI 2005a), residual concentrations are not expected to migrate more than 2.6 m (8.5 ft) vertically in 1,000 years (based on the lowest distribution coefficient [copper] (of those that exceeded the RAG) of 22 mL/g). The vadose zone underlying the pipe is approximately 7.8 m (25 ft) thick. Therefore, residual concentrations of these contaminants are predicted to be protective of groundwater and the Columbia River.

[e] Carcinogenic cleanup level calculated based on the inhalation exposure pathway (WAC 173-340-750[3]) and an airborne particulate mass-loading rate of 0.0001 g/m^3 (WDOH 1997).

[f] No Hanford Site-specific or Washington State background value available.

[g] No cleanup level is available from the Cleanup Levels and Risk Calculations (CLARC) Database, and no bioconcentration factor or ambient water quality criteria values are available to calculate cleanup levels.

[h] Total uranium background of 3.21 mg/kg is calculated from uranium isotopic activities in Hanford Site background (DOE-RL 1996) using isotope specific activities from ANL, 2001, Users' Manual for RESRAD 6.0, ANL/EAD-4, Environmental Assessment Division, Argonne National Laboratory, Argonne, Illinois.

[i] Cleanup level calculated with updated toxicity values using the appropriate formulas from WAC 173-340-740 (Ecology 1996). Updated toxicity values are available from the EPA Integrated Risk Information System (IRIS) at < http://www.epa.gov/iris > or from the Risk Assessment Information System database of the Oak Ridge National Laboratory (ORNL) on the Internet at < http://risk.lsd.ornl.gov >.

[j] Where cleanup levels are less than RDLs, cleanup levels default to RDLs (WAC 173-340-707(2), 1996 and DOE-RL, 2005b).

[k] Toxicity data for this chemical are not available. Cleanup levels are based on surrogate chemicals: Contaminant: phenathrene; surrogate: anthracene

-- = not applicable
BG = background
COC = contaminant of concern
COPC = contaminant of potential concern
RESRAD = RESidual RADioactivity (dose modeling software)
RAG = remedial action goal
WAC = *Washington Administrative Code*

DATA QUALITY ASSESSMENT

A data quality assessment (DQA) review was ***not*** performed to compare the confirmatory sampling approach and resulting analytical data with the sampling and data requirements specified by the project objectives and performance specifications. The primary reason for not

performing a DQA was that the confirmatory sample design assumed the site is a discovery pipeline, and confirmatory site evaluation indicates the pipe is a piece of electrical conduit debris and not a process pipeline or sewer pipeline. However, part of the confirmatory samples planned for the waste site were collected. Confirmatory sample data collected at the 100-F-44:4 waste site were provided by the laboratories in two sample delivery groups (SDGs), SDG K1131 and SDG J00162. SDG K1131 was submitted for third-party validation. No major deficiencies were identified in the analytical data set by third-party validation, with one exception. Third-party validation assigned an "R" flag to the mercury result in SDG K1131, due to a matrix spike recovery below 10%. However, the remainder of data is useable for decision-making purposes, and an informal assessment finds it to be sufficient for the purpose of determining this pipe is non-hazardous material.

The confirmatory sample analytical data are stored in the ENRE project-specific database prior to archiving in HEIS and are summarized in Appendix B.

SUMMARY FOR NO ACTION

The No Action decision for the 100-F-44:4 subsite is supported based on visual inspection of the pipeline and confirmatory investigation sampling data. Visual inspection of the pipeline indicated electrical conduit debris and the sampling data found all detected COPCs meeting RAGs. Therefore, the 100-F-44:4 subsite meets the cleanup objectives for direct exposure, groundwater protection, and river protection established in the RDR/RAWP (DOE-RL 2005b) and the Remaining Sites ROD (EPA 1999).

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APPENDIX A

100-F-44:4 DISCOVERY PIPELINE IN SILICA GEL PIT DATA SUMMARY TABLES

Table A-1. 100-F-44:4 Radionuclide Data Results. (1 Page)

Sample Location	HEIS Number	Sample Date	Americium-241			Americium-241GEA			Cesium-137			Cobolt-60			Europium-152			Europium-154		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Metal Pipe Contents	J169P1	2/25/2008	-0.058	U	0.320	0.048	U	0.048	4.46		0.057	0.042	U	0.042	0.130	U	0.130	0.129	U	0.129

Sample Location	HEIS Number	Sample Date	Europium-155			Gross alpha			Gross beta			Nickel-63			Plutonium-238			Plutonium-239/240		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Metal Pipe Contents	J169P1	2/25/2008	0.102	U	0.102	11.2		6.74	22.3		8.69	-1.00	U	3.36	0.000	U	0.336	0.035	U	0.268

Sample Location	HEIS Number	Sample Date	Potassium-40			Radium-226			Radium-228			Technetium-99			Thorium-228			Thorium-232 GEA		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Metal Pipe Contents	J169P1	2/25/2008	10.6		0.508	0.689		0.100	0.818		0.206	0.050	U	0.561	0.763		0.063	0.818		0.206

Sample Location	HEIS Number	Sample Date	Sr-90 total beta			Uranium-233/234			Uranium-235			Uranium-235 GEA			Uranium-238			Uranium-238 GEA		
			pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA	pCi/g	Q	MDA
Metal Pipe Contents	J169P1	2/25/2008	0.084	U	0.286	0.758		0.305	0.145	U	0.369	0.180	U	0.180	0.678		0.305	5.25	U	5.25

Note: Data qualified with B, C, and/or J, are considered acceptable values.

B = blank contamination (organic constituents)

C = blank contamination (inorganic constituents)

D = diluted

GEA = gamma energy analysis

HEIS = Hanford Environmental Information System

J = estimate

MDA = minimum detectable activity

PQL = practical quantitation limit

Q = qualifier

R = rejected due to matrix spike recovery laboratory quality control problem

U = undetected

Table A-2. 100-F-44:4 Inorganic Data Results. (1 Page)

Sample Location	HEIS Number	Sample Date	Aluminum			Antimony			Arsenic			Barium			Beryllium			Boron		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Metal Pipe Contents	J169P1	2/25/08	9870	C	10.9	0.82	UJ	0.82	4.9		1.4	383	J	0.27	0.54		0.14	48.4	J	1.4

Sample Location	HEIS Number	Sample Date	Cadmium			Calcium			Chromium			Cobalt			Copper			Hexavalent Chromium		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Metal Pipe Contents	J169P1	2/25/08	0.58		0.14	9210	C	10.9	18.3		0.55	7.5		0.55	24.2	J	0.55			
Metal Pipe Contents	J169P6*	2/25/08																0.350	U	0.350

*Only analyte was hexavalent chromium.

Sample Location	HEIS Number	Sample Date	Iron			Lead			Magnesium			Manganese			Mercury			Molybdenum		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Metal Pipe Contents	J169P1	2/25/08	47900	C	12.3	18.8		0.82	4470	J	6.8	440	C	0.11	0.009	UR	0.009	3.1		0.82

Sample Location	HEIS Number	Sample Date	Nickel			Potassium			Selenium			Silicon			Silver			Sodium		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Metal Pipe Contents	J169P1	2/25/08	19.8	C	0.55	988	C	10.9	1.6	U	1.6	694	J	10.9	1.3	J	0.27	414	J	5.5

Sample Location	HEIS Number	Sample Date	Uranium			Vanadium			Zinc		
			mg/kg	Q	PQL	mg/kg	Q	PQL	mg/kg	Q	PQL
Metal Pipe Contents	J169P1	2/25/08	1.1		0.014	46.5		0.38	42.4	C	1.6

Sample Location	HEIS Number	Sample Date	TPH		
			mg/kg	Q	PQL
Metal Pipe Contents	J169P1	2/25/08	133	UJ	133

Table A-3. 100-F-44:4 Organic Data Results. (4 Pages)

Constituent	J169P1 Metal Pipe Contents Sample Date 2/25/08		
	µg/kg	Q	PQL
Herbicides			
2,4,5-Trichlorophenoxyacetic acid	25	UJ	25
2,4-Dichlorophenoxyacetic acid	42	J	25
2-(2,4,5-Trichlorophenoxy)propionic acid	25	UJ	25
2-secButyl-4,6-dinitrophenol(DNBP)	25	UJ	25
4-(2,4-Dichlorophenoxy)butanoic acid	25	UJ	25
Dalapon	50	UJ	50
Dicamba	50	UJ	50
Dichloroprop	50	UJ	50
Pentachlorophenol	25	UJ	25
PCBs (polychlorinated biphenyls)			
Aroclor-1016	10	UJ	10
Aroclor-1221	10	UJ	10
Aroclor-1232	10	UJ	10
Aroclor-1242	10	UJ	10
Aroclor-1248	10	UJ	10
Aroclor-1254	10	UJ	10
Aroclor-1260	10	UJ	10
Pesticides			
Aldrin	1	UJ	1
Alpha-BHC	1	UJ	1
alpha-Chlordane	1	UJ	1
beta-1,2,3,4,5,6-Hexachlorocyclohexane	1	JX	1
Delta-BHC	1	UJ	1
Dichlorodiphenyldichloroethane	1	UJ	1
Dichlorodiphenyldichloroethylene	1	UJ	1
Dichlorodiphenyltrichloroethane	1	UJ	1
Dieldrin	1	UJ	1
Endosulfan I	1	UJ	1
Endosulfan II	1	UJ	1
Endosulfan sulfate	1	UJ	1
Endrin	1	UJ	1
Endrin aldehyde	1	UJ	1
Endrin ketone	1	UJ	1
Gamma-BHC (Lindane)	1	UJ	1
gamma-Chlordane	1.9	J	1
Heptachlor	1	UJ	1

Table A-3. 100-F-44:4 Organic Data Results. (4 Pages)

Constituent	J169P1 Metal Pipe Contents Sample Date 2/25/08		
	µg/kg	Q	PQL
Pesticides (continued)			
Heptachlor epoxide	1	UJ	1
Methoxychlor	1	UJ	1
Toxaphene	10	UJ	10
Semivolatile Organic Compounds			
1,2,4-Trichlorobenzene	330	UJ	330
1,2-Dichlorobenzene	330	UJ	330
1,3-Dichlorobenzene	330	UJ	330
1,4-Dichlorobenzene	330	UJ	330
2,4,5-Trichlorophenol	830	UJ	830
2,4,6-Trichlorophenol	330	UJ	330
2,4-Dichlorophenol	330	UJ	330
2,4-Dimethylphenol	330	UJ	330
2,4-Dinitrophenol	830	UJ	830
2,4-Dinitrotoluene	330	UJ	330
2,6-Dinitrotoluene	330	UJ	330
2-Chloronaphthalene	330	UJ	330
2-Chlorophenol	330	UJ	330
2-Methylnaphthalene	32	J	330
2-Methylphenol (cresol, o-)	330	UJ	330
2-Nitroaniline	830	UJ	830
2-Nitrophenol	330	UJ	330
3+4 Methylphenol (cresol, m+p)	330	UJ	330
3,3'-Dichlorobenzidine	330	UJ	330
3-Nitroaniline	830	UJ	830
4,6-Dinitro-2-methylphenol	830	UJ	830
4-Bromophenylphenyl ether	330	UJ	330
4-Chloro-3-methylphenol	330	UJ	330
4-Chloroaniline	330	UJ	330
4-Chlorophenylphenyl ether	330	UJ	330
4-Nitroaniline	830	UJ	830
4-Nitrophenol	830	UJ	830
Acenaphthene	330	UJ	330
Acenaphthylene	330	UJ	330
Anthracene	330	UJ	330
Benzo(a)anthracene	330	UJ	330
Benzo(a)pyrene	330	UJ	330
Benzo(b)fluoranthene	330	UJ	330

Table A-3. 100-F-44:4 Organic Data Results. (4 Pages)

Constituent	J169P1 Metal Pipe Contents Sample Date 2/25/08		
	µg/kg	Q	PQL
Semivolatile Organic Compounds (continued)			
Benzo(ghi)perylene	330	UJ	330
Benzo(k)fluoranthene	330	UJ	330
Bis(2-chloro-1-methylethyl)ether	330	UJ	330
Bis(2-Chloroethoxy)methane	330	UJ	330
Bis(2-chloroethyl) ether	330	UJ	330
Bis(2-ethylhexyl) phthalate	330	UJ	330
Butylbenzylphthalate	330	UJ	330
Carbazole	330	UJ	330
Chrysene	330	UJ	330
Di-n-butylphthalate	330	UJ	330
Di-n-octylphthalate	330	UJ	330
Dibenz[a,h]anthracene	330	UJ	330
Dibenzofuran	330	UJ	330
Diethylphthalate	330	UJ	330
Dimethyl phthalate	330	UJ	330
Fluoranthene	330	UJ	330
Fluorene	330	UJ	330
Hexachlorobenzene	330	UJ	330
Hexachlorobutadiene	330	UJ	330
Hexachlorocyclopentadiene	330	UJ	330
Hexachloroethane	330	UJ	330
Indeno(1,2,3-cd)pyrene	330	UJ	330
Isophorone	330	UJ	330
N-Nitroso-di-n-dipropylamine	330	UJ	330
N-Nitrosodiphenylamine	330	UJ	330
Naphthalene	30	J	330
Nitrobenzene	330	UJ	330
Pentachlorophenol	830	UJ	830
Phenanthrene	19	J	330
Phenol	330	UJ	330
Pyrene	330	UJ	330
Volatile Organic Compounds			
1,1,1-Trichloroethane	5	U	5
1,1,2,2-Tetrachloroethane	5	U	5
1,1,2-Trichloroethane	5	U	5
1,1-Dichloroethane	5	U	5
1,1-Dichloroethene	5	U	5
1,2-Dichloroethane	5	U	5
1,2-Dichloroethene(Total)	5	U	5

Table A-3. 100-F-44:4 Organic Data Results. (4 Pages)

Constituent	J169P1 Metal Pipe Contents Sample Date 2/25/08		
	µg/kg	Q	PQL
Volatile Organic Compounds (continued)			
1,2-Dichloropropane	5	U	5
2-Butanone	9	U	9
2-Hexanone	9	U	9
4-Methyl-2-Pentanone	9	U	9
Acetone	9	U	9
Benzene	5	U	5
Bromodichloromethane	5	U	5
Bromoform	5	U	5
Bromomethane	9	U	9
Carbon disulfide	5	U	5
Carbon tetrachloride	5	U	5
Chlorobenzene	5	U	5
Chloroethane	9	U	9
Chloroform	5	U	5
Chloromethane	9	U	9
cis-1,2-Dichloroethylene	5	U	5
cis-1,3-Dichloropropene	5	U	5
Dibromochloromethane	5	U	5
Ethylbenzene	5	U	5
Methylenechloride	5	U	5
Styrene	5	U	5
Tetrachloroethene	5	U	5
Toluene	5	U	5
trans-1,2-Dichloroethylene	5	U	5
trans-1,3-Dichloropropene	5	U	5
Trichloroethene	5	U	5
Vinyl chloride	9	U	9
Xylenes (total)	5	U	5