Table 1. Results of chemical analysis of wastes, soils, groundwater, and surface water at the S-3 Ponds Site

Analyte[d]	Wastes	Soils[a]				Groundwater[b]				Surface Water[c]			
	S-3 sludges	Results > detection limit	Maximum detect	Average result	SRC ?	Freq. of wells w. detects	Max detect	Mean of the medians[e]	SRC ?	Freq. of detect	Avg.[f] result BCK 12.46	Avg.[f] result NT-1	SRC ?
Inorganics (water - mg/L, soils - mg/kg)													
Aluminum	22134	40/ 40	29000	15600		23/ 23	800	81.05	Y	70/ 82	0.506	0.56	
Antimony		2/ 2	0.34	0.3		0/ 20	.	0.025					
Arsenic	1.12	40/ 40	20.5	3.5		1/ 9	0.009	0.003					
Barium	133.5	40/ 40	712	145	Y	24/ 24	380	19.137	Y	77/ 78	0.092	0.554	Y
Beryllium	2.74	36/ 40	1.8	1.0		11/ 22	0.11	0.0119	Y	3/ 78	0.0000	0.0002	
Boron	27.64	NA				24/ 24	4.40	0.29	Y	78/ 78	0.086	0.073	Y
Cadmium	4.9	2/ 40	2	0.2		10/ 25	4	0.174	Y	3/ 4		0.015	Y
Calcium	42215.6	39/ 39	318000	26700		26/ 26	10,000	1,665.6		78/ 78	164.5	228.3	
Chromium	133.2	40/ 40	69.6	30.8		13/ 25	0.31	0.017	Y				
Cobalt	3.47	40/ 40	31.1	16.6		11/ 23	2.3	0.268	Y	5/ 78	0.001	0.007	
Copper	92.45	38/ 40	50.8	22.3	Y	20/ 21	3.1	0.278	Y	4/ 78	0.005	0.002	
Cyanide	5.95	4/ 40	7.8	0.6	Y	0/	.	.		6/ 72	0.001		Y
Iron	3647	40/ 40	48300	25600		23/ 23	28	3.59		46/ 78	0.743	0.233	
Lead	35.79	40/ 40	82.3	15.5	Y	21/ 26	0.66	0.0106	Y	1/ 4		0.003	
Lithium	75.68					7/ 7	3.5	0.88	Y	33/ 72	0.015		
Magnesium	1941.32	40/ 40	60400	6930		26/ 26	2,500	263.3		78/ 78	23.4	29.8	
Manganese	99.67	40/ 40	2000	707		24/ 24	220	24.162	Y	78/ 78	0.046	3.0	
Mercury	2.28	26/ 39	82.9	7.8	Y	15/ 26	0.1100	0.0042	Y	18/ 72	0.0000		
Molybdenum	15.2	1/ 40	3.7	0.5		3/ 19	0.023	0.006					
Nickel	550.32	40/ 40	128	29.6	Y	22/ 24	20	2.07	Y	5/ 78	0.005	0.068	Y
Niobium	20.87					4/ 5	0.10	0.027	Y				
Phosphorous	952.9									41/ 72	0.058		Y

Analyte[d]	Wastes	Soils[a]				Groundwater[b]				Surface Water[c]			
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Potassium	1625.6	40/ 40	3990	2120		26/ 26	200	30.95		78/ 78	5.126	4.5	
Selenium	0.77	2/ 40	0.66	0.31		3/ 10	0.014	0.003		1/ 72	0.001		
Silicon						24/ 24	39	9.99					
Silver	1.87	26/ 40	4.3	1.8		0/ 6	.	.					
Sodium	2722.2	32/ 40	313	117		26/ 26	3,200	357.6		78/ 78	57.04	29.5	
Strontium	35.49					22/ 22	340	17.93	Y	78/ 78	0.42	0.692	Y
Thallium	0.33	2/ 40	0.75	0.22		1/ 8	0.01	0.005		2/ 72	0.001		
Thorium	195.1					1/ 20	0.28	0.109		2/ 72	0.006		
Tin	1.57	3/ 40	7.7	1.7		3/ 6	0.018	0.01					
Titanium	398.6					7/ 7	0.85	0.237	Y	3/ 72	0.009		
Total uranium (fluorometric)	991.71					22/ 26	44	2.90	Y	78/ 78	0.621	0.075	Y
Vanadium	7.1	40/ 40	91.9	24.4	Y	5/ 20	0.036	0.004	Y	1/ 72	0.003		
Zinc	58.27	40/ 40	163	50.1	Y	24/ 24	20	0.497	Y	30/ 78	0.013	0.014	
Zirconium	478.4					3/ 4	0.051	0.018		1/ 71	0.002		
Common Anions (water - mg/L, soils - mg/kg)													
Ammonia nitrogen						2/ 4	4.8	1.19					
Chloride						26/ 26	1,341	106.2	Y	6/ 6		27.4	Y
Fluoride						23/ 25	110	1.32	Y	6/ 6		1.0	Y
Kjeldahl nitrogen	460					4/ 4	1.8	0.73					
Nitrate - N	1130					19/ 26	13,400	1,659.	Y	77/ 77	38.83	166.6	Y
Nitrite						1/ 4	6.7	20.2					
Sulfate	220					23/ 23	2,204	204.7	Y	6/ 6		46.8	Y
Organics (water - mg/L, soils - mg/kg)													
Endrin aldehyde		1/ 13	5.4	2.3	Y								

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Methoxychlor		1/ 13	5.9	9.8	Y								
PCB-1248	5666.8	4/ 39	3300	108	Y								
PCB-1254		15/ 39	370	59	Y								
PCB-1260		6/ 39	280	38.2	Y								
1,1,1-Trichloroethane						9/ 27	28	3.8	Y				
1,1,2-Trichloroethane	75.37					1/ 26	1	2.5					
1,1,2,2-Tetrachloroethane	383.5												
1,1,2-Trichloro-1,2,2-trifluoroethane	4.35												
1,1-Dichloroethene						3/ 26	5	2.5					
1,2-Dichloroethane						1/ 26	4	2.5					
1,2-Dichloroethene						3/ 25	100	5.0	Y				
2-Butoxyethanol	2289.6												
2-(2-Butoxyethoxy)-Ethanol	1908.0												
2,4-Dinitrophenol						1/ 3	77	20.8	Y				
2-Butanone						9/ 26	32	5.0	Y				
2-Chloroethylvinyl ether						1/ 10	4	5					
2-Hexanone		2/ 39	17	6.5	Y	3/ 26	4	5					
2-Hexanol	295.7												
2-Nitrophenol						1/ 3	71	20.3	Y				
3-(1,1-Dimethylethyl)-Phenol	6038.8												
4-Methyl-2-pentanone		5/ 40	28	6.4	Y	1/ 27	97	8.4					
4-Nitrophenol						1/ 3	120	30.3	Y				
Acetone	22.95	17/ 32	4200	275	Y	19/ 27	6,000	51.8	Y	1/ 5		5	Y

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Benzene						4/ 26	3	2.5	Y				
Benzenemethanol						1/ 3	2	4.2					
Benzoic acid						2/ 3	58	25.0	Y				
Bis(2-ethylhexyl)phthalate						2/ 3	32	6.3	Y				
Bromodichloromethane						2/ 26	3	2.5					
Bromoform						1/ 26	2	2.5					
Butylbenzylphthalate						2/ 3	1	3.3					
Carbon disulfide						5/ 26	2	2.5					
Carbon tetrachloride						1/ 26	0.7	2.5					
Chlorobenzene						2/ 26	3	2.5					
Chloroform						14/ 27	69	7.0	Y				
Chloromethane						1/ 26	10	5					
Dibromochloromethane						1/ 26	1	2.5					
Diethylphthalate	522.8												
Di-n-butylphthalate						1/ 3	2	4.2					
Di-n-octylphthalate						2/ 3	3	3.5					
Dimethylbenzene						5/ 26	16	2.5	Y				
Ethylbenzene						3/ 26	4	2.5					
Methylene chloride	0.49	17/ 32	4200	275	Y	19/ 27	560	17.3	Y				
Naphthalene						1/ 3	1	3.7					
Phenols (mg/L or mg/kg)	7345.8					2/ 7	0.002	0.003	Y	54/ 72	0.0018		Y
Tetrachloroethene	793.0	10/ 40	24	3.9	Y	12/ 27	9,000	269.9	Y	6/ 6		3	Y
Toluene	0.27	19/ 39	120	9.9	Y	11/ 27	35	3.2	Y				
trans-1,2-Dichloroethene						2/ 13	2	2.8					

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Trichloroethene	0.28					6/ 27	16	2.9	Y				
Trichlorofluoromethane	0.38												
Vinyl acetate						1/ 26	1	5					
Radioactivity (water - pCi/L, soils pCi/g)													
Alpha activity	925.1	22/ 40	92	10.9		14/ 18	24,400	615.7	Y	75/ 78	270.5	26.3	Y
Americium-241	0.01	3/ 40	0.12	0.01	Y	1/ 4	38	7.5	Y				
Beta activity	1903.2	27/ 40	180	21.6		17/ 18	75,000	2,620.8	Y	78/ 78	164.1	226.7	Y
Cesium-137	4.8					2/ 4	9.7	5.3	Y				
Neptunium-237	9.9	9/ 40	0.27	0.03		1/ 4	1,090	106.3	Y				
Plutonium-238	25.3	2/ 40	0.36	0.02	Y	./ 3	.	.					
Plutonium-239/240	2.5	1/ 38	0.015	0.005		./ 4	.	.					
Total Radium						1/ 1	35.14	35.14	Y				
Ruthenium-106	33.3												
Strontium-90	12.9					3/ 4	254	194	Y				
Technetium-99	7520.3	4/ 40	36	2.82	Y	3/ 4	80,400	17,538	Y	2/ 2[h]		206[h]	Y[h]
Thorium-228	267.3	34/ 40	3.5	0.8		1/ 4	3.2	1.0	Y	1/ 1[i]	0.1030[i]		Y[i]
Thorium-230	544.1	35/ 40	3.4	0.7	Y	2/ 4	0.59	0.36	Y				
Thorium-232	87.5	32/ 40	3.6	0.6		./ 3	.	.					
Tritium						9/ 12	5406	1245	Y				
Uranium-233/234	124.1	40/ 40	17	2.1	Y	3/ 4	4,650	660	Y	1/ 1[i]	52.8[i]		Y[i]
Uranium-235	8.1	22/ 40	0.99	0.12	Y	2/ 4	547	68.8	Y	1/ 1[i]	4.7[i]		Y[i]
Uranium-238	332.3	40/ 40	43	4.6	Y	3/ 4	13,600	1,601	Y	1/ 1[i]	127.0[i]		Y[i]

[a] Soil data are combined results for shallow and deep intervals for both soil aggregates at the S-3 site.

[b] Groundwater data are the results for the S-3 site groundwater aggregate.

[c] Surface water data are the results for the BCK 12.46 NT-1 aggregate.

[d] Analytes detected at least once are summarized. Results reflect data validation and data usability screens.

[e] The mean of the medians is the arithmetic mean of the median concentration of an analyte for each well. In calculating the mean of the medians it was assumed that non-detects are equal to one-half the detection limit for chemicals. Radionuclide data qualified as non-detect based on comparison to minimal detectable activities or counting errors are set equal to the reported value.

[f] ^{99}Tc is not an SRC in the Bear Creek BCK 12.46 and NT-1 surface water aggregates; however this analyte is an SRC in the NT-2 surface water aggregate and is only excluded from the NT-1 and BCK 12.46 aggregates becasue of poor data quality (no MDAs).

[g] These radionuclides are not SRCs in the Bear Creek BCK 12.46 and NT-1 surface water aggregates; however they are SRCs in the BCK 12.71 surface water sample and are only excluded from the NT-1 and BCK 12.46 aggregates becasue of poor data quality (no MDAs).

SRC—site-related contaminant