THE CONTENTS OF THIS SECTION ARE
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Appendix A

Liner Compatibility Tables

Table A-1. Suggested maximum leachate concentrations for organic constituents for liner compatibility.

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration For GCL (mg/L)	Compatible Concentration For Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
1,1,1-Trichloroethane	0.0609	-[d]	-[d]	20[e]	20
1,1,2,2-Tetrachloroethane	0.0002	-	-	-	-
1,1,2-Trichloroethane	0.0013	-	-	-	-
1,1-Dichloroethane	0.0105	-	-	-	-
1,1-Dichloroethene	0.0004	-	-	-	-
1,2,4-Trichlorobenzene	0.0113	-	-	-	-
1,2-Dichlorobenzene	0.0734	-	-	-	-
1,2-Dichloroethane	0.0001	-	-	-	-
1,2-Dichloroethene (total)	0.0003	-	-	-	-
1,3-Dichlorobenzene	0.0071	2,000[f]	-	-	2,000
1,4-Dichlorobenzene	5.1303	-	-	-	-
1,4-Dioxane	0.0000	-	-	-	-
2,4,5-Trichlorophenol	0.0441	-	-	-	-
2,4,6-Trichlorophenol	0.0427	-	-	-	-
2,4-Dichlorophenol	0.0371	-	-	-	-
2,4-Dimethylphenol	0.3041	-	-	-	-
2,4-Dinitrophenol	0.1705	-	-	-	-
2,4-Dinitrotoluene	0.0488	-	-	-	-
2,6-Dinitrotoluene	0.2903	-	-	-	-
2-Butanone	0.0063	200,000[f]	-	-	200,000
2-Chloro-phthalene	0.0108	2,000[g]	-	-	2,000
2-Chlorophenol	0.1867	2,000[g]	-	-	2,000
2-Hexanone	0.0001	-	-	-	-
2-Methyl-phthalene	1.7772	-	-	-	-

Table A-1. (continued).

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration For GCL (mg/L)	Compatible Concentration For Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
2-Methylphenol	0.2014	-	-	-	-
2-Nitroaniline	0.1728	-	-	-	-
2-Nitrophenol	0.0098	-	-	-	-
3,3'-Dichlorobenzidine	0.1896	-	-	-	-
3-Methyl Buta-l	0.0022	-	-	-	-
3-Nitroaniline	0.0165	-	-	-	-
4,6-Dinitro-2-methylphenol	0.0010	-	-	-	-
4-Bromophenyl-phenylether	0.0615	2,000[g]	-	-	2,000
4-Chloro-3-methylphenol	0.0810	-	-	-	-
4-Chloroaniline	0.0052	-	-	-	-
4-Chlorophenyl-phenylether	0.0288	-	-	-	-
4-Methyl-2-Pentanone	0.1131	-	-	-	-
4-Methylphenol	0.3766	-	-	-	-
4-Nitroaniline	0.1728	-	-	-	-
4-Nitrophenol	0.0029	-	-	-	-
Ace-phthene	0.0399	2,000[g]	-	-	2,000
Ace-phthylene	0.3366	2,000[g]	-	-	2,000
Acetone	6.2674	200,000[g]	-	-	100,000[i]
Acetonitrile	0.0002	-	-	-	-
Acrolein	0.0001	200,000[g]	-	-	200,000
Acrylonitrile	0.0000	200,000[g]	-	-	200,000
Anthracene	0.0083	2,000[g]	-	-	2,000
Aramite	0.0000	-	-	-	-
Aroclor-1016	0.0000	-	-	-	-

Table A-1. (continued).

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration For GCL (mg/L)	Compatible Concentration For Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
Aroclor-1254	0.0002	-	-	-	-
Aroclor-1260	0.0087	-	-	-	-
Aroclor-1268	0.2891	-	-	-	-
Benzene	1.3491	2,000[g]	-	-	1,000[i]
Benzidine	0.0000	200,000[g]	-	-	200,000
Benzo(a)anthracene	0.0001	2,000[g]	-	-	2,000
Benzo(a)pyrene	0.0000	2,000[g]	-	-	2,000
Benzo(b)fluoranthene	0.0000	2,000[g]	-	-	2,000
Benzo(g,h,i)perylene	0.0000	-	-	-	-
Benzo(k)fluoranthene	0.3024	-	-	-	-
Benzoic acid	0.1162	-	-	-	-
bis(2-Chloroethoxy)methane	0.0455	2,000[g]	-	-	2,000
bis(2-Chloroethyl)ether	0.0535	2,000[g]	-	-	2,000
bis(2-Chloroisopropyl)ether	0.0000	2,000[g]	-	-	2,000
bis(2-Ethylhexyl)phthalate	0.5714	2,000[g]	-	-	2,000
Butane,1,1,3,4-Tetrachloro-	0.0001	-	-	-	-
Butylbenzylphthalate	0.0080	200,000[g]	-	-	200,000
Carbazole	0.1856	-	-	-	-
Carbon Disulfide	0.0734	-	-	-	-
Chlorobenzene	0.0679	2,000[g]	-	-	2,000
Chloroethane	0.0000	-	-	-	-
Chloromethane	0.0000	2,000[g]	-	-	2,000
Chrysene	4.4199	2,000[g]	-	-	2,000
Decane, 3,4-Dimethyl	0.0004	-	-	-	-

Table A-1. (continued).

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration For GCL (mg/L)	Compatible Concentration For Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
Diacetone alcohol	0.0005	-	-	-	-
Dibenz(a,h)anthracene	0.0006	2,000[g]	-	-	2,000
Dibenzofuran	0.4156	-	-	-	-
Diethylphthalate	0.1897	100,000[g]	-	-	100,000
Dimethyl Disulfide	0.0127	-	-	-	-
Dimethylphthalate	0.0001	100,000[g]	-	-	100,000
Di-n-butylphthalate	0.0000	100,000[f]	-	-	100,000
Di-n-octylphthalate	0.4370	-	-	-	-
Eicosane	0.0472	-	-	-	-
Ethyl cyanide	0.0000	-	-	-	-
Ethylbenzene	0.0705	2,000[g]	-	-	2,000
Famphur	0.0000	-	-	-	-
Fluoranthene	0.0221	2,000[g]	-	-	2,000
Fluorene	3.0594	2,000[g]	-	-	2,000
Heptadecane, 2,6,10,15-Tetra	0.0000	-	-	-	-
Hexachlorobenzene	0.0001	2,000[g]	-	-	2,000
Hexachlorobutadiene	0.0000	2,000[g]	-	-	2,000
Hexachlorocyclopentadiene	0.0025	2,000[g]	-	-	2,000
Hexachloroethane	0.0000	2,000[g]	-	-	2,000
Indeno(1,2,3-cd)pyrene	0.1585	2,000[g]	-	-	2,000
Isobutyl alcohol	0.0001	500,000[g]	-	-	500,000
Isophorone	0.1829	2,000[g]	-	-	2,000
Isopropyl Alcohol/2-propanol	0.0000	500,000[g]	-	-	500,000

Table A-1. (continued).

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration For GCL (mg/L)	Compatible Concentration For Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
Kepone	0.2511	-	-	-	-
Mesityl oxide	1.2939	-	-	-	-
Methyl Acetate	0.0057	-	-	-	-
Methylene Chloride	0.0165	2,000[g]	-	20[e]	20
-phthalene	1.9193	2,000[g]	-	-	2,000
Nitrobenzene	0.0948	100,000[g]	-	-	100,000
N-Nitroso-di-n-propylamine	0.0035	100,000[g]	-	-	100,000
N-Nitrosodiphenylamine	0.1896	100,000[g]	-	-	100,000
Octane,2,3,7-Trimethyl	0.0027	-	-	-	-
o-Toluenesulfo-mide	0.0033	-	-	-	-
Pentachlorophenol	0.0046	100,000[g]	-	-	100,000
Phe-nthrene	8.8500	2,000[g]	-	-	2,000
Phenol	0.1370	100,000[g]	-	-	100,000
Phenol,2,6-Bis(1,1-Dimethyl)	0.0674	-	-	-	-
p-Toluenesulfo-mide	0.0000	-	-	-	-
Pyrene	3.2501	2,000[g]	-	-	2,000
RDX	0.0000	5,000[g]	-	-	5,000
Styrene	0.0000	2,000[g]	-	-	2,000
Tetrachloroethene	0.0235	5,000[g]	-	20[h]	20
Toluene	16.3666	-	-	-	-
Tributylphosphate	1.2292	2,000[g]	-	1,100[e]	1,100
Trichloroethene	1.1526	-	-	-	-
Trinitrotoluene	0.0000	-	-	-	-
Undecane,4,6-Dimethyl-	0.0003	5,000[g]	-	-	5,000

Table A-1. (continued).

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration For GCL (mg/L)	Compatible Concentration For Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
Xylene (ortho)	0.0071	-	-	-	-
Xylene (total)	6.2805	-	-	-	-

Notes

a. Constituent reported in the "INEEL CERCLA Disposal Facility Design Inventory (EDF-ER-264).
b. Predicted leachate concentration in the first year of the ICDF landfill operation (EDF-ER-274).
c. The suggested maximum concentration selected for the ICDF liner system is based on the lowest of the concentrations listed for HDPE, GCL, and clay materials and are applicable for the leachate in the landfill and the waste liquids in the evaporation ponds.
d. "–" indicates that a specific test value was not available, compatibility issues are not anticipated.
e. The TCE solubility limit in water is 1,100 mg/L. A minimum of 2 pore volumes of permeant liquid was passed through the clay sample or until the concentration of total organic carbon in the influent and effluent were the same (Bowders and Daniel 1988). No significant change in permeability was observed.
f. From "Evaluation of Liner/Leachate Chemical Compatibility for the Environmental Restoration Disposal Facility," BHI-00359.
g. From manufacturer specifications.
h. 20 mg/l is the typical concentration of leachate found in muncipal landfills. No change in clay permeability was observed at this concentration (Kim, Tuncer, and Park 1999).
i. Maximum allowable concentration reduced by 50% since liner may reflect some attack at a pure concentration based on manufacturers maximum concentration data (see Appendix B of EDF-ER-278).

Table A-2. Suggested maximum leachate concentrations for inorganic constituent for liner compatibility.

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration for GCL (mg/L)	Compatible Concentration for Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
Aluminum	28.3029				
Antimony	0.1165				
Arsenic	1.8470	500,000[d]	-	-[e]	500,000
Barium	3.5848				
Beryllium	0.0011				
Boron	36.4728	500,000[d]	-	-[e]	500,000
Cadmium	0.5917	500,000[d]	-	-[e]	500,000
Calcium	4035.0217	500,000[d]	-	-[e]	500,000
Chloride	31.1061				
Chromium	1.3691				
Cobalt	0.5999	500,000[d]	-	-[e]	500,000
Copper	1.4906	500,000[d]	-	-[e]	500,000
Cyanide	4.0932	500,000[d]	-	-[e]	500,000
Dysprosium	0.2472				
Fluoride	64.4341				
Iron	46.5528				
Lead	0.5753				
Magnesium	883.9838	500,000[d]	-	-[e]	500,000
Manganese	4.1300				
Mercury	49.6286				
Molybdenum	1.0117	500,000[d]	-	-[e]	500,000
Nickel	0.1964				
Nitrate	65.4429				
Nitrate/Nitrite-N	3.6979				
Nitrite	0.1414				
Phosphorus	19.2492	500,000[d]	-	-[e]	500,000
Potassium	74.8819	500,000[d]	-	-[e]	500,000
Selenium	0.2084	500,000[d]	-	-[e]	500,000
Silver	0.1092				
Sodium	2.7716				
Strontium	1.5094	500,000[d]	-	-[e]	500,000
Sulfate	342.1180				
Sulfide	12641.8391				

Table A-2. (continued).

Constituent[a]	Predicted Concentration in Leachate[b] (mg/L)	Compatible Concentration For HDPE (mg/L)	Compatible Concentration for GCL (mg/L)	Compatible Concentration for Clay (mg/L)	Suggested Maximum Leachate Concentration[c] (mg/L)
Terbium	2.3867				
Thallium	0.0037				
Va-dium	3.5063	500,000[d]	-	-[e]	500,000
Ytterbium	0.8124				
Zinc	12.9486	500,000[d]	-	-[e]	500,000
Zirconium	0.1151				
Total Inorganic	18367.1936				

a. Constituent reported in the "INEEL CERCLA Disposal Facility Design Inventory (EDF-ER-264).

b. Predicted leachate concentration in the first year of the ICDF landfill operation (EDF-ER-274).

c. The suggested maximum concentration selected for the ICDF liner system is based on the lowest of the concentrations listed for HDPE, GCL, and clay materials and are applicable for the leachate in the landfill and the waste liquids in the evaporation ponds.

d. From manufacturer specifications.

e. From manufacturer specifications.

Table A-3. Suggested maximum leachate concentrations for radionuclide constituents for liner compatibility in the ICDF Evaporation Pond

Constituent[a]	Predicted Activity Concentration in Leachate[b] (pCi/L)	Suggested Maximum Activity Concentration[c] (pCi/L)
Ac225	1.1E-07	2.4E+06
Ac227	4.5E-05	1.8E+08
Ac228	3.4E-10	1.0E+07
Ag106	0.0E+00	2.3E+07
Ag108	4.1E-08	-
Ag108m	8.9E+00	8.7E+06
Ag109m	5.5E-11	1.6E+08
Ag110	5.7E-10	1.2E+07
Ag110m	6.2E-08	5.1E+06
Ag111	0.0E+00	-
Am241	7.0E+01	2.6E+06
Am242	1.3E-04	7.4E+07
Am242m	1.3E-04	2.2E+08
Am243	9.8E-04	2.7E+06
Am245	0.0E+00	-
Am246	4.1E-25	1.1E+07
At217	8.5E-04	2.0E+06
Ba136m	0.0E+00	-
Ba137m	4.6E+05	2.1E+07
Ba140	0.0E+00	-
Be 10	4.6E-06	7.0E+07
Bi210	1.1E-05	3.7E+07
Bi211	1.8E-04	2.2E+06
Bi212	5.5E-03	5.0E+06
Bi213	0.0E+00	-
Bi214	5.6E-05	6.6E+06
Bk249	5.4E-22	4.3E+08
Bk250	1.9E-26	1.2E+07
C 14	9.1E-03	2.9E+08
Cd109	8.1E-10	7.2E+08
Cd113m	2.7E+02	7.7E+07
Cd115m	7.0E-52	2.3E+07
Ce141	3.6E-71	5.8E+07
Ce142	0.0E+00	-
Ce144	3.6E-03	1.3E+08
Cf249	8.1E-16	2.3E+06
Cf250	4.1E-16	2.4E+06
Cf251	1.9E-18	2.4E+06
Cf252	4.4E-20	1.4E+09
Cm241	3.2E-81	8.3E+07
Cm242	1.3E-17	2.3E+06
Cm243	8.9E-07	2.3E+06
Cm244	4.5E-04	2.4E+06
Cm245	2.0E-08	2.6E+06
Cm246	4.5E-10	2.6E+06
Cm247	1.6E-16	2.7E+06
Cm248	4.9E-17	3.1E+06
Cm250	1.4E-25	1.1E+07
Co-57	3.7E-01	9.9E+07
Co-58	5.8E-15	1.5E+07

Table A-3. (continued).

Constituent[a]	Predicted Activity Concentration in Leachate[b] (pCi/L)	Suggested Maximum Activity Concentration[c] (pCi/L)
Co-60	1.9E+04	5.5E+06
Cr-51	7.7E-53	3.9E+08
Cs132	0.0E+00	-
Cs134	2.2E+01	8.3E+06
Cs135	7.2E-02	2.5E+08
Cs136	0.0E+00	-
Cs137	4.9E+04	8.3E+07
Er169	0.0E+00	-
Eu150	5.1E-08	4.9E+07
Eu152	2.8E+03	1.1E+07
Eu154	2.4E+03	9.3E+06
Eu155	5.2E+02	1.2E+08
Eu156	0.0E+00	-
Fe-59	2.0E-34	1.1E+07
Fr221	1.0E-07	2.2E+06
Fr223	5.6E-07	3.3E+07
Gd152	1.1E-13	6.6E+06
Gd153	8.4E-11	9.3E+07
H 3	8.3E+05	2.5E+09
Hf-181	1.7E-36	1.9E+07
Ho166m	1.1E-05	8.2E+06
I129	2.2E+04	1.8E+08
I131	0.0E+00	-
In114	4.8E-54	1.8E+07
In114m	5.1E-54	5.9E+07
In115	1.5E-11	9.3E+07
In115m	0.0E+00	-
K-40	1.3E+02	2.3E+07
Kr81[d]	8.8E-05	-
Kr85[d]	1.9E+07	-
La138	0.0E+00	-
La140	2.2E-105	5.0E+06
Mn-54	3.9E-07	1.7E+07
Nb92	6.3E-18	9.4E+06
Nb93m	1.3E-01	4.7E+08
Nb94	8.8E-05	8.3E+06
Nb95	4.8E-32	1.8E+07
Nb95m	1.8E-34	5.8E+07
Nd144	1.4E-09	7.5E+06
Nd147	0.0E+00	-
Np235	8.4E-09	1.4E+09
Np236	8.6E-06	4.2E+07
Np237	8.0E+01	2.9E+06
Np238	2.7E-05	1.8E+07
Np239	4.1E-02	3.4E+07
Np240	3.5E-12	8.9E+06
Np240m	3.1E-09	1.5E+07
Pa231	1.3E-04	2.6E+06
Pa233	7.9E-02	3.5E+07
Pa234	5.0E-06	5.8E+06
Pa234m	3.1E-03	1.7E+07
Pb209	4.8E-07	7.2E+07

Table A-3. (continued).

Constituent[a]	Predicted Activity Concentration in Leachate[b] (pCi/L)	Suggested Maximum Activity Concentration[c] (pCi/L)
Pb210	1.1E-05	3.7E+08
Pb211	1.8E-04	2.8E+07
Pb212	5.5E-03	4.4E+07
Pb214	5.6E-05	2.6E+07
Pd107	1.1E-01	4.3E+08
Pm146	2.4E-02	1.7E+07
Pm147	1.6E+03	2.3E+08
Pm148	1.7E-58	1.1E+07
Pm148m	3.4E-57	6.6E+06
Po210	6.8E-06	2.7E+06
Po211	4.6E-09	1.9E+06
Po212	2.2E-03	1.6E+06
Po213	2.9E-07	1.7E+06
Po214	3.7E-05	1.8E+06
Po215	1.2E-04	1.9E+06
Po216	3.7E-03	2.1E+06
Po218	3.7E-05	2.4E+06
Pr143	0.0E+00	-
Pr144	7.4E-03	1.1E+07
Pr144m	1.1E-04	1.2E+09
Pu236	3.9E-05	2.5E+06
Pu237	8.6E-58	2.3E+08
Pu238	1.7E+03	2.6E+06
Pu239	4.8E+01	2.8E+06
Pu240	1.1E+01	2.8E+06
Pu241	4.6E+02	2.7E+09
Pu242	1.7E-03	2.9E+06
Pu243	4.6E-15	7.3E+07
Pu244	1.8E-10	3.1E+06
Pu246	9.9E-25	9.2E+07
Ra222	1.2E-115	2.2E+06
Ra223	2.0E-04	2.4E+06
Ra224	5.5E-03	2.5E+06
Ra225	5.1E-07	1.2E+08
Ra226	4.7E+00	3.0E+06
Ra228	1.5E-09	1.2E+09
Rb86	0.0E+00	-
Rb87	2.0E-04	1.8E+08
Rh102	5.7E-04	1.8E+08
Rh103m	5.4E-57	3.7E+08
Rh106	2.2E-01	8.8E+06
Rn218	2.1E-112	2.0E+06
Rn219	3.4E-01	2.1E+06
Rn220	9.2E+00	2.3E+06
Rn222	1.0E-01	2.6E+06
Ru103	3.6E-28	2.6E+07
Ru106	2.2E-01	3.6E+08
Sb124	4.1E-39	6.3E+06
Sb125	1.9E+02	2.7E+07
Sb126	4.1E-01	4.7E+06
Sb126m	2.9E+00	6.6E+06
Sc-46	9.2E-20	6.7E+06

Table A-3. (continued).

Constituent[a]	Predicted Activity Concentration in Leachate[b] (pCi/L)	Suggested Maximum Activity Concentration[c] (pCi/L)
Se 79	4.1E+01	2.7E+08
Sm146	1.8E-09	5.6E+06
Sm147	1.7E-05	6.3E+06
Sm148	4.2E-12	7.1E+06
Sm149[e]	2.1E-11	-
Sm151	1.4E+03	7.2E+08
Sn117m	0.0E+00	-
Sn119m	1.1E-06	7.2E+08
Sn121m	2.1E-01	1.6E+08
Sn123	6.5E-16	4.7E+09
Sn125	0.0E+00	-
Sn126	1.1E+00	2.7E+07
Sr89	5.0E-42	4.0E+07
Sr90	1.9E+06	2.4E+07
Tb160	1.3E-33	2.6E+07
Tb161	0.0E+00	-
Tc 98	6.8E-04	1.1E+07
Tc 99	2.2E+04	9.4E+06
Te123	3.6E-14	1.7E+08
Te123m	2.4E-22	8.3E+08
Te125m	1.8E+01	5.8E+07
Te127	7.5E-19	8.9E+07
Te127m	7.6E-19	6.2E+07
Te129	5.4E-70	1.6E+08
Te129m	8.6E-70	2.4E+07
Th226	2.2E-116	4.6E+07
Th227	1.8E-04	2.2E+06
Th228	3.3E-01	2.3E+06
Th229	5.1E-07	2.6E+06
Th230	1.7E+00	2.8E+06
Th231	1.6E+00	3.0E+06
Th232	1.6E+00	8.0E+07
Th234	1.7E-02	3.5E+06
Tl207	1.8E-04	2.1E+08
Tl208	2.0E-03	2.9E+07
Tl209	1.1E-08	3.6E+06
Tm170	2.7E-25	3.6E+06
Tm171	6.6E-12	4.2E+07
U230	0.0E+00	-
U232	8.8E-02	5.4E+08
U233	4.2E-03	2.7E+06
U234	9.9E+02	2.9E+06
U235	1.8E+01	3.0E+06
U236	3.3E+01	3.1E+06
U237	0.0E+00	-
U238	3.2E+02	3.2E+06
U240	4.2E-09	3.4E+06
Xe127	2.6E-68	8.9E+07
Xe129m	0.0E+00	-
Xe131m	4.5E-108	4.6E+07
Xe133	0.0E+00	-
Y90	1.3E+05	8.8E+07

Table A-3. (continued).

Constituent[a]	Predicted Activity Concentration in Leachate[b] (pCi/L)	Suggested Maximum Activity Concentration[c] (pCi/L)
Y91	2.4E-36	1.5E+07
Zn65	1.7E-07	2.3E+07
Zr93	1.4E+00	2.4E+07
Zr95	4.9E-25	7.3E+08

Notes:

a. Constituent reported in the "INEEL CERCLA Disposal Facility Design Inventory (EDF-ER-264).

b. Predicted average leachate activity concentration during the 15 year operational period.

c. The suggested maximum activity concentration selected for the ICDF liner system is based on a total absorbed dose of 1,000,000 rads for the individual constituent and a 36 cm liquid waste depth.

d. The constituents are gaseous elements so not part of the leachate.

e. Stable isotope.

Appendix B

ICDF Evaporation Pond WAC Comparison Table

Table B-1. Maximum Allowable Evaporation Pond Liquid Concentration.

Constituent	Pond Liner Maximum Concentrations[a]	Regulatory limitations	ICDF Evaporation Pond WAC	Source of ICDF Evaporation Pond WAC
Radiological pCi/L				
Ac225	2.4E+06	No Limit	2.4E+06	Pond Liner
Ac227	1.8E+08	No Limit	1.8E+08	Pond Liner
Ac228	1.0E+07	No Limit	1.0E+07	Pond Liner
Ag106	2.3E+07	No Limit	2.3E+07	Pond Liner
Ag108	Did not leach[b]	No Limit	No Limit	No Limit
Ag108m	8.7E+06	No Limit	8.7E+06	Pond Liner
Ag109m	1.6E+08	No Limit	1.6E+08	Pond Liner
Ag110	1.2E+07	No Limit	1.2E+07	Pond Liner
Ag110m	5.1E+06	No Limit	5.1E+06	Pond Liner
Ag111	Did not leach[b]	No Limit	No Limit	No Limit
Am241	2.6E+06	1.0E+07	2.6E+06	Pond Liner
Am242	7.4E+07	No Limit	7.4E+07	Pond Liner
Am242m	2.2E+08	No Limit	2.2E+08	Pond Liner
Am243	2.7E+06	1.0E+07	2.7E+06	Pond Liner
Am245	Did not leach[b]	No Limit	No Limit	No Limit
Am246	1.1E+07	No Limit	1.1E+07	Pond Liner
At217	2.0E+06	No Limit	2.0E+06	Pond Liner
Ba136m	Did not leach[b]	No Limit	No Limit	No Limit
Ba137m	2.1E+07	No Limit	2.1E+07	Pond Liner
Ba140	Did not leach[b]	No Limit	No Limit	No Limit
Be 10	7.0E+07	No Limit	7.0E+07	Pond Liner
Bi210	3.7E+07	No Limit	3.7E+07	Pond Liner
Bi211	2.2E+06	No Limit	2.2E+06	Pond Liner
Bi212	5.0E+06	No Limit	5.0E+06	Pond Liner
Bi213	Did not leach[b]	No Limit	No Limit	No Limit
Bi214	6.6E+06	No Limit	6.6E+06	Pond Liner
Bk249	4.3E+08	No Limit	4.3E+08	Pond Liner
Bk250	1.2E+07	No Limit	1.2E+07	Pond Liner
C 14	2.9E+08	No Limit	2.9E+08	Pond Liner
Cd109	7.2E+08	No Limit	7.2E+08	Pond Liner
Cd113m	7.7E+07	No Limit	7.7E+07	Pond Liner
Cd115m	2.3E+07	No Limit	2.3E+07	Pond Liner
Ce141	5.8E+07	No Limit	5.8E+07	Pond Liner
Ce142	Did not leach[b]	No Limit	No Limit	No Limit
Ce144	1.3E+08	No Limit	1.3E+08	Pond Liner
Cf249	2.3E+06	1.0E+07	2.3E+06	Pond Liner
Cf250	2.4E+06	No Limit	2.4E+06	Pond Liner
Cf251	2.4E+06	1.0E+07	2.4E+06	Pond Liner
Cf252	1.4E+09	No Limit	1.4E+09	Pond Liner
Cm241	8.3E+07	No Limit	8.3E+07	Pond Liner
Cm242	2.3E+06	2.0E-02	2.0E-02	Other Reg.
Cm243	2.3E+06	1.0E+07	2.3E+06	Pond Liner
Cm244	2.4E+06	1.0E+07	2.4E+06	Pond Liner
Cm245	2.6E+06	1.0E+07	2.6E+06	Pond Liner
Cm246	2.6E+06	1.0E+07	2.6E+06	Pond Liner
Cm247	2.7E+06	1.0E+07	2.7E+06	Pond Liner
Cm248	3.1E+06	1.0E+07	3.1E+06	Pond Liner

Table B-1. (continued).

Constituent	Pond Liner Maximum Concentrations[a]	Regulatory limitations	ICDF Evaporation Pond WAC	Source of ICDF Evaporation Pond WAC
Co-57	9.9E+07	No Limit	9.9E+07	Pond Liner
Co-58	1.5E+07	No Limit	1.5E+07	Pond Liner
Co-60	5.5E+06	No Limit	5.5E+06	Pond Liner
Cr-51	3.9E+08	No Limit	3.9E+08	Pond Liner
Cs132	Did not leach[b]	No Limit	No Limit	No Limit
Cs134	8.3E+06	No Limit	8.3E+06	Pond Liner
Cs135	2.5E+08	No Limit	2.5E+08	Pond Liner
Cs136	Did not leach[b]	No Limit	No Limit	No Limit
Cs137	8.3E+07	No Limit	8.3E+07	Pond Liner
Er169	Did not leach[b]	No Limit	No Limit	No Limit
Eu150	4.9E+07	No Limit	4.9E+07	Pond Liner
Eu152	1.1E+07	No Limit	1.1E+07	Pond Liner
Eu154	9.3E+06	No Limit	9.3E+06	Pond Liner
Eu155	1.2E+08	No Limit	1.2E+08	Pond Liner
Eu156	Did not leach[b]	No Limit	No Limit	No Limit
Fe-59	1.1E+07	No Limit	1.1E+07	Pond Liner
Fr221	2.2E+06	No Limit	2.2E+06	Pond Liner
Fr223	3.3E+07	No Limit	3.3E+07	Pond Liner
Gd152	6.6E+06	No Limit	6.6E+06	Pond Liner
Gd153	9.3E+07	No Limit	9.3E+07	Pond Liner
H 3	2.5E+09	No Limit	2.5E+09	Pond Liner
Hf-181	1.9E+07	No Limit	1.9E+07	Pond Liner
Ho166m	8.2E+06	No Limit	8.2E+06	Pond Liner
I129	1.8E+08	No Limit	1.8E+08	Pond Liner
I131	Did not leach[b]	No Limit	No Limit	No Limit
In114	1.8E+07	No Limit	1.8E+07	Pond Liner
In114m	5.9E+07	No Limit	5.9E+07	Pond Liner
In115	9.3E+07	No Limit	9.3E+07	Pond Liner
In115m	Did not leach[b]	No Limit	No Limit	No Limit
K-40	2.3E+07	No Limit	2.3E+07	Pond Liner
Kr81	Did not leach[b]	No Limit	No Limit	No Limit
Kr85	Did not leach[b]	No Limit	No Limit	No Limit
La138	Did not leach[b]	No Limit	No Limit	No Limit
La140	5.0E+06	No Limit	5.0E+06	Pond Liner
Mn-54	1.7E+07	No Limit	1.7E+07	Pond Liner
Nb92	9.4E+06	No Limit	9.4E+06	Pond Liner
Nb93m	4.7E+08	No Limit	4.7E+08	Pond Liner
Nb94	8.3E+06	No Limit	8.3E+06	Pond Liner
Nb95	1.8E+07	No Limit	1.8E+07	Pond Liner
Nb95m	5.8E+07	No Limit	5.8E+07	Pond Liner
Nd144	7.5E+06	No Limit	7.5E+06	Pond Liner
Nd147	Did not leach[b]	No Limit	No Limit	No Limit
Np235	1.4E+09	No Limit	1.4E+09	Pond Liner
Np236	4.2E+07	No Limit	4.2E+07	Pond Liner
Np237	2.9E+06	1.0E+07	2.9E+06	Pond Liner
Np238	1.8E+07	No Limit	1.8E+07	Pond Liner
Np239	3.4E+07	No Limit	3.4E+07	Pond Liner
Np240	8.9E+06	No Limit	8.9E+06	Pond Liner
Np240m	1.5E+07	No Limit	1.5E+07	Pond Liner
Pa231	2.6E+06	No Limit	2.6E+06	Pond Liner
Pa233	3.5E+07	No Limit	3.5E+07	Pond Liner
Pa234	5.8E+06	No Limit	5.8E+06	Pond Liner
Pa234m	1.7E+07	No Limit	1.7E+07	Pond Liner

Table B-1. (continued).

Constituent	Pond Liner Maximum Concentrations[a]	Regulatory limitations	ICDF Evaporation Pond WAC	Source of ICDF Evaporation Pond WAC
Pb210	3.7E+08	No Limit	3.7E+08	Pond Liner
Pb211	2.8E+07	No Limit	2.8E+07	Pond Liner
Pb212	4.4E+07	No Limit	4.4E+07	Pond Liner
Pb214	2.6E+07	No Limit	2.6E+07	Pond Liner
Pd107	4.3E+08	No Limit	4.3E+08	Pond Liner
Pm146	1.7E+07	No Limit	1.7E+07	Pond Liner
Pm147	2.3E+08	No Limit	2.3E+08	Pond Liner
Pm148	1.1E+07	No Limit	1.1E+07	Pond Liner
Pm148m	6.6E+06	No Limit	6.6E+06	Pond Liner
Po210	2.7E+06	No Limit	2.7E+06	Pond Liner
Po211	1.9E+06	No Limit	1.9E+06	Pond Liner
Po212	1.6E+06	No Limit	1.6E+06	Pond Liner
Po213	1.7E+06	No Limit	1.7E+06	Pond Liner
Po214	1.8E+06	No Limit	1.8E+06	Pond Liner
Po215	1.9E+06	No Limit	1.9E+06	Pond Liner
Po216	2.1E+06	No Limit	2.1E+06	Pond Liner
Po218	2.4E+06	No Limit	2.4E+06	Pond Liner
Pr143	Did not leach[b]	No Limit	No Limit	No Limit
Pr144	1.1E+07	No Limit	1.1E+07	Pond Liner
Pr144m	1.2E+09	No Limit	1.2E+09	Pond Liner
Pu236	2.5E+06	No Limit	2.5E+06	Pond Liner
Pu237	2.3E+08	No Limit	2.3E+08	Pond Liner
Pu238	2.6E+06	1.0E+07	2.6E+06	Pond Liner
Pu239	2.8E+06	1.0E+07	2.8E+06	Pond Liner
Pu240	2.8E+06	1.0E+07	2.8E+06	Pond Liner
Pu241	2.7E+09	No Limit	2.7E+09	Pond Liner
Pu242	2.9E+06	1.0E+07	2.9E+06	Pond Liner
Pu243	7.3E+07	No Limit	7.3E+07	Pond Liner
Pu244	3.1E+06	1.0E+07	3.1E+06	Pond Liner
Pu246	9.2E+07	No Limit	9.2E+07	Pond Liner
Ra222	2.2E+06	No Limit	2.2E+06	Pond Liner
Ra223	2.4E+06	No Limit	2.4E+06	Pond Liner
Ra224	2.5E+06	No Limit	2.5E+06	Pond Liner
Ra225	1.2E+08	No Limit	1.2E+08	Pond Liner
Ra226	3.0E+06	No Limit	3.0E+06	Pond Liner
Ra228	1.2E+09	No Limit	1.2E+09	Pond Liner
Rb86	Did not leach[b]	No Limit	No Limit	No Limit
Rb87	1.8E+08	No Limit	1.8E+08	Pond Liner
Rh102	1.8E+08	No Limit	1.8E+08	Pond Liner
Rh103m	3.7E+08	No Limit	3.7E+08	Pond Liner
Rh106	8.8E+06	No Limit	8.8E+06	Pond Liner
Rn218	2.0E+06	No Limit	2.0E+06	Pond Liner
Rn219	2.1E+06	No Limit	2.1E+06	Pond Liner
Rn220	2.3E+06	No Limit	2.3E+06	Pond Liner
Rn222	2.6E+06	No Limit	2.6E+06	Pond Liner
Ru103	2.6E+07	No Limit	2.6E+07	Pond Liner
Ru106	3.6E+08	No Limit	3.6E+08	Pond Liner
Sb124	6.3E+06	No Limit	6.3E+06	Pond Liner
Sb125	2.7E+07	No Limit	2.7E+07	Pond Liner
Sb126	4.7E+06	No Limit	4.7E+06	Pond Liner
Sb126m	6.6E+06	No Limit	6.6E+06	Pond Liner
Sc-46	6.7E+06	No Limit	6.7E+06	Pond Liner
Se 79	2.7E+08	No Limit	2.7E+08	Pond Liner
Sm146	5.6E+06	No Limit	5.6E+06	Pond Liner
Sm147	6.3E+06	No Limit	6.3E+06	Pond Liner
Sm148	7.1E+06	No Limit	7.1E+06	Pond Liner
Sm149	Did not leach[b]	No Limit	No Limit	No Limit
Sm151	7.2E+08	No Limit	7.2E+08	Pond Liner
Sn117m	Did not leach[b]	No Limit	No Limit	No Limit

Table B-1. (continued).

Constituent	Pond Liner Maximum Concentrations[a]	Regulatory limitations	ICDF Evaporation Pond WAC	Source of ICDF Evaporation Pond WAC
Sn121m	1.6E+08	No Limit	1.6E+08	Pond Liner
Sn123	4.7E+09	No Limit	4.7E+09	Pond Liner
Sn125	Did not leach[b]	No Limit	No Limit	No Limit
Sn126	2.7E+07	No Limit	2.7E+07	Pond Liner
Sr89	4.0E+07	No Limit	4.0E+07	Pond Liner
Sr90	2.4E+07	No Limit	2.4E+07	Pond Liner
Tb160	2.6E+07	No Limit	2.6E+07	Pond Liner
Tb161	Did not leach[b]	No Limit	No Limit	No Limit
Tc 98	1.1E+07	No Limit	1.1E+07	Pond Liner
Tc 99	9.4E+06	No Limit	9.4E+06	Pond Liner
Te123	1.7E+08	No Limit	1.7E+08	Pond Liner
Te123m	8.3E+08	No Limit	8.3E+08	Pond Liner
Te125m	5.8E+07	No Limit	5.8E+07	Pond Liner
Te127	8.9E+07	No Limit	8.9E+07	Pond Liner
Te127m	6.2E+07	No Limit	6.2E+07	Pond Liner
Te129	1.6E+08	No Limit	1.6E+08	Pond Liner
Te129m	2.4E+07	No Limit	2.4E+07	Pond Liner
Th226	4.6E+07	No Limit	4.6E+07	Pond Liner
Th227	2.2E+06	No Limit	2.2E+06	Pond Liner
Th228	2.3E+06	No Limit	2.3E+06	Pond Liner
Th229	2.6E+06	No Limit	2.6E+06	Pond Liner
Th230	2.8E+06	No Limit	2.8E+06	Pond Liner
Th231	3.0E+06	No Limit	3.0E+06	Pond Liner
Th232	8.0E+07	No Limit	8.0E+07	Pond Liner
Th234	3.5E+06	No Limit	3.5E+06	Pond Liner
Tl207	2.1E+08	No Limit	2.1E+08	Pond Liner
Tl208	2.9E+07	No Limit	2.9E+07	Pond Liner
Tl209	3.6E+06	No Limit	3.6E+06	Pond Liner
Tm170	3.6E+06	No Limit	3.6E+06	Pond Liner
Tm171	4.2E+07	No Limit	4.2E+07	Pond Liner
U230	Did not leach[b]	No Limit	No Limit	No Limit
U232	5.4E+08	No Limit	5.4E+08	Pond Liner
U233	2.7E+06	No Limit	2.7E+06	Pond Liner
U234	2.9E+06	No Limit	2.9E+06	Pond Liner
U235	3.0E+06	No Limit	3.0E+06	Pond Liner
U236	3.1E+06	No Limit	3.1E+06	Pond Liner
U237	Did not leach[b]	No Limit	No Limit	No Limit
U238	3.2E+06	No Limit	3.2E+06	Pond Liner
U240	3.4E+06	No Limit	3.4E+06	Pond Liner
Xe127	8.9E+07	No Limit	8.9E+07	Pond Liner
Xe129m	Did not leach[b]	No Limit	No Limit	No Limit
Xe131m	4.6E+07	No Limit	4.6E+07	Pond Liner
Xe133	Did not leach[b]	No Limit	No Limit	No Limit
Y90	8.8E+07	No Limit	8.8E+07	Pond Liner
Y91	1.5E+07	No Limit	1.5E+07	Pond Liner
Zn65	2.3E+07	No Limit	2.3E+07	Pond Liner
Zr93	2.4E+07	No Limit	2.4E+07	Pond Liner
Zr95	7.3E+08	No Limit	7.3E+08	Pond Liner
Organic (mg/L)				
1,1,1-Trichloroethane	2.0E+01	5.0E+02	2.0E+01	Pond Liner
1,1,2,2-Tetrachloroethane	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,1,2-Trichloroethane	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,1-Dichloroethane	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,1-Dichloroethene	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,2,4-Trichlorobenzene	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,2-Dichlorobenzene	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,2-Dichloroethane	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,2-Dichloroethene (total)	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,3-Dichlorobenzene	2.0E+03	5.0E+02	5.0E+02	40 CFR Subpart CC
1,4-Dichlorobenzene	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
1,4-Dioxane	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
2,4,5-Trichlorophenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2,4,6-Trichlorophenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2,4-Dichlorophenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2,4-Dimethylphenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB

Table B-1. (continued).

Constituent	Pond Liner Maximum Concentrations[a]	Regulatory limitations	ICDF Evaporation Pond WAC	Source of ICDF Evaporation Pond WAC
2,4-Dinitrotoluene	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2,6-Dinitrotoluene	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2-Butanone	2.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
2-Chloro-phthalene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
2-Chlorophenol	2.0E+03	1.0E+04	2.0E+03	Pond Liner
2-Hexanone	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
2-Methyl-phthalene	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2-Methylphenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2-Nitroaniline	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
2-Nitrophenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
3,3'-Dichlorobenzidine	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
3-Methyl Buta-l	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
3-Nitroaniline	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
4,6-Dinitro-2-methylphenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
4-Bromophenyl-phenylether	2.0E+03	1.0E+04	2.0E+03	40 CFR Subpart BB
4-Chloro-3-methylphenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
4-Chloroaniline	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
4-Chlorophenyl-phenylether	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
4-Methyl-2-Pentanone	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
4-Methylphenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
4-Nitroaniline	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
4-Nitrophenol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Ace-phthene	2.0E+03	1.0E+04	2.0E+03	40 CFR Subpart BB
Ace-phthylene	2.0E+03	1.0E+04	2.0E+03	40 CFR Subpart BB
Acetone	2.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Acetonitrile	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Acrolein	2.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Acrylonitrile	2.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Anthracene	2.0E+03	1.0E+04	2.0E+03	40 CFR Subpart BB
Aramite	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Aroclor-1016	5.0E+05	0.0E+00	0.0E+00	Other Reg
Aroclor-1254	5.0E+05	0.0E+00	0.0E+00	Other Reg
Aroclor-1260	5.0E+05	0.0E+00	0.0E+00	Other Reg
Aroclor-1268	5.0E+05	0.0E+00	0.0E+00	Other Reg
Benzene	2.0E+03	5.0E+02	5.0E+02	40 CFR Subpart CC
Benzidine	2.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Benzo(a)anthracene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Benzo(a)pyrene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Benzo(b)fluoranthene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Benzo(g,h,i)perylene	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Benzo(k)fluoranthene	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Benzoic acid	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
bis(2-Chloroethoxy)methane	2.0E+03	1.0E+04	2.0E+03	Pond Liner
bis(2-Chloroethyl)ether	2.0E+03	1.0E+04	2.0E+03	Pond Liner
bis(2-Chloroisopropyl)ether	2.0E+03	1.0E+04	2.0E+03	Pond Liner
bis(2-Ethylhexyl)phthalate	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Butane,1,1,3,4-Tetrachloro-	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Butylbenzylphthalate	2.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Carbazole	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Carbon Disulfide	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Chlorobenzene	2.0E+03	5.0E+02	5.0E+02	40 CFR Subpart CC
Chloroethane	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Chloromethane	2.0E+03	5.0E+02	5.0E+02	40 CFR Subpart CC
Chrysene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Decane, 3,4-Dimethyl	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Diacetone alcohol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Dibenz(a,h)anthracene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Dibenzofuran	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Diethylphthalate	1.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Dimethyl Disulfide	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Dimethylphthalate	1.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Di-n-butylphthalate	1.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Di-n-octylphthalate	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Eicosane	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Ethyl cyanide	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Ethylbenzene	2.0E+03	5.0E+02	5.0E+02	40 CFR Subpart CC
Famphur	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Fluoranthene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Fluorene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Heptadecane, 2,6,10,15-Tetra	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB

Table B-1. (continued).

Constituent	Pond Liner Maximum Concentrations[a]	Regulatory limitations	ICDF Evaporation Pond WAC	Source of ICDF Evaporation Pond WAC
Hexachloroethane	2.0E+03	5.0E+02	5.0E+02	40 CFR Subpart CC
Indeno(1,2,3-cd)pyrene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Isobutyl alcohol	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Isophorone	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Isopropyl Alcohol/2-propanol	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Kepone	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Mesityl oxide	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Methyl Acetate	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Methylene Chloride	2.0E+01	5.0E+02	2.0E+01	Pond Liner
-phthalene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Nitrobenzene	1.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
N-Nitroso-di-n-propylamine	1.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
N-Nitrosodiphenylamine	1.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Octane,2,3,7-Trimethyl	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
o-Toluenesulfo-mide	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Pentachlorophenol	1.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Phe-nthrene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Phenol	1.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Phenol,2,6-Bis(1,1-Dimethyl)	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
p-Toluenesulfo-mide	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart CC
Pyrene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
RDX	5.0E+03	1.0E+04	5.0E+03	Pond Liner
Styrene	2.0E+03	1.0E+04	2.0E+03	Pond Liner
Tetrachloroethene	2.0E+01	5.0E+02	2.0E+01	Pond Liner
Toluene	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Tributylphosphate	1.1E+03	1.0E+04	1.1E+03	Pond Liner
Trichloroethene	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Trinitrotoluene	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Undecane,4,6-Dimethyl-	5.0E+03	1.0E+04	5.0E+03	Pond Liner
Xylene (ortho)	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
Xylene (total)	5.0E+05	5.0E+02	5.0E+02	40 CFR Subpart CC
RDX	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Trinitrotoluene	5.0E+05	1.0E+04	1.0E+04	40 CFR Subpart BB
Inorganic (mg/L)				
Aluminum	5.0E+05	No Limit	5.0E+05	Pond Liner
Antimony	5.0E+05	No Limit	5.0E+05	Pond Liner
Arsenic	5.0E+05	No Limit	5.0E+05	Pond Liner
Barium	5.0E+05	No Limit	5.0E+05	Pond Liner
Beryllium	5.0E+05	No Limit	5.0E+05	Pond Liner
Boron	5.0E+05	No Limit	5.0E+05	Pond Liner
Cadmium	5.0E+05	No Limit	5.0E+05	Pond Liner
Calcium	5.0E+05	No Limit	5.0E+05	Pond Liner
Chloride	5.0E+05	No Limit	5.0E+05	Pond Liner
Chromium	5.0E+05	No Limit	5.0E+05	Pond Liner
Cobalt	5.0E+05	No Limit	5.0E+05	Pond Liner
Copper	5.0E+05	No Limit	5.0E+05	Pond Liner
Cyanide	5.0E+05	No Limit	5.0E+05	Pond Liner
Dysprosium	5.0E+05	No Limit	5.0E+05	Pond Liner
Fluoride	5.0E+05	No Limit	5.0E+05	Pond Liner
Iron	5.0E+05	No Limit	5.0E+05	Pond Liner
Lead	5.0E+05	No Limit	5.0E+05	Pond Liner
Magnesium	5.0E+05	No Limit	5.0E+05	Pond Liner
Manganese	5.0E+05	No Limit	5.0E+05	Pond Liner
Mercury	5.0E+05	No Limit	5.0E+05	Pond Liner
Molybdenum	5.0E+05	No Limit	5.0E+05	Pond Liner
Nickel	5.0E+05	No Limit	5.0E+05	Pond Liner
Nitrate	5.0E+05	No Limit	5.0E+05	Pond Liner
Nitrate/Nitrite-N	5.0E+05	No Limit	5.0E+05	Pond Liner
Nitrite	5.0E+05	No Limit	5.0E+05	Pond Liner
Phosphorus	5.0E+05	No Limit	5.0E+05	Pond Liner
Potassium	5.0E+05	No Limit	5.0E+05	Pond Liner
Selenium	5.0E+05	No Limit	5.0E+05	Pond Liner
Silver	5.0E+05	No Limit	5.0E+05	Pond Liner
Sodium	5.0E+05	No Limit	5.0E+05	Pond Liner
Strontium	5.0E+05	No Limit	5.0E+05	Pond Liner
Sulfate	5.0E+05	No Limit	5.0E+05	Pond Liner
Sulfide	5.0E+05	No Limit	5.0E+05	Pond Liner
Sulfur	5.0E+05	No Limit	5.0E+05	Pond Liner

Table B-1. (continued).

Constituent	Pond Liner Maximum Concentrations[a]	Regulatory limitations	ICDF Evaporation Pond WAC	Source of ICDF Evaporation Pond WAC
Thallium	5.0E+05	No Limit	5.0E+05	Pond Liner
VaNo Limitdium	5.0E+05	No Limit	5.0E+05	Pond Liner
Ytterbium	5.0E+05	No Limit	5.0E+05	Pond Liner
Zinc	5.0E+05	No Limit	5.0E+05	Pond Liner
Zirconium	5.0E+05	No Limit	5.0E+05	Pond Liner

a. For specific constituents not available in the liner compatibility literature from other sites, the total maximum concentration by chemical category (i.e., 500,000 ppm for organics and 500,000 ppm for inorganics should be used as per Table 4-1 in the main text.

b. For radiological constituents that are not expected due to their low solubility or other factors as described in EDF-ER-274, Leachate/Contaminant Reduction Time Study, there is no pond liner compatibility limit.