APPENDIX S

ECOLOGICAL RISK ASSESSMENT DATA
(Data included in Excel files on this disk)

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List of Appendix S Table numbers and brief descriptions of content for the Screening Ecological Risk Assessment at Load Line 1 at Ravenna

Table No.	Description	
S-1	Soil ESVs	
S-2	Sediment ESVs	
S-3	SW ESVs	
S-4	Kows and Max BAFs	
S-5	Water Tower	soil ESV prescreen
S-6	CB-3 and CB-801	soil ESV prescreen
S-7	CB-4/4A, and CB-6/6A	soil ESV prescreen
S-8	CB-13 and CB-10	soil ESV prescreen
S-9	CB-14, CB-17, and CA-15	soil ESV prescreen
S-10	Perimeter Area	soil ESV prescreen
S-11	Outlets A and B Channels	sediment ESV prescreen
S-12	Outlet C Channel and Charlie's Pond	sediment ESV prescreen
S-13	Outlets D/E/F Channel and Criggy's Pond	sediment ESV prescreen
S-14	North Area Channel	sediment ESV prescreen
S-15	Off-AOC Channel	sediment ESV prescreen
S-16	Outlet C Channel and Charlie's Pond	SW ESV prescreen
S-17	Outlets D/E/F Channel and Criggy's Pond	SW ESV prescreen
S-18	Off-AOC Channel	SW ESV prescreen
S-19	Deer mouse parameters	
S-20	Deer parameters	
S-21	Shrew parameters	
S-22	Robin parameters	
S-23	Fox parameters	
S-24	Owl parameters	
S-25	Mink parameters	
S-26	Heron parameters	
S-27	Mallard parameters	
S-28	BAFs (SPv and SPr)	
S-29	BAFs (BAF_i and BAF_{mamm})	
S-30	BCFs	
S-31	AUFs terrestrial	
S-32	AUFs aquatic	
S-33	Dietary parameters	
S-34	TRVs plants	
S-35	TRVs soil inverts	
S-36	Mammal TRVs	
S-37	Mammal body weight-adjusted TRVs	
S-38	Bird TRVs	
S-39	Water Tower	plants and worms HQs
S-40	Water Tower	deer mouse HQs
S-41	Water Tower	deer HQs
S-42	Water Tower	shrew HQs
S-43	Water Tower	robin HQs
S-44	Water Tower	fox HQs

List of Appendix S Table numbers and brief descriptions of content for the Screening Ecological Risk Assessment at Load Line 1 at Ravenna (continued)

Table No.	Description	
S-45	Water Tower	owl HQs
S-46	CB-3 and CB-801	plants and worms HQs
S-47	CB-3 and CB-801	deer mouse HQs
S-48	CB-3 and CB-801	deer HQs
S-49	CB-3 and CB-801	shrew HQs
S-50	CB-3 and CB-801	robin HQs
S-51	CB-3 and CB-801	fox HQs
S-52	CB-3 and CB-801	owl HQs
S-53	CB-4/4A, and CB-6/6A	plants and worms HQs
S-54	CB-4/4A, and CB-6/6A	deer mouse HQs
S-55	CB-4/4A, and CB-6/6A	deer HQs
S-56	CB-4/4A, and CB-6/6A	shrew HQs
S-57	CB-4/4A, and CB-6/6A	robin HQs
S-58	CB-4/4A, and CB-6/6A	fox HQs
S-59	CB-4/4A, and CB-6/6A	owl HQs
S-60	CB-13 and CB-10	plants and worms HQs
S-61	CB-13 and CB-10	deer mouse HQs
S-62	CB-13 and CB-10	deer HQs
S-63	CB-13 and CB-10	shrew HQs
S-64	CB-13 and CB-10	robin HQs
S-65	CB-13 and CB-10	fox HQs
S-66	CB-13 and CB-10	owl HQs
S-67	CB-14, CB-17, and CA-15	plants and worms HQs
S-68	CB-14, CB-17, and CA-15	deer mouse HQs
S-69	CB-14, CB-17, and CA-15	deer HQs
S-70	CB-14, CB-17, and CA-15	shrew HQs
S-71	CB-14, CB-17, and CA-15	robin HQs
S-72	CB-14, CB-17, and CA-15	fox HQs
S-73	CB-14, CB-17, and CA-15	owl HQs
S-74	Perimeter Area	plants and worms HQs
S-75	Perimeter Area	deer mouse HQs
S-76	Perimeter Area	deer HQs
S-77	Perimeter Area	shrew HQs
S-78	Perimeter Area	robin HQs
S-79	Perimeter Area	fox HQs
S-80	Perimeter Area	owl HQs
S-81	Outlets A and B Channel	sediment biota HQs
S-82	Outlet C Channel and Charlie's Pond	sediment biota HQs
S-83	Outlets D/E/F Channel and Criggy's Pond	sediment biota HQs
S-84	North Area Channel	sediment biota HQs
S-85	Off-AOC Channel	sediment biota HQs
S-86	Outlet C Channel and Charlie's Pond	aquatic biota HQs
S-87	Outlet C Channel and Charlie's Pond	mink HQs

List of Appendix S Table numbers and brief descriptions of content for the Screening Ecological Risk Assessment at Load Line 1 at Ravenna (continued)

Table No.	Description	
S-88	Outlet C Channel and Charlie's Pond	heron HQs
S-89	Outlet C Channel and Charlie's Pond	mallard duck HQs
S-90	Outlets D/E/F Channel and Criggy's Pond	aquatic biota HQs
S-91	Outlets D/E/F Channel and Criggy's Pond	mink HQs
S-92	Outlets D/E/F Channel and Criggy's Pond	heron HQs
S-93	Outlets D/E/F Channel and Criggy's Pond	mallard duck HQs
S-94	Off-AOC Channel	aquatic biota HQs
S-95	Off-AOC Channel	mink HQs
S-96	Off-AOC Channel	heron HQs

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Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
Metals													
(Target Analyte List)													
Aluminum	7429-90-5	--		--		600	LOEC	50	Soil, LOEC	--		6.00E+02	LOEC
Antimony	7440-36-0	5	PRGs	--		--		5	Soil, LOEC	0.1423	EDQL EPA Region 5 (1998)	5.00E+00	PRGs
Arsenic	7440-38-2	9.9	PRGs	60	LOEC	100	LOEC	10	Soil, NOEC	5.7	EDQL EPA Region 5 (1998)	9.90E+00	PRGs
Barium	7440-39-3	283	PRGs	--		3000	LOEC	500	Soil, LOEC	1.04	EDQL EPA Region 5 (1998)	2.83E+02	PRGs
Beryllium		10	PRGs									1.00E+01	PRGs
Bismuth	7440-69-9	--		--		--		20	No Soil, only Solution, LOEC	--		2.00E+01	No Soil, only Solution, LOEC
Boron	7440-42-8	0.5	PRGs	--		20	LOEC	0.5	Soil, LOEC	--		5.00E-01	PRGs
Bromine	7726-95-6	10	PRGs	--		--		10	Soil, LOEC	--		1.00E+01	PRGs
Cadmium	7440-43-9	4	PRGs	20	LOEC	20	LOEC	4	Soil, LOEC	0.00222	EDQL EPA Region 5 (1998)	4.00E+00	PRGs
Calcium	7440-70-2	--		--		--		--		--		No ESV	No Source
Chromium	16065-83-1	0.4	PRGs	0.4	LOEC	10	NOEC	1	Soil, LOEC	0.4	EDQL EPA Region 5 (1998)	4.00E-01	PRGs
Cobalt	7440-48-4	20	PRGs	--		1000	LOEC	20	Soil, LOEC	0.14033	EDQL EPA Region 5 (1998)	2.00E+01	PRGs
Copper	7440-50-8	60	PRGs	60	LOEC	100	LOEC	100	Soil ,NOEC	0.3132	EDQL EPA Region 5 (1998)	6.00E+01	PRGs
Cyanide	57-12-5	--		--		--		--		1.33	EDQL EPA Region 5 (1998)	1.33E+00	EDQL EPA Region 5 (1998)
Fluorine	7782-41-4	200	PRGs	--		30	LOEC	200	Soil, LOEC	--		2.00E+02	PRGs
Iodine	7553-56-2	4	PRGs	--		--		4	Soil, LOEC	--		4.00E+00	PRGs
Iron	7439-89-6	--		--		200	NOEC	10	No Soil, only Solution, LOEC	--		2.00E+02	NOEC
Lanthanum	7439-91-0	--		--		50	LOEC	--		--		5.00E+01	LOEC
Lead	7439-92-1	40.5	PRGs	500	NOEC	900	NOEC	50	Soil ,NOEC	0.05373	EDQL EPA Region 5 (1998)	4.05E+01	PRGs
Lithium	7439-93-2	2	PRGs	--		10	LOEC	2	Soil, LOEC	--		2.00E+00	PRGs
Magnesium	7439-95-4	--		--		--		--		--		No ESV	No Source
Manganese	7439-96-5	--		--		100	LOEC	500	Soil, LOEC	--		1.00E+02	LOEC
Mercury	7439-97-6	0.00051	PRGs	0.1	LOEC	30	NOEC	0.3	Soil, LOEC	0.1	EDQL EPA Region 5 (1998)	5.10E-04	PRGs
Molybdenum	7439-98-7	2	PRGs	--		200	LOEC	2	Soil, LOEC	--		2.00E+00	PRGs
Nickel	7440-02-0	30	PRGs	200	NOEC	90	LOEC	30	Soil ,NOEC	13.6	EDQL EPA Region 5 (1998)	3.00E+01	PRGs
Potassium	7440-09-7	--		--		--		--		--		No ESV	No Source
Selenium	7782-49-2	0.21	PRGs	70	LOEC	100	LOEC	1	Soil, LOEC	0.02765	EDQL EPA Region 5 (1998)	2.10E-01	PRGs
Silver	7440-22-4	2	PRGs	--		50	NOEC	2	Soil, LOEC	4.04	EDQL EPA Region 5 (1998)	2.00E+00	PRGs
Sodium	7440-23-5	--		--		--		--		--		No ESV	No Source
Sulfide	18496-25-8	--		--		--		--		0.00358	EDQL EPA Region 5 (1998)	3.58E-03	EDQL EPA Region 5 (1998)
Technetium	7440-26-8	0.2	PRGs	--		--		0.2	Soil ,NOEC	--		2.00E-01	PRGs
Tellurium	13494-80-9	--		--		--		2	No Soil, only Solution, LOEC	--		2.00E+00	No Soil, only Solution, LOEC
Thallium	7440-28-0	1	PRGs	--		--		1	Soil, LOEC	0.05692	EDQL EPA Region 5 (1998)	1.00E+00	PRGs
Tin	7440-31-5	50	PRGs	--		2000	LOEC	50	Soil, LOEC	7.62	EDQL EPA Region 5 (1998)	5.00E+01	PRGs
Titanium	7440-32-6	--		--		1000	LOEC	0.06	No Soil, only Solution, LOEC	--		1.00E+03	LOEC
Tungsten	7440-33-7	--		--		400	NOEC	--		--		4.00E+02	NOEC
Uranium	7440-61-1	5	PRGs	--		--		5	Soil, NOEC	--		5.00E+00	PRGs

Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
Vanadium	7440-62-2	2	PRGs	--		20	LOEC	2	Soil, LOEC	1.59	EDQL EPA Region 5 (1998)	2.00E+00	PRGs
Zinc	7440-66-6	8.5	PRGs	200	LOEC	100	NOEC	50	Soil, NOEC	6.62	EDQL EPA Region 5 (1998)	8.50E+00	PRGs
Organic Compounds		--		--		--		--		--		No ESV	No Source
Acenaphthene	83-32-9	20	PRGs	--		--		20	Soil, LOEC	--		2.00E+01	PRGs
Acenaphthylene	208-96-8	--		--		--		--		--		No ESV	No Source
Acetone	67-64-1	--		--		--		--		--		No ESV	No Source
Acrylonitrile	107-13-1	--		--		1000	LOEC	--		--		1.00E+03	LOEC
Aldrin	309-00-2	--		--		--		--		--		No ESV	No Source
2-Amino-4,6-dinitrotoluene	35572-78-2	--		--		--		--				No ESV	No Source
4-Aminobiphenyl	92-67-1	--		--		--		--		0.00305	EDQL EPA Region 5 (1998)	3.05E-03	EDQL EPA Region 5 (1998)
4-Amino-2,6-dinitrotoluene	19406-51-0	--		--		--						No ESV	No Source
Aniline	62-53-3	--		--		--		200	No Soil, only Solution, LOEC	0.05678	EDQL EPA Region 5 (1998)	2.00E+02	No Soil, only Solution, LOEC
Anthracene	120-12-7	--		--		--		--		1480	EDQL EPA Region 5 (1998)	1.48E+03	EDQL EPA Region 5 (1998)
PCB-1016	12674-11-2	--		--		--		--		--		No ESV	No Source
Arochlor-1221	11104-28-2	--		--		--		--		--		No ESV	No Source
Arochlor-1232	11141-16-5	--		--		--		--		--		No ESV	No Source
Arochlor-1242	53469-21-9	--		--		--		--		--		No ESV	No Source
Arochlor-1248	12672-29-6	--		--		--		--		--		No ESV	No Source
PCB-1254	11097-69-1	--		--		--		--		--		No ESV	No Source
Arochlor-1260	11096-82-5	--		--		--		--		--		No ESV	No Source
Benzene	71-43-2	--		--		--		--		0.25462	EDQL EPA Region 5 (1998)	2.55E-01	EDQL EPA Region 5 (1998)
Benzo(a)anthracene	56-55-3	--		--		--		--		5.21	EDQL EPA Region 5 (1998)	5.21E+00	EDQL EPA Region 5 (1998)
Benzo(a)pyrene	50-32-8	--		--		--		--		1.52	EDQL EPA Region 5 (1998)	1.52E+00	EDQL EPA Region 5 (1998)
Benzo(b)fluoranthene	205-99-2	--		--		--		--		59.8	EDQL EPA Region 5 (1998)	5.98E+01	EDQL EPA Region 5 (1998)
Benzo(g,h,i)perylene	191-24-2	--		--		--		--		119	EDQL EPA Region 5 (1998)	1.19E+02	EDQL EPA Region 5 (1998)
Benzo(k)fluoranthene	207-08-9	--		--		--		--		148	EDQL EPA Region 5 (1998)	1.48E+02	EDQL EPA Region 5 (1998)
BHC	608-73-1	--		--		--		--		--		No ESV	No Source
BHC, alpha	319-84-6	--		--		--		--		0.09939	EDQL EPA Region 5 (1998)	9.94E-02	EDQL EPA Region 5 (1998)
beta-BHC	319-85-7	--		--		--		--		0.00398	EDQL EPA Region 5 (1998)	3.98E-03	EDQL EPA Region 5 (1998)
BHC, delta	319-86-8	--		--		--		--		9.94	EDQL EPA Region 5 (1998)	9.94E+00	EDQL EPA Region 5 (1998)
BHC, gamma	58-89-9	--		--		--		--		0.005	EDQL EPA Region 5 (1998)	5.00E-03	EDQL EPA Region 5 (1998)
Biphenyl	92-52-4	60	PRGs	--		--		60	Soil, LOEC	--		6.00E+01	PRGs
bis(2-chloroethoxy) methane	111-91-1	--		--		--		--		0.30209	EDQL EPA Region 5 (1998)	3.02E-01	EDQL EPA Region 5 (1998)
bis(2-Chloroethyl) ether	111-44-4	--		--		--		--		23.7	EDQL EPA Region 5 (1998)	2.37E+01	EDQL EPA Region 5 (1998)
bis(2-Ethylhexyl)phthalate	117-81-7	--		--		--		--		0.92594	EDQL EPA Region 5 (1998)	9.26E-01	EDQL EPA Region 5 (1998)
4-Bromoaniline	106-40-1	--		--		--		100	No Soil, only Solution, LOEC	--		1.00E+02	No Soil, only Solution, LOEC
Bromodichloromethane	75-27-4	--		--		--		--		0.53978	EDQL EPA Region 5 (1998)	5.40E-01	EDQL EPA Region 5 (1998)
Bromoform	75-25-2	--		--		--		--		15.9	EDQL EPA Region 5 (1998)	1.59E+01	EDQL EPA Region 5 (1998)
Bromomethane	74-83-9	--		--		--		--		--		No ESV	No Source

Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
4-bromophenyl-phenylether	101-55-3	--		--		--		--		--		No ESV	No Source
2-Butanone	78-93-3	--		--		--		--		89.6	EDQL EPA Region 5 (1998)	8.96E+01	EDQL EPA Region 5 (1998)
Butylbenzyl phthalate	85-68-7	--		--		--		--		--		No ESV	No Source
N-Nitrosodi-n-Butylamine	924-16-3	--		--		--		--		0.26707	EDQL EPA Region 5 (1998)	2.67E-01	EDQL EPA Region 5 (1998)
Carbazole	86-74-8	--		--		--		--		--		No ESV	No Source
Carbon disulfide	75-15-0	--		--		--		--		0.09412	EDQL EPA Region 5 (1998)	9.41E-02	EDQL EPA Region 5 (1998)
Carbon tetrachloride	56-23-5	--		--		1000	LOEC	--		2.98	EDQL EPA Region 5 (1998)	1.00E+03	LOEC
Chloroacetamide	79-07-2	2	PRGs	2	LOEC	--		--		--		2.00E+00	PRGs
p-chloroaniline	106-47-8	--		--		--		--		1.1	EDQL EPA Region 5 (1998)	1.10E+00	EDQL EPA Region 5 (1998)
3-Chloroaniline	108-42-9	20	PRGs	30	LOEC	--		20	Soil, LOEC	--		2.00E+01	PRGs
4-Chloroaniline	106-47-8	--		--		--		40	No Soil, only Solution, LOEC	--		4.00E+01	No Soil, only Solution, LOEC
Chlorobenzene	108-90-7	40	PRGs	40	LOEC	--		--		13.1	EDQL EPA Region 5 (1998)	4.00E+01	PRGs
Chlorobenzilate	510-15-6	--		--		--		--		5.05	EDQL EPA Region 5 (1998)	5.05E+00	EDQL EPA Region 5 (1998)
Chlordane	12789-03-6	--		--		--		--		0.224	EDQL EPA Region 5 (1998)	2.24E-01	EDQL EPA Region 5 (1998)
alpha-Chlordane	12789-03-6	--		--		--		--		0.224	EDQL EPA Region 5 (1998)	2.24E-01	EDQL EPA Region 5 (1998)
gamma-Chlordane	12789-03-6	--		--		--		--		0.224	EDQL EPA Region 5 (1998)	2.24E-01	EDQL EPA Region 5 (1998)
Chloroethane	75-00-3	--		--		--		--		--		No ESV	No Source
Chloroform	67-66-3	--		--		--		--		1.19	EDQL EPA Region 5 (1998)	1.19E+00	EDQL EPA Region 5 (1998)
Chloromethane	74-87-3	--		--		--		--		--		No ESV	No Source
2-Chloronaphthalene	91-58-7	--		--		--		--		0.01218	EDQL EPA Region 5 (1998)	1.22E-02	EDQL EPA Region 5 (1998)
2-Chlorophenol	95-57-8	--		--		--		60	No Soil, only Solution, LOEC	0.24266	EDQL EPA Region 5 (1998)	6.00E+01	No Soil, only Solution, LOEC
3-Chlorophenol	108-43-0	7	PRGs	10	LOEC	--		7	Soil, LOEC	--		7.00E+00	PRGs
4-Chlorophenol	106-48-9	--		--		--		50	No Soil, only Solution, LOEC	--		5.00E+01	No Soil, only Solution, LOEC
4-Chlorophenyl-phenyl ether	7005-72-3	--		--		--		--		--		No ESV	No Source
4-chloro-3-methylphenol	59-50-7	--		--		--		--		--		No ESV	No Source
Chloropropene	107-05-1	--		--		--		--		0.0029	EDQL EPA Region 5 (1998)	2.90E-03	EDQL EPA Region 5 (1998)
Chrysene	218-01-9	--		--		--		--		4.73	EDQL EPA Region 5 (1998)	4.73E+00	EDQL EPA Region 5 (1998)
4,6-dinitro-o-Cresol	534-52-1	--		--		--		--		0.14408	EDQL EPA Region 5 (1998)	1.44E-01	EDQL EPA Region 5 (1998)
m-Cresol	108-39-4	--		--		--		--		3.49	EDQL EPA Region 5 (1998)	3.49E+00	EDQL EPA Region 5 (1998)
o-Cresol	95-48-7	--		--		--		--		40.4	EDQL EPA Region 5 (1998)	4.04E+01	EDQL EPA Region 5 (1998)
2-Cresol	95-48-7	--		--		--		50	No Soil, only Solution, LOEC	--		5.00E+01	No Soil, only Solution, LOEC
p-chloro-m-Cresol	59-50-7	--		--		--		--		7.95	EDQL EPA Region 5 (1998)	7.95E+00	EDQL EPA Region 5 (1998)
p-Cresol	106-44-5	--		--		--		--		163	EDQL EPA Region 5 (1998)	1.63E+02	EDQL EPA Region 5 (1998)
Diallate	2303-16-4	--		--		--		--		0.45214	EDQL EPA Region 5 (1998)	4.52E-01	EDQL EPA Region 5 (1998)
2,4-D	94-75-7	--		--		--		--		0.02725	EDQL EPA Region 5 (1998)	2.73E-02	EDQL EPA Region 5 (1998)
4,4'-DDD	72-54-8	--		--		--		--		0.75815	EDQL EPA Region 5 (1998)	7.58E-01	EDQL EPA Region 5 (1998)
4,4'-DDE	72-55-9	--		--		--		--		0.59587	EDQL EPA Region 5 (1998)	5.96E-01	EDQL EPA Region 5 (1998)
4,4'-DDT	50-29-3	--		--		--		--		0.0175	EDQL EPA Region 5 (1998)	1.75E-02	EDQL EPA Region 5 (1998)
Diazinon	333-41-5	--		--		--		--		--		No ESV	No Source
Dibenzo(a,h)anthracene	53-70-3	--		--		--		--		18.4	EDQL EPA Region 5 (1998)	1.84E+01	EDQL EPA Region 5 (1998)

Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
Dibenzofuran	132-64-9	--		--		--		--		--		No ESV	No Source
1,2-Dibromo-3-Chloropropane	96-12-8	--		--		--		--		0.03518	EDQL EPA Region 5 (1998)	3.52E-02	EDQL EPA Region 5 (1998)
Dibromochloromethane	124-48-1	--		--		--		--		2.05	EDQL EPA Region 5 (1998)	2.05E+00	EDQL EPA Region 5 (1998)
Dibromoethane	106-93-4	--		--		--		--		1.23	EDQL EPA Region 5 (1998)	1.23E+00	EDQL EPA Region 5 (1998)
2,4-Dichloroaniline	554-00-7	100	PRGs	100	NOEC	--		--		--		1.00E+02	PRGs
3,4-Dichloroaniline	95-76-1	20	PRGs	20	LOEC	--		10	No Soil, only Solution, LOEC	--		2.00E+01	PRGs
o-Dichlorobenzene	95-50-1	--		--		--		--		2.96	EDQL EPA Region 5 (1998)	2.96E+00	EDQL EPA Region 5 (1998)
p-Dichlorobenzene	106-46-7	--		--		--		--		0.54559	EDQL EPA Region 5 (1998)	5.46E-01	EDQL EPA Region 5 (1998)
1,2-Dichlorobenzene	95-50-1	--		--		--		--		--		No ESV	No Source
1,3-Dichlorobenzene	541-73-1	--		--		--		--		--		No ESV	No Source
1,4-Dichlorobenzene	106-46-7	20	PRGs	20	LOEC	--		--		--		2.00E+01	PRGs
3,3'-Dichlorobenzidine	91-94-1	--		--		--		--		0.64636	EDQL EPA Region 5 (1998)	6.46E-01	EDQL EPA Region 5 (1998)
Cis-1,4-dichloro-2-butene	1476-11-5	--		--		1000	LOEC	--		--		1.00E+03	LOEC
Trans-1,4-dichloro-2-butene	110-57-6	--		--		1000	LOEC	--		--		1.00E+03	LOEC
1,1-Dichloroethane	75-34-3	--		--		--		--		20.1	EDQL EPA Region 5 (1998)	2.01E+01	EDQL EPA Region 5 (1998)
1,2-Dichloroethane	107-06-2	--		--		--		--		21.2	EDQL EPA Region 5 (1998)	2.12E+01	EDQL EPA Region 5 (1998)
1,1-Dichloroethene	75-35-4	--		--		--		--		8.28	EDQL EPA Region 5 (1998)	8.28E+00	EDQL EPA Region 5 (1998)
1,2-Dichloroethene	540-59-0	--		--		--		--		0.78373	EDQL EPA Region 5 (1998)	7.84E-01	EDQL EPA Region 5 (1998)
Dichlorodifluromethane	75-71-8	--		--		--		--		39.5	EDQL EPA Region 5 (1998)	3.95E+01	EDQL EPA Region 5 (1998)
2,4-Dichlorophenol	120-83-2	--		--		--		20	No Soil, only Solution, LOEC	87.5	EDQL EPA Region 5 (1998)	2.00E+01	No Soil, only Solution, LOEC
2,6-Dichlorophenol	87-65-0	--		--		--		--		1.17	EDQL EPA Region 5 (1998)	1.17E+00	EDQL EPA Region 5 (1998)
3,4-Dichlorophenol	95-77-2	20	PRGs	20	LOEC	--		20	Soil, LOEC	--		2.00E+01	PRGs
1,2-Dichloropropane	78-87-5	700	PRGs	700	LOEC	--		--		32.7	EDQL EPA Region 5 (1998)	7.00E+02	PRGs
cis-1,3-Dichloropropene	10061-01-5	--		--		--		--		0.39786	EDQL EPA Region 5 (1998)	3.98E-01	EDQL EPA Region 5 (1998)
trans-1,3-Dichloropropene	10061-02-6	--		--		--		--		0.39786	EDQL EPA Region 5 (1998)	3.98E-01	EDQL EPA Region 5 (1998)
Dieldrin	60-57-1	--		--		--		--		0.00238	EDQL EPA Region 5 (1998)	2.38E-03	EDQL EPA Region 5 (1998)
Diethylphthalate	84-66-2	100	PRGs	--		--		100	Soil, LOEC	24.8	EDQL EPA Region 5 (1998)	1.00E+02	PRGs
3,3'-Dimethylbenzidine	119-93-7	--		--		--		--		0.1042	EDQL EPA Region 5 (1998)	1.04E-01	EDQL EPA Region 5 (1998)
Dimethoate	60-51-5	--		--		--		--		0.21802	EDQL EPA Region 5 (1998)	2.18E-01	EDQL EPA Region 5 (1998)
7,12'-Dimethylbenz(a)anthracene	57-97-6	--		--		--		--		16.3	EDQL EPA Region 5 (1998)	1.63E+01	EDQL EPA Region 5 (1998)
Dimethylphthalate	131-11-3	200	PRGs	200	LOEC	--		--		734	EDQL EPA Region 5 (1998)	2.00E+02	PRGs
alpha,alpha-Dimethylphenethylamine	122-09-8	--		--		--		--		0.30016	EDQL EPA Region 5 (1998)	3.00E-01	EDQL EPA Region 5 (1998)
2,4-Dimethylphenol	105-67-9	--		--		--		--		0.01	EDQL EPA Region 5 (1998)	1.00E-02	EDQL EPA Region 5 (1998)
Di-n-butyl phthalate	84-74-2	200	PRGs	--		--		200	Soil, NOEC	0.14979	EDQL EPA Region 5 (1998)	2.00E+02	PRGs
Di-n-octylphthalate	117-84-0	--		--		--		--		709	EDQL EPA Region 5 (1998)	7.09E+02	EDQL EPA Region 5 (1998)
m-Dinitrobenzene	99-65-0	--		--		--		--		0.6547	EDQL EPA Region 5 (1998)	6.55E-01	EDQL EPA Region 5 (1998)
1,3-Dinitrobenzene	99-65-0	--		--		--		--		--	EDQL EPA Region 5 (1998)	No ESV	EDQL EPA Region 5 (1998)
2,4-Dinitrophenol	51-28-5	20	PRGs	--		--		20	Soil, NOEC	0.06086	EDQL EPA Region 5 (1998)	2.00E+01	PRGs
2,4-Dinitrotoluene	121-14-2	--		--		--		--		1.28	EDQL EPA Region 5 (1998)	1.28E+00	EDQL EPA Region 5 (1998)
2,6-Dinitrotoluene	606-20-2	--		--		--		--		0.03283	EDQL EPA Region 5 (1998)	3.28E-02	EDQL EPA Region 5 (1998)

Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
4,6-Dinitro-2-methylphenol	534-52-1	--		--		--		--		--		No ESV	No Source
Dinoseb	88-85-7	--		--		--		--		0.0218	EDQL EPA Region 5 (1998)	2.18E-02	EDQL EPA Region 5 (1998)
1,4-Dioxane	123-91-1	--		--		--		--		2.05	EDQL EPA Region 5 (1998)	2.05E+00	EDQL EPA Region 5 (1998)
Diphenylamine	122-39-4	--		--		--		--		1.01	EDQL EPA Region 5 (1998)	1.01E+00	EDQL EPA Region 5 (1998)
Disulfoton	298-04-4	--		--		--		--		0.01988	EDQL EPA Region 5 (1998)	1.99E-02	EDQL EPA Region 5 (1998)
Endosulfan, alpha	959-98-8	--		--		--		--		0.11927	EDQL EPA Region 5 (1998)	1.19E-01	EDQL EPA Region 5 (1998)
Endosulfan, beta	33213-65-9	--		--		--		--		0.11927	EDQL EPA Region 5 (1998)	1.19E-01	EDQL EPA Region 5 (1998)
Endosulfan, mixed isomers		--		--		--		--		--		No ESV	No Source
Endosulfan sulfate	1031-07-8	--		--		--		--		0.03578	EDQL EPA Region 5 (1998)	3.58E-02	EDQL EPA Region 5 (1998)
Endrin	72-20-8	--		--		--		--		0.0101	EDQL EPA Region 5 (1998)	1.01E-02	EDQL EPA Region 5 (1998)
Endrin aldehyde	7421-93-4	--		--		--		--		0.0105	EDQL EPA Region 5 (1998)	1.05E-02	EDQL EPA Region 5 (1998)
Endrin keton	53494-70-5	--		--		--		--		--		No ESV	No Source
Ethyl metharcrylate	97-63-2	--		--		--		--		30	EDQL EPA Region 5 (1998)	3.00E+01	EDQL EPA Region 5 (1998)
Ethylbenzene	100-41-4	--		--		--		--		5.16	EDQL EPA Region 5 (1998)	5.16E+00	EDQL EPA Region 5 (1998)
Famphur	52-85-7	--		--		--		--		0.0497	EDQL EPA Region 5 (1998)	4.97E-02	EDQL EPA Region 5 (1998)
Fluoranthene	206-44-0	--		--		--		--		122	EDQL EPA Region 5 (1998)	1.22E+02	EDQL EPA Region 5 (1998)
Fluorene	86-73-7	30	PRGs	30	LOEC	--		--		122	EDQL EPA Region 5 (1998)	3.00E+01	PRGs
Furan	110-00-9	600	PRGs	--		--		600	Soil, LOEC	--		6.00E+02	PRGs
gamma-BHC (lindane)	58-89-9	--		--		--		--		0.005	EDQL EPA Region 5 (1998)	5.00E-03	EDQL EPA Region 5 (1998)
Heptane	142-82-5	--		--		--		1	No Soil, only Solution, LOEC	--		1.00E+00	No Soil, only Solution, LOEC
Heptachlor	76-44-8	--		--		--		--		0.00598	EDQL EPA Region 5 (1998)	5.98E-03	EDQL EPA Region 5 (1998)
Heptachlor Epoxide	1024-57-3	--		--		--		--		0.15188	EDQL EPA Region 5 (1998)	1.52E-01	EDQL EPA Region 5 (1998)
Hexachlorobenzene	118-74-1	--		--		1000	LOEC	--		0.19878	EDQL EPA Region 5 (1998)	1.00E+03	LOEC
Hexachlorobutadiene	87-68-3	--		--		--		--		0.03976	EDQL EPA Region 5 (1998)	3.98E-02	EDQL EPA Region 5 (1998)
Hexachlorocyclopentadiene	77-47-4	10	PRGs	--		--		10	Soil, LOEC	0.75537	EDQL EPA Region 5 (1998)	1.00E+01	PRGs
Hexachloroethane	67-72-1	--		--		--		--		0.59634	EDQL EPA Region 5 (1998)	5.96E-01	EDQL EPA Region 5 (1998)
Hexachorophene	70-30-4	--		--		--		--		0.19878	EDQL EPA Region 5 (1998)	1.99E-01	EDQL EPA Region 5 (1998)
2-Hexanone	591-78-6	--		--		--		--		12.6	EDQL EPA Region 5 (1998)	1.26E+01	EDQL EPA Region 5 (1998)
HMX	2691-41-0	--		--		--		--		--		No ESV	No Source
Indeno(1,2,3-cd)pyrene	193-39-5	--		--		--		--		109	EDQL EPA Region 5 (1998)	1.09E+02	EDQL EPA Region 5 (1998)
Isobutyl alcohol	78-83-1	--		--		--		--		20.8	EDQL EPA Region 5 (1998)	2.08E+01	EDQL EPA Region 5 (1998)
Isodrin	465-73-6	--		--		--		--		0.00332	EDQL EPA Region 5 (1998)	3.32E-03	EDQL EPA Region 5 (1998)
Isophorone	78-59-1	--		--		--		--		139	EDQL EPA Region 5 (1998)	1.39E+02	EDQL EPA Region 5 (1998)
Isosafrole	120-58-1	--		--		--		--		9.94	EDQL EPA Region 5 (1998)	9.94E+00	EDQL EPA Region 5 (1998)
Kepone	143-50-0	--		--		--		--		0.03272	EDQL EPA Region 5 (1998)	3.27E-02	EDQL EPA Region 5 (1998)
Malathion	121-75-5	--		--		--		--		--		No ESV	No Source
Methacrylonitrile	126-98-7	--		--		--		--		0.05705	EDQL EPA Region 5 (1998)	5.71E-02	EDQL EPA Region 5 (1998)
Methapyrilene	91-80-5	--		--		--		--		2.78	EDQL EPA Region 5 (1998)	2.78E+00	EDQL EPA Region 5 (1998)
Methoxychlor	72-43-5	--		--		--		--		0.01988	EDQL EPA Region 5 (1998)	1.99E-02	EDQL EPA Region 5 (1998)
Methyl bromide	74-83-9	--		--		--		--		0.23516	EDQL EPA Region 5 (1998)	2.35E-01	EDQL EPA Region 5 (1998)

Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
Methyl chloride	74-87-3	--		--		--		--		10.4	EDQL EPA Region 5 (1998)	1.04E+01	EDQL EPA Region 5 (1998)
Methyl iodide	74-88-4	--		--		--		--		1.23	EDQL EPA Region 5 (1998)	1.23E+00	EDQL EPA Region 5 (1998)
Methylene chloride	75-09-2	--		--		--		--		--		No ESV	No Source
2-Methylnaphthalene	91-57-6	--		--		--		--		3.24	EDQL EPA Region 5 (1998)	3.24E+00	EDQL EPA Region 5 (1998)
2-Methylphenol	95-48-7	--		--		--		--		--		No ESV	No Source
4-Methylphenol	106-44-5	--		--		--		--		--		No ESV	No Source
4-Methyl-2-pentanone	108-10-1	--		--		--		--		--		No ESV	No Source
Mirex	2385-85-5	--		--		--		--		--		No ESV	No Source
Naphthalene	91-20-3	--		--		--		10	No Soil, only Solution, LOEC	0.09939	EDQL EPA Region 5 (1998)	1.00E+01	No Soil, only Solution, LOEC
1-Naphthylamine	134-32-7	--		--		--		--		9.34	EDQL EPA Region 5 (1998)	9.34E+00	EDQL EPA Region 5 (1998)
2-Naphthylamine	91-59-8	--		--		--		--		3.03	EDQL EPA Region 5 (1998)	3.03E+00	EDQL EPA Region 5 (1998)
1,4-Naphthoquinone	130-15-4	--		--		--		--		1.67	EDQL EPA Region 5 (1998)	1.67E+00	EDQL EPA Region 5 (1998)
m-Nitroaniline	99-09-2	--		--		--		--		3.16	EDQL EPA Region 5 (1998)	3.16E+00	EDQL EPA Region 5 (1998)
o-Nitroaniline	88-74-4	--		--		--		--		74.1	EDQL EPA Region 5 (1998)	7.41E+01	EDQL EPA Region 5 (1998)
p-Nitroaniline	100-01-6	--		--		--		--		21.9	EDQL EPA Region 5 (1998)	2.19E+01	EDQL EPA Region 5 (1998)
2-Nitroaniline	88-74-4	--		--		--		--		--		No ESV	No Source
3-Nitroaniline	99-09-2	--		--		--		70	No Soil, only Solution, LOEC	--		7.00E+01	No Soil, only Solution, LOEC
4-Nitroaniline	100-01-6	--		--		--		40	No Soil, only Solution, LOEC	--		4.00E+01	No Soil, only Solution, LOEC
Nitrobenzene	99-95-3	40	PRGs	40	LOEC	1000	LOEC	8	No Soil, only Solution, LOEC	1.31	EDQL EPA Region 5 (1998)	4.00E+01	PRGs
Nitrocellulose	9004-70-0	--		--		--		--		--		No ESV	No Source
Nitroglycerin	55-63-0	--		--		--		--		--		No ESV	No Source
Nitroquanidine		--		--		--		--		--		No ESV	No Source
o-Nitrophenol	88-75-5	--		--		--		--		1.6	EDQL EPA Region 5 (1998)	1.60E+00	EDQL EPA Region 5 (1998)
p-Nitrophenol	100-02-7	--		--		--		--		5.12	EDQL EPA Region 5 (1998)	5.12E+00	EDQL EPA Region 5 (1998)
2-Nitrophenol	88-75-5	--		--		--		--		--		No ESV	No Source
4-Nitrophenol	100-02-7	7	PRGs	7	LOEC	--		10	No Soil, only Solution, LOEC	--		7.00E+00	PRGs
4-Nitroquinoline-1-oxide	56-57-5	--		--		--		--		0.12222	EDQL EPA Region 5 (1998)	1.22E-01	EDQL EPA Region 5 (1998)
3-Nitrotoluene	99-08-1	--		--		--		--		--		No ESV	No Source
N-Nitrosodiethylamine	55-18-5	--		--		--		--		0.06933	EDQL EPA Region 5 (1998)	6.93E-02	EDQL EPA Region 5 (1998)
N-Nitrosodimethylamine	62-75-9	--		--		--		--		3.2E-05	EDQL EPA Region 5 (1998)	3.21E-05	EDQL EPA Region 5 (1998)
N-Nitrosomethylamine	10595-95-6	--		--		--		--		0.00166	EDQL EPA Region 5 (1998)	1.66E-03	EDQL EPA Region 5 (1998)
N-Nitrosomorpholine	59-89-2	--		--		--		--		0.07057	EDQL EPA Region 5 (1998)	7.06E-02	EDQL EPA Region 5 (1998)
N-Nitrosopiperidine	100-75-4	--		--		--		--		0.00665	EDQL EPA Region 5 (1998)	6.65E-03	EDQL EPA Region 5 (1998)
N-Nitrosopyrrolidine	930-55-2	--		--		--		--		0.01256	EDQL EPA Region 5 (1998)	1.26E-02	EDQL EPA Region 5 (1998)
N-nitroso-di-n-dipropylamine	621-64-7	--		--		--		--		0.54368	EDQL EPA Region 5 (1998)	5.44E-01	EDQL EPA Region 5 (1998)
N-nitrosodiphenylamine	86-30-6	20	PRGs	20	LOEC	--		--		0.54514	EDQL EPA Region 5 (1998)	2.00E+01	PRGs
2-Nitrotoluene	88-72-2	--		--		--		--		--		No ESV	No Source
5-nitro-o-Toluidine	99-55-8	--		--		--		--		8.73	EDQL EPA Region 5 (1998)	8.73E+00	EDQL EPA Region 5 (1998)
2,2'- oxybis(1-Chloropropane)	108-60-1	--		--		--		--		--		No ESV	No Source
Parathion	56-38-2	--		--		--		--		0.00034	EDQL EPA Region 5 (1998)	3.40E-04	EDQL EPA Region 5 (1998)

Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
PCDD-S		--		--		--		--		2E-07	EDQL EPA Region 5 (1998)	1.99E-07	EDQL EPA Region 5 (1998)
Pentachlorophenol	87-86-5	3	PRGs	6	NOEC	400	LOEC	3	Soil, LOEC	0.11927	EDQL EPA Region 5 (1998)	3.00E+00	PRGs
Pentachloroaniline	527-20-8	100	PRGs	100	LOEC	--		--		--		1.00E+02	PRGs
Pentachlorobenzene	608-93-5	20	PRGs	20	LOEC	--		--		0.49695	EDQL EPA Region 5 (1998)	2.00E+01	PRGs
Pentachloroethane	76-01-7	--		--		--		--		10.7	EDQL EPA Region 5 (1998)	1.07E+01	EDQL EPA Region 5 (1998)
Pentachloronitrobenzene	82-68-8	--		--		--		--		7.09	EDQL EPA Region 5 (1998)	7.09E+00	EDQL EPA Region 5 (1998)
Phenacetin	62-44-2	--		--		--		--		11.7	EDQL EPA Region 5 (1998)	1.17E+01	EDQL EPA Region 5 (1998)
Phenanthrene	85-01-8	--		--		--		--		45.7	EDQL EPA Region 5 (1998)	4.57E+01	EDQL EPA Region 5 (1998)
Phenol	108-95-2	30	PRGs	30	LOEC	100	LOEC	70	Soil, LOEC	120	EDQL EPA Region 5 (1998)	3.00E+01	PRGs
p-Phenylenediamine	106-50-3	--		--		--		--		6.16	EDQL EPA Region 5 (1998)	6.16E+00	EDQL EPA Region 5 (1998)
phorate	298-02-2	--		--		--		--		0.0005	EDQL EPA Region 5 (1998)	4.96E-04	EDQL EPA Region 5 (1998)
2-Picoline	109-06-8	--		--		--		--		9.9	EDQL EPA Region 5 (1998)	9.90E+00	EDQL EPA Region 5 (1998)
Polynuclear aromatic hydrocarbons		--		--		--		--		--		No ESV	No Source
Polychlorinated biphenyls	1336-36-3	0.371	PRGs	--		--		40	Soil, NOEC	0.00033	EDQL EPA Region 5 (1998)	3.71E-01	PRGs
Polychlorinated dibenzofurans	51207-31-9	--		--		--		--		3.9E-05	EDQL EPA Region 5 (1998)	3.86E-05	EDQL EPA Region 5 (1998)
Pronamide	23950-58-5	--		--		--		--		0.0136	EDQL EPA Region 5 (1998)	1.36E-02	EDQL EPA Region 5 (1998)
Propionitrile	107-12-0	--		--		--		--		0.04983	EDQL EPA Region 5 (1998)	4.98E-02	EDQL EPA Region 5 (1998)
4-Nitrotoluene	99-99-0	--		--		--		--		--		No ESV	No Source
Pyrene	129-00-0	--		--		--		--		78.5	EDQL EPA Region 5 (1998)	7.85E+01	EDQL EPA Region 5 (1998)
Pryidine	110-86-1	--		--		--		--		1.03	EDQL EPA Region 5 (1998)	1.03E+00	EDQL EPA Region 5 (1998)
RDX (cyclonite) Hexahydro-1,3,5-trinitro-1,3,5-triazin	121-82-4	--		--		--		--		--		No ESV	No Source
Safrole	94-59-7	--		--		--		--		0.40398	EDQL EPA Region 5 (1998)	4.04E-01	EDQL EPA Region 5 (1998)
2,4,5-TP (Silvex)	93-72-1	--		--		--		--		0.1088	EDQL EPA Region 5 (1998)	1.09E-01	EDQL EPA Region 5 (1998)
Styrene	100-42-5	300	PRGs	--		--		300	Soil	4.69	EDQL EPA Region 5 (1998)	3.00E+02	PRGs
TCDD		3.15E-06	PRGs									3.15E-06	PRGs
TCDF		8.40E-04	PRGs									8.40E-04	PRGs
2,3,5,6-Tetrachloroaniline	3481-20-7	20	PRGs	20	LOEC	--		20	Soil, LOEC	--		2.00E+01	PRGs
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	--		--		--		--		2E-07	EDQL EPA Region 5 (1998)	1.99E-07	EDQL EPA Region 5 (1998)
1,2,4,5-Tetrachlorobenzene	95-94-3	--		--		--		--		2.02	EDQL EPA Region 5 (1998)	2.02E+00	EDQL EPA Region 5 (1998)
1,2,3,4-Tetrachlorobenzene	634-66-2	10	PRGs	10	LOEC	--		--		--		1.00E+01	PRGs
Tetrachloroethene	127-18-4	--		--		--		10	No Soil, only Solution	9.92	EDQL EPA Region 5 (1998)	1.00E+01	No Soil, only Solution
Tetrachloroethylene	127-18-4	--		--		--		--		--		No ESV	No Source
1,1,1,2-Tetrachloroethane	630-20-6	--		--		--		--		225	EDQL EPA Region 5 (1998)	2.25E+02	EDQL EPA Region 5 (1998)
1,1,2,2-Tetrachloroethane	79-34-5	--		--		--		--		0.12722	EDQL EPA Region 5 (1998)	1.27E-01	EDQL EPA Region 5 (1998)
Tetrachloromethane	56-23-5	--		--		--		--		--		No ESV	No Source
2,3,4,5-Tetrachlorophenol	4901-51-3	20	PRGs	20	LOEC	--		--		--		2.00E+01	PRGs
2,3,4,6-Tetrachlorophenol	58-90-2	--		--		--		--		0.19878	EDQL EPA Region 5 (1998)	1.99E-01	EDQL EPA Region 5 (1998)
Tetraethyl dithiopyrophosphate	3689-24-5	--		--		--		--		0.59634	EDQL EPA Region 5 (1998)	5.96E-01	EDQL EPA Region 5 (1998)
Tetryl	479-45-8	--		--		--		--		--		No ESV	No Source
Toluene	108-88-3	200	PRGs	--		--		200	Soil, NOEC	5.45	EDQL EPA Region 5 (1998)	2.00E+02	PRGs

Appendix Table S-1. Soil Ecological Screening Values

Analyte	CAS Registry Number	Soil Screening Values											
		Efroymson et al. (1997a) Remediation Goals for Ecological Endpoints[a]		Screening Value for Earthworms and Soil Microorganisms (Efroymson et al. 1997b)[b]				Soil Screening values for Plants (Efroymson et al. 1997c)[c]		Ecological Data Quality Levels (EDQL)[d]		Preferred Ecological Screening Value (ESV)[e]	
				Benchmarks for Earthworm		Benchmarks for soil microorganism							
		Number (mg/kg)	Source	Number (mg/kg)	Source	Number (mg/kg)	Source	Number mg/kg mg/L	Source (Soil) (Solution)	Number (mg/kg)	Source	Number (mg/kg)	Source
o-Toluidine	95-53-4	--		--		--		--		2.97	EDQL EPA Region 5 (1998)	2.97E+00	EDQL EPA Region 5 (1998)
4-Toluidine	106-49-0	--		--		--		100	No Soil, only Solution, LOEC	--		1.00E+02	No Soil, only Solution, LOEC
Toxaphene	8001-35-2	--		--		--		--		0.11927	EDQL EPA Region 5 (1998)	1.19E-01	EDQL EPA Region 5 (1998)
Tribromomethane	75-25-2	--		--		--		--		--		No ESV	No Source
2,4,5-Trichloroaniline	636-30-6	20	PRGs	20	LOEC	--		20	Soil, LOEC	--		2.00E+01	PRGs
Trichloroethene	79-01-6	--		--		--		100	No Soil, only Solution	--		1.00E+02	No Soil, only Solution
1,2,3-Trichlorobenzene	87-61-6	20	PRGs	20	LOEC	--		--		--		2.00E+01	PRGs
1,2,4-Trichlorobenzene	120-82-1	20	PRGs	20	LOEC	--		--		11.1	EDQL EPA Region 5 (1998)	2.00E+01	PRGs
1,1,1-Trichloroethane	71-55-6	--		--		--		--		29.8	EDQL EPA Region 5 (1998)	2.98E+01	EDQL EPA Region 5 (1998)
1,1,2-Trichloroethane	79-00-5	--		--		--		--		28.6	EDQL EPA Region 5 (1998)	2.86E+01	EDQL EPA Region 5 (1998)
Trichloroethylene	79-01-6	--		--		--		--		12.4	EDQL EPA Region 5 (1998)	1.24E+01	EDQL EPA Region 5 (1998)
Trichlorofluoromethane	75-69-4	--		--		--		--		16.4	EDQL EPA Region 5 (1998)	1.64E+01	EDQL EPA Region 5 (1998)
2,4,5-Trichlorophenol	95-95-4	9	PRGs	9	LOEC	--		4	Soil, LOEC	14.1	EDQL EPA Region 5 (1998)	9.00E+00	PRGs
2,4,6-Trichlorophenol	88-06-2	4	PRGs	10	LOEC	--		10	No Soil, only Solution, LOEC	9.94	EDQL EPA Region 5 (1998)	4.00E+00	PRGs
1,2,3-Trichloropropane	96-18-4	--		--		--		--		3.36	EDQL EPA Region 5 (1998)	3.36E+00	EDQL EPA Region 5 (1998)
2,4,5-Trichlorophenoxyacetic acid	93-76-5	--		--		--		--		0.59634	EDQL EPA Region 5 (1998)	5.96E-01	EDQL EPA Region 5 (1998)
1,3,5-Trinitrobenzene	99-35-4	--		--		--		--		0.37615	EDQL EPA Region 5 (1998)	3.76E-01	EDQL EPA Region 5 (1998)
2,4,6-Trinitrotoluene	118-96-7	--		--		--		--		--		No ESV	No Source
Vinyl acetate	108-05-4	--		--		--		--		12.7	EDQL EPA Region 5 (1998)	1.27E+01	EDQL EPA Region 5 (1998)
Vinyl chloride	75-01-4	--		--		--		--		0.64614	EDQL EPA Region 5 (1998)	6.46E-01	EDQL EPA Region 5 (1998)
Xylenes (total)	1330-20-7	--		--		--		100	No Soil, only Solution, LOEC	10	EDQL EPA Region 5 (1998)	1.00E+02	No Soil, only Solution, LOEC

[a] Efrroymson, R.A, G.W Suter, II, B.E. Sample, and D.S. Jones. (1997a). Preliminary Remediation Goals for Ecological Endpoints. ES/ER/TM-162/R2.

[b] Efroymson, R.A, M.E Will., and G.W Suter, 1997b Toxicological Benchmarks for Potential Contaminants of Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Process

Martin Marietta Energy Systems, INC. ES/ER/TM-126/R1 Oak Ridge National Laboratory, Oak Ridge, TN

[c] Efroymson,R. A., M.E. Will, G.W. Suter , and A.C. Wooten, 1997c. Toxicological Benchmarks for Screening Contaminants of Concern for Effects on Terrestrial Plants: 1997 Revision

Lockheed Martin Energy Systems, INC. ES/ER/TM-85/R3 Oak Ridge National Laboratory, Oak Ridge, TN.

[d] Ecological Data Quality Levels (EDQL), U.S. EPA Region 5, Final Technical Approach for Developing EDQLs for RCRA Appendix IX Constituents and Other Significant Contaminants of Ecological Concern, April 1998

[e] The Prefered Soil Value is the Efroymson et al. (1997a), followed by Efroymson et al. (1997b), followed by Efroymson et al. (1997c),followed by EDQLs.

NOEC = No Observed Effect Concentration

LOEC = Lowest Observed Effect Concentration

Diss = Dissolved Analyte

-- = no value

PRGs = Preliminary Remediation Goals

Appendix Table S-2. Derivation of Sediment Ecological Screening Values

Analyte	CAS Registry Number	Sediment Screening Values					
		Ecological Data					
		Sediment Quality Guidelines		Quality Levels (EDQL)[b]		Preferred Ecological Screening Value (ESV)	
		Number	Source	Number	Source	Number	Source
Metals							
(Target Analyte List)		(mg/kg)		(mg/kg)		(mg/kg)	
Aluminum	7429-90-5					No ESV	No Source
Antimony	7440-36-0					No ESV	No Source
Arsenic	7440-38-2	9.79	MacDonald et al.	5.9	EDQL EPA Region 5 (1998)	9.79E+00	MacDonald et al.
Barium	7440-39-3					No ESV	No Source
Beryllium	7440-41-7					No ESV	No Source
Cadmium	7440-43-9	0.99	MacDonald et al.	0.596	EDQL EPA Region 5 (1998)	9.90E-01	MacDonald et al.
Calcium	7440-70-2					No ESV	No Source
Chromium	7440-47-3	43.4	MacDonald et al.	26	EDQL EPA Region 5 (1998)	4.34E+01	MacDonald et al.
Cobalt	7440-48-4			50	EDQL EPA Region 5 (1998)	5.00E+01	EDQL EPA Region 5 (1998)
Copper	7440-50-8	31.6	MacDonald et al.	16	EDQL EPA Region 5 (1998)	3.16E+01	MacDonald et al.
Cyanide	57-12-5			0.0001	EDQL EPA Region 5 (1998)	1.00E-04	EDQL EPA Region 5 (1998)
Iron	7439-89-6					No ESV	No Source
Lead	7439-92-1	35.8	MacDonald et al.	31	EDQL EPA Region 5 (1998)	3.58E+01	MacDonald et al.
Magnesium	7439-95-4					No ESV	No Source
Manganese	7439-96-5					No ESV	No Source
Mercury	7439-97-6	0.18	MacDonald et al.	0.174	EDQL EPA Region 5 (1998)	1.80E-01	MacDonald et al.
Nickel	7440-02-0	22.7	MacDonald et al.	16	EDQL EPA Region 5 (1998)	2.27E+01	MacDonald et al.
Potassium	7440-07-7					No ESV	No Source
Selenium	7782-49-2					No ESV	No Source
Silver	7440-22-4			0.5	EDQL EPA Region 5 (1998)	5.00E-01	EDQL EPA Region 5 (1998)
Sodium	7440-23-5					No ESV	No Source
Thallium	7440-28-0					No ESV	No Source
Vanadium	7440-62-2					No ESV	No Source
Zinc	7440-66-6	121	MacDonald et al.	120	EDQL EPA Region 5 (1998)	1.21E+02	MacDonald et al.

Appendix Table S-2. Derivation of Sediment Ecological Screening Values

Analyte	CAS Registry Number	Sediment Screening Values					
		Ecological Data					
		Sediment Quality Guidelines		Quality Levels (EDQL)[b]		Preferred Ecological Screening Value (ESV)	
		Number	Source	Number	Source	Number	Source
Organic Compounds		(mg/kg)		(mg/kg)		(mg/kg)	
Acenaphthene	83-32-9			0.0067	EDQL EPA Region 5 (1998)	6.71E-03	EDQL EPA Region 5 (1998)
Acenaphthylene	208-96-8			0.0059	EDQL EPA Region 5 (1998)	5.87E-03	EDQL EPA Region 5 (1998)
Acetone	67-64-1			0.4534	EDQL EPA Region 5 (1998)	4.53E-01	EDQL EPA Region 5 (1998)
Aldrin	309-00-2			0.002	EDQL EPA Region 5 (1998)	2.00E-03	EDQL EPA Region 5 (1998)
Anthracene	120-12-7	0.0572	MacDonald et al.	0.0469	EDQL EPA Region 5 (1998)	5.72E-02	MacDonald et al.
Arochlor-1016	12674-11-2					No ESV	No Source
Arochlor-1221	11104-28-2					No ESV	No Source
Arochlor-1232	11141-16-5					No ESV	No Source
Arochlor-1242	53469-21-9					No ESV	No Source
Arochlor-1248	12672-29-6					No ESV	No Source
PCB-1254	11097-69-1					No ESV	No Source
PCB-1254	11097-69-1					No ESV	No Source
Arochlor-1260	11096-82-5					No ESV	No Source
Benzene	71-43-2			0.1416	EDQL EPA Region 5 (1998)	1.42E-01	EDQL EPA Region 5 (1998)
Benzo(a)anthracene	56-55-3	0.108	MacDonald et al.	0.0317	EDQL EPA Region 5 (1998)	1.08E-01	MacDonald et al.
Benzo(a)pyrene	50-32-8	0.15	MacDonald et al.	0.0319	EDQL EPA Region 5 (1998)	1.50E-01	MacDonald et al.
Benzo(b)fluoranthene	205-99-2			10.4	EDQL EPA Region 5 (1998)	1.04E+01	EDQL EPA Region 5 (1998)
Benzo(g,h,i)perylene	191-24-2			0.17	EDQL EPA Region 5 (1998)	1.70E-01	EDQL EPA Region 5 (1998)
Benzo(k)fluoranthene	207-08-9			0.24	EDQL EPA Region 5 (1998)	2.40E-01	EDQL EPA Region 5 (1998)
BHC	608-73-1					No ESV	No Source
BHC, alpha	319-84-6			0.006	EDQL EPA Region 5 (1998)	6.00E-03	EDQL EPA Region 5 (1998)
BHC, beta	319-85-7			0.005	EDQL EPA Region 5 (1998)	5.00E-03	EDQL EPA Region 5 (1998)
Biphenyl	92-52-4					No ESV	No Source
bis(2-chloroethoxy) methane	111-91-1			0.3497	EDQL EPA Region 5 (1998)	3.50E-01	EDQL EPA Region 5 (1998)
bis(2-Chloroethyl) ether	111-44-4			0.212	EDQL EPA Region 5 (1998)	2.12E-01	EDQL EPA Region 5 (1998)
bis(2-Ethylhexyl)phthalate	117-81-7			0.182	EDQL EPA Region 5 (1998)	1.82E-01	EDQL EPA Region 5 (1998)

Appendix Table S-2. Derivation of Sediment Ecological Screening Values

Analyte	CAS Registry Number	Sediment Screening Values					
		Ecological Data					
		Sediment Quality Guidelines		Quality Levels (EDQL)[b]		Preferred Ecological Screening Value (ESV)	
		Number	Source	Number	Source	Number	Source
Bromodichloromethane	74-97-5			0.0011	EDQL EPA Region 5 (1998)	1.13E-03	EDQL EPA Region 5 (1998)
Bromomethane	74-83-9			0.0001	EDQL EPA Region 5 (1998)	1.48E-04	EDQL EPA Region 5 (1998)
4-bromophenyl-phenylether	101-55-3			1.55	EDQL EPA Region 5 (1998)	1.55E+00	EDQL EPA Region 5 (1998)
2-Butanone	78-93-3			0.137	EDQL EPA Region 5 (1998)	1.37E-01	EDQL EPA Region 5 (1998)
Butylbenzylphthalate	85-68-7			4.19	EDQL EPA Region 5 (1998)	4.19E+00	EDQL EPA Region 5 (1998)
Carbazole	86-74-8					No ESV	No Source
Carbon disulfide	75-15-0			0.134	EDQL EPA Region 5 (1998)	1.34E-01	EDQL EPA Region 5 (1998)
Carbon tetrachloride	56-23-5			0.0357	EDQL EPA Region 5 (1998)	3.57E-02	EDQL EPA Region 5 (1998)
4-Chloroaniline	106-47-8			0.1461	EDQL EPA Region 5 (1998)	1.46E-01	EDQL EPA Region 5 (1998)
Chlorobenzene	108-90-7			0.0619	EDQL EPA Region 5 (1998)	6.19E-02	EDQL EPA Region 5 (1998)
gamma-Chlordane	12789-03-6	0.00324	MacDonald et al.			3.24E-03	MacDonald et al.
Chloroethane	75-00-3			58.6	EDQL EPA Region 5 (1998)	5.86E+01	EDQL EPA Region 5 (1998)
Chloroform	67-66-3			0.027	EDQL EPA Region 5 (1998)	2.70E-02	EDQL EPA Region 5 (1998)
Chloromethane	74-87-3			8E-05	EDQL EPA Region 5 (1998)	7.85E-05	EDQL EPA Region 5 (1998)
2-Chloronaphthalene	91-58-7			0.4172	EDQL EPA Region 5 (1998)	4.17E-01	EDQL EPA Region 5 (1998)
2-Chlorophenol	95-57-8			0.0117	EDQL EPA Region 5 (1998)	1.17E-02	EDQL EPA Region 5 (1998)
4-Chlorophenyl-phenyl ether	7005-72-3			0.6561	EDQL EPA Region 5 (1998)	6.56E-01	EDQL EPA Region 5 (1998)
4-chloro-3-methylphenol	59-50-7			0.3882	EDQL EPA Region 5 (1998)	3.88E-01	EDQL EPA Region 5 (1998)
Chrysene	218-01-9	0.166	MacDonald et al.	0.0571	EDQL EPA Region 5 (1998)	1.66E-01	MacDonald et al.
4,4'-DDD	72-54-8	0.00488	MacDonald et al.	0.0055	EDQL EPA Region 5 (1998)	4.88E-03	MacDonald et al.
4,4'-DDE	72-55-9	0.00316	MacDonald et al.	0.0014	EDQL EPA Region 5 (1998)	3.16E-03	MacDonald et al.
4,4'-DDT	50-29-3	0.00416	MacDonald et al.	0.0012	EDQL EPA Region 5 (1998)	4.16E-03	MacDonald et al.
Diazinon	333-41-5					No ESV	No Source
Dibenzo(a,h)anthracene	53-70-3	0.033	MacDonald et al.	0.0062	EDQL EPA Region 5 (1998)	3.30E-02	MacDonald et al.
Dibenzofuran	132-64-9			1.52	EDQL EPA Region 5 (1998)	1.52E+00	EDQL EPA Region 5 (1998)
Dibromochloromethane	124-48-1			0.2676	EDQL EPA Region 5 (1998)	2.68E-01	EDQL EPA Region 5 (1998)
1,2-Dichlorobenzene	95-50-1			0.2313	EDQL EPA Region 5 (1998)	2.31E-01	EDQL EPA Region 5 (1998)

Appendix Table S-2. Derivation of Sediment Ecological Screening Values

Analyte	CAS Registry Number	Sediment Screening Values					
		Ecological Data					
		Sediment Quality Guidelines		Quality Levels (EDQL)[b]		Preferred Ecological Screening Value (ESV)	
		Number	Source	Number	Source	Number	Source
1,3-Dichlorobenzene	541-73-1			3.01	EDQL EPA Region 5 (1998)	3.01E+00	EDQL EPA Region 5 (1998)
1,4-Dichlorobenzene	106-46-7			1.45	EDQL EPA Region 5 (1998)	1.45E+00	EDQL EPA Region 5 (1998)
3,3'-Dichlorobenzidine	91-94-1			0.0282	EDQL EPA Region 5 (1998)	2.82E-02	EDQL EPA Region 5 (1998)
1,1-Dichloroethane	75-34-3			0.0006	EDQL EPA Region 5 (1998)	5.75E-04	EDQL EPA Region 5 (1998)
1,2-Dichloroethane	107-06-2			0.0542	EDQL EPA Region 5 (1998)	5.42E-02	EDQL EPA Region 5 (1998)
1,1-Dichloroethene	75-35-4			0.0233	EDQL EPA Region 5 (1998)	2.33E-02	EDQL EPA Region 5 (1998)
1,2-Dichloroethene	540-59-0					No ESV	No Source
2,4-Dichlorophenol	120-83-2			0.1336	EDQL EPA Region 5 (1998)	1.34E-01	EDQL EPA Region 5 (1998)
1,2-Dichloropropane	78-87-5			0.3516	EDQL EPA Region 5 (1998)	3.52E-01	EDQL EPA Region 5 (1998)
cis-1,3-Dichloropropene	10061-02-6			0.003	EDQL EPA Region 5 (1998)	2.96E-03	EDQL EPA Region 5 (1998)
trans-1,3-Dichloropropene	10061-02-6			0.003	EDQL EPA Region 5 (1998)	2.96E-03	EDQL EPA Region 5 (1998)
Dieldrin	60-57-1	0.0019	MacDonald et al.	0.002	EDQL EPA Region 5 (1998)	1.90E-03	MacDonald et al.
Diethylphthalate	84-66-2			0.008	EDQL EPA Region 5 (1998)	8.04E-03	EDQL EPA Region 5 (1998)
Dimethylphthalate	131-11-3			0.025	EDQL EPA Region 5 (1998)	2.50E-02	EDQL EPA Region 5 (1998)
2,4-Dimethylphenol	105-67-9			0.3045	EDQL EPA Region 5 (1998)	3.05E-01	EDQL EPA Region 5 (1998)
Di-n-butylphthalate	84-74-2			0.1105	EDQL EPA Region 5 (1998)	1.11E-01	EDQL EPA Region 5 (1998)
Di-n-octylphthalate	117-84-0			40.6	EDQL EPA Region 5 (1998)	4.06E+01	EDQL EPA Region 5 (1998)
1,3-Dinitrobenzene	99-65-0			0.0009	EDQL EPA Region 5 (1998)	9.24E-04	EDQL EPA Region 5 (1998)
2,4-Dinitrophenol	51-28-5			0.0013	EDQL EPA Region 5 (1998)	1.33E-03	EDQL EPA Region 5 (1998)
2,4-Dinitrotoluene	121-14-2			0.0751	EDQL EPA Region 5 (1998)	7.51E-02	EDQL EPA Region 5 (1998)
2,6-Dinitrotoluene	606-20-2			0.0206	EDQL EPA Region 5 (1998)	2.06E-02	EDQL EPA Region 5 (1998)
4,6-Dinitro-2-methylphenol	534-52-1			0.0104	EDQL EPA Region 5 (1998)	1.04E-02	EDQL EPA Region 5 (1998)
Endosulfan, alpha	959-98-8			0.0002	EDQL EPA Region 5 (1998)	1.75E-04	EDQL EPA Region 5 (1998)
Endosulfan, beta	33213-65-9			0.0001	EDQL EPA Region 5 (1998)	1.04E-04	EDQL EPA Region 5 (1998)
Endosulfan, mixed isomers	--					No ESV	No Source
Endosulfan sulfate	1031-07-8			0.0346	EDQL EPA Region 5 (1998)	3.46E-02	EDQL EPA Region 5 (1998)
Endrin	72-20-8	0.00222	MacDonald et al.	0.0027	EDQL EPA Region 5 (1998)	2.22E-03	MacDonald et al.

Appendix Table S-2. Derivation of Sediment Ecological Screening Values

Analyte	CAS Registry Number	Sediment Screening Values					
		Ecological Data					
		Sediment Quality Guidelines		Quality Levels (EDQL)[b]		Preferred Ecological Screening Value (ESV)	
		Number	Source	Number	Source	Number	Source
Ethylbenzene	100-41-4			0.0001	EDQL EPA Region 5 (1998)	1.00E-04	EDQL EPA Region 5 (1998)
Fluoranthene	206-44-0	0.423	MacDonald et al.	0.1113	EDQL EPA Region 5 (1998)	4.23E-01	MacDonald et al.
Fluorene	86-73-7	0.0774	MacDonald et al.	0.0212	EDQL EPA Region 5 (1998)	7.74E-02	MacDonald et al.
gamma-BHC (lindane)	58-89-9	0.00237	MacDonald et al.	0.0009	EDQL EPA Region 5 (1998)	2.37E-03	MacDonald et al.
Heptachlor Epoxide	1024-57-3	0.00247	MacDonald et al.	0.0006	EDQL EPA Region 5 (1998)	2.47E-03	MacDonald et al.
Hexachlorobenzene	118-74-1			0.02	EDQL EPA Region 5 (1998)	2.00E-02	EDQL EPA Region 5 (1998)
Hexachlorobutadiene	87-68-3			1.38	EDQL EPA Region 5 (1998)	1.38E+00	EDQL EPA Region 5 (1998)
Hexachlorocyclopentadiene	77-47-4			0.9007	EDQL EPA Region 5 (1998)	9.01E-01	EDQL EPA Region 5 (1998)
Hexachloroethane	67-72-1			2.23	EDQL EPA Region 5 (1998)	2.23E+00	EDQL EPA Region 5 (1998)
2-Hexanone	591-78-6			1.01	EDQL EPA Region 5 (1998)	1.01E+00	EDQL EPA Region 5 (1998)
HMX Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0					No ESV	No Source
Indeno(1,2,3-cd)pyrene	193-39-5			0.2	EDQL EPA Region 5 (1998)	2.00E-01	EDQL EPA Region 5 (1998)
Isophorone	78-59-1			0.4223	EDQL EPA Region 5 (1998)	4.22E-01	EDQL EPA Region 5 (1998)
Malathion	121-75-5					No ESV	No Source
Methoxychlor	72-43-5			0.0036	EDQL EPA Region 5 (1998)	3.59E-03	EDQL EPA Region 5 (1998)
Methylene chloride	75-09-2			1.26	EDQL EPA Region 5 (1998)	1.26E+00	EDQL EPA Region 5 (1998)
2-Methylnaphthalene	91-57-6			0.0202	EDQL EPA Region 5 (1998)	2.02E-02	EDQL EPA Region 5 (1998)
2-Methylphenol	95-48-7			0.0008	EDQL EPA Region 5 (1998)	8.26E-04	EDQL EPA Region 5 (1998)
4-Methylphenol	106-44-5			0.0008	EDQL EPA Region 5 (1998)	8.08E-04	EDQL EPA Region 5 (1998)
4-Methyl-2-pentanone	108-10-1			0.5444	EDQL EPA Region 5 (1998)	5.44E-01	EDQL EPA Region 5 (1998)
Mirex	2385-85-5					No ESV	No Source
Naphthalene	91-20-3	0.176	MacDonald et al.	0.0346	EDQL EPA Region 5 (1998)	1.76E-01	MacDonald et al.
2-Nitroaniline	88-74-4			0.0002	EDQL EPA Region 5 (1998)	2.22E-04	EDQL EPA Region 5 (1998)
3-Nitroaniline	99-09-2			0.0002	EDQL EPA Region 5 (1998)	2.22E-04	EDQL EPA Region 5 (1998)
4-Nitroaniline	100-01-6			0.0002	EDQL EPA Region 5 (1998)	2.22E-04	EDQL EPA Region 5 (1998)
Nitrobenzene	99-95-3			0.4876	EDQL EPA Region 5 (1998)	4.88E-01	EDQL EPA Region 5 (1998)
Nitrobenzene	99-95-3					No ESV	No Source

Appendix Table S-2. Derivation of Sediment Ecological Screening Values

Analyte	CAS Registry Number	Sediment Screening Values					
		Ecological Data					
		Sediment Quality Guidelines		Quality Levels (EDQL)[b]		Preferred Ecological Screening Value (ESV)	
		Number	Source	Number	Source	Number	Source
Nitrocellulose	9004-70-0					No ESV	No Source
Nitroglycerin	55-63-0					No ESV	No Source
Nitroquanidine	--					No ESV	No Source
2-Nitrophenol	88-75-5			0.0078	EDQL EPA Region 5 (1998)	7.77E-03	EDQL EPA Region 5 (1998)
4-Nitrophenol	100-02-7			0.0078	EDQL EPA Region 5 (1998)	7.78E-03	EDQL EPA Region 5 (1998)
m-Nitrotoluene	99-08-1					No ESV	No Source
N-nitroso-di-n-dipropylamine	621-64-7			0.0002	EDQL EPA Region 5 (1998)	2.17E-04	EDQL EPA Region 5 (1998)
N-nitrosodiphenylamine	86-30-6			0.1552	EDQL EPA Region 5 (1998)	1.55E-01	EDQL EPA Region 5 (1998)
o-Nitrotoluene	88-72-2					No ESV	No Source
2,2'- oxybis(1-Chloropropane)	108-60-1			0.0688	EDQL EPA Region 5 (1998)	6.88E-02	EDQL EPA Region 5 (1998)
Pentachlorophenol	87-86-5			30.1	EDQL EPA Region 5 (1998)	3.01E+01	EDQL EPA Region 5 (1998)
Pentachlorobenzene	608-93-5			1.26	EDQL EPA Region 5 (1998)	1.26E+00	EDQL EPA Region 5 (1998)
Phenanthrene	85-01-8	0.204	MacDonald et al.	0.0419	EDQL EPA Region 5 (1998)	2.04E-01	MacDonald et al.
Phenol	108-95-2			0.0273	EDQL EPA Region 5 (1998)	2.73E-02	EDQL EPA Region 5 (1998)
Polynuclear aromatic hydrocarbons						No ESV	No Source
Polychorinated biphenyls	1336-36-3			0.0341	EDQL EPA Region 5 (1998)	3.41E-02	EDQL EPA Region 5 (1998)
p-Nitrotoluene	99-99-0					No ESV	No Source
Pyrene	129-00-0	0.195	MacDonald et al.	0.053	EDQL EPA Region 5 (1998)	1.95E-01	MacDonald et al.
RDX (cyclonite) Hexahydro-1,3,5-trinitro-1,3,5-triazine	121-82-4					No ESV	No Source
Styrene	100-42-5			0.445	EDQL EPA Region 5 (1998)	4.45E-01	EDQL EPA Region 5 (1998)
Tetrachloroethene	127-18-4			0.1958	EDQL EPA Region 5 (1998)	1.96E-01	EDQL EPA Region 5 (1998)
Tetrachloroethylene	127-18-4			0.1958	EDQL EPA Region 5 (1998)	1.96E-01	EDQL EPA Region 5 (1998)
1,1,2,2-Tetrachloroethane	79-34-5			0.0291	EDQL EPA Region 5 (1998)	2.91E-02	EDQL EPA Region 5 (1998)
Tetrachloromethane	56-23-5			0.0357	EDQL EPA Region 5 (1998)	3.57E-02	EDQL EPA Region 5 (1998)
Tetryl	479-45-8					No ESV	No Source
Toluene	108-88-3			52.5	EDQL EPA Region 5 (1998)	5.25E+01	EDQL EPA Region 5 (1998)
Toxaphene	8001-35-2			0.0001	EDQL EPA Region 5 (1998)	1.09E-04	EDQL EPA Region 5 (1998)

Appendix Table S-2. Derivation of Sediment Ecological Screening Values

Analyte	CAS Registry Number	Sediment Screening Values					
		Sediment Quality Guidelines		Ecological Data Quality Levels (EDQL)[b]		Preferred Ecological Screening Value (ESV)	
		Number	Source	Number	Source	Number	Source
Tribromomethane	75-25-2			0.9963	EDQL EPA Region 5 (1998)	9.96E-01	EDQL EPA Region 5 (1998)
Trichloroethene	79-01-6			0.1796	EDQL EPA Region 5 (1998)	1.80E-01	EDQL EPA Region 5 (1998)
1,2,4-Trichlorobenzene	120-82-1			11.7	EDQL EPA Region 5 (1998)	1.17E+01	EDQL EPA Region 5 (1998)
1,1,1-Trichloroethane	71-55-6			0.2469	EDQL EPA Region 5 (1998)	2.47E-01	EDQL EPA Region 5 (1998)
1,1,2-Trichloroethane	79-00-5			0.6735	EDQL EPA Region 5 (1998)	6.74E-01	EDQL EPA Region 5 (1998)
Trichloroethylene	79-01-6			0.1796	EDQL EPA Region 5 (1998)	1.80E-01	EDQL EPA Region 5 (1998)
2,4,5-Trichlorophenol	95-95-4			0.0856	EDQL EPA Region 5 (1998)	8.56E-02	EDQL EPA Region 5 (1998)
2,4,6-Trichlorophenol	88-06-2			0.0848	EDQL EPA Region 5 (1998)	8.48E-02	EDQL EPA Region 5 (1998)
1,3,5-Trinitrobenzene	99-35-4			0.0001	EDQL EPA Region 5 (1998)	1.21E-04	EDQL EPA Region 5 (1998)
2,4,6-Trinitrotoluene	118-96-7					No ESV	No Source
Vinyl chloride	75-01-4			0.002	EDQL EPA Region 5 (1998)	2.00E-03	EDQL EPA Region 5 (1998)
Xylenes (total)	1330-20-7			1.88	EDQL EPA Region 5 (1998)	1.88E+00	EDQL EPA Region 5 (1998)

[a] EPA. 1998d. RCRA QAPP Instructions, USEPA Region 5, Chicago, IL, April 1998 revision. Http://www.epa.gov/reg5rcra/wptdiv/cars/cars.htm

[b] D.D. MacDonald, C.G. Ingersoll, T.A. Berger Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems

[e] The Prefered Soil Value is the EDQLs and MacDonald et al.

-- = no value

ER-L = Effects Range-Low

Appendix Table S-3. Ecological Screening Values for Chemical Constituents in Surface Water at Ravenna

Analyte	CAS Registry Number	Ohio EPA OMZA (Outside Mixing Zone Max)[a] Number (ug/L)	Ohio EPA OMZA (Outside Mixing Zone Max)[a] Source	Suter and Tsao 1996[b] Number (ug/L)	Suter and Tsao 1996[b] Source	Quality Levels (EDQL)[c] Number (ug/L)	Quality Levels (EDQL)[c] Source	Prefered Surface Water Value[d] Number (ug/L)	Prefered Surface Water Value[d] Source
Metals									
(Target Analyte List)									
Antimony	7440-36-0	900	Ohio Administrative Code	30	draft FCV values (EPA 1988b in Suter & Tsao 1996)	31	EDQL EPA Region 5 (1998)	9.00E+02	Ohio Administrative Code
Arsenic III (Diss)	7440-38-2	340	Ohio Administrative Code	190	NAWQC (Suter & Tsao 1996)	53	EDQL EPA Region 5 (1998)	3.40E+02	Ohio Administrative Code
Arsenic	7440-38-2	340	Ohio Administrative Code			53	EDQL EPA Region 5 (1998)	3.40E+02	Ohio Administrative Code
Arsenic V (Diss)	7440-38-2			3.1	Tier II (Suter & Tsao 1996)	53	EDQL EPA Region 5 (1998)	3.10E+00	Tier II (Suter & Tsao 1996)
Barium	7440-39-3	2000	Ohio Administrative Code	4.0	Tier II (Suter & Tsao 1996)	5000	EDQL EPA Region 5 (1998)	2.00E+03	Ohio Administrative Code
Calcium	7440-70-2							No TRV	No Source
Chromium III (Diss)	7440-47-3	570	Ohio Administrative Code	210	Tier II (Suter & Tsao 1996)	42	EDQL EPA Region 5 (1998)	5.70E+02	Ohio Administrative Code
Chromium	7440-47-3	1800	Ohio Administrative Code			42	EDQL EPA Region 5 (1998)	1.80E+03	Ohio Administrative Code
Chromium VI (Diss)	7440-47-3	16		11	Tier II (Suter & Tsao 1996)	42	EDQL EPA Region 5 (1998)	1.60E+01	Tier II (Suter & Tsao 1996)
Cobalt	7440-48-4	220	Ohio Administrative Code	23	Tier II (Suter & Tsao 1996)	5	EDQL EPA Region 5 (1998)	2.20E+02	Ohio Administrative Code
Copper (Diss)	7440-50-8	13	Ohio Administrative Code	12	NAWQC (Suter & Tsao 1996)	5	EDQL EPA Region 5 (1998)	1.30E+01	Ohio Administrative Code
Copper	7440-50-8	14	Ohio Administrative Code			5	EDQL EPA Region 5 (1998)	1.40E+01	Ohio Administrative Code
Iron	7439-89-6			1000	NAWQC (Suter & Tsao 1996)			1.00E+03	NAWQC (Suter & Tsao 1996)
Lead (Diss)	7439-92-1	97	Ohio Administrative Code	3.2	NAWQC (Suter & Tsao 1996)	1.3	EDQL EPA Region 5 (1998)	9.70E+01	Ohio Administrative Code
Lead	7439-92-1	120	Ohio Administrative Code			1.3	EDQL EPA Region 5 (1998)	1.20E+02	Ohio Administrative Code
Magnesium	7439-95-4							No TRV	No Source
Manganese	7439-96-5	1600	Ohio Administrative Code	120	Tier II (Suter & Tsao 1996)			1.60E+03	Ohio Administrative Code
Nickel	7440-02-0	470	Ohio Administrative Code	160	NAWQC (Suter & Tsao 1996)	29	EDQL EPA Region 5 (1998)	4.70E+02	Ohio Administrative Code
Nickel (TR)	7440-02-1	470	Ohio Administrative Code			29	EDQL EPA Region 5 (1998)	4.70E+02	Ohio Administrative Code
Potassium	7440-09-7							No TRV	No Source
Selenium (Diss)	7782-49-2		Ohio Administrative Code	5.0	NAWQC (Suter & Tsao 1996)	5	EDQL EPA Region 5 (1998)	5.00E+00	Ohio Administrative Code
Selenium	7782-49-2		Ohio Administrative Code			5	EDQL EPA Region 5 (1998)	5.00E+00	Ohio Administrative Code
Sodium	7440-23-5							No TRV	No Source
Vanadium	7440-62-2	200	Ohio Administrative Code	20	Tier II (Suter & Tsao 1996)	19	EDQL EPA Region 5 (1998)	2.00E+02	Ohio Administrative Code
Zinc	7440-66-6	120	Ohio Administrative Code	110	NAWQC (Suter & Tsao 1996)	59	EDQL EPA Region 5 (1998)	1.20E+02	Ohio Administrative Code
Zinc (TR)	7440-66-6	120	Ohio Administrative Code			59	EDQL EPA Region 5 (1998)	1.20E+02	Ohio Administrative Code
Volatile Organic Compounds (VOCs)								No TRV	No Source
bis(2-Ethylhexyl)phthalate	117-81-7	1100	Ohio Administrative Code	3.0	Tier II (Suter & Tsao 1996)	2.1	EDQL EPA Region 5 (1998)	1.10E+03	Ohio Administrative Code
Chrysene	218-01-9					0.033	EDQL EPA Region 5 (1998)	3.30E-02	EDQL EPA Region 5 (1998)
1,3-Dinitrobenzene	99-65-0					2.36	EDQL EPA Region 5 (1998)	2.36E+00	EDQL EPA Region 5 (1998)
2,4-Dinitrotoluene	121-14-2	390	Ohio Administrative Code			230	EDQL EPA Region 5 (1998)	3.90E+02	Ohio Administrative Code
2,6-Dinitrotoluene	606-20-2	730	Ohio Administrative Code			42	EDQL EPA Region 5 (1998)	7.30E+02	Ohio Administrative Code
Fluoranthene	206-44-0	2.3	Ohio Administrative Code	6.16	NAWQC(EPA 1993b in Suter & Tsao 1996)	8.1	EDQL EPA Region 5 (1998)	2.30E+00	Ohio Administrative Code
HMX Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0							No TRV	No Source
3-Nitrotoluene	99-08-1							No TRV	No Source
2-Nitrotoluene	88-72-2							No TRV	No Source
4-Nitrotoluene	99-99-0							No TRV	No Source
Pyrene	129-00-0	42	Ohio Administrative Code			0.3	EDQL EPA Region 5 (1998)	4.20E+01	Ohio Administrative Code
RDX	121-82-4							No TRV	No Source
Tetryl	479-45-8							No TRV	No Source
2,4,6-Trinitrotoluene	118-96-7							No TRV	No Source

[a] Ohio EPA, Division of Surface Water. 1999. Ohio Administrative Code, Chapters 3745-1, 3745-2, May 11 (Lake Erie Basin)

[b] Suter, G. W. and C.L. Tsao, Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision, ES/ER/TM-96/R2

Lockheed Martin Energy Systems, Oak Ridge National Laboratory

[c] EPA. 1998b. RCRA QAPP Instructions, USEPA Region 5, Chicago, IL, April 1998 revision. Http://www.epa.gov/reg5rcra/wptdiv/cars/cars.htm

[d] The Prefered Surface Water Value is the hierarchy of Chapters 3745-1 and 3745-2 of the Ohio Administrative Code for the Lake Erie Basin (Ohio EPA 1999), Suter and Tsao 1996, and EDQLs from Region 5 (EPA 1998b)

[e] Hardness adjusted to 100 mg/L CaCO3

[f] pH dependent, unless otherwise specified value is adjusted to 7.5 pH for all Ohio Administrative Code criteria

-- = no value

ID = Insufficient data available to calculate criterion

Appendix Table S-4. KOWs and Maximum BAFs

Chemical	CAS Number	Log Kow[a] (L/kg)	Source	BAF MAX	Source
Aluminum		NA	NA	0.075	HAZWRAP (1994)
Ammonia		NA	NA	1	default value
Antimony		NA	NA	0.05	HAZWRAP (1994)
Arsenic		NA	NA	0.1	HAZWRAP (1994)
Barium		NA	NA	0.0075	HAZWRAP (1994)
Beryllium		NA	NA	0.05	HAZWRAP (1994)
Boron		NA	NA	1	default value
Cadmium		NA	NA	11	HAZWRAP (1994)
Calcium		NA	NA	1	default value
Chloride		NA	NA	1	default value
Chromium		NA	NA	0.28	HAZWRAP (1994)
Chromium, hexavalent		NA	NA	1	default value
Cobalt		NA	NA	1	HAZWRAP (1994)
Copper		NA	NA	0.5	HAZWRAP (1994)
Cyanide		NA	NA	0	HAZWRAP (1994)
Fluoride		NA	NA	1	default value
Iron		NA	NA	1	default value
Lead		NA	NA	2	HAZWRAP (1994)
Magnesium		NA	NA	1	default value
Manganese		NA	NA	0.02	HAZWRAP (1994)
Mercury		NA	NA	13	HAZWRAP (1994)
Molybdenum		NA	NA	1	default value
Nickel		NA	NA	0.3	HAZWRAP (1994)
Nitrate		NA	NA	1	default value
Phosphorus		NA	NA	1	default value
Potassium		NA	NA	1	default value
Selenium		NA	NA	0.76	HAZWRAP (1994)
Silicon		NA	NA	1	default value
Silver		NA	NA	0.15	HAZWRAP (1994)
Sodium		NA	NA	1	default value
Thallium		NA	NA	1	default value
Vanadium		NA	NA	0.13	HAZWRAP (1994)
Zinc		NA	NA	5	HAZWRAP (1994)
1,1,1-Trichloroethane	71-55-6	2.48	EPA 1995a in Jones, et al 1996	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	2.39	EPA 1995a in Jones, et al 1996	NA	NA
1,1,2,2-Tetrachloroethylene	127-18-4	2.67	EPA 1995e in Sample, et al 1996	NA	NA
1,1,2-Trichloroethane	79-00-5	2.17	EPA 1995	NA	NA
1,1'-Biphenyl	92-52-4	4.09	Schwarzenbach, et al 1993	NA	NA
1,1-Dichloroethane	75-34-3	4.00	EPA 1995a in Jones, et al 1996	NA	NA
1,1-Dichloroethene	75-35-4	2.13	EPA 1995a in Jones, et al 1996	NA	NA
1,1-Dichloroethylene	75-35-4	5.00	EPA 1995e in Sample, et al 1996	NA	NA
1,2,2-Trichloro-1,1,2-trifluoroe	76-13-1	3.16	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,2,3,4-Tetrachlorobenzene	634-66-2	4.55	Swarzenbch, et al 1993	NA	NA
1,2,3-Trichlorobenzene	87-61-6	4.05	Sangster 1994 in Syracuse 1996	NA	NA
1,2,3-Trichloropropane	96-18-4	1.98	Russom, et al 1996	NA	NA
1,2,4,5-Tetrachlorobenzene	95-94-3	4.64	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,2,4-Trichlorobenzene	120-82-1	4.02	EPA 1995d	NA	NA
1,2,4-Trimethyl benzene	95-63-6	3.63	Hansch, et al 1995 in Syracuse 1996	NA	NA
1,2-Dibromo-3-Chloropropane	96-12-8	2.96	Chem Inspect Test Inst. 1992 in Syracuse 1996	NA	NA
1,2-Dichloro-1,1,2,2-tetrafluor	76-14-2	2.82	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,2-Dichlorobenzene	95-50-1	3.38	EPA 1995d	NA	NA
1,2-Dichloroethane	107-06-2	1.47	EPA 1995a in Jones, et al 1996	NA	NA
1,2-Dichloroethene	540-59-0	1.86	EPA 1995a in Jones, et al 1996	NA	NA
1,2-Dichloroethylene	540-59-0	1.86	EPA 1995e in Sample, et al 1996	NA	NA
1,2-Dimethylbenzene	95-47-6	3.12	Schwarzenbach, et al 1993	NA	NA
1,2-Diphenylhydrazine	122-66-7	2.94	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,3,5-Trinitrobenzene	99-35-4	1.18	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,3-Butadiene	106-99-0	1.99	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,3-Dichlorobenzene	541-73-1	3.43	EPA 1995a in Jones, et al 1996	NA	NA
1,3-Dichloropropene	542-75-6	2.00	EPA 1995a in Jones, et al 1996	NA	NA
1,3-Dinitrobenzene	99-65-0	1.49	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,4-Dichlorobenzene	95-50-1	3.42	EPA 1995a in Jones, et al 1996	NA	NA
1,4-Dinitrobenzene	100-25-4	1.46	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1,4-Dioxane	123-91-1	-0.39	EPA 1995e in Sample, et al 1996	NA	NA
1,4-Naphthoquinone	130-15-4	1.71	Hansch, et al 1995 in Syracuse 1996	NA	NA

Appendix Table S-4. KOWs and Maximum BAFs

Chemical	CAS Number	Log Kow[a] (L/kg)	Source	BAF MAX	Source
1-12'-Dimethybenz(a)anthracene	57-97-6	5.80	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1-Hexanol	111-27-3	2.03	Schwarzenbach, et al 1993	NA	NA
1-Methylnapthalene	90-12-0	3.87	Syracuse 1996 in Jones, et al 1996	NA	NA
1-Nitropropane	108-03-2	0.87	Hansch and Leo 1985 in Syracuse 1996	NA	NA
1-Octanol	111-87-5	2.84	Schwarzenbach, et al 1993	NA	NA
1-Pentanol	71-41-0	1.51	Syracuse 1996 in Jones, et al 1996	NA	NA
2,2'-oxybis(1-chloropropane)	108-60-1	2.48	Kawamoto, K and Urano, K 1989 in Syracuse 1996	NA	NA
2,3,4,5-Tetrachlorophenol	4901-51-3	4.21	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2,3,4,6-Tetrachlorophenol	58-90-2	4.45	Russom, et al 1996[t]	NA	NA
2,3,5,6-Tetrachloroaniline	3481-20-7	4.10	Russom, et al 1996	NA	NA
2,3,7,8-Tetrachloro-Dibenzodioxin	1746-01-6	6.53	EPA 1995e in Sample, et al 1996[t]	NA	NA
2,4,5-Trichloroaniline	636-30-6	4.01	EPA 1995a in Jones, et al 1996	NA	NA
2,4,5-Trichlorophenoxyacetic acid	93-76-5	3.31	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2,4,6-Trichlorophenol	88-06-2	3.69	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2,4,6-Trinitrotoluene	118-96-7	1.60	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2,4-D	94-75-7	2.81	EPA 1995c[k]	NA	NA
2,4-Dichloroaniline	554-00-7	2.78	Sangster 1994 in Syracuse 1996	NA	NA
2,4-Dichlorophenol	120-83-2	3.06	Russom, et al 1996	NA	NA
2,4-Dimethylphenol	105-67-9	2.35	Swarzenbch, et al 1993	NA	NA
2,4-Dinitrophenol	51-28-5	1.54	Howard 1990	NA	NA
2,4-Dinitrotoluene	121-14-2	1.98	Howard 1990	NA	NA
2,6-Dichlorophenol	87-65-0	2.75	Hansch, et al 1995 in Syracuse 1996	NA	NA
2,6-Dinitrotoluene	606-20-2	1.72	Howard 1990	NA	NA
2-Butanone	79-93-3	0.29	EPA 1995a in Jones et al 1996	NA	NA
2-Chloronaphthalene	91-58-7	3.98	Sangster 1994 in Syracuse 1996	NA	NA
2-Chlorophenol	95-57-8	2.15	Howard 1990.	NA	NA
2-Chloropropane	75-29-6	1.90	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2-Chlorotoluene	95-49-8	3.42	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2-Hexanone	591-78-6	1.38	EPA 1995a in Jones, et al 1996	NA	NA
2-Methylnaphthalene	91-57-6	3.86	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2-Methylphenol	95-48-7	1.99	EPA 1995a in Jones, et al 1996	NA	NA
2-Naphthylamine	91-59-8	2.28	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2-Nitrophenol	88-75-5	1.79	Howard 1990	NA	NA
2-Octanone	111-13-7	2.37	Syracuse 1996 in Jones, et al 1996	NA	NA
2-Picoline	109-06-8	1.11	Russom, et al 1996	NA	NA
2-Propanol	67-63-0	0.05	Hansch and Leo 1985 in Syracuse 1996	NA	NA
2-Propenoic acid	79-10-7	0.35	Hansch, et al 1995 in Syracuse 1996	NA	NA
3,3'-Dichlorobenzidine	91-94-1	3.51	Howard 1990[j]	NA	NA
3,3'-Dimethoxybenzidine	119-90-4	1.81	Debnath, et al 1992 in Syracuse 1996	NA	NA
3,3'-Dimethylbenzidine	119-93-7	2.34	Hansch and Leo 1985 in Syracuse 1996	NA	NA
3,4-Dichloroaniline	95-76-1	2.69	Russom, et al 1996	NA	NA
3,4-Dichlorophenol	95-77-2	3.33	Hansch and Leo 1985 in Syracuse 1996	NA	NA
3-Chloroaniline	108-42-9	1.88	Hansch and Leo 1985 in Syracuse 1996	NA	NA
3-Chlorophenol	108-43-0	2.50	Howard 1990.	NA	NA
3-Nitroaniline	99-09-2	1.37	Hansch and Leo 1985 in Syracuse 1996	NA	NA
3-Pentanone	96-22-0	0.99	Hansch and Leo 1985 in Syracuse 1996	NA	NA
4,4-Methylenedianiline	101-77-9	1.59	Hansch and Leo 1985 in Syracuse 1996	NA	NA
4,6-Dinitro-2-methylphenol	534-52-1	2.12	Hansch and Leo 1985 in Syracuse 1996	NA	NA
4-Bromoaniline	106-40-1	2.26	Hansch and Leo 1985 in Syracuse 1996	NA	NA
4-Bromophenyl phenyl-ether	101-55-3	5.00	EPA 1995a in Jones et al 1996	NA	NA
4-Chloro-3-methylphenol	35421-08-0	3.10	Russom, et al 1996	NA	NA
4-chloroaniline	106-47-8	1.83	Howard 1990	NA	NA
4-Chlorophenol	106-48-9	2.39	Howard 1990.	NA	NA
4-Chlorophenyl-phenyl ether	7005-72-3	4.08	Sangster 1994 in Syracuse 1996	NA	NA
4-Chlorotoluene	106-43-4	3.33	Hansch and Leo 1985 in Syracuse 1996	NA	NA
4-Methyl 2-Pentanone	108-10-1	1.31	Syracuse 1996 in Jones, et al 1996	NA	NA
4-Methylphenol	106-44-5	1.90	SCDM 1993 in HAZWRAP 1994	NA	NA
4-Nitroaniline	100-01-6	1.39	Hansch and Leo 1985 in Syracuse 1996	NA	NA
4-Nitrophenol	100-02-7	1.91	Howard 1990	NA	NA
4-Nitroquinoline-1-oxide	56-57-5	1.09	Hansch and Leo 1985 in Syracuse 1996	NA	NA
4-Toluidine	106-49-0	1.39	Russom, et al 1996	NA	NA
5-Nitro-o-Toluidine	99-55-8	1.87	Hansch, et al 1995 in Syracuse 1996	NA	NA
Acenaphthene	83-32-9	3.92	EPA 1995a in Jones, et al 1996	NA	NA
Acenaphthylene	208-96-8	4.10	SCDM 1993 in HAZWRAP 1994	NA	NA
Acetone	67-64-1	-0.24	EPA 1995a in Jones, et al 1996	NA	NA

Appendix Table S-4. KOWs and Maximum BAFs

Chemical	CAS Number	Log Kow[a] (L/kg)	Source	BAF MAX	Source
Acetonitrile	75-05-8	0.25	Howard 1990	NA	NA
Acetonitrile	75-05-8	-0.34	Hansch and Leo 1995 in Syracuse 1996	NA	NA
Acrolein	107-02-8	-0.01	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Acrylamide	79-06-1	-0.67	Howard 1990	NA	NA
Aldicarb	116-06-3	1.13	EPA 1995c	NA	NA
Aldrin	309-00-2	6.50	EPA 1995e in Sample, et al 1996	NA	NA
alpha, alpha-Dimethylphenethylamine	122-09-8	1.90	Hansch and Leo 1985 in Syracuse 1996	NA	NA
alpha-BHC	319-84-6	3.80	SCDM 1993 in HAZWRAP 1994	NA	NA
Aniline	62-53-3	0.90	Howard 1990	NA	NA
Anthracene	120-12-7	4.55	EPA 1995a in Jones, et al 1996	NA	NA
Aroclor 1016	1264-11-2	5.60	ATSDR 1989 in Jones, et al 1996	NA	NA
Aroclor 1221	11104-28-2	4.70	ATSDR 1989 in Jones, et al 1996	NA	NA
Aroclor 1232	11141-16-5	5.10	ATSDR 1989 in Jones, et al 1996	NA	NA
Aroclor 1242	53469-21-9	5.60	ATSDR 1989 in Jones, et al 1996	NA	NA
Aroclor 1248	12672-29-6	6.20	ATSDR 1989 in Jones, et al 1996	NA	NA
Aroclor 1254	27323-18-8	6.50	ATSDR 1989 in Jones, et al 1996	NA	NA
Aroclor 1260	11096-82-5	6.80	ATSDR 1989 in Jones, et al 1996	NA	NA
Atrazine	1912-24-9	2.75	EPA 1995c	NA	NA
Azobenzene	103-33-3	3.82	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Benzaldehyde	100-52-7	1.48	Schwarzenbach, et al 1993	NA	NA
Benzene	71-43-2	2.13	EPA 1995a in Jones et al 1996	NA	NA
Benzidine	92-87-5	1.66	EPA 1995a in Jones et al 1996	NA	NA
Benzo(a)anthracene	56-55-3	5.70	EPA 1995a in Jones et al 1996	NA	NA
Benzo(a)pyrene	50-32-8	6.11	EPA 1995a in Jones et al 1996	NA	NA
Benzo(b)fluoranthene	205-99-2	6.10	SCDM 1993 in HAZWRAP 1994	NA	NA
Benzo(e)pyrene	192-97-2	6.44	Devoogt, et al 1990 in Syracuse 1996	NA	NA
Benzo(g,h,I)Perylene	191-24-2	6.60	SCDM 1993 in HAZWRAP 1994[e]	NA	NA
Benzo(k)fluoranthene	207-08-9	6.10	SCDM 1993 in HAZWRAP 1994	NA	NA
Benzoic acid	65-85-0	1.87	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Benzyl alcohol	100-51-6	1.11	EPA 1995a in Jones et al 1996	NA	NA
Benzyl chloride	100-44-7	2.30	Hansch and Leo 1985 in Syracuse 1996	NA	NA
beta-BHC	319-85-7	3.81	EPA 1995e in Sample, et al 1996	NA	NA
BHC-mixed isomers	--	5.89	EPA 1995e in Sample, et al 1996	NA	NA
Biphenyl	95-52-4	3.96	EPA 1995b in Jones et al 1996	NA	NA
bis(2-chloroethyl)ether	111-44-4	1.29	Howard 1990	NA	NA
Bis(2-ethylhexyl)phthalate	117-81-7	7.60	Syracuse 1996 in Jones, et al 1996[c]	NA	NA
Bromobenzene	108-86-1	2.99	Schwarzenbach, et al 1993	NA	NA
Bromodichloromethane	75-27-4	1.41	Syracuse 1996 in Jones, et al 1996	NA	NA
Butane	106-97-8	2.89	Schwarzenbach, et al 1993	NA	NA
Butylbenzyl phthalate	85-68-7	4.84	EPA 1995a in Jones, et al 1996	NA	NA
Captan	133-06-2	2.35	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Carbaryl	65-25-2	2.36	Schwarzenbach, et al 1993	NA	NA
Carbazole	86-74-8	3.76	Hansch and Leo 1979 in HAZWRAP 1994	NA	NA
Carbofuran	1563-66-2	2.32	EPA 1995c	NA	NA
Carbon Disulfide	75-15-0	2.00	EPA1995a in Jones, et al 1996	NA	NA
Carbon Tetrachloride	56-23-5	2.73	EPA 1995a in Jones, et al 1996	NA	NA
Chloracetamide	79-07-2	-0.53	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Chlordane	57-74-9	6.32	EPA 1995a in Jones, et al 1996	NA	NA
Chlordecone	143-50-0	5.30	EPA 1995e in Sample, et al 1996	NA	NA
Chlorobenzene	108-90-7	2.86	EPA 1995a in Jones, et al 1996	NA	NA
Chlorobenzilate	510-15-6	4.74	Chem Inspect Test Inst. 1992 in Syracuse 1996	NA	NA
Chlorodifluoromethane	75-45-6	1.08	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Chloroethane	75-00-3	1.43	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Chloroform	67-66-3	1.92	EPA 1995e in Sample, et al 1996	NA	NA
Chloromethane	74-87-3	0.91	Schwarzenbach, et al 1993	NA	NA
Chloropropene	107-05-1	2.03	Howard 1990	NA	NA
Chrysene	218-01-9	5.70	SCDM 1993 in HAZWRAP 1994	NA	NA
Cis-1,3-Dichloropropene	10061-02-6	2.06	Tomlin 1994 in Syracuse 1996	NA	NA
Cumene	98-82-8	3.66	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Cyanogen	460-19-5	0.07	Hansch, et al 1995 in Syracuse 1996	NA	NA
Cyclohexanol	108-93-0	1.23	Schwarzenbach, et al 1993	NA	NA
Cyclohexanone	108-94-1	0.81	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Cyclopentane	287-92-3	3.00	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Dalapon	75-99-0	0.78	EPA 1995c	NA	NA
DDT	50-29-3	6.53	EPA 1995a in Jones, et al 1996	NA	NA

Appendix Table S-4. KOWs and Maximum BAFs

Chemical	CAS Number	Log Kow[a] (L/kg)	Source	BAF MAX	Source
Decane	124-18-5	5.01	EPA 1995a in Jones, et al 1996	NA	NA
delta-BHC	319-86-8	4.10	SCDM 1993 in HAZWRAP 1994	NA	NA
Diallate	2303-16-4	4.49	Ellington and Stancil 1988 in Syracuse 1996	NA	NA
Diazinon	333-41-5	3.70	EPA 1995a in Jones, et al 1996	NA	NA
Dibenz(a,h)anthracene	53-70-3	6.50	SCDM 1993 in HAZWRAP 1994	NA	NA
Dibenzofuran	132-64-9	4.12	EPA 1995a in Jones, et al 1996	NA	NA
Dibromochloromethane	124-48-1	2.16	Sangster 1994 in Syracuse 1996	NA	NA
Dibromomethane	74-95-3	1.70	Martiska, A, Bekarek, V 1990 in Syracuse 1996	NA	NA
Dichlorodifluromethane	74-71-8	2.53	Swarzenbch, et al1993	NA	NA
Dieldrin	60-57-1	5.37	EPA 1995a in Jones, et al 1996	NA	NA
Dienochlor	2227-17-0	3.50	British Crop Protection Council 1987 in ARS 1999	NA	NA
Diethyl Sulfide	352-93-2	1.95	Schwarzenbach, et al 1993	NA	NA
Diethylphthalate	84-66-2	2.50	EPA 1995a in Jones, et al 1996	NA	NA
Diisobutylphthalate	84-69-5	4.11	Schwarzenbach, et al 1993	NA	NA
Dimethoate	60-51-5	0.78	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Dimethylphthalate	131-11-3	1.53	Schwarzenbach, et al 1993	NA	NA
Di-n-butyl phthalate	84-74-2	4.61	EPA 1995a in Jones, et al 1996	NA	NA
Di-n-octylphthalate	117-84-0	8.10	Ellington and Floyd 1996 in Syracuse 1996	NA	NA
Dinoseb	88-85-7	3.56	Hansch, et al 1995 in Syracuse 1996	NA	NA
Dioxin	1746-01-6	6.80	EPA 1995d[d]	NA	NA
Diphenyl ether	101-84-8	4.21	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Diphenylamine	122-39-4	3.50	Russom, et al 1996	NA	NA
Diquat	85-00-7	-3.05	EPA 1995c	NA	NA
Disulfoton	298-04-4	4.02	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Diuron	330-54-1	2.80	Dupon Cortporation Data 1989 in ARS 1999	NA	NA
Endosulfan	115-29-7	4.10	EPA 1995a in Jones, et al 1996	NA	NA
Endosulfan sulfate	1031-07-8	3.66	Hansch, et al 1995 in Syracuse 1996	NA	NA
Endosulfan, alpha	959-98-8	3.83	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Endrin	72-20-8	5.06	EPA 1995a in Jones, et al 1996	NA	NA
Endrin Aldehyde	7421-93-4	3.14	Arthur D. Little, Inc. 1981 in HAZWRAP 1994+D2	NA	NA
Epichlorohydrin	106-89-8	0.45	Deneer, et al 1988 in Syracuse 1996	NA	NA
Ethane	74-84-0	1.81	Schwarzenbach, et al 1993	NA	NA
Ethanol	64-17-5	-0.31	EPA 1992b in Sample, et al 1996	NA	NA
Ethyl Acetate	141-78-6	0.69	EPA 1995e in Sample, et al 1996	NA	NA
Ethyl benzene	100-41-4	3.14	EPA 1995a in Jones, et al 1996	NA	NA
Ethyl carbamate	51-79-6	-0.15	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Ethyl ether	60-29-7	0.89	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Ethylene Dibromide	106-93-4	1.96	Hansch, et al 1995 in Syracuse 1996	NA	NA
Ethylene glycol	107-21-1	-1.36	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Famphur	52-85-7	2.23	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Fluometuron	2164-17-2	1.34	Schwarzenbach et al 1993	NA	NA
Fluoranthene	206-44-0	5.12	EPA 1995a in Jones, et al 1996	NA	NA
Fluorene	86-73-7	4.21	EPA 1995a in Jones, et al 1996	NA	NA
Fluorobenzene	462-06-6	2.27	Swarzenbch et al 1993	NA	NA
Formaldehyde	50-00-0	-0.05	EPA 1995e in Sample, et al 1996	NA	NA
Formamide	75-12-7	-1.51	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Formic acid	64-18-6	-0.54	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Furan	110-00-9	1.34	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Furfural	98-01-1	0.41	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Heptachlor	76-44-8	6.10	EPA 1995a in Jones, et al 1996	NA	NA
Heptachlor Epoxide	102-57-3	5.40	SCDM 1993 in HAZWRAP 1994	NA	NA
Heptane	142-82-5	4.66	Miller, M.M., et al 1985 in Syracuse 1996	NA	NA
Hexachlorobenzene	118-74-1	5.50	Schwarzenbach, et al 1993	NA	NA
Hexachlorobutadiene	87-68-3	4.90	Schwarzenbach, et al 1993	NA	NA
Hexachlorocyclopentadiene	77-47-4	5.04	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Hexachloroethane	67-72-1	4.00	EPA 1995a in Jones, et al 1996	NA	NA
Hexachlorophene	70-30-4	7.54	Hansch, et al 1995 in Syracuse 1996	NA	NA
Imazaquin-ammonium	81335-47-9	0.34	Pesticide Manual, 1994in ARS 1999	NA	NA
Imazilil	35554-44-0	3.82	British Crop Protection Council 1986 in ARS 1999	NA	NA
Isobutyl alcohol	78-83-1	0.76	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Isophorone	78-59-1	1.70	Veith, G.D., et al 1980 in Syracuse 1996	NA	NA
Lindane (gamma-BHC)	58-89-9	3.73	EPA 1995a in Jones, et al 1996	NA	NA
Malathion	121-75-5	2.89	Schwarzenbach, et al 1993	NA	NA
MCPA	94-74-6	2.80	Pionke, H.B., Deangelis, R.J. 1980 in ARS 1999	NA	NA
m-cresol	108-39-4	1.96	Howard 1990.	NA	NA

Appendix Table S-4. KOWs and Maximum BAFs

Chemical	CAS Number	Log Kow[a] (L/kg)	Source	BAF MAX	Source
Methacrylonitril	126-98-7	0.68	Tanii and Hashimoto 1994 in Syracuse 1996	NA	NA
Methanol	67-56-1	-0.71	EPA 1995e in Sample, et al 1996	NA	NA
Methapyrilene	91-80-5	2.87	Sangster 1994 in Syracuse 1996	NA	NA
Methomyl	16752-77-5	0.57	Dupont Corporation Data 1989 In ARS 1999	NA	NA
Methoxychlor	72-43-5	5.08	EPA 1995a in Jones, et al 1996	NA	NA
Methyl bromide	74-83-9	1.19	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Methyl iodide	74-88-4	3.36	EPA 1995a in Jones, et al 1996	NA	NA
Methyl metharcrylate	80-62-6	1.38	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Methylcyclohexane	108-87-2	3.61	Hansch, et al 1995 in Syracuse 1996	NA	NA
Methylene Chloride	75-09-2	1.25	EPA 1995a in Jones, et al 1996	NA	NA
Methylhydrazine	60-34-4	-1.06	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Methylstyrene	98-83-9	3.48	Hansch, et al 1995 in Syracuse 1996	NA	NA
Mirex	2385-85-5	6.89	Veith, et al 1979 in Syracuse 1996	NA	NA
M-nitrosodiphenylamine	86-30-6	3.13	Hansch and Leo 1985 in Syracuse 1996	NA	NA
m-Nitrotoluene	99-08-1	2.45	Russom, et al 1996	NA	NA
Naphthalene	91-20-3	3.36	EPA 1995a in Jones, et al 1996	NA	NA
n-Butyl benzene	104-51-8	4.38	DeBruijn, J, et al 1989 in Syracuse 1996	NA	NA
n-Hexane	110-54-3	4.11	Schwarzenbach, et al 1993	NA	NA
Nitrobenzene	98-95-3	1.83	Schwarzenbach et al 1993	NA	NA
Nitroglycerin	55-63-0	1.62	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Nitromethane	75-52-5	-0.35	Hansch and Leo 1985 in Syracuse 1996	NA	NA
n-Nitrochlorobenzene	100-00-5	2.39	Hansch and Leo 1985 in Syracuse 1996	NA	NA
N-Nitrosodiethylamine	55-18-5	0.48	Hansch and Leo 1985 in Syracuse 1996	NA	NA
N-Nitrosomorpholine	59-89-2	-0.44	Hansch and Leo 1985 in Syracuse 1996	NA	NA
N-Nitrosopiperidine	100-75-4	0.36	Hansch and Leo 1985 in Syracuse 1996	NA	NA
N-Nitrosopyrrolidine	930-55-2	-0.19	Hansch and Leo 1985 in Syracuse 1996	NA	NA
n-Pentane	109-66-0	3.62	Swarzenbch, et al 1993	NA	NA
n-Pentylbenzene	538-68-1	4.90	Schwarzenbach, et al 1993	NA	NA
n-propyl benzene	103-65-1	3.69	Sangster 1994 in Syracuse 1996	NA	NA
o-Cresol	95-48-7	1.99	EPA 1995e in Sample, et al 1996	NA	NA
Octachloronaphthalene	2234-13-1	8.24	Opperhuizen, A 1985 in Syracuse 1996[b]	NA	NA
o-Dichlorobenzene	95-50-1	3.38	EPA 1995d	NA	NA
o-Dinitrobenzene	528-29-0	1.69	Hansch, et al 1995 in Syracuse 1996	NA	NA
o-Nitroaniline	88-74-4	1.85	Hansch and Leo 1985 in Syracuse 1996	NA	NA
o-Nitrophenol	88-75-5	1.79	Howard 1990	NA	NA
o-Nitrotoluene	88-72-2	2.30	Opperhuizen, A 1985 in Syracuse 1996	NA	NA
Oxadiazon	19666-30-9	4.70	Rhone-Poulenc Corporation Data in ARS 1999	NA	NA
p,p'-DDD	72-54-8	6.10	EPA 1995a in Jones, et al 1996	NA	NA
Parathion	56-38-2	3.81	Schwarzenbach, et al 1993	NA	NA
p-Cresol	106-44-5	1.94	Hansch and Leo 1985 in Syracuse 1996	NA	NA
p-Dichlorobenzene	106-46-7	3.37	EPA 1995d	NA	NA
Pentachloroaniline	527-20-8	4.82	Sangster 1994 in Syracuse 1996	NA	NA
Pentachlorobenzene	608-93-5	5.26	EPA1995a in Jones, et al 1996	NA	NA
Pentachloroethane	76-01-7	3.63	Russom, et al 1996	NA	NA
Pentachloro-nitrobenzene	82-68-8	4.64	EPA 1995e in Sample, et al 1996	NA	NA
Pentachlorophenol	87-86-5	5.09	EPA 1995e in Sample, et al 1996	NA	NA
Phenacetin	62-44-2	1.58	Nakagawa, Y, et al 1992 in Syracuse 1996	NA	NA
Phenanthrene	85-01-8	4.55	EPA1995a in Jones, et al 1996	NA	NA
Phenmediphan	13684-63-4	3.59	Noram Company Data in ARS 1999	NA	NA
Phenol	108-95-2	1.48	EPA1995a in Jones, et al 1996	NA	NA
Phorate	298-02-2	3.56	Hansch, et al 1995 in Syracuse 1996	NA	NA
Phosmet	732-11-6	3.00	Beguhn, M.A. 1989 in ARS 1989	NA	NA
Phthalic acid	100-21-0	2.00	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Phthalic anhydride	85-44-9	1.60	Panoma 1987 in Syracuse 1996	NA	NA
p-Nitrophenol	100-02-07	1.91	Howard 1990	NA	NA
p-Nitrotoluene	99-99-0	2.37	Howard 1990	NA	NA
p-Phenylenediamine	106-50-3	-0.30	Hansch, et al 1995 in Syracuse 1996	NA	NA
Profenofos	41198-08-7	1.70	Ciba-Geigy Corporation Data 1989 in ARS 1999	NA	NA
Pronamide	23950-58-5	0.05	EPA1995a in Jones, et al 1996	NA	NA
Propionitril	107-12-0	0.16	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Pryidine	110-86-1	0.65	Russom, et al 1996	NA	NA
Pyrene	129-00-0	5.13	Schwarzenbach, et al 1993g	NA	NA
Quinoline	91-22-5	2.03	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Quinone	106-51-4	0.20	Hansch and Leo 1985 in Syracuse 1996	NA	NA
RDX	121-82-4	0.87	Schwarzenbach, et al 1993	NA	NA

Appendix Table S-4. KOWs and Maximum BAFs

Chemical	CAS Number	Log Kow[a] (L/kg)	Source	BAF MAX	Source
sec-Butyl benzene	135-98-8	4.57	Sherblom, et al 1988 in Syracuse 1996	NA	NA
Silvex	93-72-1	3.80	Hansch , et al 1995 in Syracuse 1996	NA	NA
Simazine	122-34-9	2.18	EPA 1995c	NA	NA
Strychnine	57-24-9	1.93	Panoma 1987 in Syracuse 1996	NA	NA
Styrene	100-42-5	2.95	Schwarzenbach, et al 1993	NA	NA
Tebuthiuron	34014-18-1	1.79	ARS 1999	NA	NA
Temephos	3383-96-8	4.90	British Crop Protection Council 1994 in ARS 1999[h]	NA	NA
tert-Butyl benzene	98-06-6	4.11	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Tetrachloroethane	25322-20-7	2.39	Schwarzenbach, et al 1993	NA	NA
Tetrachloroethene	127-18-4	2.88	Schwarzenbach, et al 1993	NA	NA
Tetrachloroethylene	127-18-4	3.40	EPA 1995d	NA	NA
Tetrachloromethane	56-23-5	2.73	EPA 1995a in Jones, et al 1996	NA	NA
Tetrahydrofuran	109-99-9	0.46	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Toluene	108-883	2.75	EPA 1995a in Jones, et al 1996	NA	NA
Toxaphene	8001-35-2	5.50	EPA 1995e in Sample, et al 1996	NA	NA
Trans-1,3-Dichloropropene	10061-02-6	2.03	Tomlin 1994 in Syracuse 1996	NA	NA
Tribromomethane	75-25-2	2.35	EPA 1995a in Jones, et al 1996	NA	NA
Tributyl phosphate	126-73-8	4.00	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Trichloroethene	636-30-6	2.71	EPA 1995a in Jones, et al 1996	NA	NA
Trichloroethylene	79-01-6	2.71	EPA 1995e in Sample, et al 1996	NA	NA
Trichlorofluoromethane	75-69-4	2.16	Schwarzenbach, et al 1993	NA	NA
Triethylamine	121-44-8	1.45	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Trifluorobromomethane	75-63-8	1.86	Hansch and Leo 1985 in Syracuse 1996	NA	NA
Vinyl acetate	108-05-4	0.73	EPA 1995a in Jones, et al 1996	NA	NA
Vinyl Chloride	75-01-4	1.50	EPA 1995e in Sample, et al 1996	NA	NA
Xylene	1330-20-7	3.13	EPA 1995a in Jones, et al 1996	NA	NA
Xylene (mixed isomers)	--	3.20	EPA 1995e in Sample, et al 1996	NA	NA
Ziram	137-30-4	1.09	British Crop Protection Council 1994 in ARS 1999	NA	NA

[a] Log Octanol-Water partition coefficient.

[b] Syracuse 1996. Syracuse Research Corporation, Environmental Sciences Center's on-line experimental Log P database conducted June 7, 1996.

[c] Jones, D.S., R N. Hull, G.W. Suter II. 1996. *Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota: 1996 Revision.* Lockheed Martin Energy Systems, Inc. Oak Ridge, TN 37831.-

[d] EPA. 1995d. National Primary Drinking Water Regulations; Contaminated Specific Fact Sheets Volatile Organic Chemicals, Technical Version. USEPA Office of Water. EPA 811-F-95-004-T.

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BAF = Bioaccummulation factor

Max = Maximum

Appendix Table S-5. Water Tower ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Antimony	7440-36-0	1.90E+00	5.00E+00	PRGs	below	no	no
Beryllium	7440-41-7	9.20E-01	1.00E+01	PRGs	below	no	no
Cadmium	7440-43-9	2.90E-01	4.00E+00	PRGs	below	yes	yes
Calcium	7440-70-2	3.32E+03	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	3.85E+02	4.00E-01	PRGs	above	no	yes
Cobalt	7440-48-4	1.82E+01	2.00E+01	PRGs	below	no	no
Copper	7440-50-8	5.13E+01	6.00E+01	PRGs	below	no	no
Iron	7439-89-6	4.85E+04	2.00E+02	NOEC	above	no	yes
Lead	7439-92-1	2.51E+03	4.05E+01	PRGs	above	yes	yes
Magnesium	7439-95-4	2.88E+03	No ESV	No Source	no screening value	no	yes
Mercury	7487-94-6	5.70E-02	5.10E-04	PRGs	above	yes	yes
Nickel	7440-02-0	3.24E+01	3.00E+01	PRGs	above	no	yes
Potassium	7440-09-7	2.32E+03	No ESV	No Source	no screening value	no	yes
Sodium	7440-23-5	1.08E+02	No ESV	No Source	no screening value	no	yes
Thallium	6533-73-9	6.70E-01	1.00E+00	PRGs	below	no	no
Zinc	7440-66-6	9.33E+02	8.50E+00	PRGs	above	yes	yes

SRCs = Site Related Chemicals

Max = Maximum Exposure

ESV = Preferred Ecological Screening Value

Yes = Max > preferred ecological screening value or no ecological screening value

No = Max < preferred ecological screening value

NA = Not available

PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)

EU = Exposure Unit

Appendix Table S-6. CB-3 and CB-801 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Aluminum	7429-90-5	2.32E+04	6.00E+02	LOEC	above	no	yes
Antimony	7440-36-0	6.48E+02	5.00E+00	PRGs	above	no	yes
Arsenic	7440-38-2	1.90E+01	9.90E+00	PRGs	above	no	yes
Barium	7440-39-3	3.47E+02	2.83E+02	PRGs	above	no	yes
Beryllium	7440-41-7	2.50E+00	1.00E+01	PRGs	below	no	no
Cadmium	7440-43-9	2.73E+01	4.00E+00	PRGs	above	yes	yes
Calcium	7440-70-2	2.21E+05	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	1.74E+02	4.00E-01	PRGs	above	no	yes
Chromium, hexavalent	18540-29-9	1.40E+00	No ESV	NA	no screening value	No BAF	yes
Cobalt	7440-48-4	1.09E+01	2.00E+01	PRGs	below	no	no
Copper	7440-50-8	1.91E+02	6.00E+01	PRGs	above	no	yes
Cyanide	57-12-5	1.00E+00	1.33E+00	EDQL EPA Region 5 (1998)	below	no	no
Iron	7439-89-6	9.00E+04	2.00E+02	NOEC	above	no	yes
Lead	7439-92-1	1.62E+03	4.05E+01	PRGs	above	yes	yes
Magnesium	7439-95-4	1.70E+04	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	4.07E+03	1.00E+02	LOEC	above	no	yes
Mercury	7487-94-6	4.20E-01	5.10E-04	PRGs	above	yes	yes
Nickel	7440-02-0	6.05E+01	3.00E+01	PRGs	above	no	yes
Potassium	7440-09-7	1.79E+03	No ESV	No Source	no screening value	no	yes
Selenium	7782-49-2	1.80E+00	2.10E-01	PRGs	above	no	yes
Silver	7440-22-4	4.60E-01	2.00E+00	PRGs	below	no	no
Sodium	7440-23-5	9.26E+02	No ESV	No Source	no screening value	no	yes
Thallium	6533-73-9	8.00E-01	1.00E+00	PRGs	below	no	no
Zinc	7440-66-6	6.74E+02	8.50E+00	PRGs	above	yes	yes
Organics-Semivolatile							
2-Methylnaphthalene	91-57-6	1.20E-01	3.24E+00	EDQL EPA Region 5 (1998)	below	no	no
Acenaphthene	83-32-9	2.40E+00	2.00E+01	PRGs	below	no	no

Appendix Table S-6. CB-3 and CB-801 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Anthracene	120-12-7	5.80E+00	1.48E+03	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(a)anthracene	56-55-3	1.40E+01	5.21E+00	EDQL EPA Region 5 (1998)	above	yes	yes
Benzo(a)pyrene	50-32-8	1.30E+01	1.52E+00	EDQL EPA Region 5 (1998)	above	yes	yes
Benzo(b)fluoranthene	205-99-2	1.50E+01	5.98E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(g,h,i)perylene	191-24-2	8.20E+00	1.19E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(k)fluoranthene	207-08-9	5.70E+00	1.48E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Bis(2-ethylhexyl)phthalate	117-81-7	3.40E-01	9.26E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Carbazole	86-74-8	4.10E+00	No ESV	No Source	no screening value	no	yes
Chrysene	218-01-9	1.50E+01	4.73E+00	EDQL EPA Region 5 (1998)	above	yes	yes
Di-n-butyl phthalate	84-74-2	5.00E-01	2.00E+02	PRGs	below	yes	yes
Dibenzo(a,h)anthracene	53-70-3	1.70E+00	1.84E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Dibenzofuran	132-64-9	1.30E+00	No ESV	No Source	no screening value	yes	yes
Fluoranthene	206-44-0	3.90E+01	1.22E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Fluorene	86-73-7	2.30E+00	3.00E+01	PRGs	below	yes	yes
Indeno(1,2,3-cd)pyrene	193-39-5	8.70E+00	1.09E+02	EDQL EPA Region 5 (1998)	below	No Kow	no
Naphthalene	91-20-3	4.60E-02	1.00E+01	No Soil, only Solution, LOEC	below	no	no
Pentachlorophenol	87-86-5	8.30E-02	3.00E+00	PRGs	below	yes	yes
Phenanthrene	85-01-8	3.00E+01	4.57E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Phenol	108-95-2	4.50E-02	3.00E+01	PRGs	below	no	no
Pyrene	129-00-0	4.10E+01	7.85E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Organics-Volatile							
1,2-Dichloroethene	549-59-0	7.90E-03	7.84E-01	EDQL EPA Region 5 (1998)	below	no	no
Methylene chloride	75-09-2	3.00E-03	No ESV	No Source	no screening value	no	yes
Trichloroethene	79-01-6	4.40E-03	1.00E+02	No Soil, only Solution	below	no	no
Organics-Pesticide/PCB							
4,4'-DDE	72-55-9	1.20E-01	5.96E-01	EDQL EPA Region 5 (1998)	below	yes	yes
4,4'-DDT	50-29-3	4.10E-02	1.75E-02	EDQL EPA Region 5 (1998)	above	yes	yes
Dieldrin	60-57-1	3.60E-02	2.38E-03	EDQL EPA Region 5 (1998)	above	yes	yes
Endrin aldehyde	7421-93-4	2.10E-01	1.05E-02	EDQL EPA Region 5 (1998)	above	no	yes

Appendix Table S-6. CB-3 and CB-801 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Endrin ketone	53494-70-5	8.10E-02	No ESV	NA	no screening value	No Kow	yes
Methoxychlor	72-43-5	2.60E-02	1.99E-02	EDQL EPA Region 5 (1998)	above	yes	yes
PCB-1254	11097-69-1	4.30E+00	No ESV	No Source	no screening value	yes	yes
beta-BHC	319-85-7	2.20E-01	3.98E-03	EDQL EPA Region 5 (1998)	above	no	yes
gamma-Chlordane	5103-74-2	5.20E-02	2.24E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Explosives							
1,3,5-Trinitrobenzene	99-35-4	1.20E-01	3.76E-01	EDQL EPA Region 5 (1998)	below	no	no
2,4,6-Trinitrotoluene	118-96-7	1.20E+00	No ESV	No Source	no screening value	no	yes
2,4-Dinitrotoluene	121-14-2	1.50E-01	1.28E+00	EDQL EPA Region 5 (1998)	below	no	no
2-Amino-4,6-dinitrotoluene	35572-78-2	9.70E-02	No ESV	NA	no screening value	No Kow	yes
2-Nitrotoluene	88-72-2	2.20E-01	No ESV	No Source	no screening value	no	yes
4-Amino-2,6-dinitrotoluene	19406-51-0	2.30E-01	No ESV	NA	no screening value	No Kow	yes
Nitrobenzene	98-95-3	2.30E-01	4.00E+01	PRGs	below	no	no
Nitrocellulose	9004-70-0	1.49E+01	No ESV	No Source	no screening value	No Kow	yes
RDX	121-82-4	2.90E-01	No ESV	NA	no screening value	no	yes

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)
EU = Exposure Unit

Appendix Table S-7. CB-4/4A and CA-6/6A ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Aluminum	7429-90-5	4.61E+04	6.00E+02	LOEC	above	no	yes
Antimony	7440-36-0	3.00E+00	5.00E+00	PRGs	below	no	no
Arsenic	7440-38-2	5.56E+01	9.90E+00	PRGs	above	no	yes
Barium	7440-39-3	1.97E+03	2.83E+02	PRGs	above	no	yes
Beryllium	7440-41-7	2.60E+00	1.00E+01	PRGs	below	no	no
Cadmium	7440-43-9	2.73E+01	4.00E+00	PRGs	above	yes	yes
Calcium	7440-70-2	1.21E+05	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	4.00E+02	4.00E-01	PRGs	above	no	yes
Cobalt	7440-48-4	4.93E+01	2.00E+01	PRGs	above	no	yes
Copper	7440-50-8	3.68E+03	6.00E+01	PRGs	above	no	yes
Cyanide	57-12-5	3.80E+00	1.33E+00	EDQL EPA Region 5 (1998)	above	no	yes
Iron	7439-89-6	1.11E+05	2.00E+02	NOEC	above	no	yes
Lead	7439-92-1	7.13E+03	4.05E+01	PRGs	above	yes	yes
Magnesium	7439-95-4	1.53E+04	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	3.50E+03	1.00E+02	LOEC	above	no	yes
Mercury	7487-94-6	9.70E+00	5.10E-04	PRGs	above	yes	yes
Nickel	7440-02-0	1.01E+02	3.00E+01	PRGs	above	no	yes
Potassium	7440-09-7	5.70E+03	No ESV	No Source	no screening value	no	yes
Selenium	7782-49-2	5.30E+00	2.10E-01	PRGs	above	no	yes
Sodium	7440-23-5	8.88E+02	No ESV	No Source	no screening value	no	yes
Thallium	6533-73-9	2.50E+00	1.00E+00	PRGs	above	no	yes
Vanadium	7440-62-2	7.79E+01	2.00E+00	PRGs	above	no	yes
Zinc	7440-66-6	1.69E+03	8.50E+00	PRGs	above	yes	yes
Organics-Semivolatile							
2-Methylnaphthalene	91-57-6	7.70E-02	3.24E+00	EDQL EPA Region 5 (1998)	below	no	no
Acenaphthene	83-32-9	2.30E-01	2.00E+01	PRGs	below	no	no
Anthracene	120-12-7	5.50E-01	1.48E+03	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(a)anthracene	56-55-3	1.20E+00	5.21E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(a)pyrene	50-32-8	1.00E+00	1.52E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(b)fluoranthene	205-99-2	1.40E+00	5.98E+01	EDQL EPA Region 5 (1998)	below	yes	yes

Appendix Table S-7. CB-4/4A and CA-6/6A ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Benzo(g,h,i)perylene	191-24-2	5.50E-01	1.19E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(k)fluoranthene	207-08-9	5.80E-01	1.48E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Bis(2-ethylhexyl)phthalate	117-81-7	1.10E-01	9.26E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Butylbenzyl phthalate	85-68-7	5.00E-02	No ESV	No Source	no screening value	yes	yes
Carbazole	86-74-8	3.80E-01	No ESV	No Source	no screening value	no	yes
Chrysene	218-01-9	1.10E+00	4.73E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Dibenzo(a,h)anthracene	53-70-3	9.60E-02	1.84E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Dibenzofuran	132-64-9	1.90E-01	No ESV	No Source	no screening value	yes	yes
Fluoranthene	206-44-0	2.90E+00	1.22E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Fluorene	86-73-7	3.10E-01	3.00E+01	PRGs	below	yes	yes
Indeno(1,2,3-cd)pyrene	193-39-5	6.20E-01	1.09E+02	EDQL EPA Region 5 (1998)	below	No Kow	no
Naphthalene	91-20-3	2.20E-01	1.00E+01	No Soil, only Solution, LOEC	below	no	no
Phenanthrene	85-01-8	2.50E+00	4.57E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Phenol	108-95-2	5.00E-02	3.00E+01	PRGs	below	no	no
Pyrene	129-00-0	2.30E+00	7.85E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Organics-Volatile							
1,2-Dichloroethene	549-59-0	1.80E-02	7.84E-01	EDQL EPA Region 5 (1998)	below	no	no
Acetone	67-64-1	1.10E-02	No ESV	No Source	no screening value	no	yes
Methylene chloride	75-09-2	3.30E-03	No ESV	No Source	no screening value	no	yes
Trichloroethene	79-01-6	6.70E-03	1.00E+02	No Soil, only Solution	below	no	no
Organics-Pesticide/PCB							
4,4'-DDE	72-55-9	6.70E+00	5.96E-01	EDQL EPA Region 5 (1998)	above	yes	yes
4,4'-DDT	50-29-3	4.10E-02	1.75E-02	EDQL EPA Region 5 (1998)	above	yes	yes
Dieldrin	60-57-1	5.50E-01	2.38E-03	EDQL EPA Region 5 (1998)	above	yes	yes
Endrin aldehyde	7421-93-4	4.40E+00	1.05E-02	EDQL EPA Region 5 (1998)	above	no	yes
Endrin ketone	53494-70-5	1.40E-02	No ESV	NA	no screening value	No Kow	yes
Heptachlor	76-44-8	3.20E-01	5.98E-03	EDQL EPA Region 5 (1998)	above	yes	yes
Heptachlor epoxide	1024-57-3	3.10E-02	1.52E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Methoxychlor	72-43-5	1.40E-02	1.99E-02	EDQL EPA Region 5 (1998)	below	yes	yes
PCB-1016	12674-11-2	1.40E-01	No ESV	No Source	no screening value	yes	yes

Appendix Table S-7. CB-4/4A and CA-6/6A ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
PCB-1254	11097-69-1	1.10E+03	No ESV	No Source	no screening value	yes	yes
alpha-Chlordane	5103-71-9	4.40E-01	2.24E-01	EDQL EPA Region 5 (1998)	above	yes	yes
beta-BHC	319-85-7	9.70E-03	3.98E-03	EDQL EPA Region 5 (1998)	above	no	yes
gamma-Chlordane	5103-74-2	5.30E+00	2.24E-01	EDQL EPA Region 5 (1998)	above	yes	yes
Explosives							
1,3,5-Trinitrobenzene	99-35-4	1.10E+02	3.76E-01	EDQL EPA Region 5 (1998)	above	no	yes
1,3-Dinitrobenzene	99-65-0	1.10E+02	No ESV	EDQL EPA Region 5 (1998)	no screening value	no	yes
2,4,6-Trinitrotoluene	118-96-7	4.80E+03	No ESV	No Source	no screening value	no	yes
2,4-Dinitrotoluene	121-14-2	2.30E-01	1.28E+00	EDQL EPA Region 5 (1998)	below	no	no
2,6-Dinitrotoluene	606-20-2	8.60E-01	3.28E-02	EDQL EPA Region 5 (1998)	above	no	yes
2-Amino-4,6-dinitrotoluene	35572-78-2	1.10E+01	No ESV	NA	no screening value	No Kow	yes
2-Nitrotoluene	88-72-2	6.90E-01	No ESV	No Source	no screening value	no	yes
3-Nitrotoluene	99-08-1	1.80E-01	No ESV	No Source	no screening value	no	yes
4-Amino-2,6-dinitrotoluene	19406-51-0	5.90E+00	No ESV	NA	no screening value	No Kow	yes
4-Nitrotoluene	99-99-0	2.00E-01	No ESV	No Source	no screening value	no	yes
HMX	2691-41-0	2.60E+02	No ESV	NA	no screening value	No Kow	yes
Nitrobenzene	98-95-3	5.90E-01	4.00E+01	PRGs	below	no	no
Nitrocellulose	9004-70-0	3.88E+02	No ESV	No Source	no screening value	No Kow	yes
Nitroglycerin	55-63-0	7.40E+00	No ESV	No Source	no screening value	no	yes
Nitroguanidine	556-88-7	3.50E-02	No ESV	NA	no screening value	No Kow	yes
RDX	121-82-4	2.30E+03	No ESV	NA	no screening value	no	yes

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)
EU = Exposure Unit

Appendix Table S-8. CB-13 and CB-10 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Aluminum	7429-90-5	2.58E+04	6.00E+02	LOEC	above	no	yes
Antimony	7440-36-0	9.10E+00	5.00E+00	PRGs	above	no	yes
Arsenic	7440-38-2	1.83E+01	9.90E+00	PRGs	above	no	yes
Barium	7440-39-3	4.10E+02	2.83E+02	PRGs	above	no	yes
Beryllium	7440-41-7	3.40E+00	1.00E+01	PRGs	below	no	no
Calcium	7440-70-2	1.62E+05	No ESV	No Source	no screening value	no	yes
Cadmium	7440-43-9	4.82E+01	4.00E+00	PRGs	above	yes	yes
Chromium	7440-47-3	3.12E+02	4.00E-01	PRGs	above	no	yes
Cobalt	7440-48-4	3.20E+01	2.00E+01	PRGs	above	no	yes
Copper	7440-50-8	2.39E+03	6.00E+01	PRGs	above	no	yes
Cyanide	57-12-5	1.00E+00	1.33E+00	EDQL EPA Region 5 (1998)	below	no	no
Iron	7439-89-6	5.80E+04	2.00E+02	NOEC	above	no	yes
Lead	7439-92-1	1.77E+03	4.05E+01	PRGs	above	yes	yes
Magnesium	7439-95-4	2.02E+04	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	3.65E+03	1.00E+02	LOEC	above	no	yes
Mercury	7487-94-6	4.10E-01	5.10E-04	PRGs	above	yes	yes
Nickel	7440-02-0	6.24E+01	3.00E+01	PRGs	above	no	yes
Potassium	7440-09-7	3.61E+03	No ESV	No Source	no screening value	no	yes
Selenium	7782-49-2	3.60E+00	2.10E-01	PRGs	above	no	yes
Sodium	7440-23-5	1.44E+03	No ESV	No Source	no screening value	no	yes
Thallium	6533-73-9	7.80E-01	1.00E+00	PRGs	below	no	no
Vanadium	7440-62-2	3.82E+01	2.00E+00	PRGs	above	no	yes
Zinc	7440-66-6	2.06E+03	8.50E+00	PRGs	above	yes	yes
Organics-Semivolatile							
2-Methylnaphthalene	91-57-6	1.40E-01	3.24E+00	EDQL EPA Region 5 (1998)	below	no	no
Anthracene	120-12-7	7.30E-02	1.48E+03	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(a)anthracene	56-55-3	4.10E-01	5.21E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(a)pyrene	50-32-8	3.70E-01	1.52E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(b)fluoranthene	205-99-2	4.70E-01	5.98E+01	EDQL EPA Region 5 (1998)	below	yes	yes

Appendix Table S-8. CB-13 and CB-10 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Benzo(g,h,i)perylene	191-24-2	2.40E-01	1.19E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(k)fluoranthene	207-08-9	2.10E-01	1.48E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Carbazole	86-74-8	7.20E-02	No ESV	No Source	no screening value	no	yes
Chrysene	218-01-9	4.80E-01	4.73E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Di-n-butyl phthalate	84-74-2	4.70E-01	2.00E+02	PRGs	below	yes	yes
Fluoranthene	206-44-0	1.00E+00	1.22E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Fluorene	86-73-7	4.10E-02	3.00E+01	PRGs	below	yes	yes
Indeno(1,2,3-cd)pyrene	193-39-5	2.60E-01	1.09E+02	EDQL EPA Region 5 (1998)	below	No Kow	no
Naphthalene	91-20-3	1.00E-01	1.00E+01	No Soil, only Solution, LOEC	below	no	no
Phenanthrene	85-01-8	4.50E-01	4.57E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Pyrene	129-00-0	7.90E-01	7.85E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Organics-Volatile							
1,2-Dichloroethene	549-59-0	7.20E-03	7.84E-01	EDQL EPA Region 5 (1998)	below	no	no
Acetone	67-64-1	5.00E-03	No ESV	No Source	no screening value	no	yes
Methylene chloride	75-09-2	2.20E-03	No ESV	No Source	no screening value	no	yes
Toluene	108-88-3	4.40E-03	2.00E+02	PRGs	below	no	no
Trichloroethene	79-01-6	3.30E-03	1.00E+02	No Soil, only Solution	below	no	no
Explosives							
2,4,6-Trinitrotoluene	118-96-7	2.30E+02	No ESV	No Source	no screening value	no	yes
2,4-Dinitrotoluene	121-14-2	9.30E+00	1.28E+00	EDQL EPA Region 5 (1998)	above	no	yes
2,6-Dinitrotoluene	606-20-2	6.00E-01	3.28E-02	EDQL EPA Region 5 (1998)	above	no	yes
2-Amino-4,6-dinitrotoluene	35572-78-2	8.70E+00	No ESV	NA	no screening value	No Kow	yes
4-Amino-2,6-dinitrotoluene	19406-51-0	1.90E+00	No ESV	NA	no screening value	No Kow	yes
4-Nitrotoluene	99-99-0	2.00E-01	No ESV	No Source	no screening value	no	yes
HMX	2691-41-0	2.20E+00	No ESV	No Source	no screening value	No Kow	yes
Nitrocellulose	9004-70-0	1.03E+02	No ESV	No Source	no screening value	No Kow	yes
RDX	121-82-4	2.70E+01	No ESV	NA	no screening value	no	yes

Appendix Table S-8. CB-13 and CB-10 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Organics-Pesticide/PCB							
4,4'-DDE	72-55-9	8.20E-02	5.96E-01	EDQL EPA Region 5 (1998)	below	yes	yes
4,4'-DDT	50-29-3	1.50E-02	1.75E-02	EDQL EPA Region 5 (1998)	below	yes	yes
Endrin aldehyde	7421-93-4	5.30E-02	1.05E-02	EDQL EPA Region 5 (1998)	above	no	yes
Heptachlor	76-44-8	2.80E-02	5.98E-03	EDQL EPA Region 5 (1998)	above	yes	yes
PCB-1254	11097-69-1	2.40E+00	No ESV	No Source	no screening value	yes	yes
gamma-Chlordane	5103-74-2	3.50E-02	2.24E-01	EDQL EPA Region 5 (1998)	below	yes	yes

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)
EU = Exposure Unit

Appendix Table S-9. CB-14, CB-17, and CA-15 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Aluminum	7429-90-5	9.73E+04	6.00E+02	LOEC	above	no	yes
Arsenic	7440-38-2	1.12E+02	9.90E+00	PRGs	above	no	yes
Barium	7440-39-3	5.72E+02	2.83E+02	PRGs	above	no	yes
Beryllium	7440-41-7	3.30E+00	1.00E+01	PRGs	below	no	no
Cadmium	7440-43-9	1.16E+01	4.00E+00	PRGs	above	yes	yes
Calcium	7440-70-2	1.33E+05	No ESV	No Source	no screening	no	yes
Chromium	7440-47-3	1.28E+02	4.00E-01	PRGs	above	no	yes
Cobalt	7440-48-4	7.23E+01	2.00E+01	PRGs	above	no	yes
Copper	7440-50-8	1.99E+02	6.00E+01	PRGs	above	no	yes
Cyanide	57-12-5	2.40E+00	1.33E+00	EDQL EPA Region 5 (1998)	above	no	yes
Iron	7439-89-6	1.98E+05	2.00E+02	NOEC	above	no	yes
Lead	7439-92-1	6.02E+02	4.05E+01	PRGs	above	yes	yes
Magnesium	7439-95-4	2.31E+04	No ESV	No Source	no screening	no	yes
Manganese	7439-96-5	4.70E+03	1.00E+02	LOEC	above	no	yes
Mercury	7487-94-6	3.70E-01	5.10E-04	PRGs	above	yes	yes
Nickel	7440-02-0	1.60E+02	3.00E+01	PRGs	above	no	yes
Potassium	7440-09-7	1.16E+04	No ESV	No Source	no screening	no	yes
Silver	7440-22-4	2.10E-01	2.00E+00	PRGs	below	no	no
Sodium	7440-23-5	1.63E+03	No ESV	No Source	no screening	no	yes
Thallium	6533-73-9	4.60E+00	1.00E+00	PRGs	above	no	yes
Vanadium	7440-62-2	1.79E+02	2.00E+00	PRGs	above	no	yes
Zinc	7440-66-6	8.81E+02	8.50E+00	PRGs	above	yes	yes
Organics-Semivolatile							
2-Methylnaphthalene	91-57-6	1.70E-01	3.24E+00	EDQL EPA Region 5 (1998)	below	no	no
Acenaphthene	83-32-9	6.90E-02	2.00E+01	PRGs	below	no	no
Anthracene	120-12-7	1.60E-01	1.48E+03	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(a)anthracene	56-55-3	6.40E-01	5.21E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(a)pyrene	50-32-8	8.40E-01	1.52E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(b)fluoranthene	205-99-2	1.10E+00	5.98E+01	EDQL EPA Region 5 (1998)	below	yes	yes

Appendix Table S-9. CB-14, CB-17, and CA-15 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Benzo(g,h,i)perylene	191-24-2	6.10E-01	1.19E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(k)fluoranthene	207-08-9	3.00E-01	1.48E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Bis(2-ethylhexyl)phthalate	117-81-7	1.40E-01	9.26E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Carbazole	86-74-8	1.10E-01	No ESV	No Source	no screening	no	yes
Chrysene	218-01-9	6.40E-01	4.73E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Di-n-butyl phthalate	84-74-2	7.20E-01	2.00E+02	PRGs	below	yes	yes
Dibenzo(a,h)anthracene	53-70-3	1.80E-01	1.84E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Dibenzofuran	132-64-9	4.50E-02	No ESV	No Source	no screening	yes	yes
Fluoranthene	206-44-0	1.40E+00	1.22E+02	EDQL EPA Region 5 (1998)	below	yes	yes
Fluorene	86-73-7	5.70E-02	3.00E+01	PRGs	below	yes	yes
Indeno(1,2,3-cd)pyrene	193-39-5	6.40E-01	1.09E+02	EDQL EPA Region 5 (1998)	below	No Kow	no
Naphthalene	91-20-3	1.10E-01	1.00E+01	No Soil, only Solution, LOEC	below	no	no
Phenanthrene	85-01-8	6.70E-01	4.57E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Pyrene	129-00-0	1.00E+00	7.85E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Organics-Volatile							
1,2-Dichloroethene	549-59-0	3.10E-03	7.84E-01	EDQL EPA Region 5 (1998)	below	no	no
Methylene chloride	75-09-2	2.10E-03	No ESV	No Source	no screening	no	yes
Toluene	108-88-3	1.70E-03	2.00E+02	PRGs	below	no	no
Organics-Pesticide/PCB							
4,4'-DDE	72-55-9	2.00E-01	5.96E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Endrin aldehyde	7421-93-4	3.00E-01	1.05E-02	EDQL EPA Region 5 (1998)	above	no	yes
Endrin ketone	53494-70-5	4.10E-03	No ESV	NA	no screening	No Kow	yes
Methoxychlor	72-43-5	3.70E-03	1.99E-02	EDQL EPA Region 5 (1998)	below	yes	yes
PCB-1254	11097-69-1	4.70E+00	No ESV	No Source	no screening	yes	yes
alpha-Chlordane	5103-71-9	4.90E-03	2.24E-01	EDQL EPA Region 5 (1998)	below	yes	yes
beta-BHC	319-85-7	2.80E-03	3.98E-03	EDQL EPA Region 5 (1998)	below	no	no
gamma-Chlordane	5103-74-2	1.30E-01	2.24E-01	EDQL EPA Region 5 (1998)	below	yes	yes

Appendix Table S-9. CB-14, CB-17, and CA-15 ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Explosives							
2,4,6-Trinitrotoluene	118-96-7	4.50E+00	No ESV	No Source	no screening	no	yes
2,4-Dinitrotoluene	121-14-2	5.30E-01	1.28E+00	EDQL EPA Region 5 (1998)	below	no	no
4-Amino-2,6-dinitrotoluene	19406-51-0	6.20E-01	No ESV	NA	no screening	No Kow	yes
HMX	2691-41-0	2.70E+00	No ESV	NA	no screening	No Kow	yes
Nitrocellulose	9004-70-0	9.00E+01	No ESV	No Source	no screening	No Kow	yes
RDX	121-82-4	3.40E+01	No ESV	NA	no screening	no	yes

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)
EU = Exposure Unit

Appendix Table S-10. Perimeter Area ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Aluminum	7429-90-5	2.13E+04	6.00E+02	LOEC	above	no	yes
Arsenic	7440-38-2	2.46E+01	9.90E+00	PRGs	above	no	yes
Barium	7440-39-3	1.44E+02	2.83E+02	PRGs	below	no	no
Cadmium	7440-43-9	3.20E-01	4.00E+00	PRGs	below	yes	yes
Calcium	7440-70-2	3.39E+04	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	2.52E+01	4.00E-01	PRGs	above	no	yes
Chromium, hexavalent	18540-29-9	1.50E+00	No ESV	NA	no screening value	No BAF	yes
Cobalt	7440-48-4	2.05E+01	2.00E+01	PRGs	above	no	yes
Copper	7440-50-8	1.96E+01	6.00E+01	PRGs	below	no	no
Cyanide	57-12-5	1.70E+00	1.33E+00	EDQL EPA Region 5 (1998)	above	no	yes
Iron	7439-89-6	3.34E+04	2.00E+02	NOEC	above	no	yes
Lead	7439-92-1	3.45E+01	4.05E+01	PRGs	below	yes	yes
Magnesium	7439-95-4	3.16E+03	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	2.34E+03	1.00E+02	LOEC	above	no	yes
Mercury	7487-94-6	9.30E-02	5.10E-04	PRGs	above	yes	yes
Nickel	7440-02-0	2.28E+01	3.00E+01	PRGs	below	no	no
Potassium	7440-09-7	1.45E+03	No ESV	No Source	no screening value	no	yes
Selenium	7782-49-2	1.70E+00	2.10E-01	PRGs	above	no	yes
Thallium	6533-73-9	8.60E-01	1.00E+00	PRGs	below	no	no
Vanadium	7440-62-2	4.63E+01	2.00E+00	PRGs	above	no	yes
Zinc	7440-66-6	7.83E+01	8.50E+00	PRGs	above	yes	yes
Organics-Semivolatile							
Benzo(b)fluoranthene	205-99-2	4.20E-02	5.98E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Fluoranthene	206-44-0	5.70E-02	1.22E+02	EDQL EPA Region 5 (1998)	below	yes	yes

Appendix Table S-10. Perimeter Area ESV Pre-Screening Table for Surface Soil at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Soil Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Organics-Volatile							
1,2-Dichloroethene	549-59-0	4.10E-03	7.84E-01	EDQL EPA Region 5 (1998)	below	no	no
Trichloroethene	79-01-6	6.60E-03	1.00E+02	No Soil, only Solution	below	no	no

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)
EU = Exposure Unit

Appendix Table S-11. Load Line 1 Outlets A and B Channel ESV Pre-Screening Table for Sediment at Ravenna

Analytes that are SRCs	CAS Registry Number	Sediment Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Aluminum	7429-90-5	1.57E+04	No ESV	No Source	no screening value	no	yes
Antimony	7440-36-0	7.40E+00	No ESV	No Source	no screening value	no	yes
Arsenic	7440-38-2	2.87E+01	9.79E+00	MacDonald et al.	above	no	yes
Barium	7440-39-3	1.53E+02	No ESV	No Source	no screening value	no	yes
Beryllium	7440-41-7	1.10E+00	No ESV	No Source	no screening value	no	yes
Cadmium	7440-43-9	1.50E+01	9.90E-01	MacDonald et al.	above	yes	yes
Calcium	7440-70-2	1.14E+04	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	1.54E+02	4.34E+01	MacDonald et al.	above	no	yes
Chromium, hexavalent	18540-29-9	5.40E+00	No ESV	No Source	no screening value	no	yes
Cobalt	7440-48-4	1.75E+01	5.00E+01	EDQL EPA Region 5 (1998)	below	no	no
Copper	7440-50-8	4.34E+02	3.16E+01	MacDonald et al.	above	no	yes
Iron	7439-89-6	4.63E+04	No ESV	No Source	no screening value	no	yes
Lead	7439-92-1	1.14E+03	3.58E+01	MacDonald et al.	above	yes	yes
Magnesium	7439-95-4	1.59E+04	No ESV	No Source	no screening value	no	yes
Mercury	7487-94-6	5.40E-01	1.80E-01	MacDonald et al.	above	yes	yes
Nickel	7440-02-0	1.04E+02	2.27E+01	MacDonald et al.	above	no	yes
Selenium	7782-49-2	3.80E+00	No ESV	No Source	no screening value	no	yes
Sodium	7440-23-5	5.40E+02	No ESV	No Source	no screening value	no	yes
Thallium	6533-73-9	1.10E+00	No ESV	No Source	no screening value	no	yes
Vanadium	7440-62-2	3.39E+01	No ESV	No Source	no screening value	no	yes
Zinc	7440-66-6	2.61E+03	1.21E+02	MacDonald et al.	above	yes	yes
Organics-Pesticide/PCB							
Endrin	72-20-8	5.40E-02	2.22E-03	MacDonald et al.	above	yes	yes
PCB-1254	11097-69-1	6.10E-01	No ESV	No Source	no screening value	yes	yes
gamma-Chlordane	5103-74-2	3.20E-02	3.24E-03	MacDonald et al.	above	yes	yes
Organics-Semivolatile							
Acenaphthene	83-32-9	7.00E-01	6.71E-03	EDQL EPA Region 5 (1998)	above	no	yes
Anthracene	120-12-7	2.20E+00	5.72E-02	MacDonald et al.	above	yes	yes
Benzo(a)anthracene	56-55-3	9.20E+00	1.08E-01	MacDonald et al.	above	yes	yes
Benzo(a)pyrene	50-32-8	9.50E+00	1.50E-01	MacDonald et al.	above	yes	yes
Benzo(b)fluoranthene	205-99-2	1.20E+01	1.04E+01	EDQL EPA Region 5 (1998)	above	yes	yes
Benzo(g,h,i)perylene	191-24-2	5.50E+00	1.70E-01	EDQL EPA Region 5 (1998)	above	yes	yes
Benzo(k)fluoranthene	207-08-9	5.40E+00	2.40E-01	EDQL EPA Region 5 (1998)	above	yes	yes

Appendix Table S-11. Load Line 1 Outlets A and B Channel ESV Pre-Screening Table for Sediment at Ravenna (continued)

Analytes that are SRCs	CAS Registry Number	Sediment Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Carbazole	86-74-8	1.60E+00	No ESV	No Source	no screening value	no	yes
Chrysene	218-01-9	9.40E+00	1.66E-01	MacDonald et al.	above	yes	yes
Di-n-butylphthalate	84-74-2	7.10E-01	1.11E-01	EDQL EPA Region 5 (1998)	above	yes	yes
Dibenzo(a,h)anthracene	53-70-3	1.70E+00	3.30E-02	MacDonald et al.	above	yes	yes
Dibenzofuran	132-64-9	4.10E-01	1.52E+00	EDQL EPA Region 5 (1998)	below	yes	yes
Fluoranthene	206-44-0	2.50E+01	4.23E-01	MacDonald et al.	above	yes	yes
Fluorene	86-73-7	1.10E+00	7.74E-02	MacDonald et al.	above	yes	yes
Indeno(1,2,3-cd)pyrene	193-39-5	6.70E+00	2.00E-01	EDQL EPA Region 5 (1998)	above	No Kow	yes
Naphthalene	91-20-3	3.90E-01	1.76E-01	MacDonald et al.	above	no	yes
Phenanthrene	85-01-8	1.20E+01	2.04E-01	MacDonald et al.	above	yes	yes
Pyrene	129-00-0	1.50E+01	1.95E-01	MacDonald et al.	above	yes	yes
Organics-Volatile							
1,2-Dichloroethene	549-59-0	7.60E-03	No ESV	No Source	no screening value	no	yes
Toluene	108-88-3	2.50E-03	5.25E+01	EDQL EPA Region 5 (1998)	below	no	no
Trichloroethene	79-01-6	1.20E-02	1.80E-01	EDQL EPA Region 5 (1998)	below	no	no
Explosives							
1,3,5-Trinitrobenzene	99-35-4	1.80E-01	1.21E-04	EDQL EPA Region 5 (1998)	above	no	yes
2,4,6-Trinitrotoluene	118-96-7	5.50E-01	No ESV	No Source	no screening value	no	yes
2,4-Dinitrotoluene	121-14-2	2.00E+00	7.51E-02	EDQL EPA Region 5 (1998)	above	no	yes
2-Amino-4,6-Dinitrotoluene	35572-78-2	7.10E-01	No ESV	No Source	no screening value	No Kow	yes
2-Nitrotoluene	88-72-2	1.90E-01	No ESV	No Source	no screening value	no	yes
4-Amino-2,6-Dinitrotoluene	19406-51-0	8.10E-01	No ESV	No Source	no screening value	No Kow	yes
HMX	2691-41-0	5.70E-01	No ESV	No Source	no screening value	No Kow	yes
Nitrocellulose	9004-70-0	3.33E+02	No ESV	No Source	no screening value	No Kow	yes

SRCs = Site Related Chemicals

Max = Maximum Exposure

ESV = Preferred Ecological Screening Value

Yes = Max > preferred ecological screening value or no ecological screening value

No = Max < preferred ecological screening value

NA = Not available

PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV).

For metals, is the BAF>2 and for organics is the Kow > 4

EU = Exposure Unit

Appendix Table S-12. Load Line 1 Outlet C Channel and Charlie's Pond ESV Pre-Screening Table for Sediment at Ravenna

Analytes that are SRCs	CAS Registry Number	Sediment Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Antimony	7440-36-0	1.20E+00	No ESV	No Source	no screening value	no	yes
Arsenic	7440-38-2	5.05E+01	9.79E+00	MacDonald et al.	above	no	yes
Barium	7440-39-3	1.51E+02	No ESV	No Source	no screening value	no	yes
Beryllium	7440-41-7	9.40E-01	No ESV	No Source	no screening value	no	yes
Cadmium	7440-43-9	1.40E+00	9.90E-01	MacDonald et al.	above	yes	yes
Calcium	7440-70-2	8.45E+03	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	2.13E+01	4.34E+01	MacDonald et al.	below	no	no
Cobalt	7440-48-4	1.10E+01	5.00E+01	EDQL EPA Region 5 (1998)	below	no	no
Iron	7439-89-6	2.46E+04	No ESV	No Source	no screening value	no	yes
Lead	7439-92-1	5.57E+01	3.58E+01	MacDonald et al.	above	yes	yes
Magnesium	7439-95-4	2.33E+03	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	2.35E+03	No ESV	No Source	no screening value	no	yes
Mercury	7439-97-6	8.80E-02	1.80E-01	MacDonald et al.	below	yes	yes
Nickel	7440-02-0	2.84E+01	2.27E+01	MacDonald et al.	above	no	yes
Potassium	7440-09-7	1.50E+03	No ESV	No Source	no screening value	no	yes
Selenium	7782-49-2	3.60E+00	No ESV	No Source	no screening value	no	yes
Sodium	7440-23-5	8.43E+01	No ESV	No Source	no screening value	no	yes
Organics-Pesticide/PCB							
4,4'-DDE	72-55-9	2.20E-02	3.16E-03	MacDonald et al.	above	yes	yes
PCB-1254	11097-69-1	8.70E-01	No ESV	No Source	no screening value	yes	yes
Organics-Semivolatile							
Benzo(a)anthracene	56-55-3	7.70E-02	1.08E-01	MacDonald et al.	below	yes	yes
Benzo(a)pyrene	50-32-8	8.40E-02	1.50E-01	MacDonald et al.	below	yes	yes
Benzo(b)fluoranthene	205-99-2	1.80E-01	1.04E+01	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(g,h,i)perylene	191-24-2	5.80E-02	1.70E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Benzo(k)fluoranthene	207-08-9	5.40E-02	2.40E-01	EDQL EPA Region 5 (1998)	below	yes	yes
Chrysene	218-01-9	1.30E-01	1.66E-01	MacDonald et al.	below	yes	yes
Fluoranthene	206-44-0	1.40E-01	4.23E-01	MacDonald et al.	below	yes	yes
Indeno(1,2,3-cd)pyrene	193-39-5	7.60E-02	2.00E-01	EDQL EPA Region 5 (1998)	below	No Kow	no
Phenanthrene	85-01-8	5.90E-02	2.04E-01	MacDonald et al.	below	yes	yes
Pyrene	129-00-0	1.50E-01	1.95E-01	MacDonald et al.	below	yes	yes

Appendix Table S-12. Load Line 1 Outlet C Channel and Charlie's Pond ESV Pre-Screening Table for Sediment at Ravenna (continued)

Analytes that are SRCs	CAS Registry Number	Sediment Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Organics-Volatile							
1,2-Dichloroethene	549-59-0	1.00E-02	No ESV	No Source	no screening value	no	yes
Acetone	67-64-1	9.60E-03	4.53E-01	EDQL EPA Region 5 (1998)	below	no	no
Explosives							
2,4,6-Trinitrotoluene	118-96-7	5.40E-01	No ESV	No Source	no screening value	no	yes
2,6-Dinitrotoluene	606-20-2	1.40E-01	2.06E-02	EDQL EPA Region 5 (1998)	above	no	yes
2-Amino-4,6-Dinitrotoluene	35572-78-2	4.40E-01	No ESV	No Source	no screening value	No Kow	yes
4-Amino-2,6-Dinitrotoluene	19406-51-0	4.50E-01	No ESV	No Source	no screening value	No Kow	yes

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV).
For metals, is the BAF>2 and for organics is the Kow > 4
EU = Exposure Unit

Appendix Table S-13. Load Line 1 Outlets D/E/F Channel and Criggy's Pond ESV Pre-Screening Table for Sediment at Ravenna

Analytes that are SRCs	CAS Registry Number	Sediment Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Antimony	7440-36-0	1.18E+03	No ESV	No Source	no screening value	no	yes
Arsenic	7440-38-2	2.10E+01	9.79E+00	MacDonald et al.	above	no	yes
Barium	7440-39-3	1.68E+02	No ESV	No Source	no screening value	no	yes
Beryllium	7440-41-7	1.10E+00	No ESV	No Source	no screening value	no	yes
Cadmium	7440-43-9	2.40E+00	9.90E-01	MacDonald et al.	above	yes	yes
Calcium	7440-70-2	6.17E+03	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	1.24E+02	4.34E+01	MacDonald et al.	above	no	yes
Chromium, hexavalent	18540-29-9	1.10E+01	No ESV	NA	no screening value	no	yes
Cobalt	7440-48-4	1.70E+01	5.00E+01	EDQL EPA Region 5 (1998)	below	no	no
Copper	7440-50-8	1.02E+03	3.16E+01	MacDonald et al.	above	no	yes
Iron	7439-89-6	3.22E+04	No ESV	No Source	no screening value	no	yes
Lead	7439-92-1	1.21E+03	3.58E+01	MacDonald et al.	above	yes	yes
Magnesium	7439-95-4	2.35E+03	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	3.38E+03	No ESV	No Source	no screening value	no	yes
Mercury	7439-97-6	4.00E-01	1.80E-01	MacDonald et al.	above	yes	yes
Nickel	7440-02-0	4.34E+01	2.27E+01	MacDonald et al.	above	no	yes
Potassium	7440-09-7	1.12E+03	No ESV	No Source	no screening value	no	yes
Selenium	7782-49-2	2.20E+00	No ESV	No Source	no screening value	no	yes
Sodium	7440-23-5	8.48E+01	No ESV	No Source	no screening value	no	yes
Vanadium	7440-62-2	3.18E+01	No ESV	No Source	no screening value	no	yes
Zinc	7440-66-6	8.05E+02	1.21E+02	MacDonald et al.	above	yes	yes
Explosives							
2,4-Dinitrotoluene	121-14-2	7.00E-02	7.51E-02	EDQL EPA Region 5 (1998)	below	no	no
Nitrobenzene	98-95-3	1.40E-01	4.88E-01	EDQL EPA Region 5 (1998)	below	no	no

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV).
For metals, is the BAF>2 and for organics is the Kow > 4
EU = Exposure Unit

AppendixTable S-14. Load Line 1 North Area Channel ESV Pre-Screening Table for Sediment at Ravenna

Analytes that are SRCs	CAS Registry Number	Sediment Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	Analytes remaining after the EU specific ESV and PBT screen?
Metals							
Barium	7440-39-3	1.33E+02	No ESV	No Source	no screening value	no	yes
Beryllium	7440-41-7	8.40E-01	No ESV	No Source	no screening value	no	yes
Cadmium	7440-43-9	4.40E-01	9.90E-01	MacDonald et al.	below	yes	yes
Calcium	7440-70-2	2.64E+03	No ESV	No Source	no screening value	no	yes
Cobalt	7440-48-4	1.01E+01	5.00E+01	EDQL EPA Region 5 (1998)	below	no	no
Iron	7439-89-6	1.98E+04	No ESV	No Source	no screening value	no	yes
Lead	7439-92-1	2.77E+01	3.58E+01	MacDonald et al.	below	yes	yes
Magnesium	7439-95-4	2.09E+03	No ESV	No Source	no screening value	no	yes
Mercury	7439-97-6	9.00E-02	1.80E-01	MacDonald et al.	below	yes	yes
Nickel	7440-02-0	2.48E+01	2.27E+01	MacDonald et al.	above	no	yes
Potassium	7440-09-7	1.20E+03	No ESV	No Source	no screening value	no	yes

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV).
For metals, is the BAF>2 and for organics is the Kow > 4
EU = Exposure Unit

Appendix Table S-15. Load Line 1 Off-AOC ESV Pre-Screening Table for Sediment at Ravenna

Analytes that are SRCs	CAS Registry Number	Sediment Maximum Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	Is Maximum above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?	remaining after the EU specific ESV and PBT screen?
Metals							
Arsenic	7440-38-2	3.79E+01	9.79E+00	MacDonald et al.	above	no	yes
Beryllium	7440-41-7	7.00E-01	No ESV	No Source	no screening value	no	yes
Cadmium	7440-43-9	7.20E-01	9.90E-01	MacDonald et al.	below	yes	yes
Calcium	7440-70-2	8.21E+03	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	3.34E+01	4.34E+01	MacDonald et al.	below	no	no
Cobalt	7440-48-4	1.56E+01	5.00E+01	EDQL EPA Region 5 (1998)	below	no	no
Copper	7440-50-8	2.27E+02	3.16E+01	MacDonald et al.	above	no	yes
Iron	7439-89-6	8.76E+04	No ESV	No Source	no screening value	no	yes
Magnesium	7439-95-4	2.66E+03	No ESV	No Source	no screening value	no	yes
Mercury	7439-97-6	8.20E-02	1.80E-01	MacDonald et al.	below	yes	yes
Nickel	7440-02-0	5.30E+01	2.27E+01	MacDonald et al.	above	no	yes
Selenium	7782-49-2	2.20E+00	No ESV	No Source	no screening value	no	yes
Vanadium	7440-62-2	2.67E+01	No ESV	No Source	no screening value	no	yes
Organics-Volatile							
2-Butanone	78-93-3	9.30E-03	1.37E-01	EDQL EPA Region 5 (1998)	below	no	no
Acetone	67-64-1	3.50E-02	4.53E-01	EDQL EPA Region 5 (1998)	below	no	no
Explosives							
1,3-Dinitrobenzene	99-65-0	5.10E-02	9.24E-04	EDQL EPA Region 5 (1998)	above	no	yes
2,4-Dinitrotoluene	121-14-2	4.80E-02	7.51E-02	EDQL EPA Region 5 (1998)	below	no	no
4-Amino-2,6-Dinitrotoluene	19406-51-0	1.00E-01	No ESV	No Source	no screening value	No Kow	yes
Nitrobenzene	98-95-3	1.10E-01	4.88E-01	EDQL EPA Region 5 (1998)	below	no	no
Nitrocellulose	9004-70-0	5.70E+00	No ESV	No Source	no screening value	No Kow	yes
Nitroguanidine	556-88-7	7.60E-02	No ESV	No Source	no screening value	No Kow	yes
RDX	121-82-4	1.80E-01	No ESV	No Source	no screening value	no	yes

SRCs = Site Related Chemicals
Max = Maximum Exposure
ESV = Preferred Ecological Screening Value
Yes = Max > preferred ecological screening value or no ecological screening value
No = Max < preferred ecological screening value
NA = Not available
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV).
For metals, is the BAF>2 and for organics is the Kow > 4
EU = Exposure Unit

Appendix Table S-16. Outlet C Channel and Charlie's Pond ESV Pre-Screening Table for Surface Water at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Water Maximum Concentrations (µg/L)	Preferred Ecological Screening Value (µg/L)	Reference	Is RME above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?[a]	Analytes remaining after the EU specific ESV and PBT screen?[b]
Metals							
Arsenic	7440-38-2	3.10E+01	3.40E+02	Ohio Administrative Code	below	no	no
Barium	7440-39-3	4.90E+01	2.00E+03	Ohio Administrative Code	below	no	no
Calcium	7440-70-2	1.39E+04	No ESV	No Source	no screening value	no	yes
Chromium	7440-47-3	2.40E+00	1.80E+03	Ohio Administrative Code	below	no	no
Iron	7439-89-6	1.04E+04	1.00E+03	NAWQC (Suter & Tsao 1996)	above	no	yes
Lead	7439-92-1	3.10E+00	1.20E+02	Ohio Administrative Code	below	yes	yes
Magnesium	7439-95-4	3.60E+03	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	5.10E+02	1.60E+03	Ohio Administrative Code	below	no	no
Nickel	7440-02-0	4.20E+00	4.70E+02	Ohio Administrative Code	below	no	no
Potassium	7440-09-7	3.70E+03	No ESV	No Source	no screening value	no	yes
Sodium	7440-23-5	2.60E+03	No ESV	No Source	no screening value	no	yes
Vanadium	7440-62-2	2.60E+00	2.00E+02	Ohio Administrative Code	below	no	no
Explosives							
3-Nitrotoluene	99-08-1	1.70E-01	No ESV	No Source	no screening value	no	yes

SRCs = Site Related Chemicals

Max = Maximum Exposure

ESV = Preferred Ecological Screening Value

[a] Analyte is "yes" a PBT compound if bioaccumulation factor (BAF) is $\geq$ 2 for inorganics.

[b] Yes = Max > preferred ecological screening value or no ecological screening value, or analyte is a PBT compound

[b] No = Max < preferred ecological screening value and analyte is not a PBT compound

NA = Not available

PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)

EU = Exposure Unit

Appendix Table S-17. Outlets D/E/F Channel and Criggy's Pond ESV Pre-Screening Table for Surface Water at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Water Maximum Concentrations (µg/L)	Preferred Ecological Screening Value (µg/L)	Reference	Is Max above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?[a]	Analytes remaining after the EU specific ESV and PBT screen?[b]
Metals							
Arsenic	7440-38-2	5.10E+00	3.40E+02	Ohio Administrative Code	below	no	no
Calcium	7440-70-2	1.74E+04	No ESV	No Source	no screening value	no	yes
Iron	7439-89-6	3.20E+02	1.00E+03	NAWQC (Suter & Tsao 1996)	below	no	no
Magnesium	7439-95-4	4.60E+03	No ESV	No Source	no screening value	no	yes
Potassium	7440-09-7	2.50E+03	No ESV	No Source	no screening value	no	yes
Sodium	7440-23-5	2.70E+03	No ESV	No Source	no screening value	no	yes

SRCs = Site Related Chemicals

Max = Maximum Exposure

ESV = Preferred Ecological Screening Value

[a] Analyte is "yes" a PBT compound if bioaccumulation factor (BAF) is > 2 for inorganics.

[b]Yes = Max > preferred ecological screening value or no ecological screening value, or analyte is a PBT compound

[b]No = Max < preferred ecological screening value and analyte is not a PBT compound

NA = Not available

PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)

EU = Exposure Unit

Appendix Table S-18. Off-AOC Channel ESV Pre-Screening Table for Surface Water at Ravenna

Analytes that are SRCs	CAS Registry Number	Surface Water Maximum Concentrations (µg/L)	Preferred Ecological Screening Value (µg/L)	Reference	Is RME above or below the Preferred Ecological Screening Value?	Is analyte a PBT compound?a	Analytes remaining after the EU specific ESV and PBT screen?b
Metals							
Arsenic	7440-38-2	1.10E+01	3.40E+02	Ohio Administrative Code	below	no	no
Barium	7440-39-3	5.80E+01	2.00E+03	Ohio Administrative Code	below	no	no
Calcium	7440-70-2	9.09E+04	No ESV	No Source	no screening value	no	yes
Cobalt	7440-48-4	4.60E+00	2.20E+02	Ohio Administrative Code	below	no	no
Iron	7439-89-6	4.90E+03	1.00E+03	NAWQC (Suter & Tsao 1996)	above	no	yes
Lead	7439-92-1	2.50E+00	1.20E+02	Ohio Administrative Code	below	yes	yes
Magnesium	7439-95-4	2.12E+04	No ESV	No Source	no screening value	no	yes
Manganese	7439-96-5	3.30E+03	1.60E+03	Ohio Administrative Code	above	no	yes
Nickel	7440-02-0	9.60E+00	4.70E+02	Ohio Administrative Code	below	no	no
Potassium	7440-09-7	5.00E+03	No ESV	No Source	no screening value	no	yes
Sodium	7440-23-5	6.70E+03	No ESV	No Source	no screening value	no	yes
Vanadium	7440-62-2	2.00E+00	2.00E+02	Ohio Administrative Code	below	no	no
Zinc	7440-66-6	7.10E+01	1.20E+02	Ohio Administrative Code	below	yes	yes
Organics-Semivolatile							
Bis(2-ethylhexyl)phthalate	117-81-7	1.20E+01	1.10E+03	Ohio Administrative Code	below	yes	yes
Explosives							
1,3-Dinitrobenzene	99-65-0	7.00E-02	2.36E+00	EDQL EPA Region 5 (1998)	below	no	no
2,4,6-Trinitrotoluene	118-96-7	1.10E-01	No ESV	No Source	no screening value	no	yes
2,4-Dinitrotoluene	121-14-2	2.70E-01	3.90E+02	Ohio Administrative Code	below	no	no
2,6-Dinitrotoluene	606-20-2	1.10E-01	7.30E+02	Ohio Administrative Code	below	no	no
2-Amino-4,6-Dinitrotoluene	35572-78-2	2.20E-01	No ESV	No Source	no screening value	No Kow	yes
2-Nitrotoluene	88-72-2	2.10E-01	No ESV	No Source	no screening value	no	yes
3-Nitrotoluene	99-08-1	1.40E-01	No ESV	No Source	no screening value	no	yes
4-Amino-2,6-Dinitrotoluene	19406-51-0	2.00E-01	No ESV	No Source	no screening value	No Kow	yes
4-Nitrotoluene	99-99-0	2.70E-01	No ESV	No Source	no screening value	no	yes
RDX	121-82-4	1.60E-01	No ESV	No Source	no screening value	no	yes
Tetryl	479-45-8	1.30E-01	No ESV	No Source	no screening valu	No Kow	yes

SRCs = Site Related Chemicals

Max = Maximum Exposure

ESV = Preferred Ecological Screening Value

[a] Analyte is "yes" a PBT compound if bioaccumulation factor (BAF) is > 2 for inorganics.

[b]Yes = Max > preferred ecological screening value or no ecological screening value, or analyte is a PBT compound

[b]No = Max < preferred ecological screening value and analyte is not a PBT compound

NA = Not available

PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV)

EU = Exposure Unit

Appendix Table S-19. Receptor Parameters for Deer Mouse

Parameter	Definition	Receptor:	Deer Mouse
			(Peromyscus maniculatus)
		Value	Reference / Notes
BW	Body weight (kg)	0.022	Arithmetic mean of adults, both sexes, North America (EPA 1993)
HR	Home range (ha)	0.09	Adult, female, Idaho, desert (EPA 1993)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	0.21	Arithmetic mean of adults, both sexes, Virginia Lab (EPA 1993)
PF	Plant fraction	0.39	Spring, Colorado, short grass prairie, % volume stomach contents (EPA 1993)
AF	Animal fraction	0.59	Spring, Colorado/short grass prairie, % volume stomach contents (EPA 1993)
SF	Soil fraction	0.02	Value for white-footed mouse (Beyer et al. 1994)
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.19	Adult, both sexes, (*P. m. sonoriensis*) lab (EPA 1993)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed to include ingested soil; therefore, PF+AF+SF = 1.0

Appendix Table S-20. Receptor Parameters for White-tailed Deer

Parameter	Definition	Receptor:	White-tailed deer
			(Odocoileus virginianus)
		Value	Reference / Notes
BW	Body weight (kg)	56.5	Sample and Suter (1994)
HR	Home range (ha)	175	Geometric mean of minimum (59) and maximum (520) reported in Sample and Suter (1994)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	0.031	1.74 kg/d (Sample and Suter 1994) converted to g/g-d (=kg/kgBW/d) by dividing by body weight of 56.5 kg
PF	Plant fraction	1	Exclusively herbivorous (Sample and Suter 1994); assumed to be vegetative parts
AF	Animal fraction	0	Not reported in Sample and Suter (1994); assumed to be negligible
SF	Soil fraction	0.02	Sample and Suter (1994)
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.065	3.7 L/d (Sample and Suter 1994) converted to g/g-d (= L/kgBW/d) by dividing by body weight of 56.5 kg

[a] Food ingestion rate (g/g-d) reexpresses as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-21. Receptor Parameters for Short-tailed shrew

Parameter	Definition	Receptor:	Short-tailed shrew
			(Blarina brevicauda)
		Value	Reference / Notes
BW	Body weight (kg)	0.017	Arithmetic mean of means, both sexes, fall and summer, western Pennsylvania (EPA 1993c)
HR	Home range (ha)	0.36	Maximum, adult female, summer, Michigan (EPA 1993c)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	0.56	Arithmetic mean of adults, both sexes, 25oC, Wisconsin (EPA 1993c)
PF	Plant fraction	0.13	June through October, New York (EPA 1993c); assuming vegetative parts and fungi
AF	Animal fraction	0.87	June through October, New York (EPA 1993c); assuming 100% earthworms
SF	Soil fraction	0.13	Talmage and Walton (1993c)
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.223	Adult, both sexes, Illinois, lab (EPA 1993c)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-22. Receptor Parameters for American Robin

Parameter	Definition	Receptor:	American robin
			(Turdus migratorius)
		Value	Reference / Notes
BW	Body weight (kg)	0.08	Adult breeding female, New York (EPA 1993c)
HR	Home range (ha)	0.42	Adult, both sexes, spring, mean, Tennessee (EPA 1993c)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	1.52	Mean, both sexes, free living, Kansas (EPA 1993c)
PF	Plant fraction	0.5	Arithmetic mean, 4 seasons, central U.S., % of stomach contents that is plant material (EPA 1993c); assumed to be plant reproductive tissue
AF	Animal fraction	0.5	Arithmetic mean, 4 seasons, central US, % of stomach contents that is animal material (EPA 1993c); assumed to be earthworm
SF	Soil fraction	0.104	Value for American woodcock (*Scolopax minor*), estimated percent soil in diet, dry weight (Beyer et al. 1994)
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.14	Adult, both sexes, estimated (EPA 1993c)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-23. Receptor Parameters for Red Fox

Parameter	Definition	Receptor:	Red fox
			(Vulpes vulpes)
		Value	Reference / Notes
BW	Body weight (kg)	4.69	Arithmetic average of means, both sexes, spring, Illinois (EPA 1993)
HR	Home range (ha)	596	Adult, female, spring, minimum, Minnesota (EPA 1993)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	0.069	Adult, non-breeding, North Dakota (EPA 1993)
PF	Plant fraction	0.046	Illinois farm/woods, spring, % wet weight (EPA 1993); assumed to be reproductive parts
AF	Animal fraction	0.954	Illinois farm/woods, spring, % wet weight, including unspecified/other (EPA 1993)
SF	Soil fraction	0.028	Estimated percent soil in diet, dry weight (EPA 1993)
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.085	Arithmetic mean, adult, both sexes (EPA 1993)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-24. Receptor Parameters for Barn Owls

Parameter	Definition	Receptor:	Barn Owl
			(Tyto alba)
		Value	Reference / Notes
BW	Body weight (kg)	0.466	Mean of adult males and females (Sample and Suter 1994)
HR	Home range (ha)	250	Approximate area (Sample and Suter 1994)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	0.13	Mean value (Sample and Suter 1994)
PF	Plant fraction	0	(Sample and Suter 1994)
AF	Animal fraction	1	(Sample and Suter 1994)
SF	Soil fraction	0	Assumed negligible (Sample and Suter 1994)
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.035	(Sample and Suter 1994)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-25. Receptor Parameters for Mink

Parameter	Definition	Receptor:	Mink
			(Mustela vison)
		Value	Reference / Notes
BW	Body weight (kg)	0.85	Average of adult male and female (summer and fall) (Mitchell, 1961 in EPA, 1993c)
HR	Home range (km)	2.24	Foraging distance, mean, adults, both sexes, Sweden/stream (Gerell, 1970 in EPA, 1993c)
TUF	Temporal use factor	1	Will be 1 unless specific value exists
IRF	Food ingestion rate (g/g-d=kg/kgBW/d)a	0.14	Michigan (farm raised); (Bleavins and Aulerich, 1981 in EPA, 1993c)
PF	Plant fraction	0.02	Michigan/stream, river (%wet wt; stomach contents) (Alexander, 1977 in EPA, 1993c)
AF	Animal fraction	0.98	Michigan/stream, river (%wet wt; stomach contents) (Alexander, 1977 in EPA, 1993c)
SF	Soil fraction	0	To be determined
IRW	Water ingestion rate (g/g-d=L/kgBW/d)	0.11	Estimated in EPA (1993c)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-26. Receptor Parameters for Great Blue Heron

Parameter	Definition	Receptor: / Value	Great blue heron (*Ardea herodias*) / Reference / Notes
BW	Body weight (kg)	2.39	Arithmetic mean, adult, both sexes, location not stated (EPA 1993)
HR	Home range (km)	3.1	Foraging distance, mean, adults, both sexes, South Dakota, stream (EPA 1993)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	0.18	EPA (1993)
PF	Plant fraction	0	None listed as dietary intake in EPA (1993)
AF	Animal fraction	1	98% Aquatic vertebrates, lower Michigan, river (EPA 1993)
SF	Soil fraction	0	Not reported in EPA (1993); assumed to be negligible
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.045	Estimated (EPA 1993)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-27. Receptor Parameters for Mallard Ducks

Parameter	Definition	Receptor:	Mallard duck
			(Anas platyrhynchos)
		Value	Reference / Notes
BW	Body weight (kg)	1.134	Arithmetic mean adult males and females, throughout North America (EPA 1993)
HR	Home range (ha)	111	Adult females, spring, laying, North Dakota prairie potholes (EPA 1993)
TUF	Temporal use factor	1	Will be 1 unless a specific value exists for a receptor
IR_F	Food ingestion rate (g/g-d = kg/kgBW/d)[a]	0.09	Estimated by dividing free-living metabolic rate (203 kcal/kgBW/d) by the product of the energy composition of seeds (4.26 kcal/g wet wt.) and leaves/stems 0.64 kcal/g wet wt) times their assimilation efficiencies (0.59 and 0.23, respectively) per Table 4
PF	Plant fraction	1	EPA (1993); assumed to be vegetative parts
AF	Animal fraction	0	Less than 2% (assumed negligible) in adults (excluding non breeding females) (EPA 1993)
SF	Soil fraction	0	Less than 2%, therefore assumed negligible (EPA 1993)
IR_w	Water ingestion rate (g/g-d = L/kgBW/d)	0.057	Adult, arithmetic mean, both sexes (EPA 1993)

[a] Food ingestion rate (g/g-d) reexpressed as kg/kgBW/d is assumed not to include ingested soil; therefore, PF+AF = 1.0

Appendix Table S-28. Soil-to-Plant Transfer Factors for Ecological Contstituents of Potential Concern

Ecological	Soil-to-plant (SP_v)				Soil-to-plant (SP_r)			
constituent of	C_t / C_s			SP_v	C_t / C_s			SP_r
potential concern	(kg_{soil} / kg_{tissue})	Reference	CF	C_t / C_s x CF	(kg_{soil} / kg_{tissue})	Reference	CF	C_t / C_s x CF
Inorganics								
Alkalinity	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Aluminum	4.00E-03	Baes et al. (1984)	0.2	8.00E-04	6.50E-04	Baes et al. (1984)	0.2	1.30E-04
Ammonia	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Antimony	2.00E-01	Baes et al. (1984)	0.2	4.00E-02	3.00E-02	Baes et al. (1984)	0.2	6.00E-03
Arsenic	4.00E-02	Baes et al. (1984)	0.2	8.00E-03	6.00E-03	Baes et al. (1984)	0.2	1.20E-03
Barium	1.50E-01	Baes et al. (1984)	0.2	3.00E-02	1.50E-02	Baes et al. (1984)	0.2	3.00E-03
Beryllium	1.00E-02	Baes et al. (1984)	0.2	2.00E-03	1.50E-03	Baes et al. (1984)	0.2	3.00E-04
Boron	4.00E+00	Baes et al. (1984)	0.2	8.00E-01	2.00E+00	Baes et al. (1984)	0.2	4.00E-01
Cadmium	5.50E-01	Baes et al. (1984)	0.2	1.10E-01	1.50E-01	Baes et al. (1984)	0.2	3.00E-02
Calcium	3.50E+00	Baes et al. (1984)	0.2	7.00E-01	3.50E-01	Baes et al. (1984)	0.2	7.00E-02
Chloride	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Chromium	7.50E-03	Baes et al. (1984)	0.2	1.50E-03	4.50E-03	Baes et al. (1984)	0.2	9.00E-04
Cobalt	2.00E-02	Baes et al. (1984)	0.2	4.00E-03	7.00E-03	Baes et al. (1984)	0.2	1.40E-03
Copper	4.00E-01	Baes et al. (1984)	0.2	8.00E-02	2.50E-01	Baes et al. (1984)	0.2	5.00E-02
Cyanide	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Fluoride	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Iron	4.00E-03	Baes et al. (1984)	0.2	8.00E-04	1.00E-03	Baes et al. (1984)	0.2	2.00E-04
Lead	4.50E-02	Baes et al. (1984)	0.2	9.00E-03	9.00E-03	Baes et al. (1984)	0.2	1.80E-03
Magnesium	1.00E+00	Baes et al. (1984)	0.2	2.00E-01	5.50E-01	Baes et al. (1984)	0.2	1.10E-01
Manganese	2.50E-01	Baes et al. (1984)	0.2	5.00E-02	5.00E-02	Baes et al. (1984)	0.2	1.00E-02
Mercury	9.00E-01	Baes et al. (1984)	0.2	1.80E-01	2.00E-01	Baes et al. (1984)	0.2	4.00E-02
Molybdenum	2.50E-01	Baes et al. (1984)	0.2	5.00E-02	6.00E-02	Baes et al. (1984)	0.2	1.20E-02
Nickel	6.00E-02	Baes et al. (1984)	0.2	1.20E-02	6.00E-02	Baes et al. (1984)	0.2	1.20E-02
Nitrate	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Phosphorus	3.50E+00	Baes et al. (1984)	0.2	7.00E-01	3.50E+00	Baes et al. (1984)	0.2	7.00E-01
Potassium	1.00E+00	Baes et al. (1984)	0.2	2.00E-01	5.50E-01	Baes et al. (1984)	0.2	1.10E-01
Selenium	2.50E-02	Baes et al. (1984)	0.2	5.00E-03	2.50E-02	Baes et al. (1984)	0.2	5.00E-03
Silicon	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Silver	4.00E-01	Baes et al. (1984)	0.2	8.00E-02	1.00E-01	Baes et al. (1984)	0.2	2.00E-02
Sodium	7.50E-02	Baes et al. (1984)	0.2	1.50E-02	5.50E-02	Baes et al. (1984)	0.2	1.10E-02
Thallium	4.00E-03	Baes et al. (1984)	0.2	8.00E-04	4.00E-04	Baes et al. (1984)	0.2	8.00E-05
Vanadium	5.50E-03	Baes et al. (1984)	0.2	1.10E-03	3.00E-03	Baes et al. (1984)	0.2	6.00E-04

Appendix Table S-28. (Continued)

Ecological	Soil-to-plant (SP_v)				Soil-to-plant (SP_r)			
constituent of	C_t / C_s			SP_v	C_t / C_s			SP_r
potential concern	(kg_{soil} / kg_{tissue})	Reference	CF	C_t / C_s x CF	(kg_{soil} / kg_{tissue})	Reference	CF	C_t / C_s x CF
Zinc	1.50E+00	Baes et al. (1984)	0.2	3.00E-01	9.00E-01	Baes et al. (1984)	0.2	1.80E-01

Organics								
Acenaphthene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Acenaphthylene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Acetone	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Aldrin	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Anthracene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Aroclor-1242	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Aroclor-1248	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Aroclor-1254	3.80E-01	HAZWRAP (1994)	1	3.80E-01	3.80E-01	HAZWRAP (1994)	1	3.80E-01
Aroclor-1260	3.80E-01	HAZWRAP (1994)	1	3.80E-01	3.80E-01	HAZWRAP (1994)	1	3.80E-01
Benzene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Benzo(a)anthracene	3.90E-03	HAZWRAP (1994)	1	3.90E-03	3.90E-03	HAZWRAP (1994)	1	3.90E-03
Benzo(a)pyrene	2.60E-03	HAZWRAP (1994)	1	2.60E-03	2.60E-03	HAZWRAP (1994)	1	2.60E-03
Benzo(b)fluoranthene	2.30E-03	HAZWRAP (1994)	1	2.30E-03	2.30E-03	HAZWRAP (1994)	1	2.30E-03
Benzo(g,h,i)perylene	1.20E-03	HAZWRAP (1994)	1	1.20E-03	1.20E-03	HAZWRAP (1994)	1	1.20E-03
Benzo(k)fluoranthene	2.30E-03	HAZWRAP (1994)	1	2.30E-03	2.30E-03	HAZWRAP (1994)	1	2.30E-03
Benzoic acid	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Benzyl alcohol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
delta-BHC	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Bis(2-chloroisopropyl)ether	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Bis(2-ethylhexyl)phthalate	8.70E-03	HAZWRAP (1994)	1	8.70E-03	8.70E-03	HAZWRAP (1994)	1	8.70E-03
Bromomethane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Butylbenzylphthalate	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Carbazole	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Carbon disulfide	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2-Chlorophenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
gamma-BHC (Lindane)	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
alpha-Chlordane	5.10E-03	HAZWRAP (1994)	1	5.10E-03	5.10E-03	HAZWRAP (1994)	1	5.10E-03

Appendix Table S-28. (Continued)

Ecological	**Soil-to-plant (SP_v)**				**Soil-to-plant (SP_r)**			
constituent of	**C_t / C_s**			**SP_v**	**C_t / C_s**			**SP_r**
potential concern	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \; x$ CF	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \; x$ CF
gamma-Chlordane	5.10E-03	HAZWRAP (1994)	1	5.10E-03	5.10E-03	HAZWRAP (1994)	1	5.10E-03
Chlorobenzene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Chloroethane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Chloroform	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Chrysene	3.90E-03	HAZWRAP (1994)	1	3.90E-03	3.90E-03	HAZWRAP (1994)	1	3.90E-03
m,p-cresol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,4-D	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
4,4'-DDD	1.30E-03	HAZWRAP (1994)	1	1.30E-03	1.30E-03	HAZWRAP (1994)	1	1.30E-03
4,4'-DDE	2.00E-03	HAZWRAP (1994)	1	2.00E-03	2.00E-03	HAZWRAP (1994)	1	2.00E-03

4,4'-DDT	7.70E-04	HAZWRAP (1994)	1	7.70E-04	7.70E-04	HAZWRAP (1994)	1	7.70E-04
Dalapon	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Dibenzo(a,h)anthracene	1.40E-03	HAZWRAP (1994)	1	1.40E-03	1.40E-03	HAZWRAP (1994)	1	1.40E-03
Dibenzofuran	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Dicamba	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2-Dichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,3-Dichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2-Dichloroethane	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
1,1-Dichloroethene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2-Dichloroethene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
1,4-Dichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,4-Dimethylphenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Dichloroprop	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Dieldrin	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Diethylphthalate	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Di-n-butylphthalate	7.60E-03	HAZWRAP (1994)	1	7.60E-03	7.60E-03	HAZWRAP (1994)	1	7.60E-03
Di-n-octylphthalate	3.70E-05	HAZWRAP (1994)	1	3.70E-05	3.70E-05	HAZWRAP (1994)	1	3.70E-05
Endosulfan	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Endosulfan sulfate	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Endrin	4.50E-03	HAZWRAP (1994)	1	4.50E-03	4.50E-03	HAZWRAP (1994)	1	4.50E-03
Endrin ketone	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Ethylbenzene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02

Appendix Table S-28. (Continued)

Ecological	**Soil-to-plant (SP_v)**				**Soil-to-plant (SP_r)**			
constituent of	**C_t / C_s**			**SP_v**	**C_t / C_s**			**SP_r**
potential concern	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \; x$ CF	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \; x$ CF
Fluoranthene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Fluorene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Heptachlor	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Heptachlor epoxide	5.90E-03	HAZWRAP (1994)	1	5.90E-03	5.90E-03	HAZWRAP (1994)	1	5.90E-03
2-Hexanone	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Indeno(1,2,3-cd)pyrene	1.20E-03	HAZWRAP (1994)	1	1.20E-03	1.20E-03	HAZWRAP (1994)	1	1.20E-03
MCPP	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Methyl bromide	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Methylene chloride	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Methyl ethyl ketone	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
2-Methylnaphthalene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
4-Chloro-3-methylphenol	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
4-Methyl-2-pentanone	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
2-Methylphenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
4-Methylphenol	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Naphthalene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
4-Nitrophenol	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
N-Nitroso-di-N-propylamine	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00

N-Nitrosodiphenylamine	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Pentachlorophenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Phenanthrene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Phenol	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Pyrene	6.70E-03	HAZWRAP (1994)	1	6.70E-03	6.70E-03	HAZWRAP (1994)	1	6.70E-03
Styrene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Tetrachloroethene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Toluene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
1,1,1-Trichloroethane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,4,5-Trichlorophenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Trichloroethene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Vinyl chloride	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Xylenes	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02

Appendix Table S-28. (Continued)

Ecological	**Soil-to-plant (SP_v)**				**Soil-to-plant (SP_r)**			
constituent of	**C_t / C_s**			**SP_v**	**C_t / C_s**			**SP_r**
potential concern	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \, x$ CF	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \, x$ CF
Dioxins and Furans								
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,6,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,7,8,9-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,4,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,3,4,6,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,2,3,7,8-Pentachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,3,4,7,8-Pentachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Octachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Octachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
TCDDs (total)	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,3,7,8-Tetrachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,2,5-Trimethylhexane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Explosives								
1,2,4-Trichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,3,5-Trinitrobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
1,3-Dinitrobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00

2,4,6-Trinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2,4-Dinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00

Appendix Table S-28. (Continued)

Ecological	**Soil-to-plant (SP_v)**				**Soil-to-plant (SP_r)**			
constituent of	**C_t / C_s**			**SP_v**	**C_t / C_s**			**SP_r**
potential concern	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \; x$ CF	(kg_{soil} / kg_{tissue})	**Reference**	**CF**	$C_t / C_s \; x$ CF
2,6-Dinitrotoluene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
2-Amino-4,6-dinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
4-Amino-2,6-dinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Nitrobenzene	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)	1	2.00E-02
Tetryl	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00

SP = Soil-to-plant transfer (kg_{soil}/kg_{tissue}); v = vegetative parts, r = reproductive parts

C_t = Constituent concentration in tissue (mg/kg_{tissue})

C_s = Constituent concentration in soil (mg/kg_{soil})

CF = Conversion factor, dry weight to wet weight; 0.2 for dry weight values assuming tissue is 80% water (HAZWRAP 1994) and 1 for wet weight values.

Default value (wet weight) is assumed when no published value available.

Appendix Table S-29. Terrestrial Bioaccumulation Factors for Ecological Contstituents of Potential Concern

Ecological constituent of potential concern	Soil-to-animal (BAF_i) C_t / C_s (kg_{soil} / kg_{tissue})	Reference	CF	BAF_i C_t / C_s x CF	Animal-to-animal (BAF_v) BAF_v	Reference
Inorganics						
Aluminum	7.50E-02	HAZWRAP (1994)	1	7.50E-02	7.50E-02	HAZWRAP (1994)
Ammonia	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Antimony	5.00E-02	HAZWRAP (1994)	1	5.00E-02	5.00E-02	HAZWRAP (1994)
Arsenic	6.60E-03	HAZWRAP (1994)	1	6.60E-03	1.00E-01	HAZWRAP (1994)
Barium	7.50E-03	HAZWRAP (1994)	1	7.50E-03	7.50E-03	HAZWRAP (1994)
Beryllium	5.00E-02	HAZWRAP (1994)	1	5.00E-02	5.00E-02	HAZWRAP (1994)
Boron	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Cadmium	1.10E+01	HAZWRAP (1994)	1	1.10E+01	2.80E-02	HAZWRAP (1994)
Calcium	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Chloride	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Chromium	1.60E-01	HAZWRAP (1994)	1	1.60E-01	2.80E-01	HAZWRAP (1994)
Cobalt	1.00E+00	HAZWRAP (1994)	1	1.00E+00	1.00E+00	HAZWRAP (1994)
Copper	1.60E-01	HAZWRAP (1994)	1	1.60E-01	5.00E-01	HAZWRAP (1994)
Cyanide	0.00E+00	HAZWRAP (1994)	1	0.00E+00	0.00E+00	HAZWRAP (1994)
Fluoride	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Iron	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Lead	2.00E+00	default value[a]	1	2.00E+00	1.50E-02	HAZWRAP (1994)
Magnesium	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Manganese	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.00E-02	HAZWRAP (1994)
Mercury	3.40E-01	HAZWRAP (1994)	1	3.40E-01	1.30E+01	HAZWRAP (1994)
Molybdenum	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Nickel	2.30E-01	HAZWRAP (1994)	1	2.30E-01	3.00E-01	HAZWRAP (1994)
Nitrate	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Phosphorus	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Potassium	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Selenium	7.60E-01	HAZWRAP (1994)	1	7.60E-01	7.50E-01	HAZWRAP (1994)
Silicon	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Silver	1.50E-01	HAZWRAP (1994)	1	1.50E-01	1.50E-01	HAZWRAP (1994)
Sodium	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Thallium	1.00E+00	default value	1	1.00E+00	1.00E+00	default value

Appendix Table S-29. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF_i) C_t / C_s (kg_{soil} / kg_{tissue})	Reference	CF	BAF_i C_t / C_s x CF	Animal-to-animal (BAF_v) BAF_v	Reference
Vanadium	1.30E-01	HAZWRAP (1994)	1	1.30E-01	1.30E-01	HAZWRAP (1994)
Zinc	1.80E+00	HAZWRAP (1994)	1	1.80E+00	5.00E+00	HAZWRAP (1994)
Organics						
2,2,5-Trimethylhexane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Acenaphthene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.20E-02	HAZWRAP (1994)
Acenaphthylene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-02	HAZWRAP (1994)
Acetone	5.00E-02	HAZWRAP (1994)	1	5.00E-02	8.70E-07	HAZWRAP (1994)
Aldrin	5.60E-01	HAZWRAP (1994)	1	5.00E-02	2.90E+00	HAZWRAP (1994)
Anthracene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	4.80E-02	HAZWRAP (1994)
Aroclor-1242	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Aroclor-1248	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Aroclor-1254	5.80E+00	HAZWRAP (1994)	1	5.80E+00	2.90E+00	HAZWRAP (1994)
Aroclor-1260	5.80E+00	HAZWRAP (1994)	1	5.80E+00	2.90E+00	HAZWRAP (1994)
Benzene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-04	HAZWRAP (1994)
Benzo(a)anthracene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	7.60E-01	HAZWRAP (1994)
Benzo(a)pyrene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.50E+00	HAZWRAP (1994)
Benzo(b)fluoranthene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E+00	HAZWRAP (1994)
Benzo(g,h,i)perylene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	6.00E+00	HAZWRAP (1994)
Benzo(k)fluoranthene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E+00	HAZWRAP (1994)
Benzoic acid	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Benzyl alcohol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
delta-BHC	2.60E+00	HAZWRAP (1994)	1	2.60E+00	2.90E+00	HAZWRAP (1994)
Bis(2-chloroisopropyl)ether	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Bis(2-ethylhexyl)phthalate	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-01	HAZWRAP (1994)
Bromomethane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Butylbenzylphthalate	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.20E-01	HAZWRAP (1994)
Carbazole	5.00E-02	HAZWRAP (1994)	1	5.00E-02	8.70E-03	HAZWRAP (1994)
Carbon disulfide	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2-Chlorophenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
gamma-BHC (Lindane)	2.00E-02	HAZWRAP (1994)	1	2.00E-02	2.90E+00	HAZWRAP (1994)

Appendix Table S-29. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF_i) C_t / C_s (kg_{soil} / kg_{tissue})	Reference	CF	BAF_i C_t / C_s x CF	Animal-to-animal (BAF_v) BAF_v	Reference
alpha-Chlordane	1.60E+00	HAZWRAP (1994)	1	1.60E+00	2.90E+00	HAZWRAP (1994)
gamma-Chlordane	1.60E+00	HAZWRAP (1994)	1	1.60E+00	2.90E+00	HAZWRAP (1994)
Chlorobenzene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	9.50E-04	HAZWRAP (1994)
Chloroethane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Chloroform	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.50E-04	HAZWRAP (1994)
Chrysene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	7.60E-01	HAZWRAP (1994)
2,4-D	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
4,4'-DDD	3.30E+00	HAZWRAP (1994)	1	3.30E+00	2.90E+00	HAZWRAP (1994)
4,4'-DDE	1.70E+00	HAZWRAP (1994)	1	1.70E+00	2.90E+00	HAZWRAP (1994)
4,4'-DDT	5.70E-01	HAZWRAP (1994)	1	5.70E-01	2.90E+00	HAZWRAP (1994)
Dalapon	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Dicamba	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Dibenzo(a,h)anthracene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	4.80E+00	HAZWRAP (1994)
Dibenzofuran	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-02	HAZWRAP (1994)
1,2-Dichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,3-Dichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2-Dichloroethane	5.00E-02	HAZWRAP (1994)	1	5.00E-02	4.80E-05	HAZWRAP (1994)
1,1-Dichloroethene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2-Dichloroethene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.50E-04	HAZWRAP (1994)
1,4-Dichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,4-Dimethylphenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Dichloroprop	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Dieldrin	5.50E+00	HAZWRAP (1994)	1	5.50E+00	2.90E+00	HAZWRAP (1994)
Diethylphthalate	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.40E-03	HAZWRAP (1994)
Di-n-butylphthalate	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.40E-01	HAZWRAP (1994)
Di-n-octylphthalate	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.40E+03	HAZWRAP (1994)
Endosulfan	5.50E+00	HAZWRAP (1994)	1	5.50E+00	2.90E+00	HAZWRAP (1994)
Endosulfan sulfate	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Endrin	1.90E+00	HAZWRAP (1994)	1	1.90E+00	2.90E+00	HAZWRAP (1994)
Endrin ketone	1.90E+00	HAZWRAP (1994)	1	1.90E+00	2.90E+00	HAZWRAP (1994)

Appendix Table S-29. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF_i) C_t / C_s (kg_{soil} / kg_{tissue})	Reference	CF	BAF_i C_t / C_s x CF	Animal-to-animal (BAF_v) BAF_v	Reference
Ethylbenzene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.40E-03	HAZWRAP (1994)
Fluoranthene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.30E-01	HAZWRAP (1994)
Fluorene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.40E-02	HAZWRAP (1994)
Heptachlor	1.00E+00	HAZWRAP (1994)	1	1.00E+00	2.90E+00	HAZWRAP (1994)
Heptachlor epoxide	1.00E+00	HAZWRAP (1994)	1	1.00E+00	2.90E+00	HAZWRAP (1994)
2-Hexanone	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Indeno(1,2,3-cd)pyrene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	6.00E+00	HAZWRAP (1994)
MCPP	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Methyl bromide	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Methylene chloride	5.00E-02	HAZWRAP (1994)	1	5.00E-02	3.00E-05	HAZWRAP (1994)
Methyl ethyl ketone	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.90E-06	HAZWRAP (1994)
2-Methylnaphthalene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-08	HAZWRAP (1994)
2-Methylphenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
4-Chloro-3-methylphenol	2.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-03	HAZWRAP (1994)
4-Methyl-2-pentanone	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.40E-05	HAZWRAP (1994)
4-Methylphenol	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.20E-04	HAZWRAP (1994)
Naphthalene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	6.00E-03	HAZWRAP (1994)
4-Nitrophenol	2.00E-02	HAZWRAP (1994)	1	5.00E-02	1.20E-04	HAZWRAP (1994)
N-Nitroso-di-N-propylamine	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
N-Nitrosodiphenylamine	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-03	HAZWRAP (1994)
Pentachlorophenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Phenanthrene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	4.80E-02	HAZWRAP (1994)
Phenol	5.00E-02	HAZWRAP (1994)	1	5.00E-02	4.80E-05	HAZWRAP (1994)
Pyrene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	3.00E-01	HAZWRAP (1994)
Styrene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Tetrachloroethene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	3.80E-03	HAZWRAP (1994)
Toluene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	7.60E-04	HAZWRAP (1994)
2,4,5-Trichlorophenol	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,1,1-Trichloroethane	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Trichloroethene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	3.80E-04	HAZWRAP (1994)

Appendix Table S-29. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF_i) C_t / C_s (kg_{soil} / kg_{tissue})	Reference	CF	BAF_i C_t / C_s x CF	Animal-to-animal (BAF_v) BAF_v	Reference
Vinyl chloride	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Xylenes	5.00E-02	HAZWRAP (1994)	1	5.00E-02	2.40E-03	HAZWRAP (1994)
Dioxins and Furans						
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,6,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,7,8,9-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,4,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,3,4,6,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,2,3,7,8-Pentachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,3,4,7,8-Pentachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Octachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Octachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
TCDDs (total)	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,3,7,8-Tetrachlorodibenzofuran	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Explosives						
1,2,4-Trichlorobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,3,5-Trinitrobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
1,3-Dinitrobenzene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,4,6-Trinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,4-Dinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
2,6-Dinitrotoluene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.90E-04	HAZWRAP (1994)

Appendix Table S-29. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF_i) C_t / C_s (kg_{soil} / kg_{tissue})	Reference	CF	BAF_i C_t / C_s x CF	Animal-to-animal (BAF_v) BAF_v	Reference
2-Amino-4,6-dinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
4-Amino-2,6-dinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Nitrobenzene	5.00E-02	HAZWRAP (1994)	1	5.00E-02	1.20E-04	HAZWRAP (1994)

BAF = Bioaccumulation factor; i = invertebrate (kg_{soil}/kg_{tissue}), v = vertebrate (kg_{tissue}/kg_{tissue})

C_t = Constituent concentration in tissue (mg/kg_{tissue})

C_s = Constituent concentration in soil (mg/kg_{soil})

CF = Conversion factor, dry weight to wet weight; 0.2 for dry weight values assuming tissue is 80% water (HAZWRAP 1994) and 1 for wet weight values.

Default value (wet weight) is assumed when no published value available.

[a] Assumes calcium-dependent BAF for lead (Corp and Morgan 1991); default value = 2, assumes calcium concentration in soil > 500 mg/kg and lead concentration > 1 mg/kg.

Appendix Table S-30. Aquatic Bioaccumulation Factors for Ecological Contstituents of Potential Concern

Ecological constituent of potential concern	Sediment-to-animal (BAF_i)		Water-to-animal (BCF)	
	BAF_i	Reference	BCF	Reference
Inorganics				
Alkalinity	1.00E+00	default value	5.00E+02	default value
Aluminum	7.50E-02	HAZWRAP (1994)	1.00E+01	HAZWRAP (1994)
Ammonia	1.00E+00	default value	5.00E+02	default value
Antimony	5.00E-02	HAZWRAP (1994)	1.00E+00	HAZWRAP (1994)
Arsenic	6.60E-03	HAZWRAP (1994)	2.80E+02	HAZWRAP (1994)
Barium	7.50E-03	HAZWRAP (1994)	4.00E+00	HAZWRAP (1994)
Beryllium	5.00E-02	HAZWRAP (1994)	2.00E+00	HAZWRAP (1994)
Boron	1.00E+00	default value	5.00E+02	default value
Cadmium	1.10E+01	HAZWRAP (1994)	5.00E+01	HAZWRAP (1994)
Calcium	1.00E+00	default value	4.00E+01	NRC (1992)
Chloride	1.00E+00	default value	5.00E+02	default value
Chromium	1.60E-01	HAZWRAP (1994)	2.00E+02	HAZWRAP (1994)
Cobalt	1.00E+00	HAZWRAP (1994)	3.00E+02	HAZWRAP (1994)
Copper	1.60E-01	HAZWRAP (1994)	2.10E+02	HAZWRAP (1994)
Cyanide	0.00E+00	HAZWRAP (1994)	0.00E+00	HAZWRAP (1994)
Flouride	1.00E+00	default value	5.00E+02	default value
Iron	1.00E+00	default value	3.00E+02	NRC (1992)
Lead	2.00E+00	default value[a]	3.00E+02	HAZWRAP (1994)
Magnesium	1.00E+00	default value	5.00E+02	default value
Manganese	2.00E-02	HAZWRAP (1994)	4.00E+02	HAZWRAP (1994)
Mercury	3.40E-01	HAZWRAP (1994)	6.30E+04	HAZWRAP (1994)
Molybdenum	1.00E+00	default value	5.00E+02	default value
Nickel	2.30E-01	HAZWRAP (1994)	1.00E+02	HAZWRAP (1994)
Nitrate	1.00E+00	default value	5.00E+02	default value
Phosphorus	1.00E+00	default value	5.00E+02	default value
Potassium	1.00E+00	default value	1.00E+03	NRC (1992)
Selenium	7.60E-01	HAZWRAP (1994)	8.00E+00	HAZWRAP (1994)
Silver	1.50E-01	HAZWRAP (1994)	2.00E+00	HAZWRAP (1994)
Silicon	1.00E+00	default value	5.00E+02	default value
Sodium	1.00E+00	default value	1.00E+02	NRC (1992)
Sulfate	1.00E+00	default value	5.00E+02	default value
Thallium	1.00E+00	default value	5.00E+02	default value
Vanadium	1.30E-01	HAZWRAP (1994)	1.00E-02	HAZWRAP (1994)
Zinc	1.80E+00	HAZWRAP (1994)	1.00E+03	HAZWRAP (1994)
Organics				
Acenaphthene	5.00E-02	HAZWRAP (1994)	3.90E+02	HAZWRAP (1994)
Acenaphthylene	5.00E-02	HAZWRAP (1994)	6.90E+02	HAZWRAP (1994)
Acetone	5.00E-02	HAZWRAP (1994)	2.00E-01	HAZWRAP (1994)
Aldrin	5.60E-01	HAZWRAP (1994)	1.10E+04	HAZWRAP (1994)
Anthracene	5.00E-02	HAZWRAP (1994)	1.40E+03	HAZWRAP (1994)
Aroclor-1242	1.00E+00	default value	1.00E+05	default value
Aroclor-1248	1.00E+00	default value	1.00E+05	default value
Aroclor-1254	5.80E+00	HAZWRAP (1994)	1.00E+07	HAZWRAP (1994)
Aroclor-1260	5.80E+00	HAZWRAP (1994)	1.00E+07	HAZWRAP (1994)
Benzene	5.00E-02	HAZWRAP (1994)	3.20E+01	HAZWRAP (1994)
Benzo(a)anthracene	5.00E-02	HAZWRAP (1994)	1.30E+04	HAZWRAP (1994)
Benzo(a)pyrene	5.00E-02	HAZWRAP (1994)	3.00E+01	HAZWRAP (1994)
Benzo(b)fluoranthene	5.00E-02	HAZWRAP (1994)	2.60E+04	HAZWRAP (1994)
Benzo(g,h,i)perylene	5.00E-02	HAZWRAP (1994)	6.50E+04	HAZWRAP (1994)
Benzo(k)fluoranthene	5.00E-02	HAZWRAP (1994)	2.60E+04	HAZWRAP (1994)
Benzoic acid	1.00E+00	default value	1.00E+05	default value
Benzyl alcohol	1.00E+00	default value	1.00E+05	default value

Appendix Table S-30. (Continued)

Ecological constituent of potential concern	Sediment-to-animal (BAF_i)		Water-to-animal (BCF)	
	BAF_i	Reference	BCF	Reference
delta-BHC	2.60E+00	HAZWRAP (1994)	6.90E+02	HAZWRAP (1994)
Bis(2-chloroisopropyl)ether	1.00E+00	default value	1.00E+05	default value
Bis(2-ethylhexyl)phthalate	5.00E-02	HAZWRAP (1994)	3.10E+02	HAZWRAP (1994)
Bromomethane	1.00E+00	default value	1.00E+05	default value
Butylbenzylphthalate	5.00E-02	HAZWRAP (1994)	6.60E+02	HAZWRAP (1994)
Carbazole	5.00E-02	HAZWRAP (1994)	3.70E+02	HAZWRAP (1994)
Carbon disulfide	1.00E+00	default value	1.00E+05	default value
2-Chlorophenol	1.00E+00	default value	1.00E+05	default value
gamma-BHC (Lindane)	2.60E+00	HAZWRAP (1994)	1.00E+03	HAZWRAP (1994)
alpha-Chlordane	1.60E+00	HAZWRAP (1994)	1.40E+06	HAZWRAP (1994)
gamma-Chlordane	1.60E+00	HAZWRAP (1994)	7.60E+04	HAZWRAP (1994)
Chlorobenzene	5.00E-02	HAZWRAP (1994)	4.50E+02	HAZWRAP (1994)
Chloroethane	1.00E+00	default value	1.00E+05	default value
Chloroform	5.00E-02	HAZWRAP (1994)	6.00E+00	HAZWRAP (1994)
Chrysene	5.00E-02	HAZWRAP (1994)	1.30E+04	HAZWRAP (1994)
m,p-cresol	1.00E+00	default value	5.00E+02	default value
2,4-D	1.00E+00	default value	1.00E+05	default value
4,4'-DDD	3.30E+00	HAZWRAP (1994)	1.70E+05	HAZWRAP (1994)
4,4'-DDE	1.70E+00	HAZWRAP (1994)	1.80E+07	HAZWRAP (1994)
4,4'-DDT	5.70E-01	HAZWRAP (1994)	3.40E+04	HAZWRAP (1994)
Dalapon	1.00E+00	default value	1.00E+05	default value
Dicamba	1.00E+00	default value	1.00E+05	default value
Dibenzo(a,h)anthracene	5.00E-02	HAZWRAP (1994)	5.40E+04	HAZWRAP (1994)
Dibenzofuran	5.00E-02	HAZWRAP (1994)	6.90E+02	HAZWRAP (1994)
1,2-Dichloroethane	5.00E-02	HAZWRAP (1994)	2.00E+00	HAZWRAP (1994)
1,1-Dichloroethene	1.00E+00	default value	1.00E+05	default value
1,2-Dichloroethene	5.00E-02	HAZWRAP (1994)	8.60E-01	HAZWRAP (1994)
1,4-Dichlorobenzene	1.00E+00	default value	1.00E+05	default value
Dichloroprop	1.00E+00	default value	1.00E+05	default value
Dieldrin	5.50E+00	HAZWRAP (1994)	1.40E+04	HAZWRAP (1994)
Diethylphthalate	5.00E-02	HAZWRAP (1994)	1.20E+02	HAZWRAP (1994)
Di-n-butylphthalate	5.00E-02	HAZWRAP (1994)	5.10E+03	HAZWRAP (1994)
Di-n-octylphthalate	5.00E-02	HAZWRAP (1994)	9.30E+03	HAZWRAP (1994)
Endosulfan	5.50E+00	HAZWRAP (1994)	2.80E+02	HAZWRAP (1994)
Endrin	1.90E+00	HAZWRAP (1994)	2.60E+03	HAZWRAP (1994)
Endrinn ketone	1.90E+00	HAZWRAP (1994)	1.20E+02	HAZWRAP (1994)
Ethylbenzene	5.00E-02	HAZWRAP (1994)	2.90E+02	HAZWRAP (1994)
Fluoranthene	5.00E-02	HAZWRAP (1994)	3.20E+03	HAZWRAP (1994)
Fluorene	5.00E-02	HAZWRAP (1994)	8.30E+02	HAZWRAP (1994)
Heptachlor	1.00E+00	HAZWRAP (1994)	1.40E+04	HAZWRAP (1994)
Heptachlor epoxide	1.00E+00	HAZWRAP (1994)	1.40E+04	HAZWRAP (1994)
2-Hexanone	1.00E+00	default value	1.00E+05	default value
Indeno(1,2,3-cd)pyrene	5.00E-02	HAZWRAP (1994)	6.50E+04	HAZWRAP (1994)
MCPP	1.00E+00	default value	1.00E+05	default value
Methyl bromide	1.00E+00	default value	1.00E+05	default value
Methylene chloride	5.00E-02	HAZWRAP (1994)	4.00E+00	HAZWRAP (1994)
Methyl ethyl ketone	5.00E-02	HAZWRAP (1994)	6.00E-01	HAZWRAP (1994)
2-Methylnaphthalene	5.00E-02	HAZWRAP (1994)	4.30E+02	HAZWRAP (1994)
4-Chloro-3-methylphenol	5.00E-02	HAZWRAP (1994)	1.10E+02	HAZWRAP (1994)
2-Butanone			6.00E-01	HAZWRAP (1994)
4-Methyl-2-pentanone	5.00E-02	HAZWRAP (1994)	6.00E+00	HAZWRAP (1994)
4-Methylphenol	5.00E-02	HAZWRAP (1994)	1.30E+01	HAZWRAP (1994)

Appendix Table S-30. (Continued)

Ecological constituent of potential concern	Sediment-to-animal (BAF_i)		Water-to-animal (BCF)	
	BAF_i	Reference	BCF	Reference
Naphthalene	5.00E-02	HAZWRAP (1994)	4.30E+02	HAZWRAP (1994)
4-Nitrophenol	5.00E-02	HAZWRAP (1994)	1.30E+01	HAZWRAP (1994)
N-Nitroso-di-N-propylamine	1.00E+00	default value	1.00E+05	default value
N-Nitrosodiphenylamine	5.00E-02	HAZWRAP (1994)	8.10E+01	HAZWRAP (1994)
Pentachlorophenol	1.00E+00	default value	1.00E+05	default value
Phenanthrene	5.00E-02	HAZWRAP (1994)	1.40E+03	HAZWRAP (1994)
Phenol	5.00E-02	HAZWRAP (1994)	7.80E+02	HAZWRAP (1994)
Pyrene	5.00E-02	HAZWRAP (1994)	6.10E+03	HAZWRAP (1994)
Styrene	1.00E+00	default value	1.00E+05	default value
Tetrachloroethene	5.00E-02	HAZWRAP (1994)	4.40E+01	HAZWRAP (1994)
Toluene	5.00E-02	HAZWRAP (1994)	8.30E+01	HAZWRAP (1994)
1,1,1-Trichloroethane	1.00E+00	default value	1.00E+05	default value
Trichloroethene	5.00E-02	HAZWRAP (1994)	1.70E+01	HAZWRAP (1994)
Vinyl chloride	1.00E+00	default value	1.00E+05	default value
Xylenes	5.00E-02	HAZWRAP (1994)	1.70E+01	HAZWRAP (1994)
Dioxins and Furans				
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1.00E+00	default value	1.00E+05	default value
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1.00E+05	default value
1,2,3,6,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
1,2,3,7,8,9-Hexachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1.00E+05	default value
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1.00E+00	default value	1.00E+05	default value
1,2,3,4,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
2,3,4,6,7,8-Hexachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1.00E+00	default value	1.00E+05	default value
1,2,3,7,8-Pentachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
2,3,4,7,8-Pentachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
Octachlorodibenzo-p-dioxin	1.00E+00	default value	1.00E+05	default value
Octachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
TCDDs (total)	1.00E+00	default value	1.00E+05	default value
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1.00E+00	default value	1.00E+05	default value
2,3,7,8-Tetrachlorodibenzofuran	1.00E+00	default value	1.00E+05	default value
Explosives				
1,2,4-Trichlorobenzene	1.00E+00	default value	1.00E+05	default value
1,3,5-Trinitrobenzene	1.00E+00	default value	1.00E+05	default value
1,3-Dinitrobenzene	1.00E+00	default value	1.00E+05	default value
2,4,6-Trinitrotoluene	1.00E+00	default value	1.00E+05	default value
2,4-Dinitrotoluene	1.00E+00	default value	1.00E+05	default value
2,6-Dinitrotoluene	5.00E-02	HAZWRAP (1994)	2.60E+01	HAZWRAP (1994)
2-Amino-4,6-dinitrotoluene	1.00E+00	default value	1.00E+05	default value
4-Amino-2,6-dinitrotoluene	1.00E+00	default value	1.00E+05	default value
Nitrobenzene	5.00E-02	HAZWRAP (1994)	1.30E+01	HAZWRAP (1994)
o-Nitrotoluene	no value	no reference	no value	no reference
p-Nitrotoluene	no value	no reference	no value	no reference
Tetryl	1.00E+00	default value	1.00E+05	default value

BAF_i = Bioaccumulation factor for transfer from sediment to invertebrate animals ($kg_{sediment}/kg_{tissue}$)

BCF = Bioconcentration factor for transfer from water to fish and other aquatic biota ($mg_{tissue}/kg/mg/L$)

Default value (wet weight) is assumed when no published value available.

[a] Assumes calcium-dependent BAF for lead (Corp and Morgan 1991); default value = 2, assumes calcium concentration in soil > 500 mg/kg and lead concentration > 1 mg/kg.

Appendix Table S-31. Area Use Factors (AUFs) for Terrestrial Receptors

		AUF		AUF		AUF	
		CB-3/CB-801	**CB-4/4A and CA-6/6A**	**CB-13 and CB-10**	**CB14, CB-17, and CA-15**	**Perimeter Area**	**Water Tower**
		Area ha =	**Area ha =**	**Area ha =**	**Area ha =**	**Area ha =**	**Area ha =**
	HR	1.9	7.4	3.2	2.9	172	0.28
Receptor	ha	(4.7 ac)	(18.2 ac)	(8 ac)	(7.1 ac)	(424.7 ac)	(0.7 ac)
Deer mouse	9.00E-02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
Short-tailed shrew	3.60E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
American robin	4.20E-01	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00
White-tailed deer	1.75E+02	1.09E-02	4.23E-02	1.83E-02	1.66E-02	9.83E-01	1.60E-03
Red fox	5.96E+02	3.19E-03	1.24E-02	5.37E-03	4.87E-03	2.89E-01	4.70E-04
Barn owl	2.50E+02	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00	1.00E+00

AUF = Fraction of receptor exposure from the unit = area of unit/ area of HR; AUF = 1 when area of unit exceeds area of HR

HR = Home range

Appendix Table S-32. Summary of Area Use Factors for aquatic receptors at the Surface Water Exposure Units at RVAAP,Ravenna, Ohio

			Mink		Great blue heron		Mallard duck	
EU name	EU lengths (km)	EU areas (ha)	HR (km) =	2.24E+00	HR (km) =	3.10E+00	HR (ha) =	1.11E+02
Outlet A Channel	4.63E-01	NA	AUF =	2.07E-01	AUF =	1.49E-01	AUF =	NA
Outlet C Channel & Ponds	7.92E-01	1.93E+00	AUF =	3.54E-01	AUF =	2.55E-01	AUF =	7.14E-03
Outlets E, F Channels	4.27E-01	NA	AUF =	NA	AUF =	NA	AUF =	NA
North Area Channel	2.13E-01	NA	AUF =	NA	AUF =	NA	AUF =	NA
Off AOC Channel	3.36E+00	NA	AUF =	1.00E+00	AUF =	1.00E+00	AUF =	NA

EU = Exposure unit
km = kilometer
ha = hectares
NA = Not applicable
AUF = Area use factor
HR = home range

Appendix Table S-33. Derivation of Ingestion Rates for Receptors

Receptor	IR_F (kg/kgBW/d)	TUF (unitless)	PF (unitless)	I_P (kg/kgBW/d) IR_F *x* TUF *x* PF	AF (unitless)	I_A (kg/kgBW/d) IR_F *x* TUF *x* AF	SF (unitless)	I_S (kg/kgBW/d) IR_F *x* TUF *x* SF
Deer Mouse	2.10E-01	1.00E+00	3.90E-01	8.19E-02	5.90E-01	1.24E-01	2.00E-02	4.20E-03
Short-tailed shrew	5.60E-01	1.00E+00	1.30E-01	7.28E-02	8.70E-01	4.87E-01	1.30E-01	7.28E-02
White-tailed deer	3.10E-02	1.00E+00	1.00E+00	3.10E-02	0.00E+00	0.00E+00	3.10E-02	9.61E-04
Red fox	6.90E-02	1.00E+00	4.60E-02	3.17E-03	9.54E-01	6.58E-02	2.80E-02	1.93E-03
Mink	1.40E-01	1.00E+00	2.00E-02	2.80E-03	9.80E-01	1.37E-01	0.00E+00	0.00E+00
American robin	1.52E+00	1.00E+00	5.00E-01	7.60E-01	5.00E-01	7.60E-01	1.04E-01	1.58E-01
Great blue heron	1.80E-01	1.00E+00	0.00E+00	0.00E+00	1.00E+00	1.80E-01	0.00E+00	0.00E+00
Barn Owl	1.25E-01	1.00E+00	0.00E+00	0.00E+00	1.00E+00	1.25E-01	0.00E+00	0.00E+00
Mallard duck	9.05E-02	1.00E+00	1.00E+00	9.05E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00

IR_F = Food ingestion rate; normalized to body weight

TUF = Temporal use factor

PF = Plant fraction

I_P = Plant intake rate

AF = Animal fraction

I_A = Animal intake rate

SF = Soil fraction

I_S = Soil intake rate

Appendix Table S-34. Toxicity Reference Values (TRVs) for Plants Exposed to Soil (1997)

Ecological constituent of potential concern	Plant TRV (mg/kg)	Type of Media	Reference
Inorganics			
Aluminum	5.00E+01	Soil	Efroymson et al. (1997a)
Antimony	5.00E+00	Soil	Efroymson et al. (1997a)
Arsenic	1.00E+01	Soil	Efroymson et al. (1997a)
Barium	5.00E+02	Soil	Efroymson et al. (1997a)
Beryllium	1.00E+01	Soil	Efroymson et al. (1997a)
Bismuth	2.00E+01	Soil Solution	Efroymson et al. (1997a)
Boron	5.00E-01	Soil	Efroymson et al. (1997a)
Bromine	1.00E+01	Soil	Efroymson et al. (1997a)
Cadmium	4.00E+00	Soil	Efroymson et al. (1997a)
Chromium	1.00E+00	Soil	Efroymson et al. (1997a)
Cobalt	2.00E+01	Soil	Efroymson et al. (1997a)
Copper	1.00E+02	Soil	Efroymson et al. (1997a)
Fluorine	2.00E+02	Soil	Efroymson et al. (1997a)
Iodine	4.00E+00	Soil	Efroymson et al. (1997a)
Iron	1.00E+01	Soil Solution	Efroymson et al. (1997a)
Lead	5.00E+01	Soil	Efroymson et al. (1997a)
Lithium	2.00E+00	Soil	Efroymson et al. (1997a)
Magnesium	No TRV	None	None
Manganese	5.00E+02	Soil	Efroymson et al. (1997a)
Mercury	3.00E-01	Soil	Efroymson et al. (1997a)
Methyl mercury	2.00E-04	Soil Solution	Efroymson et al. (1997a)
Molybdenum	2.00E+00	Soil	Efroymson et al. (1997a)
Nickel	3.00E+01	Soil	Efroymson et al. (1997a)
Selenium	1.00E+00	Soil	Efroymson et al. (1997a)
Silver	2.00E+00	Soil	Efroymson et al. (1997a)
Technetium	2.00E-01	Soil	Efroymson et al. (1997a)
Tellurium	2.00E+00	Soil Solution	Efroymson et al. (1997a)
Thallium	1.00E+00	Soil	Efroymson et al. (1997a)
Tin	5.00E+01	Soil	Efroymson et al. (1997a)
Titanium	6.00E-02	Soil Solution	Efroymson et al. (1997a)
Uranium	5.00E+00	Soil	Efroymson et al. (1997a)
Vanadium	2.00E+00	Soil	Efroymson et al. (1997a)
Zinc	5.00E+01	Soil	Efroymson et al. (1997a)
Organics			
2,4,6-Trinitrotoluene	No TRV	None	None
Acenaphthene	2.00E+01	Soil	Efroymson et al. (1997a)
Aniline	2.00E+02	Soil Solution	Efroymson et al. (1997a)
Anthracene	No TRV	None	None
Benzo(a)anthracene	No TRV	None	None
Benzo(a)pyrene	No TRV	None	None
Benzo(b)fluoranthene	No TRV	None	None
Benzo(g,h,i)perylene	No TRV	None	None
Benzo(k)fluoranthene	No TRV	None	None
Biphenyl	6.00E+01	Soil	Efroymson et al. (1997a)
4-Bromoaniline	1.00E+02	Soil Solution	Efroymson et al. (1997a)
3-Chloroaniline	2.00E+01	Soil	Efroymson et al. (1997a)
4-Chloroaniline	4.00E+01	Soil Solution	Efroymson et al. (1997a)
2-Chlorophenol	6.00E+01	Soil Solution	Efroymson et al. (1997a)
3-Chlorophenol	7.00E+00	Soil	Efroymson et al. (1997a)
4-Chlorophenol	5.00E+01	Soil Solution	Efroymson et al. (1997a)
2-Cresol	5.00E+01	Soil Solution	Efroymson et al. (1997a)
Chrysene	No TRV	None	None

Appendix Table S-34. Toxicity Reference Values (TRVs) for Plants Exposed to Soil (1997)

Ecological constituent of potential concern	Plant TRV (mg/kg)	Type of Media	Reference
3,4-dichloroaniline	1.00E+01	Soil Solution	Efroymson et al. (1997a)
2,4-Dichlorophenol	2.00E+01	Soil Solution	Efroymson et al. (1997a)
3,4-Dichlorophenol	2.00E+01	Soil	Efroymson et al. (1997a)
2,4-Dinitrophenol	2.00E+01	Soil	Efroymson et al. (1997a)
Dibenzofuran	No TRV	None	None
Dimethylphthalate	No TRV	None	None
Di-n-butyl phthalate	2.00E+02	Soil	Efroymson et al. (1997a)
Diethylphthalate	1.00E+02	Soil	Efroymson et al. (1997a)
Fluoranthene	No TRV	None	None
Fluorene	No TRV	None	None
Furan	6.00E+02	Soil	Efroymson et al. (1997a)
Heptane	1.00E+00	Soil Solution	Efroymson et al. (1997a)
Hexachlorocyclopentadiene	1.00E+01	Soil	Efroymson et al. (1997a)
Indeno(1,2,3-cd)pyrene	No TRV	None	None
Naphthalene	1.00E+01	Soil Solution	Efroymson et al. (1997a)
3-Nitroaniline	7.00E+01	Soil Solution	Efroymson et al. (1997a)
4-Nitroaniline	4.00E+01	Soil Solution	Efroymson et al. (1997a)
Nitrobenzene	8.00E+00	Soil Solution	Efroymson et al. (1997a)
4-Nitrophenol	1.00E+01	Soil Solution	Efroymson et al. (1997a)
Pentachlorophenol	3.00E+00	Soil	Efroymson et al. (1997a)
Phenanthrene	No TRV	None	None
Phenol	7.00E+01	Soil	Efroymson et al. (1997a)
Pyrene	No TRV	None	None
PCBs	3.00E+02	Soil	Efroymson et al. (1997a)
Styrene	3.00E+02	Soil	Efroymson et al. (1997a)
2,3,5,6-Tetrachloroaniline	2.00E+01	Soil	Efroymson et al. (1997a)
tetrachloroethene	1.00E+01	Soil Solution	Efroymson et al. (1997a)
Toluene	2.00E+02	Soil	Efroymson et al. (1997a)
4-Toluidine	1.00E+02	Soil Solution	Efroymson et al. (1997a)
2,4,5-Trichloroaniline	2.00E+01	Soil	Efroymson et al. (1997a)
Trichloroethene	1.00E+02	Soil Solution	Efroymson et al. (1997a)
2,4,5-Trichlorophenol	4.00E+00	Soil	Efroymson et al. (1997a)
2,4,5-Trichlorophenol	1.00E+01	Soil Solution	Efroymson et al. (1997a)
Ortho-xylene	1.00E+00	Soil Solution	Efroymson et al. (1997a)
Xylene	1.00E+02	Soil Solution	Efroymson et al. (1997a)

Efroymson, R.A., M.E. Will, G.W. Suter II, and A.C. Wooten. 1997. Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants: 1997 Revision. ES/ER/TM-85/R3. Lockheed Martin Energy Systems, Oak Ridge National Laboratory, Oak Ridge, TN.

Appendix Table S.35 Toxicity Reference Values (TRVs) for Earthworms Exposed to Soil

Ecological constituent of potential concern	Earthworm TRV[a] (mg/kg)	Reference
Inorganics		
Aluminum	No TRV	None
Antimony	No TRV	None
Arsenic	6.00E+01	Efroymson et al. (1997b)
Barium	No TRV	None
Beryllium	No TRV	None
Cadmium	2.00E+01	Efroymson et al. (1997b)
Calcium	No TRV	None
Chromium	4.00E-01	Efroymson et al. (1997b)
Chromium VI	No TRV	None
Cobalt	No TRV	None
Copper	6.00E+01	Efroymson et al. (1997b)
Cyanide	No TRV	None
Iron	No TRV	None
Lead	5.00E+02	Efroymson et al. (1997b)
Magnesium	No TRV	None
Manganese	No TRV	None
Mercury	1.00E-01	Efroymson et al. (1997b)
Nickel	2.00E+02	Efroymson et al. (1997b)
Potassium	No TRV	None
Selenium	7.00E+01	Efroymson et al. (1997b)
Silver	No TRV	None
Sodium	No TRV	None
Thallium	No TRV	None
Vanadium	No TRV	None
Zinc	2.00E+02	Efroymson et al. (1997b)
Organics		
2,2,5-Trimethylhexane	No TRV	None
Acenaphthene	No TRV	None
Acenaphthylene	No TRV	None
Acetone	No TRV	None
Aldrin	No TRV	None
alpha-Chlordane	No TRV	None
Anthracene	No TRV	None
Aroclor-1254	No TRV	None
Aroclor-1260	No TRV	None
Benzo(a)anthracene	No TRV	None
Benzo(a)pyrene	No TRV	None
Benzo(b)fluoranthene	No TRV	None
Benzo(g,h,i)perylene	No TRV	None
Benzo(k)fluoranthene	No TRV	None
Benzoic Acid	No TRV	None
Bis(2-ethylhexyl)phthalate	No TRV	None
Butylbenzylphthalate	No TRV	None
Carbazole	No TRV	None

Appendix Table S.35 Toxicity Reference Values (TRVs) for Earthworms Exposed to Soil

Ecological constituent of potential concern	Earthworm TRV[a] (mg/kg)	Reference
Chrysene	No TRV	None
delta-BHC	No TRV	None
1,2-Dichlorobenzene	No TRV	None
1,2-Dichloroethene	No TRV	None
1,3-Dichlorobenzene	No TRV	None
1,4-Dichlorobenzene	2.00E+01	Efroymson et al. (1997b)
2,4-Dimethylphenol	No TRV	None
4,4'-DDD	No TRV	None
4,4'-DDE	No TRV	None
4,4'-DDT	No TRV	None
Dibenzo(a,h)anthracene	No TRV	None
Dibenzofuran	No TRV	None
Diethylphthalate	No TRV	None
Dieldrin	No TRV	None
Di-n-butylphthalate	No TRV	None
Endosulfan	No TRV	None
Endosulfan sulfate	No TRV	None
Endrin aldehyde	No TRV	None
Endrin ketone	No TRV	None
Fluoranthene	No TRV	None
Fluorene	No TRV	None
gamma-BHC (Lindane)	No TRV	None
gamma-Chlordane	No TRV	None
Heptachlor epoxide	No TRV	None
Indeno(1,2,3-cd)pyrene	No TRV	None
2-Methylnaphthalene	No TRV	None
2-Methylphenol	No TRV	None
4-Methylphenol	No TRV	None
Methoxychlor	No TRV	None
Methylene chloride	No TRV	None
Naphthalene	No TRV	None
Pentachlorophenol	6.00E+00	Efroymson et al. (1997b)
Phenanthrene	No TRV	None
Phenol	3.00E+01	Efroymson et al. (1997b)
Pyrene	No TRV	None
Toluene	No TRV	None
Trichloroethene	No TRV	None
1,2,4-Trichlorobenzene	2.00E+01	Efroymson et al. (1997b)
2,4,5-Trichlorophenol	9.00E+00	Efroymson et al. (1997b)
Dioxins and Furans		
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	No TRV	None
1,2,3,4,6,7,8-Heptachlorodibenzofuran	No TRV	None
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	No TRV	None
1,2,3,4,7,8-Hexachlorodibenzofuran	No TRV	None
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	No TRV	None

Appendix Table S.35 Toxicity Reference Values (TRVs) for Earthworms Exposed to Soil

Ecological constituent of potential concern	Earthworm TRV[a] (mg/kg)	Reference
Octachlorodibenzo-p-dioxin	1.00E-03	TEF
Octachlorodibenzofuran	1.00E-03	TEF

[a] Lowest Observed Adverse Effect Level

TEF = Toxicity efficiency factor

TRV = Toxicity Reference Values

Efroymson, R.E., M.E. Will, and G.W. Suter II. 1997. *Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Processes: 1997 Revision* . ES/ER/TM-126/R2. Lockheed Martin Energy

Appendix Table S-36. Derivation of Toxicity Reference Values (TRVs) for Mammal Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
Inorganics										
Aluminum	Mouse	3.00E-02	1.93E+01	chronic	LOAEL	Reproduction	Ondreicka et al. (1966) in [1]	1.0	0.1	1.93E+00
Ammonia	none	none	none	none	none	none	none	none	none	No TRV
Antimony	Mouse	3.00E-02	1.25E+00	chronic	LOAEL	Longevity	Schroeder et al. (1968b) in [1]	1.0	0.1	1.25E-01
Arsenic	Mouse	3.00E-02	1.26E+00	chronic	LOAEL	Reproduction	Schroeder and Mitchner (1971) in [1]	1.0	0.1	1.26E-01
Barium	Rat	4.35E-01	5.06E+00	chronic	NOAEL	Growth	Perry et al. (1983) in [1]	1.0	1.0	5.06E+00
Beryllium	Rat	3.50E-01	6.60E-01	chronic	NOAEL	Longevity	Schroeder and Mitchner (1975) in [1]	1.0	1.0	6.60E-01
Boron	Rat	3.50E-01	2.80E+01	chronic	NOAEL	Reproduction	Weir and Fisher (1972) in [1]	1.0	1.0	2.80E+01
Cadmium	Rat	3.03E-01	1.00E+00	chronic	NOAEL	Reproduction	Sutou et al. (1980b) in [1]	1.0	1.0	1.00E+00
Calcium	none	none	none	none	none	none	none	none	none	No TRV
Chloride	none	none	none	none	none	none	none	none	none	No TRV
Chromium	Rat	3.50E-01	2.74E+03	chronic	NOAEL	Reproduction	Ivankovic and Preussmann (1975) in [	1.0	1.0	2.74E+03
Chromium, hexavalent	none	none	none	none	none	none	none	none	none	No TRV
Cobalt	Rat	none	1.00E+00	subchronic	NOAEL	Mortality	Underhill et al. (1931) in [2]	0.1	1.0	1.00E-01
Copper	Mink	1.00E+00	1.17E+01	chronic	NOAEL	Reproduction	Aulerich et al. (1982) in [1]	1.0	1.0	1.17E+01
Cyanide	Rat	2.73E-01	6.87E+01	chronic	NOAEL	Reproduction	Tewe and Maner (1981) in [1]	1.0	1.0	6.87E+01
Fluoride	Mink	1.00E+00	3.14E+01	chronic	NOAEL	Reproduction	Bleavinss et Aulerich (1981) in [1]	1.0	1.0	3.14E+01
Iron	none	none	none	none	none	none	none	none	none	No TRV
Lead	Rat	3.50E-01	8.00E+00	chronic	NOAEL	Reproduction	Azar et al. (1973) in [1]	1.0	1.0	8.00E+00
Magnesium	none	none	none	none	none	none	none	none	none	No TRV
Manganese	Rat	3.50E-01	8.80E+01	chronic	NOAEL	Reproduction	Laskey et al. (1982) in [1]	1.0	1.0	8.80E+01
Mercury	Mink	1.00E+00	1.01E+00	chronic	NOAEL	Reproduction	Aulerich et al. (1974) in [1]	1.0	1.0	1.01E+00
Molybdenum	Mouse	3.00E-02	2.58E+00	chronic	LOAEL	Reproduction	Schroeder and Mitchner (1971) in [1]	1.0	0.1	2.58E-01
Nickel	Rat	3.50E-01	4.00E+01	chronic	NOAEL	Reproduction	Ambrose et al. (1976) in [1]	1.0	1.0	4.00E+01
Nitrate	none	none	none	none	none	none	none	none	none	No TRV
Phosphorus	none	none	none	none	none	none	none	none	none	No TRV
Potassium	none	none	none	none	none	none	none	none	none	No TRV
Selenium	Rat	3.50E-01	2.00E-01	chronic	NOAEL	Reproduction	Rosenfeld and Beath (1954) in [1]	1.0	1.0	2.00E-01
Silver	none	none	none	none	none	none	none	none	none	No TRV
Silicon	none	none	none	none	none	none	none	none	none	No TRV
Sodium	none	none	none	none	none	none	none	none	none	No TRV
Sulfate	none	none	none	none	none	none	none	none	none	No TRV
Thallium	Rat	3.65E-01	7.40E-01	subchronic	LOAEL	Reproduction	Formigli et al. (1986) in [1]	0.1	0.1	7.40E-03
Vanadium	Rat	2.60E-01	2.10E+00	chronic	LOAEL	Reproduction	Domingo et al. (1986) in [1]	1.0	0.1	2.10E-01
Zinc	Rat	3.50E-01	1.60E+02	chronic	NOAEL	Reproduction	Schlicker and Cox (1968) in [1]	1.0	1.0	1.60E+02
Organics										
1,1,1-Trichloroethane	Mouse	3.50E-02	1.00E+03	chronic	NOAEL	Reproduction	Lane et al. (1982) in [1]	1.0	1.0	1.00E+03
1,1,2,2-Tetrachloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,1,2-Trichloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,1-Dichloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,1-Dichloroethene	Rat	3.50E-01	3.00E+01	chronic	NOAEL	Mortality	Quast et al. (1983) in [1]	1.0	1.0	3.00E+01

Appendix Table S-36. Derivation of Toxicity Reference Values (TRVs) for Mammal Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
1,1-Dichloroethene	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,6,7,8-HpCDF	none	none	none	none	none	none	none	none	none	No TRV
1,2,4-trichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,2-cis-Dichloroethene	Mouse	3.00E-02	4.52E+01	subchronic	NOAEL	Hepatotoxicity	Palmer et al. (1979) in [1]	0.1	1.0	4.52E+00
1,2-Dichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,2-Dichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	chronic	NOAEL	Reproduction	Lane et al. (1982) in [1]	1.0	1.0	5.00E+01
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	chronic	NOAEL	Reproduction	Lane et al. (1982) in [1]	1.0	1.0	5.00E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+02	subchronic	NOAEL	Blood chemistry	Palmer et al. (1979) in [1]	0.1	1.0	4.52E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+01	subchronic	NOAEL	Hepatotoxicity	Palmer et al. (1979) in [1]	0.1	1.0	4.52E+00
1,2-Dichloropropane	none	none	none	none	none	none	none	none	none	No TRV
1,2-trans-Dichloroethene	Mouse	3.00E-02	4.52E+01	subchronic	NOAEL	Hepatotoxicity	Palmer et al. (1979) in [1]	0.1	1.0	4.52E+00
1,3-Dichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,4-Dichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
2,2,5-Trimethylhexane	none	none	none	none	none	none	none	none	none	No TRV
2,4,5-trichlorophenol	none	none	none	none	none	none	none	none	none	No TRV
2,4-D	none	none	none	none	none	none	none	none	none	No TRV
2,4-Dimethylphenol	none	none	none	none	none	none	none	none	none	No TRV
2-Chlorophenol	none	none	none	none	none	none	none	none	none	No TRV
2-Hexanone	none	none	none	none	none	none	none	none	none	No TRV
2-Methylnaphthalene	none	none	none	none	none	none	none	none	none	No TRV
2-Methylnaphthalene	none	none	none	none	none	none	none	none	none	No TRV
2-Methylphenol	none	none	none	none	none	none	none	none	none	No TRV
4,4'-DDD	none	none	none	none	none	none	none	none	none	No TRV
4,4'-DDE	none	none	none	none	none	none	none	none	none	No TRV
4,4'-DDT	Rat	3.50E-01	8.00E-01	chronic	NOAEL	Reproduction	Fitzhugh (1948) in [1]	1.0	1.0	8.00E-01
4-Chloro-3-methylphenol	none	none	none	none	none	none	none	none	none	No TRV
4-Methyl-2-pentanone	Rat	3.50E-01	2.50E+02	subchronic	NOAEL	Liver/Kidney	Microbiological Associates (1986) in [	0.1	1.0	2.50E+01
4-Methylphenol	none	none	none	none	none	none	none	none	none	No TRV
4-Methylphenol	none	none	none	none	none	none	none	none	none	No TRV
4-Nitrophenol	none	none	none	none	none	none	none	none	none	No TRV
Acenaphthene	none	none	none	none	none	none	none	none	none	No TRV
Acenaphthylene	none	none	none	none	none	none	none	none	none	No TRV
Acetone	Rat	3.50E-01	1.00E+02	subchronic	NOAEL	Reproduction	EPA (1986c) in [1]	0.1	1.0	1.00E+01
Aldrin	Rat	3.50E-01	2.00E-01	chronic	NOAEL	Reproduction	EPA (1988a) in [1]	1.0	1.0	2.00E-01
Alkalinity	none	none	none	none	none	none	none	none	none	No TRV
alpha-Chlordane	Mouse	3.00E-02	4.58E+00	chronic	NOAEL	Reproduction	Keplinger et al. (1968) in [1]	1.0	1.0	4.58E+00
Anthracene	none	none	none	none	none	none	none	none	none	No TRV
Aroclor-1242	Mink	1.00E+00	6.85E-01	chronic	LOAEL	Reproduction	Bleavins et al. (1980) in [1]	1.0	0.1	6.85E-02
Aroclor-1248	Rhesus monkey	5.00E+00	1.00E-01	chronic	LOAEL	Reproduction	Barsotti et al. (1976) in [1]	1.0	0.1	1.00E-02
PCB-1254	Oldfield mouse	1.40E-02	6.80E-01	chronic	LOAEL	Reproduction	McCoy et al. (1995) in [1]	1.0	0.1	6.80E-02
Aroclor-1260	none	none	none	none	none	none	none	none	none	No TRV

Appendix Table S-36. Derivation of Toxicity Reference Values (TRVs) for Mammal Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
Benzene	Mouse	3.00E-02	2.64E+02	chronic	LOAEL	Reproduction	Nawrot and Staples (1979) in [1]	1.0	0.1	2.64E+01
Benzo(a)anthracene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(a)pyrene	Mouse	3.00E-02	1.00E+01	chronic	LOAEL	Reproduction	Mackenzie and Angevine (1981) in [1	1.0	0.1	1.00E+00
Benzo(b)fluoranthene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(g,h,i)perylene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(k)fluoranthene	none	none	none	none	none	none	none	none	none	No TRV
Benzoic acid	Mouse	0.03	40	chronic	LOAEL	unknown	Shtenberg and Ignat'ev (1970) in [3]	1.0	0.1	4.00E+00
Benzyl alcohol	none	none	none	none	none	none	none	none	none	No TRV
Bis(2-chloroisopropyl)ether	none	none	none	none	none	none	none	none	none	No TRV
Bis(2-ethylhexyl)phthalate	Mouse	3.00E-02	1.83E+01	chronic	NOAEL	Reproduction	Lamb et al. (1987) in [1]	1.0	1.0	1.83E+01
Butylbenzylphthalate	none	none	none	none	none	none	none	none	none	No TRV
Carbazole	none	none	none	none	none	none	none	none	none	No TRV
Carbon disulfide	none	none	none	none	none	none	none	none	none	No TRV
Chlordane	Mouse	3.00E-02	4.58E+00	chronic	NOAEL	Reproduction	Keplinger et al. (1968) in [1]	1.0	1.0	4.58E+00
Chlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
Chloroethane	none	none	none	none	none	none	none	none	none	No TRV
Chloroform	Rat	3.50E-01	1.50E+02	subchronic	NOAEL	Gonad atrophy	Palmer et al. (1979) in [1]	0.1	1.0	1.50E+01
m,p-cresol	none	none	none	none	none	none	none	none	none	No TRV
Chrysene	none	none	none	none	none	none	none	none	none	No TRV
Dalapon	none	none	none	none	none	none	none	none	none	No TRV
delta-BHC	none	none	none	none	none	none	none	none	none	No TRV
Dibenzo(a,h)anthracene	none	none	none	none	none	none	none	none	none	No TRV
Dibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
Dicamba	none	none	none	none	none	none	none	none	none	No TRV
Dichloroprop	none	none	none	none	none	none	none	none	none	No TRV
Dieldrin	Rat	3.50E-01	2.00E-01	Chronic	Loael	Reproduction	Treon and Cleveland (1955) in [1]	1.0	0.1	2.00E-02
Diethylphthalate	Mouse	3.00E-02	4.58E+03	chronic	NOAEL	Reproduction	Lamb et al. (1987) in [1]	1.0	1.0	4.58E+03
Di-n-butylphthalate	Mouse	3.00E-02	5.50E+02	chronic	NOAEL	Reproduction	Lamb et al. (1987) in [1]	1.0	1.0	5.50E+02
Di-n-octylphthalate	none	none	none	none	none	none	none	none	none	No TRV
Endosulfan	Rat	3.50E-01	1.50E+00	subchronic	NOAEL	Reproduction	Dikshith et al.(1984) in [1]	0.1	1.0	1.50E-01
Endosulfan sulfate	none	none	none	none	none	none	none	none	none	No TRV
Endrin	Mouse	3.00E-02	9.20E-01	chronic	LOAEL	Reproduction	Good and Ware (1969) in [1]	1.0	0.1	9.20E-02
Endrin ketone	none	none	none	none	none	none	none	none	none	No TRV
Ethylbenzene	none	none	none	none	none	none	none	none	none	No TRV
Fluoranthene	none	none	none	none	none	none	none	none	none	No TRV
Fluorene	none	none	none	none	none	none	none	none	none	No TRV
gamma Chlordane	Mouse	3.00E-02	4.58E+00	chronic	NOAEL	Reproduction	Keplinger et al. (1968) in [1]	1.0	1.0	4.58E+00
gamma-BHC (Lindane)	Rat	3.50E-01	8.00E+00	chronic	NOAEL	Reproduction	Palmer et al. (1978) in [1]	1.0	1.0	8.00E+00
Heptachlor	Mink	1.00E+00	1.00E+00	chronic	LOAEL	Reproduction	Crumet al. (1993) in [1]	1.0	0.1	1.00E-01
Heptachlor epoxide	none	none	none	none	none	none	none	none	none	No TRV
Indeno(1,2,3-cd)pyrene	none	none	none	none	none	none	none	none	none	No TRV
MCPA	none	none	none	none	none	none	none	none	none	No TRV

Appendix Table S-36. Derivation of Toxicity Reference Values (TRVs) for Mammal Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
MCPP	none	none	none	none	none	none	none	none	none	No TRV
Methoxychlor	Rat	3.50E-01	4.00E+00	chronic	NOAEL	Reproduction	Gray et al. 1988	1.0	1.0	4.00E+00
Methyl bromide	none	none	none	none	none	none	none	none	none	No TRV
Methyl ethyl ketone	Rat	3.50E-01	1.77E+03	chronic	NOAEL	Reproduction	Cox et al. (1975) in [1]	1.0	1.0	1.77E+03
Methyl mercury chloride	Rat	3.50E-01	3.20E-02	chronic	NOAEL	Reproduction	Verschuuren et al. (1976) in [1]	1.0	1.0	3.20E-02
Methylene chloride	Rat	3.50E-01	5.85E+00	chronic	NOAEL	Liver histology	NCA (1982) in [1]	1.0	1.0	5.85E+00
Naphthalene	none	none	none	none	none	none	none	none	none	No TRV
N-Nitroso-di-N-propylamine	none	none	none	none	none	none	none	none	none	No TRV
N-Nitrosodiphenylamine	none	none	none	none	none	none	none	none	none	No TRV
Pentachlorophenol	Rat	3.50E-01	2.40E-01	chronic	NOAEL	Reproduction	Schwetz et al. (1978) in [1]	1.0	1.0	2.40E-01
Phenanthrene	none	none	none	none	none	none	none	none	none	No TRV
Phenol	none	none	none	none	none	none	none	none	none	No TRV
Pyrene	none	none	none	none	none	none	none	none	none	No TRV
Styrene	Dog	1.00E+01	2.00E+02	chronic	NOAEL	unknown	Quast et al. (1979)	1.0	1.0	2.00E+02
Tetrachloroethene	Mouse	3.00E-02	1.40E+01	subchronic	NOAEL	Hepatotoxicity	Buben and O'Flaherty (1985) in [1]	0.1	1.0	1.40E+00
Toluene	Mouse	3.00E-02	2.60E+02	chronic	LOAEL	Reproduction	Nawrot and Staples (1979) in [1]	1.0	0.1	2.60E+01
Trichloroethene	Mouse	3.00E-02	7.00E+01	subchronic	LOAEL	Hepatotoxicity	Buben and O'Flaherty (1985) in [1]	0.1	0.1	7.00E-01
Vinyl chloride	Rat	3.50E-01	1.70E+00	chronic	LOAEL	Mortality	Feron et al. (1981) in [1]	1.0	0.1	1.70E-01
Xylenes	Mouse	3.00E-02	2.06E+00	chronic	NOAEL	Reproduction	Marks et al. (1982) in [1]	1.0	1.0	2.06E+00
Dioxins and Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,7,8,9-Heptachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,6,7,8-Hexachlorodibenzofuran	Rat	3.50E-01	1.60E-03	subchronic	NOAEL	Organ weight	Poiger et al. (1989) in [1]	0.1	1.0	1.60E-04
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,7,8,9-Hexachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-03	subchronic	NOAEL	Organ weight	Poiger et al. (1989) in [1]	0.1	1.0	1.60E-04
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
2,3,4,6,7,8-Hexachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
2,3,4,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-04	subchronic	NOAEL	Organ weight	Poiger et al. (1989) in [1]	0.1	1.0	1.60E-05
2,3,7,8-Tetrachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Rat	3.50E-01	1.00E-06	chronic	NOAEL	Reproduction	Murray et al. (1979) in [1]	1.0	1.0	1.00E-06
Octachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
Octachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
Explosives										
1,3,5-Trinitrobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,3-Dinitrobenzene	none	none	none	none	none	none	none	none	none	No TRV

Appendix Table S-36. Derivation of Toxicity Reference Values (TRVs) for Mammal Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
2,4,6-Trinitrotoluene	Rat	3.50E-01	1.60E+02	subchronic	LOAEL	Reproduction	Dilley et al. (1982)	0.1	0.1	1.60E+00
2,4-Dinitrotoluene	Mouse	3.00E-02	1.35E+01	chronic	NOAEL	Reproduction	Ellis et al. (1979)	1.0	1.0	1.35E+01
2,6-Dinitrotoluene	Rat	3.50E-01	7.00E+00	subchronic	NOAEL	Reproduction	ATSDR (1989)	0.1	1.0	7.00E-01
2-Amino-4,6-dinitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
4-Amino-2,6-dinitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
Nitrobenzene	none	none	none	none	none	none	none	none	none	No TRV
Nitrocellulose	none	none	none	none	none	none	none	none	none	No TRV
Nitrobenzene	none	none	none	none	none	none	none	none	none	No TRV
HMX	none	none	none	none	none	none	none	none	none	No TRV
RDX	none	none	none	none	none	none	none	none	none	No TRV
Tetryl	none	none	none	none	none	none	none	none	none	No TRV

TRV = toxicity reference value

DCF = Duration conversion factor; 1 if chronic, 0.1 if subchronic (Sample et al. 1996)

ECF = Endpoint conversion factor; 1 if NOAEL, 0.1 if LOAEL (Sample et al. 1996)

NOAEL = No observed adverse effect level

LOAEL = Lowest observed adverse effect level

[1] = Sample et al. (1996)

[2] = Clayton and Clayton (1981)

[3] = IRIS (1996)

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Short-tailed shrew		Deer Mouse	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$	Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
Inorganics							
Aluminum	Mouse	3.00E-02	1.93E+00	1.15E+00	2.22E+00	1.08E+00	2.09E+00
Ammonia	none	none	No TRV	none	none	none	none
Antimony	Mouse	3.00E-02	1.25E-01	1.15E+00	1.44E-01	1.08E+00	1.35E-01
Arsenic	Mouse	3.00E-02	1.26E-01	1.15E+00	1.45E-01	1.08E+00	1.36E-01
Barium	Rat	4.35E-01	5.06E+00	2.25E+00	1.14E+01	2.11E+00	1.07E+01
Beryllium	Rat	3.50E-01	6.60E-01	2.13E+00	1.41E+00	2.00E+00	1.32E+00
Boron	Rat	3.50E-01	2.80E+01	2.13E+00	5.96E+01	2.00E+00	5.59E+01
Cadmium	Rat	3.03E-01	1.00E+00	2.05E+00	2.05E+00	1.93E+00	1.93E+00
Calcium	none	none	No TRV	none	none	none	none
Chloride	none	none	No TRV	none	none	none	none
Chromium	Rat	3.50E-01	2.74E+03	2.13E+00	5.83E+03	2.00E+00	5.47E+03
Chromium, hexavalent	none	none	No TRV	none	none	none	none
Cobalt	Rat	none	1.00E-01	none	none	none	none
Copper	Mink	1.00E+00	1.17E+01	2.77E+00	3.24E+01	2.60E+00	3.04E+01
Cyanide	Rat	2.73E-01	6.87E+01	2.00E+00	1.38E+02	1.88E+00	1.29E+02
Fluoride	Mink	1.00E+00	3.14E+01	2.77E+00	8.69E+01	2.60E+00	8.15E+01
Iron	none	none	No TRV	none	none	none	none
Lead	Rat	3.50E-01	8.00E+00	2.13E+00	1.70E+01	2.00E+00	1.60E+01
Magnesium	none	none	No TRV	none	none	none	none
Manganese	Rat	3.50E-01	8.80E+01	2.13E+00	1.87E+02	2.00E+00	1.76E+02
Mercury	Mink	1.00E+00	1.01E+00	2.77E+00	2.80E+00	2.60E+00	2.62E+00
Molybdenum	Mouse	3.00E-02	2.58E-01	1.15E+00	2.98E-01	1.08E+00	2.79E-01
Nickel	Rat	3.50E-01	4.00E+01	2.13E+00	8.52E+01	2.00E+00	7.99E+01
Nitrate	none	none	No TRV	none	none	none	none
Phosphorus	none	none	No TRV	none	none	none	none
Potassium	none	none	No TRV	none	none	none	none
Selenium	Rat	3.50E-01	2.00E-01	2.13E+00	4.26E-01	2.00E+00	3.99E-01
Silver	none	none	No TRV	none	none	none	none
Silicon	none	none	No TRV	none	none	none	none
Sodium	none	none	No TRV	none	none	none	none
Sulfate	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Short-tailed shrew		Deer Mouse	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$	Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
Thallium	Rat	3.65E-01	7.40E-03	2.15E+00	1.59E-02	2.02E+00	1.49E-02
Vanadium	Rat	2.60E-01	2.10E-01	1.98E+00	4.15E-01	1.85E+00	3.89E-01
Zinc	Rat	3.50E-01	1.60E+02	2.13E+00	3.41E+02	2.00E+00	3.20E+02
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organics	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	Mouse	3.50E-02	1.00E+03	1.20E+00	1.20E+03	1.12E+00	1.12E+03
1,1,2,2-Tetrachloroethane	none	none	No TRV	none	none	none	none
1,1,2-Trichloroethane	none	none	No TRV	none	none	none	none
1,1-Dichloroethane	none	none	No TRV	none	none	none	none
1,1-Dichloroethene	Rat	3.50E-01	3.00E+01	2.13E+00	6.39E+01	2.00E+00	5.99E+01
1,1-Dichloroethene	none	none	No TRV	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	No TRV	none	none	none	none
1,2,4-trichlorobenzene	none	none	No TRV	none	none	none	none
1,2-cis-Dichloroethene	Mouse	3.00E-02	4.52E+00	1.15E+00	5.21E+00	1.08E+00	4.88E+00
1,2-Dichlorobenzene	none	none	No TRV	none	none	none	none
1,2-Dichlorobenzene	none	none	No TRV	none	none	none	none
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	1.20E+00	5.99E+01	1.12E+00	5.62E+01
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	1.20E+00	5.99E+01	1.12E+00	5.62E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+01	1.15E+00	5.21E+01	1.08E+00	4.88E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+00	1.15E+00	5.21E+00	1.08E+00	4.88E+00
1,2-Dichloropropane	none	none	No TRV	none	none	none	none
1,2-trans-Dichloroethene	Mouse	3.00E-02	4.52E+00	1.15E+00	5.21E+00	1.08E+00	4.88E+00
1,3-Dichlorobenzene	none	none	No TRV	none	none	none	none
1,4-Dichlorobenzene	none	none	No TRV	none	none	none	none
2,2,5-Trimethylhexane	none	none	No TRV	none	none	none	none
2,4,5-trichlorophenol	none	none	No TRV	none	none	none	none
2,4-D	none	none	No TRV	none	none	none	none
2,4-Dimethylphenol	none	none	No TRV	none	none	none	none
2-Chlorophenol	none	none	No TRV	none	none	none	none
2-Hexanone	none	none	No TRV	none	none	none	none
2-Methylnaphthalene	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Short-tailed shrew		Deer Mouse	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$	Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
2-Methylnaphthalene	none	none	No TRV	none	none	none	none
2-Methylphenol	none	none	No TRV	none	none	none	none
4,4'-DDD	none	none	No TRV	none	none	none	none
4,4'-DDE	none	none	No TRV	none	none	none	none
4,4'-DDT	Rat	3.50E-01	8.00E-01	2.13E+00	1.70E+00	2.00E+00	1.60E+00
4-Chloro-3-methylphenol	none	none	No TRV	none	none	none	none
4-Methyl-2-pentanone	Rat	3.50E-01	2.50E+01	2.13E+00	5.33E+01	2.00E+00	4.99E+01
4-Methylphenol	none	none	No TRV	none	none	none	none
4-Methylphenol	none	none	No TRV	none	none	none	none
4-Nitrophenol	none	none	No TRV	none	none	none	none
Acenaphthene	none	none	No TRV	none	none	none	none
Acenaphthylene	none	none	No TRV	none	none	none	none
Acetone	Rat	3.50E-01	1.00E+01	2.13E+00	2.13E+01	2.00E+00	2.00E+01
Aldrin	Rat	3.50E-01	2.00E-01	2.13E+00	4.26E-01	2.00E+00	3.99E-01
Alkalinity	none	none	No TRV	none	none	none	none
alpha-Chlordane	Mouse	3.00E-02	4.58E+00	1.15E+00	5.28E+00	1.08E+00	4.95E+00
Anthracene	none	none	No TRV	none	none	none	none
Aroclor-1242	Mink	1.00E+00	6.85E-02	2.77E+00	1.90E-01	2.60E+00	1.78E-01
Aroclor-1248	Rhesus monkey	5.00E+00	1.00E-02	4.14E+00	4.14E-02	3.88E+00	3.88E-02
PCB-1254	Oldfield mouse	1.40E-02	6.80E-02	9.53E-01	6.48E-02	8.93E-01	6.07E-02
Aroclor-1260	none	none	No TRV	none	none	none	none
Benzene	Mouse	3.00E-02	2.64E+01	1.15E+00	3.04E+01	1.08E+00	2.85E+01
Benzo(a)anthracene	none	none	No TRV	none	none	none	none
Benzo(a)pyrene	Mouse	3.00E-02	1.00E+00	1.15E+00	1.15E+00	1.08E+00	1.08E+00
Benzo(b)fluoranthene	none	none	No TRV	none	none	none	none
Benzo(g,h,i)perylene	none	none	No TRV	none	none	none	none
Benzo(k)fluoranthene	none	none	No TRV	none	none	none	none
Benzoic acid	Mouse	3.00E-02	4.00E+00	1.15E+00	4.61E+00	1.08E+00	4.32E+00
Benzyl alcohol	none	none	No TRV	none	none	none	none
Bis(2-chloroisopropyl)ether	none	none	No TRV	none	none	none	none
Bis(2-ethylhexyl)phthalate	Mouse	3.00E-02	1.83E+01	1.15E+00	2.11E+01	1.08E+00	1.98E+01

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Short-tailed shrew		Deer Mouse	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$	Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
Butylbenzylphthalate	none	none	No TRV	none	none	none	none
Carbazole	none	none	No TRV	none	none	none	none
Carbon disulfide	none	none	No TRV	none	none	none	none
Chlordane	Mouse	3.00E-02	4.58E+00	1.15E+00	5.28E+00	1.08E+00	4.95E+00
Chlorobenzene	none	none	No TRV	none	none	none	none
Chloroethane	none	none	No TRV	none	none	none	none
Chloroform	Rat	3.50E-01	1.50E+01	2.13E+00	3.20E+01	2.00E+00	3.00E+01
m,p-cresol	none	none	No TRV	none	none	none	none
Chrysene	none	none	No TRV	none	none	none	none
Dalapon	none	none	No TRV	none	none	none	none
delta-BHC	none	none	No TRV	none	none	none	none
Dibenzo(a,h)anthracene	none	none	No TRV	none	none	none	none
Dibenzofuran	none	none	No TRV	none	none	none	none
Dicamba	none	none	No TRV	none	none	none	none
Dichloroprop	none	none	No TRV	none	none	none	none
Dieldrin	Rat	3.50E-01	2.00E-02	2.13E+00	4.26E-02	2.00E+00	3.99E-02
Diethylphthalate	Mouse	3.00E-02	4.58E+03	1.15E+00	5.28E+03	1.08E+00	4.95E+03
Di-n-butylphthalate	Mouse	3.00E-02	5.50E+02	1.15E+00	6.34E+02	1.08E+00	5.94E+02
Di-n-octylphthalate	none	none	No TRV	none	none	none	none
Endosulfan	Rat	3.50E-01	1.50E-01	2.13E+00	3.20E-01	2.00E+00	3.00E-01
Endosulfan sulfate	none	none	No TRV	none	none	none	none
Endrin	Mouse	3.00E-02	9.20E-02	1.15E+00	1.06E-01	1.08E+00	9.94E-02
Endrin ketone	none	none	No TRV	none	none	none	none
Ethylbenzene	none	none	No TRV	none	none	none	none
Fluoranthene	none	none	No TRV	none	none	none	none
Fluorene	none	none	No TRV	none	none	none	none
gamma Chlordane	Mouse	3.00E-02	4.58E+00	1.15E+00	5.28E+00	1.08E+00	4.95E+00
gamma-BHC (Lindane)	Rat	3.50E-01	8.00E+00	2.13E+00	1.70E+01	2.00E+00	1.60E+01
Heptachlor	Mink	1.00E+00	1.00E-01	2.77E+00	2.77E-01	2.60E+00	2.60E-01
Heptachlor epoxide	none	none	No TRV	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Short-tailed shrew		Deer Mouse	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$	Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
MCPA	none	none	No TRV	none	none	none	none
MCPP	none	none	No TRV	none	none	none	none
Methoxychlor	Rat	3.50E-01	4.00E+00	2.13E+00	8.52E+00	2.00E+00	7.99E+00
Methyl bromide	none	none	No TRV	none	none	none	none
Methyl ethyl ketone	Rat	3.50E-01	1.77E+03	2.13E+00	3.77E+03	2.00E+00	3.54E+03
Methyl mercury chloride	Rat	3.50E-01	3.20E-02	2.13E+00	6.82E-02	2.00E+00	6.39E-02
Methylene chloride	Rat	3.50E-01	5.85E+00	2.13E+00	1.25E+01	2.00E+00	1.17E+01
Naphthalene	none	none	No TRV	none	none	none	none
N-Nitroso-di-N-propylamine	none	none	No TRV	none	none	none	none
N-Nitrosodiphenylamine	none	none	No TRV	none	none	none	none
Pentachlorophenol	Rat	3.50E-01	2.40E-01	2.13E+00	5.11E-01	2.00E+00	4.79E-01
Phenanthrene	none	none	No TRV	none	none	none	none
Phenol	none	none	No TRV	none	none	none	none
Pyrene	none	none	No TRV	none	none	none	none
Styrene	Dog	1.00E+01	2.00E+02	4.92E+00	9.85E+02	4.62E+00	9.23E+02
Tetrachloroethene	Mouse	3.00E-02	1.40E+00	1.15E+00	1.61E+00	1.08E+00	1.51E+00
Toluene	Mouse	3.00E-02	2.60E+01	1.15E+00	2.99E+01	1.08E+00	2.81E+01
Trichloroethene	Mouse	3.00E-02	7.00E-01	1.15E+00	8.07E-01	1.08E+00	7.56E-01
Vinyl chloride	Rat	3.50E-01	1.70E-01	2.13E+00	3.62E-01	2.00E+00	3.40E-01
Xylenes	Mouse	3.00E-02	2.06E+00	1.15E+00	2.37E+00	1.08E+00	2.23E+00
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxins and Furans	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
1,2,3,4,7,8,9-Heptachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
1,2,3,6,7,8-Hexachlorodibenzofuran	Rat	3.50E-01	1.60E-04	2.13E+00	3.41E-04	2.00E+00	3.20E-04
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
1,2,3,7,8,9-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Short-tailed shrew		Deer Mouse	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$	Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
1,2,3,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-04	2.13E+00	3.41E-04	2.00E+00	3.20E-04
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
2,3,4,6,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none
2,3,4,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-05	2.13E+00	3.41E-05	2.00E+00	3.20E-05
2,3,7,8-Tetrachlorodibenzofuran	none	none	No TRV	none	none	none	none
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Rat	3.50E-01	1.00E-06	2.13E+00	2.13E-06	2.00E+00	2.00E-06
Octachlorodibenzofuran	none	none	No TRV	none	none	none	none
Octachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Explosives	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3,5-Trinitrobenzene	none	none	No TRV	none	none	none	none
1,3-Dinitrobenzene	none	none	No TRV	none	none	none	none
2,4,6-Trinitrotoluene	Rat	3.50E-01	1.60E+00	2.13E+00	3.41E+00	2.00E+00	3.20E+00
2,4-Dinitrotoluene	Mouse	3.00E-02	1.35E+01	1.15E+00	1.56E+01	1.08E+00	1.46E+01
2,6-Dinitrotoluene	Rat	3.50E-01	7.00E-01	2.13E+00	1.49E+00	2.00E+00	1.40E+00
2-Amino-4,6-dinitrotoluene	none	none	No TRV	none	none	none	none
4-Amino-2,6-dinitrotoluene	none	none	No TRV	none	none	none	none
Nitrobenzene	none	none	No TRV	none	none	none	none
Nitrocellulose	none	none	No TRV	none	none	none	none
Nitrobenzene	none	none	No TRV	none	none	none	none
HMX	none	none	No TRV	none	none	none	none
RDX	none	none	No TRV	none	none	none	none
Tetryl	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

				White-tailed deer		Red fox	
Ecological constituent of potential concern	**Test species**	**Test species body weight BW_t (kg)**	**TRV_t (mg/kgBW/d)**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**
Inorganics							
Aluminum	Mouse	3.00E-02	1.93E+00	1.52E-01	2.93E-01	2.83E-01	5.46E-01
Ammonia	none	none	No TRV	none	none	none	none
Antimony	Mouse	3.00E-02	1.25E-01	1.52E-01	1.90E-02	2.83E-01	3.54E-02
Arsenic	Mouse	3.00E-02	1.26E-01	1.52E-01	1.91E-02	2.83E-01	3.56E-02
Barium	Rat	4.35E-01	5.06E+00	2.96E-01	1.50E+00	5.52E-01	2.79E+00
Beryllium	Rat	3.50E-01	6.60E-01	2.81E-01	1.85E-01	5.23E-01	3.45E-01
Boron	Rat	3.50E-01	2.80E+01	2.81E-01	7.86E+00	5.23E-01	1.46E+01
Cadmium	Rat	3.03E-01	1.00E+00	2.71E-01	2.71E-01	5.04E-01	5.04E-01
Calcium	none	none	No TRV	none	none	none	none
Chloride	none	none	No TRV	none	none	none	none
Chromium	Rat	3.50E-01	2.74E+03	2.81E-01	7.68E+02	5.23E-01	1.43E+03
Chromium, hexavalent	none	none	No TRV	none	none	none	none
Cobalt	Rat	none	1.00E-01	none	none	none	none
Copper	Mink	1.00E+00	1.17E+01	3.65E-01	4.27E+00	6.80E-01	7.96E+00
Cyanide	Rat	2.73E-01	6.87E+01	2.64E-01	1.81E+01	4.91E-01	3.37E+01
Fluoride	Mink	1.00E+00	3.14E+01	3.65E-01	1.14E+01	6.80E-01	2.13E+01
Iron	none	none	No TRV	none	none	none	none
Lead	Rat	3.50E-01	8.00E+00	2.81E-01	2.24E+00	5.23E-01	4.18E+00
Magnesium	none	none	No TRV	none	none	none	none
Manganese	Rat	3.50E-01	8.80E+01	2.81E-01	2.47E+01	5.23E-01	4.60E+01
Mercury	Mink	1.00E+00	1.01E+00	3.65E-01	3.68E-01	6.80E-01	6.86E-01
Molybdenum	Mouse	3.00E-02	2.58E-01	1.52E-01	3.92E-02	2.83E-01	7.30E-02
Nickel	Rat	3.50E-01	4.00E+01	2.81E-01	1.12E+01	5.23E-01	2.09E+01
Nitrate	none	none	No TRV	none	none	none	none
Phosphorus	none	none	No TRV	none	none	none	none
Potassium	none	none	No TRV	none	none	none	none
Selenium	Rat	3.50E-01	2.00E-01	2.81E-01	5.61E-02	5.23E-01	1.05E-01
Silver	none	none	No TRV	none	none	none	none
Silicon	none	none	No TRV	none	none	none	none
Sodium	none	none	No TRV	none	none	none	none
Sulfate	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

				White-tailed deer		Red fox	
Ecological constituent of potential concern	**Test species**	**Test species body weight BW_t (kg)**	**TRV_t (mg/kgBW/d)**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**
Thallium	Rat	3.65E-01	7.40E-03	2.84E-01	2.10E-03	5.28E-01	3.91E-03
Vanadium	Rat	2.60E-01	2.10E-01	2.60E-01	5.47E-02	4.85E-01	1.02E-01
Zinc	Rat	3.50E-01	1.60E+02	2.81E-01	4.49E+01	5.23E-01	8.36E+01
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organics	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	Mouse	3.50E-02	1.00E+03	1.58E-01	1.58E+02	2.94E-01	2.94E+02
1,1,2,2-Tetrachloroethane	none	none	No TRV	none	none	none	none
1,1,2-Trichloroethane	none	none	No TRV	none	none	none	none
1,1-Dichloroethane	none	none	No TRV	none	none	none	none
1,1-Dichloroethene	Rat	3.50E-01	3.00E+01	2.81E-01	8.42E+00	5.23E-01	1.57E+01
1,1-Dichloroethene	none	none	No TRV	none	none	none	none
1,2,3,4,6,7,8-HpCDF	none	none	No TRV	none	none	none	none
1,2,4-trichlorobenzene	none	none	No TRV	none	none	none	none
1,2-cis-Dichloroethene	Mouse	3.00E-02	4.52E+00	1.52E-01	6.86E-01	2.83E-01	1.28E+00
1,2-Dichlorobenzene	none	none	No TRV	none	none	none	none
1,2-Dichlorobenzene	none	none	No TRV	none	none	none	none
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	1.58E-01	7.89E+00	2.94E-01	1.47E+01
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	1.58E-01	7.89E+00	2.94E-01	1.47E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+01	1.52E-01	6.86E+00	2.83E-01	1.28E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+00	1.52E-01	6.86E-01	2.83E-01	1.28E+00
1,2-Dichloropropane	none	none	No TRV	none	none	none	none
1,2-trans-Dichloroethene	Mouse	3.00E-02	4.52E+00	1.52E-01	6.86E-01	2.83E-01	1.28E+00
1,3-Dichlorobenzene	none	none	No TRV	none	none	none	none
1,4-Dichlorobenzene	none	none	No TRV	none	none	none	none
2,2,5-Trimethylhexane	none	none	No TRV	none	none	none	none
2,4,5-trichlorophenol	none	none	No TRV	none	none	none	none
2,4-D	none	none	No TRV	none	none	none	none
2,4-Dimethylphenol	none	none	No TRV	none	none	none	none
2-Chlorophenol	none	none	No TRV	none	none	none	none
2-Hexanone	none	none	No TRV	none	none	none	none
2-Methylnaphthalene	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

				White-tailed deer		Red fox	
Ecological constituent of potential concern	**Test species**	**Test species body weight BW_t (kg)**	**TRV_t (mg/kgBW/d)**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**
2-Methylnaphthalene	none	none	No TRV	none	none	none	none
2-Methylphenol	none	none	No TRV	none	none	none	none
4,4'-DDD	none	none	No TRV	none	none	none	none
4,4'-DDE	none	none	No TRV	none	none	none	none
4,4'-DDT	Rat	3.50E-01	8.00E-01	2.81E-01	2.24E-01	5.23E-01	4.18E-01
4-Chloro-3-methylphenol	none	none	No TRV	none	none	none	none
4-Methyl-2-pentanone	Rat	3.50E-01	2.50E+01	2.81E-01	7.01E+00	5.23E-01	1.31E+01
4-Methylphenol	none	none	No TRV	none	none	none	none
4-Methylphenol	none	none	No TRV	none	none	none	none
4-Nitrophenol	none	none	No TRV	none	none	none	none
Acenaphthene	none	none	No TRV	none	none	none	none
Acenaphthylene	none	none	No TRV	none	none	none	none
Acetone	Rat	3.50E-01	1.00E+01	2.81E-01	2.81E+00	5.23E-01	5.23E+00
Aldrin	Rat	3.50E-01	2.00E-01	2.81E-01	5.61E-02	5.23E-01	1.05E-01
Alkalinity	none	none	No TRV	none	none	none	none
alpha-Chlordane	Mouse	3.00E-02	4.58E+00	1.52E-01	6.95E-01	2.83E-01	1.30E+00
Anthracene	none	none	No TRV	none	none	none	none
Aroclor-1242	Mink	1.00E+00	6.85E-02	3.65E-01	2.50E-02	6.80E-01	4.65E-02
Aroclor-1248	Rhesus monkey	5.00E+00	1.00E-02	5.45E-01	5.45E-03	1.02E+00	1.02E-02
PCB-1254	Oldfield mouse	1.40E-02	6.80E-02	1.25E-01	8.53E-03	2.34E-01	1.59E-02
Aroclor-1260	none	none	No TRV	none	none	none	none
Benzene	Mouse	3.00E-02	2.64E+01	1.52E-01	4.00E+00	2.83E-01	7.45E+00
Benzo(a)anthracene	none	none	No TRV	none	none	none	none
Benzo(a)pyrene	Mouse	3.00E-02	1.00E+00	1.52E-01	1.52E-01	2.83E-01	2.83E-01
Benzo(b)fluoranthene	none	none	No TRV	none	none	none	none
Benzo(g,h,i)perylene	none	none	No TRV	none	none	none	none
Benzo(k)fluoranthene	none	none	No TRV	none	none	none	none
Benzoic acid	Mouse	3.00E-02	4.00E+00	1.52E-01	6.07E-01	2.83E-01	1.13E+00
Benzyl alcohol	none	none	No TRV	none	none	none	none
Bis(2-chloroisopropyl)ether	none	none	No TRV	none	none	none	none
Bis(2-ethylhexyl)phthalate	Mouse	3.00E-02	1.83E+01	1.52E-01	2.78E+00	2.83E-01	5.18E+00

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

				White-tailed deer		Red fox	
Ecological constituent of potential concern	**Test species**	**Test species body weight BW_t (kg)**	**TRV_t (mg/kgBW/d)**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**
Butylbenzylphthalate	none	none	No TRV	none	none	none	none
Carbazole	none	none	No TRV	none	none	none	none
Carbon disulfide	none	none	No TRV	none	none	none	none
Chlordane	Mouse	3.00E-02	4.58E+00	1.52E-01	6.95E-01	2.83E-01	1.30E+00
Chlorobenzene	none	none	No TRV	none	none	none	none
Chloroethane	none	none	No TRV	none	none	none	none
Chloroform	Rat	3.50E-01	1.50E+01	2.81E-01	4.21E+00	5.23E-01	7.84E+00
m,p-cresol	none	none	No TRV	none	none	none	none
Chrysene	none	none	No TRV	none	none	none	none
Dalapon	none	none	No TRV	none	none	none	none
delta-BHC	none	none	No TRV	none	none	none	none
Dibenzo(a,h)anthracene	none	none	No TRV	none	none	none	none
Dibenzofuran	none	none	No TRV	none	none	none	none
Dicamba	none	none	No TRV	none	none	none	none
Dichloroprop	none	none	No TRV	none	none	none	none
Dieldrin	Rat	3.50E-01	2.00E-02	2.81E-01	5.61E-03	5.23E-01	1.05E-02
Diethylphthalate	Mouse	3.00E-02	4.58E+03	1.52E-01	6.96E+02	2.83E-01	1.30E+03
Di-n-butylphthalate	Mouse	3.00E-02	5.50E+02	1.52E-01	8.35E+01	2.83E-01	1.56E+02
Di-n-octylphthalate	none	none	No TRV	none	none	none	none
Endosulfan	Rat	3.50E-01	1.50E-01	2.81E-01	4.21E-02	5.23E-01	7.84E-02
Endosulfan sulfate	none	none	No TRV	none	none	none	none
Endrin	Mouse	3.00E-02	9.20E-02	1.52E-01	1.40E-02	2.83E-01	2.60E-02
Endrin ketone	none	none	No TRV	none	none	none	none
Ethylbenzene	none	none	No TRV	none	none	none	none
Fluoranthene	none	none	No TRV	none	none	none	none
Fluorene	none	none	No TRV	none	none	none	none
gamma Chlordane	Mouse	3.00E-02	4.58E+00	1.52E-01	6.95E-01	2.83E-01	1.30E+00
gamma-BHC (Lindane)	Rat	3.50E-01	8.00E+00	2.81E-01	2.24E+00	5.23E-01	4.18E+00
Heptachlor	Mink	1.00E+00	1.00E-01	3.65E-01	3.65E-02	6.80E-01	6.80E-02
Heptachlor epoxide	none	none	No TRV	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

				White-tailed deer		Red fox	
Ecological constituent of potential concern	**Test species**	**Test species body weight BW_t (kg)**	**TRV_t (mg/kgBW/d)**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**
MCPA	none	none	No TRV	none	none	none	none
MCPP	none	none	No TRV	none	none	none	none
Methoxychlor	Rat	3.50E-01	4.00E+00	2.81E-01	1.12E+00	5.23E-01	2.09E+00
Methyl bromide	none	none	No TRV	none	none	none	none
Methyl ethyl ketone	Rat	3.50E-01	1.77E+03	2.81E-01	4.97E+02	5.23E-01	9.26E+02
Methyl mercury chloride	Rat	3.50E-01	3.20E-02	2.81E-01	8.98E-03	5.23E-01	1.67E-02
Methylene chloride	Rat	3.50E-01	5.85E+00	2.81E-01	1.64E+00	5.23E-01	3.06E+00
Naphthalene	none	none	No TRV	none	none	none	none
N-Nitroso-di-N-propylamine	none	none	No TRV	none	none	none	none
N-Nitrosodiphenylamine	none	none	No TRV	none	none	none	none
Pentachlorophenol	Rat	3.50E-01	2.40E-01	2.81E-01	6.73E-02	5.23E-01	1.25E-01
Phenanthrene	none	none	No TRV	none	none	none	none
Phenol	none	none	No TRV	none	none	none	none
Pyrene	none	none	No TRV	none	none	none	none
Styrene	Dog	1.00E+01	2.00E+02	6.49E-01	1.30E+02	1.21E+00	2.42E+02
Tetrachloroethene	Mouse	3.00E-02	1.40E+00	1.52E-01	2.13E-01	2.83E-01	3.96E-01
Toluene	Mouse	3.00E-02	2.60E+01	1.52E-01	3.94E+00	2.83E-01	7.35E+00
Trichloroethene	Mouse	3.00E-02	7.00E-01	1.52E-01	1.06E-01	2.83E-01	1.98E-01
Vinyl chloride	Rat	3.50E-01	1.70E-01	2.81E-01	4.77E-02	5.23E-01	8.89E-02
Xylenes	Mouse	3.00E-02	2.06E+00	1.52E-01	3.13E-01	2.83E-01	5.83E-01
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxins and Furans	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
1,2,3,4,7,8,9-Heptachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
1,2,3,6,7,8-Hexachlorodibenzofuran	Rat	3.50E-01	1.60E-04	2.81E-01	4.49E-05	5.23E-01	8.36E-05
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
1,2,3,7,8,9-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

				White-tailed deer		Red fox	
Ecological constituent of potential concern	**Test species**	**Test species body weight BW_t (kg)**	**TRV_t (mg/kgBW/d)**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**	**Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$**	**TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$**
1,2,3,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-04	2.81E-01	4.49E-05	5.23E-01	8.36E-05
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
2,3,4,6,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none
2,3,4,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-05	2.81E-01	4.49E-06	5.23E-01	8.36E-06
2,3,7,8-Tetrachlorodibenzofuran	none	none	No TRV	none	none	none	none
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Rat	3.50E-01	1.00E-06	2.81E-01	2.81E-07	5.23E-01	5.23E-07
Octachlorodibenzofuran	none	none	No TRV	none	none	none	none
Octachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Explosives	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3,5-Trinitrobenzene	none	none	No TRV	none	none	none	none
1,3-Dinitrobenzene	none	none	No TRV	none	none	none	none
2,4,6-Trinitrotoluene	Rat	3.50E-01	1.60E+00	2.81E-01	4.49E-01	5.23E-01	8.36E-01
2,4-Dinitrotoluene	Mouse	3.00E-02	1.35E+01	1.52E-01	2.05E+00	2.83E-01	3.82E+00
2,6-Dinitrotoluene	Rat	3.50E-01	7.00E-01	2.81E-01	1.96E-01	5.23E-01	3.66E-01
2-Amino-4,6-dinitrotoluene	none	none	No TRV	none	none	none	none
4-Amino-2,6-dinitrotoluene	none	none	No TRV	none	none	none	none
Nitrobenzene	none	none	No TRV	none	none	none	none
Nitrocellulose	none	none	No TRV	none	none	none	none
Nitrobenzene	none	none	No TRV	none	none	none	none
HMX	none	none	No TRV	none	none	none	none
RDX	none	none	No TRV	none	none	none	none
Tetryl	none	none	No TRV	none	none	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Mink	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
Inorganics					
Aluminum	Mouse	3.00E-02	1.93E+00	2.83E-01	5.46E-01
Ammonia	none	none	No TRV	none	none
Antimony	Mouse	3.00E-02	1.25E-01	2.83E-01	3.54E-02
Arsenic	Mouse	3.00E-02	1.26E-01	2.83E-01	3.56E-02
Barium	Rat	4.35E-01	5.06E+00	5.52E-01	2.79E+00
Beryllium	Rat	3.50E-01	6.60E-01	5.23E-01	3.45E-01
Boron	Rat	3.50E-01	2.80E+01	5.23E-01	1.46E+01
Cadmium	Rat	3.03E-01	1.00E+00	5.04E-01	5.04E-01
Calcium	none	none	No TRV	none	none
Chloride	none	none	No TRV	none	none
Chromium	Rat	3.50E-01	2.74E+03	5.23E-01	1.43E+03
Chromium, hexavalent	none	none	No TRV	none	none
Cobalt	Rat	none	1.00E-01	none	none
Copper	Mink	1.00E+00	1.17E+01	6.80E-01	7.96E+00
Cyanide	Rat	2.73E-01	6.87E+01	4.91E-01	3.37E+01
Fluoride	Mink	1.00E+00	3.14E+01	6.80E-01	2.13E+01
Iron	none	none	No TRV	none	none
Lead	Rat	3.50E-01	8.00E+00	5.23E-01	4.18E+00
Magnesium	none	none	No TRV	none	none
Manganese	Rat	3.50E-01	8.80E+01	5.23E-01	4.60E+01
Mercury	Mink	1.00E+00	1.01E+00	6.80E-01	6.86E-01
Molybdenum	Mouse	3.00E-02	2.58E-01	2.83E-01	7.30E-02
Nickel	Rat	3.50E-01	4.00E+01	5.23E-01	2.09E+01
Nitrate	none	none	No TRV	none	none
Phosphorus	none	none	No TRV	none	none
Potassium	none	none	No TRV	none	none
Selenium	Rat	3.50E-01	2.00E-01	5.23E-01	1.05E-01
Silver	none	none	No TRV	none	none
Silicon	none	none	No TRV	none	none
Sodium	none	none	No TRV	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Mink	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
Sulfate	none	none	No TRV	none	none
Thallium	Rat	3.65E-01	7.40E-03	5.28E-01	3.91E-03
Vanadium	Rat	2.60E-01	2.10E-01	4.85E-01	1.02E-01
Zinc	Rat	3.50E-01	1.60E+02	5.23E-01	8.36E+01
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Organics	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,1,1-Trichloroethane	Mouse	3.50E-02	1.00E+03	2.94E-01	2.94E+02
1,1,2,2-Tetrachloroethane	none	none	No TRV	none	none
1,1,2-Trichloroethane	none	none	No TRV	none	none
1,1-Dichloroethane	none	none	No TRV	none	none
1,1-Dichloroethene	Rat	3.50E-01	3.00E+01	5.23E-01	1.57E+01
1,1-Dichloroethene	none	none	No TRV	none	none
1,2,3,4,6,7,8-HpCDF	none	none	No TRV	none	none
1,2,4-trichlorobenzene	none	none	No TRV	none	none
1,2-cis-Dichloroethene	Mouse	3.00E-02	4.52E+00	2.83E-01	1.28E+00
1,2-Dichlorobenzene	none	none	No TRV	none	none
1,2-Dichlorobenzene	none	none	No TRV	none	none
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	2.94E-01	1.47E+01
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	2.94E-01	1.47E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+01	2.83E-01	1.28E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+00	2.83E-01	1.28E+00
1,2-Dichloropropane	none	none	No TRV	none	none
1,2-trans-Dichloroethene	Mouse	3.00E-02	4.52E+00	2.83E-01	1.28E+00
1,3-Dichlorobenzene	none	none	No TRV	none	none
1,4-Dichlorobenzene	none	none	No TRV	none	none
2,2,5-Trimethylhexane	none	none	No TRV	none	none
2,4,5-trichlorophenol	none	none	No TRV	none	none
2,4-D	none	none	No TRV	none	none
2,4-Dimethylphenol	none	none	No TRV	none	none
2-Chlorophenol	none	none	No TRV	none	none
2-Hexanone	none	none	No TRV	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Mink	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
2-Methylnaphthalene	none	none	No TRV	none	none
2-Methylnaphthalene	none	none	No TRV	none	none
2-Methylphenol	none	none	No TRV	none	none
4,4'-DDD	none	none	No TRV	none	none
4,4'-DDE	none	none	No TRV	none	none
4,4'-DDT	Rat	3.50E-01	8.00E-01	5.23E-01	4.18E-01
4-Chloro-3-methylphenol	none	none	No TRV	none	none
4-Methyl-2-pentanone	Rat	3.50E-01	2.50E+01	5.23E-01	1.31E+01
4-Methylphenol	none	none	No TRV	none	none
4-Methylphenol	none	none	No TRV	none	none
4-Nitrophenol	none	none	No TRV	none	none
Acenaphthene	none	none	No TRV	none	none
Acenaphthylene	none	none	No TRV	none	none
Acetone	Rat	3.50E-01	1.00E+01	5.23E-01	5.23E+00
Aldrin	Rat	3.50E-01	2.00E-01	5.23E-01	1.05E-01
Alkalinity	none	none	No TRV	none	none
alpha-Chlordane	Mouse	3.00E-02	4.58E+00	2.83E-01	1.30E+00
Anthracene	none	none	No TRV	none	none
Aroclor-1242	Mink	1.00E+00	6.85E-02	6.80E-01	4.65E-02
Aroclor-1248	Rhesus monkey	5.00E+00	1.00E-02	1.02E+00	1.02E-02
PCB-1254	Oldfield mouse	1.40E-02	6.80E-02	2.34E-01	1.59E-02
Aroclor-1260	none	none	No TRV	none	none
Benzene	Mouse	3.00E-02	2.64E+01	2.83E-01	7.45E+00
Benzo(a)anthracene	none	none	No TRV	none	none
Benzo(a)pyrene	Mouse	3.00E-02	1.00E+00	2.83E-01	2.83E-01
Benzo(b)fluoranthene	none	none	No TRV	none	none
Benzo(g,h,i)perylene	none	none	No TRV	none	none
Benzo(k)fluoranthene	none	none	No TRV	none	none
Benzoic acid	Mouse	3.00E-02	4.00E+00	2.83E-01	1.13E+00
Benzyl alcohol	none	none	No TRV	none	none
Bis(2-chloroisopropyl)ether	none	none	No TRV	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Mink	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
Bis(2-ethylhexyl)phthalate	Mouse	3.00E-02	1.83E+01	2.83E-01	5.18E+00
Butylbenzylphthalate	none	none	No TRV	none	none
Carbazole	none	none	No TRV	none	none
Carbon disulfide	none	none	No TRV	none	none
Chlordane	Mouse	3.00E-02	4.58E+00	2.83E-01	1.30E+00
Chlorobenzene	none	none	No TRV	none	none
Chloroethane	none	none	No TRV	none	none
Chloroform	Rat	3.50E-01	1.50E+01	5.23E-01	7.84E+00
m,p-cresol	none	none	No TRV	none	none
Chrysene	none	none	No TRV	none	none
Dalapon	none	none	No TRV	none	none
delta-BHC	none	none	No TRV	none	none
Dibenzo(a,h)anthracene	none	none	No TRV	none	none
Dibenzofuran	none	none	No TRV	none	none
Dicamba	none	none	No TRV	none	none
Dichloroprop	none	none	No TRV	none	none
Dieldrin	Rat	3.50E-01	2.00E-02	5.23E-01	1.05E-02
Diethylphthalate	Mouse	3.00E-02	4.58E+03	2.83E-01	1.30E+03
Di-n-butylphthalate	Mouse	3.00E-02	5.50E+02	2.83E-01	1.56E+02
Di-n-octylphthalate	none	none	No TRV	none	none
Endosulfan	Rat	3.50E-01	1.50E-01	5.23E-01	7.84E-02
Endosulfan sulfate	none	none	No TRV	none	none
Endrin	Mouse	3.00E-02	9.20E-02	2.83E-01	2.60E-02
Endrin ketone	none	none	No TRV	none	none
Ethylbenzene	none	none	No TRV	none	none
Fluoranthene	none	none	No TRV	none	none
Fluorene	none	none	No TRV	none	none
gamma Chlordane	Mouse	3.00E-02	4.58E+00	2.83E-01	1.30E+00
gamma-BHC (Lindane)	Rat	3.50E-01	8.00E+00	5.23E-01	4.18E+00
Heptachlor	Mink	1.00E+00	1.00E-01	6.80E-01	6.80E-02
Heptachlor epoxide	none	none	No TRV	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Mink	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
Indeno(1,2,3-cd)pyrene	none	none	No TRV	none	none
MCPA	none	none	No TRV	none	none
MCPP	none	none	No TRV	none	none
Methoxychlor	Rat	3.50E-01	4.00E+00	5.23E-01	2.09E+00
Methyl bromide	none	none	No TRV	none	none
Methyl ethyl ketone	Rat	3.50E-01	1.77E+03	5.23E-01	9.26E+02
Methyl mercury chloride	Rat	3.50E-01	3.20E-02	5.23E-01	1.67E-02
Methylene chloride	Rat	3.50E-01	5.85E+00	5.23E-01	3.06E+00
Naphthalene	none	none	No TRV	none	none
N-Nitroso-di-N-propylamine	none	none	No TRV	none	none
N-Nitrosodiphenylamine	none	none	No TRV	none	none
Pentachlorophenol	Rat	3.50E-01	2.40E-01	5.23E-01	1.25E-01
Phenanthrene	none	none	No TRV	none	none
Phenol	none	none	No TRV	none	none
Pyrene	none	none	No TRV	none	none
Styrene	Dog	1.00E+01	2.00E+02	1.21E+00	2.42E+02
Tetrachloroethene	Mouse	3.00E-02	1.40E+00	2.83E-01	3.96E-01
Toluene	Mouse	3.00E-02	2.60E+01	2.83E-01	7.35E+00
Trichloroethene	Mouse	3.00E-02	7.00E-01	2.83E-01	1.98E-01
Vinyl chloride	Rat	3.50E-01	1.70E-01	5.23E-01	8.89E-02
Xylenes	Mouse	3.00E-02	2.06E+00	2.83E-01	5.83E-01
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxins and Furans	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	No TRV	none	none
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	none	none	No TRV	none	none
1,2,3,4,7,8,9-Heptachlorodibenzofuran	none	none	No TRV	none	none
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none
1,2,3,6,7,8-Hexachlorodibenzofuran	Rat	3.50E-01	1.60E-04	5.23E-01	8.36E-05
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none
1,2,3,7,8,9-Hexachlorodibenzofuran	none	none	No TRV	none	none

Appendix Table S-37. Derivation of Toxicity Reference Values (TRVs) Body-Weight adjusted for Mammal Receptors (continued)

Ecological constituent of potential concern	Test species	Test species body weight BW_t (kg)	TRV_t (mg/kgBW/d)	Mink	
				Body-weight conversion factor BW_{conv} $(BW_t / BW)^{0.25}$	TRV (mg/kgBW/d) $TRV_t x\ BW_{conv}$
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none	none
1,2,3,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-04	5.23E-01	8.36E-05
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	none	none	No TRV	none	none
2,3,4,6,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none
2,3,4,7,8-Pentachlorodibenzofuran	Rat	3.50E-01	1.60E-05	5.23E-01	8.36E-06
2,3,7,8-Tetrachlorodibenzofuran	none	none	No TRV	none	none
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Rat	3.50E-01	1.00E-06	5.23E-01	5.23E-07
Octachlorodibenzofuran	none	none	No TRV	none	none
Octachlorodibenzo-p-dioxin	none	none	No TRV	none	none
0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Explosives	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3,5-Trinitrobenzene	none	none	No TRV	none	none
1,3-Dinitrobenzene	none	none	No TRV	none	none
2,4,6-Trinitrotoluene	Rat	3.50E-01	1.60E+00	5.23E-01	8.36E-01
2,4-Dinitrotoluene	Mouse	3.00E-02	1.35E+01	2.83E-01	3.82E+00
2,6-Dinitrotoluene	Rat	3.50E-01	7.00E-01	5.23E-01	3.66E-01
2-Amino-4,6-dinitrotoluene	none	none	No TRV	none	none
4-Amino-2,6-dinitrotoluene	none	none	No TRV	none	none
Nitrobenzene	none	none	No TRV	none	none
Nitrocellulose	none	none	No TRV	none	none
Nitrobenzene	none	none	No TRV	none	none
HMX	none	none	No TRV	none	none
RDX	none	none	No TRV	none	none
Tetryl	none	none	No TRV	none	none

BW(kg) Short-tailed shrew =	0.017
BW(kg) Deer Mouse =	0.022
BW(kg) White-tailed deer =	56.5
BW(kg) Red fox =	4.69
BW(kg) Mink =	0.85

Appendix Table S-38. Derivation of Toxicity Reference Values (TRVs) for Bird Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
Inorganics										
Aluminum	Ringed dove	1.55E-01	1.10E+02	chronic	NOAEL	Reproduction	Carriere et al. (1986) in [1]	1.0	1.0	1.10E+02
Ammonia	none	none	none	none	none	none	none	none	none	No TRV
Antimony	none	none	none	none	none	none	none	none	none	No TRV
Arsenic	Mallard duck	1.00E+00	5.14E+00	chronic	NOAEL	Mortality	USFWS (1979) in [1]	1.0	1.0	5.14E+00
Barium	Chick (14 day old)	1.21E-01	2.08E+02	subchronic	NOAEL	Mortality	Johnson et al. (1960) in [1]	0.1	1.0	2.08E+01
Beryllium	none	none	none	none	none	none	none	none	none	No TRV
Boron	Mallard duck	1.00E+00	2.88E+01	chronic	NOAEL	Reproduction	Smith and Anders (1989) in [1]	1.0	1.0	2.88E+01
Cadmium	Mallard duck	1.15E+00	1.45E+00	chronic	NOAEL	Reproduction	White and Finley (1978) in [1]	1.0	1.0	1.45E+00
Calcium	none	none	none	none	none	none	none	none	none	No TRV
Chloride	none	none	none	none	none	none	none	none	none	No TRV
Chromium	Black duck	1.25E+00	1.00E+00	chronic	NOAEL	Reproduction	Haseltine et al. (unpubl.) in [1]	1.0	1.0	1.00E+00
Chromium, hexavalent	none	none	none	none	none	none	none	none	none	No TRV
Cobalt	none	none	none	none	none	none	none	none	none	No TRV
Copper	Chick (5 week old)	5.34E-01	4.70E+01	chronic	NOAEL	Mortality	Mehring et al. (1960) in [1]	1.0	1.0	4.70E+01
Cyanide	none	none	none	none	none	none	none	none	none	No TRV
Fluoride	Screech Owl	1.81E-01	7.80E+00	chronic	NOAEL	Reproduction	Pattee et al. 1988	1.0	1.0	7.80E+00
Iron	none	none	none	none	none	none	none	none	none	No TRV
Lead	Quail	1.50E-01	1.13E+00	chronic	NOAEL	Reproduction	Edens et al. (1976) in [1]	1.0	1.0	1.13E+00
Magnesium	none	none	none	none	none	none	none	none	none	No TRV
Manganese	Quail	7.20E-02	9.77E+02	chronic	NOAEL	Growth	Laskey and Edens (1985) in [1]	1.0	1.0	9.77E+02
Mercury	Quail	1.50E-01	4.50E-01	chronic	NOAEL	Reproduction	Hill and Schaffner (1976) in [1]	1.0	1.0	4.50E-01
Molybdenum	Chicken	1.50E+00	3.53E+01	chronic	LOAEL	Reproduction	Lepore and Miller (1965) in [1]	1.0	0.1	3.53E+00
Nickel	Mallard duckling	7.82E-01	7.74E+01	chronic	NOAEL	Growth	Cain and Pafford (1981) in [1]	1.0	1.0	7.74E+01
Nitrate	none	none	none	none	none	none	none	none	none	No TRV
Phosphorus	none	none	none	none	none	none	none	none	none	No TRV
Potassium	none	none	none	none	none	none	none	none	none	No TRV
Selenium	Mallard duck	1.00E+00	5.00E-01	chronic	NOAEL	Reproduction	Heinz et al. (1989) in [1]	1.0	1.0	5.00E-01
Silver	none	none	none	none	none	none	none	none	none	No TRV
Silicon	none	none	none	none	none	none	none	none	none	No TRV
Sodium	none	none	none	none	none	none	none	none	none	No TRV
Sulfate	none	none	none	none	none	none	none	none	none	No TRV
Thallium	none	none	none	none	none	none	none	none	none	No TRV
Vanadium	Mallard duck	1.17E+00	1.14E+01	chronic	NOAEL	Mortality	White and Dieter (1978) in [1]	1.0	1.0	1.14E+01
Zinc	Leghorn chicken	1.94E+00	1.45E+01	chronic	NOAEL	Reproduction	Stahl et al. (1990) in [1]	1.0	1.0	1.45E+01
Organics										
1,1,1-Trichloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,1,2,2-Tetrachloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,1,2-Trichloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,1-Dichloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,6,7,8-HpCDF	none	none	none	none	none	none	none	none	none	No TRV
1,2,4-trichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV

Appendix Table S-38. Derivation of Toxicity Reference Values (TRVs) for Bird Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
1,2-cis-Dichloroethene	none	none	none	none	none	none	none	none	none	No TRV
1,2-Dichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,2-Dichloroethane	Chicken	1.60E+00	1.72E+01	chronic	NOAEL	Reproduction	Alumot et al. (1976b) in [1]	1.0	1.0	1.72E+01
1,2-Dichloroethane	none	none	none	none	none	none	none	none	none	No TRV
1,2-Dichloroethene	none	none	none	none	none	none	none	none	none	No TRV
1,2-Dichloropropane	none	none	none	none	none	none	none	none	none	No TRV
1,2-trans-Dichloroethene	none	none	none	none	none	none	none	none	none	No TRV
1,3-Dichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,4-Dichlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
2,2,5-Trimethylhexane	none	none	none	none	none	none	none	none	none	No TRV
2,4,5-trichlorophenol	none	none	none	none	none	none	none	none	none	No TRV
2,4-D	none	none	none	none	none	none	none	none	none	No TRV
2,4-Dimethylphenol	none	none	none	none	none	none	none	none	none	No TRV
2-Chlorophenol	none	none	none	none	none	none	none	none	none	No TRV
2-Hexanone	none	none	none	none	none	none	none	none	none	No TRV
2-Methylnaphthalene	none	none	none	none	none	none	none	none	none	No TRV
2-Methylphenol	none	none	none	none	none	none	none	none	none	No TRV
4,4'-DDD	none	none	none	none	none	none	none	none	none	No TRV
4,4'-DDE	none	none	none	none	none	none	none	none	none	No TRV
4,4'-DDT	Brown pelican	3.50E+00	2.80E-02	chronic	LOAEL	Reproduction	Anderson et al. (1975) in [1]	1.0	0.1	2.80E-03
4-Chloro-3-methylphenol	none	none	none	none	none	none	none	none	none	No TRV
4-Methyl-2-pentanone	none	none	none	none	none	none	none	none	none	No TRV
4-Methylphenol	none	none	none	none	none	none	none	none	none	No TRV
4-Nitrophenol	none	none	none	none	none	none	none	none	none	No TRV
Acenaphthene	none	none	none	none	none	none	none	none	none	No TRV
Acenaphthylene	none	none	none	none	none	none	none	none	none	No TRV
Acetone	none	none	none	none	none	none	none	none	none	No TRV
Alkalinity	none	none	none	none	none	none	none	none	none	No TRV
Aldrin	none	none	none	none	none	none	none	none	none	No TRV
alpha-Chlordane	Red-winged blackbird	6.40E-02	2.14E+00	chronic	NOAEL	Mortality	Stickel et al. (1983) in [1]	1.0	1.0	2.14E+00
Anthracene	none	none	none	none	none	none	none	none	none	No TRV
Aroclor-1242	Screech owl	1.81E-01	4.10E-01	chronic	NOAEL	Reproduction	McLane and Hughes (1980) in [1]	1.0	1.0	4.10E-01
Aroclor-1248	none	none	none	none	none	none	none	none	none	No TRV
PCB-1254	Ring-necked pheasant	1.00E+00	1.80E+00	chronic	LOAEL	Reproduction	Dahlgren et al. (1972) in [1]	1.0	0.1	1.80E-01
Aroclor-1260	none	none	none	none	none	none	none	none	none	No TRV
Benzene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(a)anthracene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(a)pyrene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(b)fluoranthene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(g,h,i)perylene	none	none	none	none	none	none	none	none	none	No TRV
Benzo(k)fluoranthene	none	none	none	none	none	none	none	none	none	No TRV
Benzoic acid	none	none	none	none	none	none	none	none	none	No TRV

Appendix Table S-38. Derivation of Toxicity Reference Values (TRVs) for Bird Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
Benzyl alcohol	none	none	none	none	none	none	none	none	none	No TRV
Bis(2-chloroisopropyl)ether	none	none	none	none	none	none	none	none	none	No TRV
Bis(2-ethylhexyl)phthalate	Ringed dove	1.55E-01	1.10E+00	chronic	NOAEL	Reproduction	Peakall (1974) in [1]	1.0	1.0	1.10E+00
Butylbenzylphthalate	none	none	none	none	none	none	none	none	none	No TRV
Carbazole	none	none	none	none	none	none	none	none	none	No TRV
Carbon disulfide	none	none	none	none	none	none	none	none	none	No TRV
Chlordane	Red-winged blackbird	6.40E-02	2.14E+00	chronic	NOAEL	Mortality	Stickel et al. (1983) in [1]	1.0	1.0	2.14E+00
Chlorobenzene	none	none	none	none	none	none	none	none	none	No TRV
Chloroethane	none	none	none	none	none	none	none	none	none	No TRV
Chloroform	none	none	none	none	none	none	none	none	none	No TRV
Chrysene	none	none	none	none	none	none	none	none	none	No TRV
m,p-cresol	none	none	none	none	none	none	none	none	none	No TRV
Dalapon	none	none	none	none	none	none	none	none	none	No TRV
delta-BHC	none	none	none	none	none	none	none	none	none	No TRV
Dibenzo(a,h)anthracene	none	none	none	none	none	none	none	none	none	No TRV
Dibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
Dicamba	none	none	none	none	none	none	none	none	none	No TRV
Dichloroprop	none	none	none	none	none	none	none	none	none	No TRV
Dieldrin	Barn owl	4.66E-01	7.70E-02	chronic	NOAEL	Reproduction	Mendenhall et al. (1983) in [1]	1.0	1.0	7.70E-02
Diethylphthalate	none	none	none	none	none	none	none	none	none	No TRV
Di-n-butyl phthalate	Ringed dove	1.55E-01	1.11E+00	chronic	LOAEL	Reproduction	Peakall (1974) in [1]	1.0	0.1	1.11E-01
Di-n-octylphthalate	none	none	none	none	none	none	none	none	none	No TRV
Endosulfan	Gray partridge	4.00E-01	1.00E+01	chronic	NOAEL	Reproduction	Abiola (1992) in [1]	1.0	1.0	1.00E+01
Endosulfan sulfate	none	none	none	none	none	none	none	none	none	No TRV
Endrin	Mallard duck	1.15E+00	3.00E-01	chronic	NOAEL	Reproduction	Spann et al. (1986) in [1]	1.0	1.0	3.00E-01
Endrin aldehyde	none	none	none	none	none	none	none	none	none	No TRV
Endrin ketone	none	none	none	none	none	none	none	none	none	No TRV
Ethylbenzene	none	none	none	none	none	none	none	none	none	No TRV
Fluoranthene	none	none	none	none	none	none	none	none	none	No TRV
Fluorene	none	none	none	none	none	none	none	none	none	No TRV
gamma Chlordane	Red-winged blackbird	6.40E-02	2.14E+00	chronic	NOAEL	Mortality	Stickel et al. (1983) in [1]	1.0	1.0	2.14E+00
gamma-BHC (Lindane)	Mallard Duck	1.00E+00	2.00E+00	chronic	NOAEL	Reproduction	Chakravarty et al. (1986) in [1]	1.0	1.0	2.00E+00
Heptachlor	none	none	none	none	none	none	none	none	none	No TRV
Heptachlor epoxide	none	none	none	none	none	none	none	none	none	No TRV
Indeno(1,2,3-cd)pyrene	none	none	none	none	none	none	none	none	none	No TRV
MCPA	none	none	none	none	none	none	none	none	none	No TRV
MCPP	none	none	none	none	none	none	none	none	none	No TRV
Methoxychlor	none	none	none	none	none	none	none	none	none	No TRV
Methyl bromide	none	none	none	none	none	none	none	none	none	No TRV
Methyl ethyl ketone	none	none	none	none	none	none	none	none	none	No TRV
Methyl mercury dicyandiamide	Mallard duck	1.00E+00	6.40E-02	chronic	LOAEL	Reproduction	Heinz (1979) in [1]	1.0	0.1	6.40E-03
Methylene chloride	none	none	none	none	none	none	none	none	none	No TRV

Appendix Table S-38. Derivation of Toxicity Reference Values (TRVs) for Bird Test Species

Ecological constituent of potential concern	Test species	Test species body weight (kg) BW_t	Benchmark (mg/kgBW/d)	Test duration	Endpoint	Effect	Source	Duration conversion factor DCF	Endpoint conversion factor ECF	TRV (mg/kgBW/d) benchmark *x* DCF *x* ECF
Naphthalene	none	none	none	none	none	none	none	none	none	No TRV
N-Nitroso-di-N-propylamine	none	none	none	none	none	none	none	none	none	No TRV
N-Nitrosodiphenylamine	none	none	none	none	none	none	none	none	none	No TRV
Pentachlorophenol	none	none	none	none	none	none	none	none	none	No TRV
Phenanthrene	none	none	none	none	none	none	none	none	none	No TRV
Phenol	none	none	none	none	none	none	none	none	none	No TRV
Pyrene	none	none	none	none	none	none	none	none	none	No TRV
Styrene	none	none	none	none	none	none	none	none	none	No TRV
Tetrachloroethene	none	none	none	none	none	none	none	none	none	No TRV
Toluene	none	none	none	none	none	none	none	none	none	No TRV
Trichloroethene	none	none	none	none	none	none	none	none	none	No TRV
Vinyl chloride	none	none	none	none	none	none	none	none	none	No TRV
Xylenes	none	none	none	none	none	none	none	none	none	No TRV
Dioxins and Furans										
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,7,8,9-Heptachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,6,7,8-Hexachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,7,8,9-Hexachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,7,8-Pentachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
2,3,4,6,7,8-Hexachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
2,3,4,7,8-Pentachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
2,3,7,8-Tetrachlorodibenzofuran	Chick (1 day old)	1.21E-01	1.00E-04	subchronic	LOAEL	Mortality	McKinney et al. (1976) in [1]	0.1	0.1	1.00E-06
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Ring-necked Pheasant	1.00E+00	1.40E-05	chronic	NOAEL	Reproduction	Nosek et al. (1992) in [1]	1.0	1.0	1.40E-05
Octachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
Octachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
Explosives										
1,3,5-Trinitrobenzene	none	none	none	none	none	none	none	none	none	No TRV
1,3-Dinitrobenzene	none	none	none	none	none	none	none	none	none	No TRV
2,4,6-Trinitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
2,4-Dinitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
2,6-Dinitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
2-Amino-4,6-dinitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
4-Amino-2,6-dinitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
Nitrobenzene	none	none	none	none	none	none	none	none	none	No TRV
Nitrocellulose	none	none	none	none	none	none	none	none	none	No TRV

Appendix Table S-38. Derivation of Toxicity Reference Values (TRVs) for Bird Test Species

Ecological constituent of potential concern	**Test species**	**Test species body weight** (kg) **BW_t**	**Benchmark** (mg/kgBW/d)	**Test duration**	**Endpoint**	**Effect**	**Source**	**Duration conversion factor DCF**	**Endpoint conversion factor ECF**	**TRV** (mg/kgBW/d) benchmark *x* DCF *x* ECF
Nitrobenzene	none	none	none	none	none	none	none	none	none	No TRV
HMX	none	none	none	none	none	none	none	none	none	No TRV
RDX	none	none	none	none	none	none	none	none	none	No TRV
Tetryl	none	none	none	none	none	none	none	none	none	No TRV

TRV = toxicity reference value
DCF = Duration conversion factor; 1 if chronic, 0.1 if subchronic (Sample et al. 1996
ECF = Endpoint conversion factor; 1 if NOAEL, 0.1 if LOAEL (Sample et al. 1996
NOAEL = No observed adverse effect level
LOAEL = Lowest observed adverse effect lev
[1] = Sample et al. (1996)

Appendix Table S-39. Water Tower Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals													
Cadmium	2.90E-01	4.00E+00	7.25E-02	no	yes	yes	0.00%	2.00E+01	1.45E-02	no	yes	yes	0.00%
Calcium	3.24E+03	No TRV	No TRV	yes	No BAF	no	No TRV	No TRV	No TRV	yes	No BAF	no	No TRV
Chromium	2.50E+02	1.00E+00	2.50E+02	yes	no	yes	5.13%	4.00E-01	6.26E+02	yes	no	yes	98.61%
Iron	4.56E+04	1.00E+01	4.56E+03	yes	no	yes	93.56%	No TRV	No TRV	yes	no	no	No TRV
Lead	2.51E+03	5.00E+01	5.02E+01	yes	yes	yes	1.03%	5.00E+02	5.02E+00	yes	yes	yes	0.79%
Magnesium	2.80E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Mercury	5.70E-02	3.00E-01	1.90E-01	no	yes	yes	0.00%	1.00E-01	5.70E-01	no	yes	yes	0.09%
Nickel	3.24E+01	3.00E+01	1.08E+00	yes	no	yes	0.02%	2.00E+02	1.62E-01	no	no	no	0.03%
Potassium	2.13E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Sodium	1.08E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Zinc	6.11E+02	5.00E+01	1.22E+01	yes	yes	yes	0.25%	2.00E+02	3.05E+00	yes	yes	yes	0.48%
		HI =	4.88E+03					HI =	6.35E+02				

RME = Reasonable maximum exposure
TRV = toxicity reference value
HQ = Hazard quotient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard Index (Sum of HQs)
[a]Plant TRV reference from Efroymson et al. (1997a)
[b]Earthworm TRV reference from Efroymson et al. (1997b)
Kow = octanol/water partition coefficient

Appendix Table S-40. Water Tower Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Cadmium	2.90E-01	1.10E-01	2.61E-03	1.10E+01	3.95E-01	1.22E-03	3.99E-01	1.93E+00	2.07E-01	yes	yes	0.51%
Calcium	3.24E+03	7.00E-01	1.85E+02	1.00E+00	4.01E+02	1.36E+01	6.00E+02	No TRV	No TRV	No BAF	no	No TRV
Chromium	2.50E+02	1.50E-03	3.08E-02	1.60E-01	4.96E+00	1.05E+00	6.05E+00	5.47E+03	1.11E-03	no	no	0.00%
Iron	4.56E+04	8.00E-04	2.99E+00	1.00E+00	5.65E+03	1.92E+02	5.85E+03	No TRV	No TRV	no	no	No TRV
Lead	2.51E+03	9.00E-03	1.85E+00	2.00E+00	6.22E+02	1.05E+01	6.34E+02	1.60E+01	3.97E+01	yes	yes	98.26%
Magnesium	2.80E+03	2.00E-01	4.59E+01	1.00E+00	3.47E+02	1.18E+01	4.05E+02	No TRV	No TRV	no	no	No TRV
Mercury	5.70E-02	1.80E-01	8.40E-04	3.40E-01	2.40E-03	2.39E-04	3.48E-03	2.62E+00	1.33E-03	yes	yes	0.00%
Nickel	3.24E+01	1.20E-02	3.18E-02	2.30E-01	9.23E-01	1.36E-01	1.09E+00	7.99E+01	1.37E-02	no	no	0.03%
Potassium	2.13E+03	2.00E-01	3.50E+01	1.00E+00	2.64E+02	8.96E+00	3.08E+02	No TRV	No TRV	no	no	No TRV
Sodium	1.08E+02	1.50E-02	1.33E-01	1.00E+00	1.34E+01	4.54E-01	1.40E+01	No TRV	No TRV	no	no	No TRV
Zinc	6.11E+02	3.00E-01	1.50E+01	1.80E+00	1.36E+02	2.56E+00	1.54E+02	3.20E+02	4.81E-01	yes	yes	1.19%
								HI =	4.04E+01			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for deer mice = 0.0819

ADD_P = Average daily dose; plant

AUF = Area use factor (1.0)

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for deer mice = 0.1239

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for deer mice = 0.0042

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV). For metals, is the BAF>2 and for organics is the Ko$\geq$ 4

HI = Hazard index

Appendix Table S-41. Water Tower Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPv	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Cadmium	2.90E-01	1.10E-01	1.58E-06	1.10E+01	0.00E+00	2.88E-07	1.87E-06	2.71E-01	6.91E-06	yes	yes	0.38%
Calcium	3.24E+03	7.00E-01	1.12E-01	1.00E+00	0.00E+00	3.21E-03	1.16E-01	No TRV	No TRV	no	no	No TRV
Chromium	2.50E+02	1.50E-03	1.86E-05	1.60E-01	0.00E+00	2.48E-04	2.67E-04	7.68E+02	3.48E-07	no	no	0.02%
Iron	4.56E+04	8.00E-04	1.81E-03	1.00E+00	0.00E+00	4.53E-02	4.71E-02	No TRV	No TRV	no	no	No TRV
Lead	2.51E+03	9.00E-03	1.12E-03	2.00E+00	0.00E+00	2.49E-03	3.61E-03	2.24E+00	1.61E-03	yes	yes	87.52%
Magnesium	2.80E+03	2.00E-01	2.78E-02	1.00E+00	0.00E+00	2.78E-03	3.06E-02	No TRV	No TRV	no	no	No TRV
Mercury	5.70E-02	1.80E-01	5.09E-07	3.40E-01	0.00E+00	5.65E-08	5.65E-07	3.68E-01	1.53E-06	yes	yes	0.08%
Nickel	3.24E+01	1.20E-02	1.93E-05	2.30E-01	0.00E+00	3.21E-05	5.14E-05	1.12E+01	4.58E-06	no	no	0.25%
Potassium	2.13E+03	2.00E-01	2.12E-02	1.00E+00	0.00E+00	2.12E-03	2.33E-02	No TRV	No TRV	no	no	No TRV
Sodium	1.08E+02	1.50E-02	8.04E-05	1.00E+00	0.00E+00	1.07E-04	1.87E-04	No TRV	No TRV	no	no	No TRV
Zinc	6.11E+02	3.00E-01	9.09E-03	1.80E+00	0.00E+00	6.06E-04	9.69E-03	4.49E+01	2.16E-04	yes	yes	11.75%
								HI =	1.84E-03			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingest 1.60E-03

ADD_P = Average daily dose; plant

AUF = Area use factor

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for white-tailed deer = 0.00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for white-tailed deer = 0.00062

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-42 Water Tower Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**RME Concentration** (mg/kg)	**SP_v**	**ADD_P** (mg/kgBW/d) RME x SP_v x I_P x AUF	**BAF_i**	**ADD_A** (mg/kgBW/d) RME x BAF_i x I_A x AUF	**ADD_S** (mg/kgBW/d) RME x I_S x AUF	**ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	**TRV** (mg/kgBW/d)	**Site HQ** ADD_{total} / TRV	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals												
Cadmium	2.90E-01	1.10E-01	2.32E-03	1.10E+01	1.55E+00	2.11E-02	1.58E+00	2.05E+00	7.68E-01	yes	yes	0.49%
Calcium	3.24E+03	7.00E-01	1.65E+02	1.00E+00	1.58E+03	2.36E+02	1.98E+03	No TRV	No TRV	no	no	No TRV
Chromium	2.50E+02	1.50E-03	2.73E-02	1.60E-01	1.95E+01	1.82E+01	3.78E+01	5.83E+03	6.48E-03	no	no	0.00%
Iron	4.56E+04	8.00E-04	2.66E+00	1.00E+00	2.22E+04	3.32E+03	2.56E+04	No TRV	No TRV	no	no	No TRV
Lead	2.51E+03	9.00E-03	1.64E+00	2.00E+00	2.45E+03	1.83E+02	2.63E+03	1.70E+01	1.54E+02	yes	yes	98.35%
Magnesium	2.80E+03	2.00E-01	4.08E+01	1.00E+00	1.37E+03	2.04E+02	1.61E+03	No TRV	No TRV	no	no	No TRV
Mercury	5.70E-02	1.80E-01	7.47E-04	3.40E-01	9.44E-03	4.15E-03	1.43E-02	2.80E+00	5.13E-03	yes	yes	0.00%
Nickel	3.24E+01	1.20E-02	2.83E-02	2.30E-01	3.63E+00	2.36E+00	6.02E+00	8.52E+01	7.06E-02	no	no	0.05%
Potassium	2.13E+03	2.00E-01	3.11E+01	1.00E+00	1.04E+03	1.55E+02	1.23E+03	No TRV	No TRV	no	no	No TRV
Sodium	1.08E+02	1.50E-02	1.18E-01	1.00E+00	5.26E+01	7.86E+00	6.06E+01	No TRV	No TRV	no	no	No TRV
Zinc	6.11E+02	3.00E-01	1.33E+01	1.80E+00	5.35E+02	4.45E+01	5.93E+02	3.41E+02	1.74E+00	yes	yes	1.11%
								HI =	1.57E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for shrew = 0.073
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-43. Water Tower Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Cadmium	2.90E-01	3.00E-02	6.61E-03	1.10E+01	2.42E+00	5.04E-01	2.94E+00	1.45E+00	2.02E+00	yes	yes	0.05%
Calcium	3.24E+03	7.00E-02	1.72E+02	1.00E+00	2.46E+03	5.11E+02	3.14E+03	No TRV	No TRV	no	no	No TRV
Chromium	2.50E+02	9.00E-04	1.71E-01	1.60E-01	3.04E+01	6.33E+00	3.70E+01	1.00E+00	3.70E+01	no	yes	0.88%
Iron	4.56E+04	2.00E-04	6.94E+00	1.00E+00	3.47E+04	7.21E+03	4.19E+04	No TRV	No TRV	no	no	No TRV
Lead	2.51E+03	1.80E-03	3.43E+00	2.00E+00	3.82E+03	7.94E+02	4.61E+03	1.13E+00	4.08E+03	yes	yes	97.27%
Magnesium	2.80E+03	1.10E-01	2.34E+02	1.00E+00	2.13E+03	4.43E+02	2.81E+03	No TRV	No TRV	no	no	No TRV
Mercury	5.70E-02	4.00E-02	1.73E-03	3.40E-01	1.47E-02	3.06E-03	1.95E-02	4.50E-01	4.34E-02	yes	yes	0.00%
Nickel	3.24E+01	1.20E-02	2.95E-01	2.30E-01	5.66E+00	1.18E+00	7.14E+00	7.74E+01	9.22E-02	no	no	0.00%
Potassium	2.13E+03	1.10E-01	1.78E+02	1.00E+00	1.62E+03	3.37E+02	2.14E+03	No TRV	No TRV	no	no	No TRV
Sodium	1.08E+02	1.10E-02	9.03E-01	1.00E+00	8.21E+01	1.71E+01	1.00E+02	No TRV	No TRV	no	no	No TRV
Zinc	6.11E+02	1.80E-01	8.35E+01	1.80E+00	8.35E+02	1.74E+02	1.09E+03	1.45E+01	7.54E+01	yes	yes	1.80%
								HI =	4.20E+03			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_r = Soil-to-plant; reproductive

I_P (kg/kgBW/d) = Plant ingestion rate for robins = 0.76

ADD_P = Average daily dose; plant

AUF = Area use factor (1.0)

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for robins = 0.76

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for robins = 0.158

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-44. Water Tower Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**RME Concentration** (mg/kg)	**SPr**	**ADD_P** (mg/kgBW/d) RME x SP_r x I_P x AUF	**SP_v**	**Prey ADD_P** (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	**BAF_i**	**Prey ADD_A** (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	**Prey ADD_S** (mg/kgBW/d) RME x I_{S-s} x AUF-s	**Prey ADD_{total}** (mg/kgBW/d) ADD_P + ADD_A + ADD_S
Metals									
Cadmium	2.90E-01	3.00E-02	1.30E-08	1.10E-01	2.32E-03	1.10E+01	1.55E+00	2.11E-02	1.58E+00
Calcium	3.24E+03	7.00E-02	3.38E-04	7.00E-01	1.65E+02	1.00E+00	1.58E+03	2.36E+02	1.98E+03
Chromium	2.50E+02	9.00E-04	3.36E-07	1.50E-03	2.73E-02	1.60E-01	1.95E+01	1.82E+01	3.78E+01
Iron	4.56E+04	2.00E-04	1.36E-05	8.00E-04	2.66E+00	1.00E+00	2.22E+04	3.32E+03	2.56E+04
Lead	2.51E+03	1.80E-03	6.74E-06	9.00E-03	1.64E+00	2.00E+00	2.45E+03	1.83E+02	2.63E+03
Magnesium	2.80E+03	1.10E-01	4.60E-04	2.00E-01	4.08E+01	1.00E+00	1.37E+03	2.04E+02	1.61E+03
Mercury	5.70E-02	4.00E-02	3.40E-09	1.80E-01	7.47E-04	3.40E-01	9.44E-03	4.15E-03	1.43E-02
Nickel	3.24E+01	1.20E-02	5.80E-07	1.20E-02	2.83E-02	2.30E-01	3.63E+00	2.36E+00	6.02E+00
Potassium	2.13E+03	1.10E-01	3.50E-04	2.00E-01	3.11E+01	1.00E+00	1.04E+03	1.55E+02	1.23E+03
Sodium	1.08E+02	1.10E-02	1.77E-06	1.50E-02	1.18E-01	1.00E+00	5.26E+01	7.86E+00	6.06E+01
Zinc	6.11E+02	1.80E-01	1.64E-04	3.00E-01	1.33E+01	1.80E+00	5.35E+02	4.45E+01	5.93E+02

Appendix Table S-44. Water Tower Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**Cs** (mg/kg) Prey ADD_{total}/IR_f	**BAF_v**	**ADD_A** (mg/kgBW/d) Cs *x* BAF_v *x* I_A *x* AUF	**ADD_S** (mg/kgBW/d) RME *x* I_S *x* AUF	**ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	**TRV** (mg/kgBW/d)	**Site HQ** ADD_{total} / TRV	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals										
Cadmium	2.82E+00	2.80E-02	2.44E-06	2.63E-07	2.72E-06	5.04E-01	5.39E-06	yes	yes	0.18%
Calcium	3.53E+03	1.00E+00	1.09E-01	2.94E-03	1.12E-01	No TRV	No TRV	No BAF	no	No TRV
Chromium	6.75E+01	2.80E-01	5.84E-04	2.27E-04	8.12E-04	1.43E+03	5.68E-07	no	no	0.02%
Iron	4.56E+04	1.00E+00	1.41E+00	4.14E-02	1.45E+00	No TRV	No TRV	no	no	No TRV
Lead	4.70E+03	1.50E-02	2.18E-03	2.28E-03	4.47E-03	4.18E+00	1.07E-03	yes	yes	34.86%
Magnesium	2.87E+03	1.00E+00	8.89E-02	2.54E-03	9.19E-02	No TRV	No TRV	no	no	No TRV
Mercury	2.56E-02	1.30E+01	1.03E-05	5.18E-08	1.04E-05	6.86E-01	1.51E-05	yes	yes	0.49%
Nickel	1.07E+01	3.00E-01	9.97E-05	2.94E-05	1.30E-04	2.09E+01	6.21E-06	no	no	0.20%
Potassium	2.19E+03	1.00E+00	6.77E-02	1.94E-03	7.00E-02	No TRV	No TRV	no	no	No TRV
Sodium	1.08E+02	1.00E+00	3.35E-03	9.81E-05	3.45E-03	No TRV	No TRV	no	no	No TRV
Zinc	1.06E+03	5.00E+00	1.64E-01	5.54E-04	1.65E-01	8.36E+01	1.97E-03	yes	yes	64.25%
						HI =	3.06E-03			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_r = Soil-to-plant; reproductive

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for red foxes = 0.00317

ADD_P = Average daily dose; plant

$I_{P\text{-}s}$ (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728

AUF = Area use factor = 0.00047

AUF_{prey} = Area use factor = 1.0

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

$I_{A\text{-}s}$ (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487

ADD_S = Average daily dose; soil

$I_{S\text{-}s}$ (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728

Cs (mg/kg) = Concentration in the prey

IR_f = Ingestion rate of food for shrews

BAF_v = Animal-to-animal; vertebrates

I_A (kg/kgBW/d) = Animal ingestion rate for red foxes = 0.0658

I_S (kg/kgBW/d) = Soil ingestion rate for red foxes = 0.00193

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

HQ = Hazard quotient

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

HI = Hazard index (Sum of HQs)

Appendix Table S-45. Water Tower Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x SP_v x $I_{P\text{-}s}$ x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x $I_{A\text{-}s}$ x AUF-s	Prey ADD_S (mg/kgBW/d) RME x $I_{S\text{-}s}$ x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals								
Cadmium	2.90E-01	1.10E-01	0.00E+00	2.32E-03	1.10E+01	1.55E+00	2.11E-02	1.58E+00
Calcium	3.24E+03	7.00E-01	0.00E+00	1.65E+02	1.00E+00	1.58E+03	2.36E+02	1.98E+03
Chromium	2.50E+02	1.50E-03	0.00E+00	2.73E-02	1.60E-01	1.95E+01	1.82E+01	3.78E+01
Iron	4.56E+04	8.00E-04	0.00E+00	2.66E+00	1.00E+00	2.22E+04	3.32E+03	2.56E+04
Lead	2.51E+03	9.00E-03	0.00E+00	1.64E+00	2.00E+00	2.45E+03	1.83E+02	2.63E+03
Magnesium	2.80E+03	2.00E-01	0.00E+00	4.08E+01	1.00E+00	1.37E+03	2.04E+02	1.61E+03
Mercury	5.70E-02	1.80E-01	0.00E+00	7.47E-04	3.40E-01	9.44E-03	4.15E-03	1.43E-02
Nickel	3.24E+01	1.20E-02	0.00E+00	2.83E-02	2.30E-01	3.63E+00	2.36E+00	6.02E+00
Potassium	2.13E+03	2.00E-01	0.00E+00	3.11E+01	1.00E+00	1.04E+03	1.55E+02	1.23E+03
Sodium	1.08E+02	1.50E-02	0.00E+00	1.18E-01	1.00E+00	5.26E+01	7.86E+00	6.06E+01
Zinc	6.11E+02	3.00E-01	0.00E+00	1.33E+01	1.80E+00	5.35E+02	4.45E+01	5.93E+02

EU = Exposure Unit

aTRV adjusted by 0.1 for Threatened and Endangered Species

RME = Reasonable maximum exposure

SP_r = Soil-to-plant; reproductive

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for barn owl = 0.00

ADD_P = Average daily dose; plant

BAF_v = Animal-to-mammal

I_A (kg/kgBW/d) = Animal ingestion rate for barn owl = 0.125

I_S (kg/kgBW/d) = Soil ingestion rate for barn owl = 0.00

$I_{P\text{-}S}$ (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728

AUF = Area use factor = 1.0

AUF_{prey} = Area use factor = 1.0

BAF_i = Soil-to-animal; invertebrates

Appendix Table S-45. Water Tower Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**Cs** (mg/kg) Prey ADD_{total}/IR_f	**BAF_v**	**ADD_A** (mg/kgBW/d) $Cs\ x\ BAF_v\ x\ I_A\ x$ AUF	**ADD_S** (mg/kgBW/d) RME x I_S x AUF	**ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	**TRV[a]**(mg/kgBW/d)	**Site HQ** ADD_{total} / TRV	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals										
Cadmium	2.82E+00	2.80E-02	9.86E-03	0.00E+00	9.86E-03	1.45E-01	6.80E-02	yes	yes	0.01%
Calcium	3.53E+03	1.00E+00	4.41E+02	0.00E+00	4.41E+02	No TRV	No TRV	No BAF	no	No TRV
Chromium	6.75E+01	2.80E-01	2.36E+00	0.00E+00	2.36E+00	1.00E-01	2.36E+01	no	yes	4.22%
Iron	4.56E+04	1.00E+00	5.70E+03	0.00E+00	5.70E+03	No TRV	No TRV	no	no	No TRV
Lead	4.70E+03	1.50E-02	8.81E+00	0.00E+00	8.81E+00	1.13E-01	7.79E+01	yes	yes	13.93%
Magnesium	2.87E+03	1.00E+00	3.59E+02	0.00E+00	3.59E+02	No TRV	No TRV	no	no	No TRV
Mercury	2.56E-02	1.30E+01	4.16E-02	0.00E+00	4.16E-02	4.50E-02	9.25E-01	yes	yes	0.17%
Nickel	1.07E+01	3.00E-01	4.03E-01	0.00E+00	4.03E-01	7.74E+00	5.21E-02	no	no	0.01%
Potassium	2.19E+03	1.00E+00	2.74E+02	0.00E+00	2.74E+02	No TRV	No TRV	no	no	No TRV
Sodium	1.08E+02	1.00E+00	1.35E+01	0.00E+00	1.35E+01	No TRV	No TRV	no	no	No TRV
Zinc	1.06E+03	5.00E+00	6.62E+02	0.00E+00	6.62E+02	1.45E+00	4.57E+02	yes	yes	81.67%
						HI =	5.60E+02			

ADD_A = Average daily dose; animal

I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487

ADD_S = Average daily dose; soil

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

HQ = Hazard quotient

nd= not detected, na= not applicable

COPEC = Constituents of potential ecological concern

Appendix Table S-46. CB-3 and CB-801 Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals													
Aluminum	1.20E+04	5.00E+01	2.41E+02	yes	no	yes	7.18%	No TRV	No TRV	yes	no	no	No TRV
Antimony	1.10E+02	5.00E+00	2.19E+01	yes	no	yes	0.65%	No TRV	No TRV	yes	no	no	No TRV
Arsenic	1.29E+01	1.00E+01	1.29E+00	yes	no	yes	0.04%	6.00E+01	2.15E-01	no	no	no	0.19%
Barium	1.54E+02	5.00E+02	3.07E-01	no	no	no	0.01%	No TRV	No TRV	yes	no	no	No TRV
Cadmium	6.28E+00	4.00E+00	1.57E+00	yes	yes	yes	0.05%	2.00E+01	3.14E-01	no	yes	yes	0.27%
Calcium	1.99E+05	No TRV	No TRV	yes	No BAF	no	No TRV	No TRV	No TRV	yes	No BAF	no	No TRV
Chromium	4.38E+01	1.00E+00	4.38E+01	yes	no	yes	1.31%	4.00E-01	1.10E+02	yes	no	yes	95.21%
Chromium, hexavalent	1.40E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Copper	5.60E+01	1.00E+02	5.60E-01	no	no	no	0.02%	6.00E+01	9.34E-01	no	no	no	0.81%
Iron	3.02E+04	1.00E+01	3.02E+03	yes	no	yes	90.11%	No TRV	No TRV	yes	no	no	No TRV
Lead	6.06E+02	5.00E+01	1.21E+01	yes	yes	yes	0.36%	5.00E+02	1.21E+00	yes	yes	yes	1.05%
Magnesium	5.55E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Manganese	1.26E+03	5.00E+02	2.52E+00	yes	no	yes	0.08%	No TRV	No TRV	yes	no	no	No TRV
Mercury	1.41E-01	3.00E-01	4.69E-01	no	yes	yes	0.01%	1.00E-01	1.41E+00	yes	yes	yes	1.22%
Nickel	2.27E+01	3.00E+01	7.55E-01	no	no	no	0.02%	2.00E+02	1.13E-01	no	no	no	0.10%
Potassium	1.24E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Selenium	6.92E-01	1.00E+00	6.92E-01	no	no	no	0.02%	7.00E+01	9.88E-03	no	no	no	0.01%
Sodium	3.00E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Zinc	2.60E+02	5.00E+01	5.21E+00	yes	yes	yes	0.16%	2.00E+02	1.30E+00	yes	yes	yes	1.13%
Organics-Semivolatile													
Anthracene	3.71E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)anthracene	1.40E+01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)pyrene	1.30E+01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(b)fluoranthene	1.50E+01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(g,h,i)perylene	8.20E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(k)fluoranthene	5.70E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	3.40E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Carbazole	2.64E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Chrysene	1.50E+01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Di-n-butyl phthalate	5.00E-01	2.00E+02	2.50E-03	no	yes	yes	0.00%	No TRV	No TRV	yes	yes	yes	No TRV
Dibenzofuran	9.29E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluoranthene	3.90E+01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluorene	1.55E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Pentachlorophenol	8.30E-02	3.00E+00	2.77E-02	no	yes	yes	0.00%	6.00E+00	1.38E-02	no	yes	yes	0.01%
Phenanthrene	3.00E+01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Pyrene	4.10E+01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV

Appendix Table S-46. CB-3 and CB-801 Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Organics-Volatile													
Methylene chloride	2.98E-03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Organics-Pesticide/PCB													
4,4'-DDT	3.76E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Dieldrin	3.34E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Endrin aldehyde	2.10E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Endrin ketone	7.12E-02	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Methoxychlor	2.60E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
PCB-1254	4.30E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
beta-BHC	1.88E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
gamma-Chlordane	5.16E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Explosives													
2,4,6-Trinitrotoluene	3.69E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
2-Amino-4,6-dinitrotoluene	9.70E-02	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
2-Nitrotoluene	1.76E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
4-Amino-2,6-dinitrotoluene	1.52E-01	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Nitrocellulose	4.54E+00	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
RDX	2.59E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
		HI =	3.36E+03					HI =	1.15E+02				

RME = Reasonable maximum exposure
TRV = toxicity reference value
HQ = Hazard quotient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard Index (Sum of HQs)
[a]Plant TRV reference from Efroymson et al. (1997a)
[b]Earthworm TRV reference from Efroymson et al. (1997b)
Kow = octanol/water partition coefficient

Appendix Table S-47. CB-3/CB-801 Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.20E+04	8.00E-04	7.89E-01	7.50E-02	1.12E+02	5.06E+01	1.63E+02	2.09E+00	7.83E+01	no	yes	17.85%
Antimony	1.10E+02	4.00E-02	3.19E-01	5.00E-02	2.67E+00	7.99E+00	1.10E+01	1.35E-01	8.13E+01	no	yes	18.53%
Arsenic	1.29E+01	8.00E-03	7.50E-03	6.60E-03	4.14E-02	9.38E-01	9.87E-01	1.36E-01	7.25E+00	no	yes	1.65%
Barium	1.54E+02	3.00E-02	3.35E-01	7.50E-03	5.61E-01	1.12E+01	1.21E+01	1.07E+01	1.13E+00	no	yes	0.26%
Cadmium	6.28E+00	1.10E-01	5.03E-02	1.10E+01	3.37E+01	4.57E-01	3.42E+01	1.93E+00	1.77E+01	yes	yes	4.04%
Calcium	1.99E+05	7.00E-01	1.01E+04	1.00E+00	9.68E+04	1.45E+04	1.21E+05	No TRV	No TRV	No BAF	no	No TRV
Chromium	4.38E+01	1.50E-03	4.79E-03	1.60E-01	3.42E+00	3.19E+00	6.61E+00	5.47E+03	1.21E-03	no	no	0.00%
Chromium, hexavalent	1.40E+00	1.50E-03	1.53E-04	1.60E-01	1.09E-01	1.02E-01	2.11E-01	No TRV	No TRV	no	no	No TRV
Copper	5.60E+01	8.00E-02	3.26E-01	1.60E-01	4.37E+00	4.08E+00	8.77E+00	3.04E+01	2.88E-01	no	no	0.07%
Iron	3.02E+04	8.00E-04	1.76E+00	1.00E+00	1.47E+04	2.20E+03	1.69E+04	No TRV	No TRV	no	no	No TRV
Lead	6.06E+02	9.00E-03	3.97E-01	2.00E+00	5.90E+02	4.41E+01	6.34E+02	1.60E+01	3.97E+01	yes	yes	9.05%
Magnesium	5.55E+03	2.00E-01	8.07E+01	1.00E+00	2.70E+03	4.04E+02	3.19E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.26E+03	5.00E-02	4.59E+00	2.00E-02	1.23E+01	9.18E+01	1.09E+02	1.76E+02	6.18E-01	no	no	0.14%
Mercury	1.41E-01	1.80E-01	1.84E-03	3.40E-01	2.33E-02	1.02E-02	3.54E-02	2.62E+00	1.35E-02	yes	yes	0.00%
Nickel	2.27E+01	1.20E-02	1.98E-02	2.30E-01	2.54E+00	1.65E+00	4.21E+00	7.99E+01	5.27E-02	no	no	0.01%
Potassium	1.24E+03	2.00E-01	1.80E+01	1.00E+00	6.02E+02	8.99E+01	7.10E+02	No TRV	No TRV	no	no	No TRV
Selenium	6.92E-01	5.00E-03	2.52E-04	7.60E-01	2.56E-01	5.04E-02	3.07E-01	3.99E-01	7.68E-01	no	no	0.18%
Sodium	3.00E+02	1.50E-02	3.28E-01	1.00E+00	1.46E+02	2.19E+01	1.68E+02	No TRV	No TRV	no	no	No TRV
Zinc	2.60E+02	3.00E-01	5.69E+00	1.80E+00	2.28E+02	1.90E+01	2.53E+02	3.20E+02	7.92E-01	yes	yes	0.18%
Organics-Semivolatile												
Anthracene	3.71E+00	2.00E-02	5.40E-03	5.00E-02	9.03E-02	2.70E-01	3.66E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.40E+01	3.90E-03	3.97E-03	5.00E-02	3.41E-01	1.02E+00	1.36E+00	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.30E+01	2.60E-03	2.46E-03	5.00E-02	3.17E-01	9.46E-01	1.27E+00	1.08E+00	1.17E+00	yes	yes	0.27%
Benzo(b)fluoranthene	1.50E+01	2.30E-03	2.51E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	8.20E+00	1.20E-03	7.16E-04	5.00E-02	2.00E-01	5.97E-01	7.97E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.70E+00	2.30E-03	9.54E-04	5.00E-02	1.39E-01	4.15E-01	5.55E-01	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	3.40E-01	8.70E-03	2.15E-04	5.00E-02	8.28E-03	2.48E-02	3.32E-02	1.98E+01	1.68E-03	yes	yes	0.00%
Carbazole	2.64E+00	2.00E-02	3.84E-03	5.00E-02	6.42E-02	1.92E-01	2.60E-01	No TRV	No TRV	no	no	No TRV
Chrysene	1.50E+01	3.90E-03	4.26E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	5.00E-01	7.60E-03	2.77E-04	5.00E-02	1.22E-02	3.64E-02	4.89E-02	5.94E+02	8.22E-05	yes	yes	0.00%
Dibenzofuran	9.29E-01	2.00E-02	1.35E-03	5.00E-02	2.26E-02	6.76E-02	9.16E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	3.90E+01	2.00E-02	5.68E-02	5.00E-02	9.50E-01	2.84E+00	3.85E+00	No TRV	No TRV	yes	yes	No TRV
Fluorene	1.55E+00	2.00E-02	2.25E-03	5.00E-02	3.77E-02	1.13E-01	1.53E-01	4.95E+00	3.08E-02	yes	yes	0.01%
Pentachlorophenol	8.30E-02	1.00E+00	6.04E-03	1.00E+00	4.04E-02	6.04E-03	5.25E-02	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	3.00E+01	2.00E-02	4.37E-02	5.00E-02	7.31E-01	2.18E+00	2.96E+00	No TRV	No TRV	yes	yes	No TRV
Pyrene	4.10E+01	6.70E-03	2.00E-02	5.00E-02	9.99E-01	2.98E+00	4.00E+00	9.23E+02	4.34E-03	yes	yes	0.00%

Appendix Table S-47. CB-3/CB-801 Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Volatile												
Methylene chloride	2.98E-03	2.00E-02	4.34E-06	5.00E-02	7.26E-05	2.17E-04	2.94E-04	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
4,4'-DDT	3.76E-02	7.70E-04	2.11E-06	5.70E-01	1.04E-02	2.74E-03	1.32E-02	1.60E+00	8.25E-03	yes	yes	0.00%
Dieldrin	3.34E-02	2.00E-02	4.86E-05	5.50E+00	8.95E-02	2.43E-03	9.20E-02	3.99E-02	2.30E+00	yes	yes	0.52%
Endrin aldehyde	2.10E-01	2.00E-02	3.06E-04	1.90E+00	1.94E-01	1.53E-02	2.10E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	7.12E-02	2.00E-02	1.04E-04	1.90E+00	6.59E-02	5.18E-03	7.11E-02	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	2.60E-02	2.00E-02	3.79E-05	5.70E-01	7.22E-03	1.89E-03	9.15E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.30E+00	3.80E-01	1.19E-01	5.80E+00	1.22E+01	3.13E-01	1.26E+01	6.07E-02	2.07E+02	yes	yes	47.24%
beta-BHC	1.88E-01	2.00E-02	2.73E-04	2.60E+00	2.38E-01	1.37E-02	2.51E-01	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	5.16E-02	5.10E-03	1.92E-05	1.60E+00	4.02E-02	3.76E-03	4.40E-02	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	3.69E-01	1.00E+00	2.69E-02	1.00E+00	1.80E-01	2.69E-02	2.34E-01	1.46E+01	1.60E-02	no	no	0.00%
2-Amino-4,6-dinitrotoluene	9.70E-02	1.00E+00	7.06E-03	1.00E+00	4.73E-02	7.06E-03	6.14E-02	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	1.76E-01	1.00E+00	1.28E-02	1.00E+00	8.58E-02	1.28E-02	1.11E-01	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	1.52E-01	1.00E+00	1.11E-02	1.00E+00	7.41E-02	1.11E-02	9.62E-02	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	4.54E+00	1.00E+00	3.31E-01	1.00E+00	2.21E+00	3.31E-01	2.87E+00	No TRV	No TRV	No Kow	no	No TRV
RDX	2.59E-01	1.00E+00	1.88E-02	1.00E+00	1.26E-01	1.88E-02	1.64E-01	No TRV	No TRV	no	no	No TRV
								HI =	4.39E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for deer mice = 0.0819
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for deer mice = 0.1239
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for deer mice = 0.0042

ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV). For metals, is the BAF>2 and for organics is the $K_o \geq 4$
HI = Hazard index

Appendix Table S-48. CB-3 and CB-801 Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPv	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.20E+04	8.00E-04	3.24E-03	7.50E-02	0.00E+00	8.10E-02	8.43E-02	2.93E-01	2.88E-01	no	no	59.04%
Antimony	1.10E+02	4.00E-02	1.48E-03	5.00E-02	0.00E+00	7.38E-04	2.22E-03	1.90E-02	1.17E-01	no	no	23.96%
Arsenic	1.29E+01	8.00E-03	3.47E-05	6.60E-03	0.00E+00	8.67E-05	1.21E-04	1.91E-02	6.35E-03	no	no	1.30%
Barium	1.54E+02	3.00E-02	1.55E-03	7.50E-03	0.00E+00	1.03E-03	2.58E-03	1.50E+00	1.72E-03	no	no	0.35%
Cadmium	6.28E+00	1.10E-01	2.32E-04	1.10E+01	0.00E+00	4.23E-05	2.75E-04	2.71E-01	1.02E-03	yes	yes	0.21%
Calcium	1.99E+05	7.00E-01	4.68E+01	1.00E+00	0.00E+00	1.34E+00	4.82E+01	No TRV	No TRV	no	no	No TRV
Chromium	4.38E+01	1.50E-03	2.21E-05	1.60E-01	0.00E+00	2.95E-04	3.17E-04	7.68E+02	4.13E-07	no	no	0.00%
Chromium, hexavalent	1.40E+00	1.50E-03	7.07E-07	1.60E-01	0.00E+00	9.42E-06	1.01E-05	No TRV	No TRV	No BAF	no	No TRV
Copper	5.60E+01	8.00E-02	1.51E-03	1.60E-01	0.00E+00	3.77E-04	1.89E-03	4.27E+00	4.41E-04	no	no	0.09%
Iron	3.02E+04	8.00E-04	8.14E-03	1.00E+00	0.00E+00	2.04E-01	2.12E-01	No TRV	No TRV	no	no	No TRV
Lead	6.06E+02	9.00E-03	1.83E-03	2.00E+00	0.00E+00	4.08E-03	5.91E-03	2.24E+00	2.63E-03	yes	yes	0.54%
Magnesium	5.55E+03	2.00E-01	3.73E-01	1.00E+00	0.00E+00	3.73E-02	4.11E-01	No TRV	No TRV	no	no	No TRV
Manganese	1.26E+03	5.00E-02	2.12E-02	2.00E-02	0.00E+00	8.49E-03	2.97E-02	2.47E+01	1.20E-03	no	no	0.25%
Mercury	1.41E-01	1.80E-01	8.52E-06	3.40E-01	0.00E+00	9.46E-07	9.46E-06	3.68E-01	2.57E-05	yes	yes	0.01%
Nickel	2.27E+01	1.20E-02	9.15E-05	2.30E-01	0.00E+00	1.53E-04	2.44E-04	1.12E+01	2.17E-05	no	no	0.00%
Potassium	1.24E+03	2.00E-01	8.31E-02	1.00E+00	0.00E+00	8.31E-03	9.14E-02	No TRV	No TRV	no	no	No TRV
Selenium	6.92E-01	5.00E-03	1.16E-06	7.60E-01	0.00E+00	4.66E-06	5.82E-06	5.61E-02	1.04E-04	no	no	0.02%
Sodium	3.00E+02	1.50E-02	1.52E-03	1.00E+00	0.00E+00	2.02E-03	3.54E-03	No TRV	No TRV	no	no	No TRV
Zinc	2.60E+02	3.00E-01	2.63E-02	1.80E+00	0.00E+00	1.75E-03	2.80E-02	4.49E+01	6.25E-04	yes	yes	0.13%
Organics-Semivolatile												
Anthracene	3.71E+00	2.00E-02	2.50E-05	5.00E-02	0.00E+00	2.50E-05	4.99E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.40E+01	3.90E-03	1.84E-05	5.00E-02	0.00E+00	9.42E-05	1.13E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.30E+01	2.60E-03	1.14E-05	5.00E-02	0.00E+00	8.75E-05	9.89E-05	1.52E-01	6.51E-04	yes	yes	0.13%
Benzo(b)fluoranthene	1.50E+01	2.30E-03	1.16E-05	5.00E-02	0.00E+00	1.01E-04	1.13E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	8.20E+00	1.20E-03	3.31E-06	5.00E-02	0.00E+00	5.52E-05	5.85E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.70E+00	2.30E-03	4.41E-06	5.00E-02	0.00E+00	3.84E-05	4.28E-05	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	3.40E-01	8.70E-03	9.96E-07	5.00E-02	0.00E+00	2.29E-06	3.28E-06	2.78E+00	1.18E-06	yes	yes	0.00%
Carbazole	2.64E+00	2.00E-02	1.78E-05	5.00E-02	0.00E+00	1.78E-05	3.55E-05	No TRV	No TRV	no	no	No TRV
Chrysene	1.50E+01	3.90E-03	1.97E-05	5.00E-02	0.00E+00	1.01E-04	1.21E-04	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	5.00E-01	7.60E-03	1.28E-06	5.00E-02	0.00E+00	3.37E-06	4.64E-06	8.35E+01	5.56E-08	yes	yes	0.00%
Dibenzofuran	9.29E-01	2.00E-02	6.25E-06	5.00E-02	0.00E+00	6.25E-06	1.25E-05	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	3.90E+01	2.00E-02	2.63E-04	5.00E-02	0.00E+00	2.63E-04	5.25E-04	No TRV	No TRV	yes	yes	No TRV
Fluorene	1.55E+00	2.00E-02	1.04E-05	5.00E-02	0.00E+00	1.04E-05	2.08E-05	6.95E-01	3.00E-05	yes	yes	0.01%
Pentachlorophenol	8.30E-02	1.00E+00	2.79E-05	1.00E+00	0.00E+00	5.59E-07	2.85E-05	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	3.00E+01	2.00E-02	2.02E-04	5.00E-02	0.00E+00	2.02E-04	4.04E-04	No TRV	No TRV	yes	yes	No TRV
Pyrene	4.10E+01	6.70E-03	9.25E-05	5.00E-02	0.00E+00	2.76E-04	3.68E-04	1.30E+02	2.84E-06	yes	yes	0.00%
Organics-Volatile												
Methylene chloride	2.98E-03	2.00E-02	2.01E-08	5.00E-02	0.00E+00	2.01E-08	4.01E-08	No TRV	No TRV	no	no	No TRV

Appendix Table S-48. CB-3 and CB-801 Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**RME Concentration** (mg/kg)	**SPv**	**ADD_P** (mg/kgBW/d) RME x SP_v x I_P x AUF	**BAF_i**	**ADD_A** (mg/kgBW/d) RME x BAF_i x I_A x AUF	**ADD_S** (mg/kgBW/d) RME x I_S x AUF	**ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	**TRV** (mg/kgBW/d)	**Site HQ** ADD_{total} / TRV	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Organics-Pesticide/PCB												
4,4'-DDT	3.76E-02	7.70E-04	9.74E-09	5.70E-01	0.00E+00	2.53E-07	2.63E-07	2.24E-01	1.17E-06	yes	yes	0.00%
Dieldrin	3.34E-02	2.00E-02	2.25E-07	5.50E+00	0.00E+00	2.25E-07	4.50E-07	5.61E-03	8.01E-05	yes	yes	0.02%
Endrin aldehyde	2.10E-01	2.00E-02	1.41E-06	1.90E+00	0.00E+00	1.41E-06	2.83E-06	No TRV	No TRV	no	no	No TRV
Endrin ketone	7.12E-02	2.00E-02	4.79E-07	1.90E+00	0.00E+00	4.79E-07	9.58E-07	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	2.60E-02	2.00E-02	1.75E-07	5.70E-01	0.00E+00	1.75E-07	3.50E-07	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.30E+00	3.80E-01	5.50E-04	5.80E+00	0.00E+00	2.89E-05	5.79E-04	8.53E-03	6.79E-02	yes	yes	13.93%
beta-BHC	1.88E-01	2.00E-02	1.26E-06	2.60E+00	0.00E+00	1.26E-06	2.52E-06	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	5.16E-02	5.10E-03	8.86E-08	1.60E+00	0.00E+00	3.47E-07	4.36E-07	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	3.69E-01	1.00E+00	1.24E-04	1.00E+00	0.00E+00	2.48E-06	1.27E-04	2.05E+00	6.18E-05	no	no	0.01%
2-Amino-4,6-dinitrotoluene	9.70E-02	1.00E+00	3.26E-05	1.00E+00	0.00E+00	6.53E-07	3.33E-05	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	1.76E-01	1.00E+00	5.93E-05	1.00E+00	0.00E+00	1.19E-06	6.05E-05	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	1.52E-01	1.00E+00	5.12E-05	1.00E+00	0.00E+00	1.02E-06	5.22E-05	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	4.54E+00	1.00E+00	1.53E-03	1.00E+00	0.00E+00	3.06E-05	1.56E-03	No TRV	No TRV	No Kow	no	No TRV
RDX	2.59E-01	1.00E+00	8.70E-05	1.00E+00	0.00E+00	1.74E-06	8.88E-05	No TRV	No TRV	no	no	No TRV
								HI =	4.87E-01			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for white-tailed deer = 0.031

ADD_P = Average daily dose; plant

AUF = Area use factor 1.09E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for white-tailed deer = 0.00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for white-tailed deer = 0.00062

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-49. CB-3/CB-801 Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.20E+04	8.00E-04	7.01E-01	7.50E-02	4.40E+02	8.77E+02	1.32E+03	2.22E+00	5.92E+02	no	yes	63.67%
Antimony	1.10E+02	4.00E-02	3.19E-01	5.00E-02	2.67E+00	7.99E+00	1.10E+01	1.44E-01	7.62E+01	no	yes	8.19%
Arsenic	1.29E+01	8.00E-03	7.50E-03	6.60E-03	4.14E-02	9.38E-01	9.87E-01	1.45E-01	6.79E+00	no	yes	0.73%
Barium	1.54E+02	3.00E-02	3.35E-01	7.50E-03	5.61E-01	1.12E+01	1.21E+01	1.14E+01	1.06E+00	no	yes	0.11%
Cadmium	6.28E+00	1.10E-01	5.03E-02	1.10E+01	3.37E+01	4.57E-01	3.42E+01	2.05E+00	1.66E+01	yes	yes	1.79%
Calcium	1.99E+05	7.00E-01	1.01E+04	1.00E+00	9.68E+04	1.45E+04	1.21E+05	No TRV	No TRV	no	no	No TRV
Chromium	4.38E+01	1.50E-03	4.79E-03	1.60E-01	3.42E+00	3.19E+00	6.61E+00	5.83E+03	1.13E-03	no	no	0.00%
Chromium, hexavalent	1.40E+00	1.50E-03	1.53E-04	1.60E-01	1.09E-01	1.02E-01	2.11E-01	No TRV	No TRV	No BAF	no	No TRV
Copper	5.60E+01	8.00E-02	3.26E-01	1.60E-01	4.37E+00	4.08E+00	8.77E+00	3.24E+01	2.70E-01	no	no	0.03%
Iron	3.02E+04	8.00E-04	1.76E+00	1.00E+00	1.47E+04	2.20E+03	1.69E+04	No TRV	No TRV	no	no	No TRV
Lead	6.06E+02	9.00E-03	3.97E-01	2.00E+00	5.90E+02	4.41E+01	6.34E+02	1.70E+01	3.72E+01	yes	yes	4.00%
Magnesium	5.55E+03	2.00E-01	8.07E+01	1.00E+00	2.70E+03	4.04E+02	3.19E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.26E+03	5.00E-02	4.59E+00	2.00E-02	1.23E+01	9.18E+01	1.09E+02	1.87E+02	5.80E-01	no	no	0.06%
Mercury	1.41E-01	1.80E-01	1.84E-03	3.40E-01	2.33E-02	1.02E-02	3.54E-02	2.80E+00	1.26E-02	yes	yes	0.00%
Nickel	2.27E+01	1.20E-02	1.98E-02	2.30E-01	2.54E+00	1.65E+00	4.21E+00	8.52E+01	4.94E-02	no	no	0.01%
Potassium	1.24E+03	2.00E-01	1.80E+01	1.00E+00	6.02E+02	8.99E+01	7.10E+02	No TRV	No TRV	no	no	No TRV
Selenium	6.92E-01	5.00E-03	2.52E-04	7.60E-01	2.56E-01	5.04E-02	3.07E-01	4.26E-01	7.20E-01	no	no	0.08%
Sodium	3.00E+02	1.50E-02	3.28E-01	1.00E+00	1.46E+02	2.19E+01	1.68E+02	No TRV	No TRV	no	no	No TRV
Zinc	2.60E+02	3.00E-01	5.69E+00	1.80E+00	2.28E+02	1.90E+01	2.53E+02	3.41E+02	7.42E-01	yes	yes	0.08%
Organics-Semivolatile												
Anthracene	3.71E+00	2.00E-02	5.40E-03	5.00E-02	9.03E-02	2.70E-01	3.66E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.40E+01	3.90E-03	3.97E-03	5.00E-02	3.41E-01	1.02E+00	1.36E+00	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.30E+01	2.60E-03	2.46E-03	5.00E-02	3.17E-01	9.46E-01	1.27E+00	1.15E+00	1.10E+00	yes	yes	0.12%
Benzo(b)fluoranthene	1.50E+01	2.30E-03	2.51E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	8.20E+00	1.20E-03	7.16E-04	5.00E-02	2.00E-01	5.97E-01	7.97E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.70E+00	2.30E-03	9.54E-04	5.00E-02	1.39E-01	4.15E-01	5.55E-01	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	3.40E-01	8.70E-03	2.15E-04	5.00E-02	8.28E-03	2.48E-02	3.32E-02	2.11E+01	1.58E-03	yes	yes	0.00%
Carbazole	2.64E+00	2.00E-02	3.84E-03	5.00E-02	6.42E-02	1.92E-01	2.60E-01	No TRV	No TRV	no	no	No TRV
Chrysene	1.50E+01	3.90E-03	4.26E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	5.00E-01	7.60E-03	2.77E-04	5.00E-02	1.22E-02	3.64E-02	4.89E-02	6.34E+02	7.71E-05	yes	yes	0.00%
Dibenzofuran	9.29E-01	2.00E-02	1.35E-03	5.00E-02	2.26E-02	6.76E-02	9.16E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	3.90E+01	2.00E-02	5.68E-02	5.00E-02	9.50E-01	2.84E+00	3.85E+00	No TRV	No TRV	yes	yes	No TRV
Fluorene	1.55E+00	2.00E-02	2.25E-03	5.00E-02	3.77E-02	1.13E-01	1.53E-01	5.28E+00	2.89E-02	yes	yes	0.00%
Pentachlorophenol	8.30E-02	1.00E+00	6.04E-03	1.00E+00	4.04E-02	6.04E-03	5.25E-02	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	3.00E+01	2.00E-02	4.37E-02	5.00E-02	7.31E-01	2.18E+00	2.96E+00	No TRV	No TRV	yes	yes	No TRV
Pyrene	4.10E+01	6.70E-03	2.00E-02	5.00E-02	9.99E-01	2.98E+00	4.00E+00	9.85E+02	4.06E-03	yes	yes	0.00%

Appendix Table S-49. CB-3/CB-801 Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Volatile												
Methylene chloride	2.98E-03	2.00E-02	4.34E-06	5.00E-02	7.26E-05	2.17E-04	2.94E-04	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
4,4'-DDT	3.76E-02	7.70E-04	2.11E-06	5.70E-01	1.04E-02	2.74E-03	1.32E-02	1.70E+00	7.73E-03	yes	yes	0.00%
Dieldrin	3.34E-02	2.00E-02	4.86E-05	5.50E+00	8.95E-02	2.43E-03	9.20E-02	4.26E-02	2.16E+00	yes	yes	0.23%
Endrin aldehyde	2.10E-01	2.00E-02	3.06E-04	1.90E+00	1.94E-01	1.53E-02	2.10E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	7.12E-02	2.00E-02	1.04E-04	1.90E+00	6.59E-02	5.18E-03	7.11E-02	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	2.60E-02	2.00E-02	3.79E-05	5.70E-01	7.22E-03	1.89E-03	9.15E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.30E+00	3.80E-01	1.19E-01	5.80E+00	1.22E+01	3.13E-01	1.26E+01	6.48E-02	1.94E+02	yes	yes	20.89%
beta-BHC	1.88E-01	2.00E-02	2.73E-04	2.60E+00	2.38E-01	1.37E-02	2.51E-01	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	5.16E-02	5.10E-03	1.92E-05	1.60E+00	4.02E-02	3.76E-03	4.40E-02	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	3.69E-01	1.00E+00	2.69E-02	1.00E+00	1.80E-01	2.69E-02	2.34E-01	1.56E+01	1.50E-02	no	no	0.00%
2-Amino-4,6-dinitrotoluene	9.70E-02	1.00E+00	7.06E-03	1.00E+00	4.73E-02	7.06E-03	6.14E-02	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	1.76E-01	1.00E+00	1.28E-02	1.00E+00	8.58E-02	1.28E-02	1.11E-01	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	1.52E-01	1.00E+00	1.11E-02	1.00E+00	7.41E-02	1.11E-02	9.62E-02	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	4.54E+00	1.00E+00	3.31E-01	1.00E+00	2.21E+00	3.31E-01	2.87E+00	No TRV	No TRV	No Kow	no	No TRV
RDX	2.59E-01	1.00E+00	1.88E-02	1.00E+00	1.26E-01	1.88E-02	1.64E-01	No TRV	No TRV	no	no	No TRV
								HI =	9.30E+02			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_r = Soil-to-plant; reproductive

I_P (kg/kgBW/d) = Plant ingestion rate for shrew = 0.073

ADD_P = Average daily dose; plant

AUF = Area use factor (1.0)

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-50. CB-3/CB-801 Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.20E+04	1.30E-04	1.19E+00	7.50E-02	6.86E+02	1.43E+02	8.30E+02	1.10E+02	7.57E+00	no	yes	0.62%
Antimony	1.10E+02	6.00E-03	5.00E-01	5.00E-02	4.17E+00	8.67E-01	5.54E+00	No TRV	No TRV	no	no	No TRV
Arsenic	1.29E+01	1.20E-03	1.17E-02	6.60E-03	6.46E-02	1.34E-02	8.98E-02	5.14E+00	1.75E-02	no	no	0.00%
Barium	1.54E+02	3.00E-03	3.50E-01	7.50E-03	8.76E-01	1.82E-01	1.41E+00	2.08E+01	6.76E-02	no	no	0.01%
Cadmium	6.28E+00	3.00E-02	1.43E-01	1.10E+01	5.25E+01	1.09E+01	6.36E+01	1.45E+00	4.38E+01	yes	yes	3.59%
Calcium	1.99E+05	7.00E-02	1.06E+04	1.00E+00	1.51E+05	3.14E+04	1.93E+05	No TRV	No TRV	no	no	No TRV
Chromium	4.38E+01	9.00E-04	3.00E-02	1.60E-01	5.33E+00	1.11E+00	6.47E+00	1.00E+00	6.47E+00	no	yes	0.53%
Chromium, hexavalent	1.40E+00	9.00E-04	9.58E-04	1.60E-01	1.70E-01	3.54E-02	2.07E-01	No TRV	No TRV	No BAF	no	No TRV
Copper	5.60E+01	5.00E-02	2.13E+00	1.60E-01	6.81E+00	1.42E+00	1.04E+01	4.70E+01	2.21E-01	no	no	0.02%
Iron	3.02E+04	2.00E-04	4.60E+00	1.00E+00	2.30E+04	4.78E+03	2.78E+04	No TRV	No TRV	no	no	No TRV
Lead	6.06E+02	1.80E-03	8.28E-01	2.00E+00	9.20E+02	1.91E+02	1.11E+03	1.13E+00	9.85E+02	yes	yes	80.73%
Magnesium	5.55E+03	1.10E-01	4.64E+02	1.00E+00	4.21E+03	8.77E+02	5.55E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.26E+03	1.00E-02	9.58E+00	2.00E-02	1.92E+01	3.99E+00	3.27E+01	9.77E+02	3.35E-02	no	no	0.00%
Mercury	1.41E-01	4.00E-02	4.27E-03	3.40E-01	3.63E-02	7.56E-03	4.82E-02	4.50E-01	1.07E-01	yes	yes	0.01%
Nickel	2.27E+01	1.20E-02	2.07E-01	2.30E-01	3.96E+00	8.24E-01	4.99E+00	7.74E+01	6.45E-02	no	no	0.01%
Potassium	1.24E+03	1.10E-01	1.03E+02	1.00E+00	9.39E+02	1.95E+02	1.24E+03	No TRV	No TRV	no	no	No TRV
Selenium	6.92E-01	5.00E-03	2.63E-03	7.60E-01	4.00E-01	8.31E-02	4.85E-01	5.00E-01	9.71E-01	no	no	0.08%
Sodium	3.00E+02	1.10E-02	2.51E+00	1.00E+00	2.28E+02	4.75E+01	2.78E+02	No TRV	No TRV	no	no	No TRV
Zinc	2.60E+02	1.80E-01	3.56E+01	1.80E+00	3.56E+02	7.41E+01	4.66E+02	1.45E+01	3.22E+01	yes	yes	2.64%
Organics-Semivolatile												
Anthracene	3.71E+00	2.00E-02	5.63E-02	5.00E-02	1.41E-01	2.93E-02	2.27E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.40E+01	3.90E-03	4.15E-02	5.00E-02	5.32E-01	1.11E-01	6.84E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.30E+01	2.60E-03	2.57E-02	5.00E-02	4.94E-01	1.03E-01	6.22E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	1.50E+01	2.30E-03	2.62E-02	5.00E-02	5.70E-01	1.19E-01	7.15E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	8.20E+00	1.20E-03	7.48E-03	5.00E-02	3.12E-01	6.48E-02	3.84E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.70E+00	2.30E-03	9.96E-03	5.00E-02	2.17E-01	4.51E-02	2.72E-01	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	3.40E-01	8.70E-03	2.25E-03	5.00E-02	1.29E-02	2.69E-03	1.79E-02	1.10E+00	1.62E-02	yes	yes	0.00%
Carbazole	2.64E+00	2.00E-02	4.01E-02	5.00E-02	1.00E-01	2.08E-02	1.61E-01	No TRV	No TRV	no	no	No TRV
Chrysene	1.50E+01	3.90E-03	4.45E-02	5.00E-02	5.70E-01	1.19E-01	7.33E-01	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	5.00E-01	7.60E-03	2.89E-03	5.00E-02	1.90E-02	3.95E-03	2.58E-02	1.11E-01	2.33E-01	yes	yes	0.02%
Dibenzofuran	9.29E-01	2.00E-02	1.41E-02	5.00E-02	3.53E-02	7.34E-03	5.68E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	3.90E+01	2.00E-02	5.93E-01	5.00E-02	1.48E+00	3.08E-01	2.38E+00	No TRV	No TRV	yes	yes	No TRV
Fluorene	1.55E+00	2.00E-02	2.35E-02	5.00E-02	5.88E-02	1.22E-02	9.46E-02	No TRV	No TRV	yes	yes	No TRV
Pentachlorophenol	8.30E-02	1.00E+00	6.31E-02	1.00E+00	6.31E-02	1.31E-02	1.39E-01	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	3.00E+01	2.00E-02	4.56E-01	5.00E-02	1.14E+00	2.37E-01	1.83E+00	No TRV	No TRV	yes	yes	No TRV
Pyrene	4.10E+01	6.70E-03	2.09E-01	5.00E-02	1.56E+00	3.24E-01	2.09E+00	No TRV	No TRV	yes	yes	No TRV

Appendix Table S-50. CB-3/CB-801 Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Organics-Volatile												
Methylene chloride	2.98E-03	2.00E-02	4.53E-05	5.00E-02	1.13E-04	2.36E-05	1.82E-04	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
4,4'-DDT	3.76E-02	7.70E-04	2.20E-05	5.70E-01	1.63E-02	3.39E-03	1.97E-02	2.80E-03	7.03E+00	yes	yes	0.58%
Dieldrin	3.34E-02	2.00E-02	5.08E-04	5.50E+00	1.40E-01	2.90E-02	1.69E-01	7.70E-02	2.20E+00	yes	yes	0.18%
Endrin aldehyde	2.10E-01	2.00E-02	3.19E-03	1.90E+00	3.03E-01	6.31E-02	3.70E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	7.12E-02	2.00E-02	1.08E-03	1.90E+00	1.03E-01	2.14E-02	1.25E-01	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	2.60E-02	2.00E-02	3.95E-04	5.70E-01	1.13E-02	2.34E-03	1.40E-02	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.30E+00	3.80E-01	1.24E+00	5.80E+00	1.90E+01	3.94E+00	2.41E+01	1.80E-01	1.34E+02	yes	yes	10.99%
beta-BHC	1.88E-01	2.00E-02	2.85E-03	2.60E+00	3.71E-01	7.71E-02	4.50E-01	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	5.16E-02	5.10E-03	2.00E-04	1.60E+00	6.28E-02	1.31E-02	7.60E-02	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	3.69E-01	1.00E+00	2.80E-01	1.00E+00	2.80E-01	5.83E-02	6.19E-01	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	9.70E-02	1.00E+00	7.37E-02	1.00E+00	7.37E-02	1.53E-02	1.63E-01	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	1.76E-01	1.00E+00	1.34E-01	1.00E+00	1.34E-01	2.78E-02	2.96E-01	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	1.52E-01	1.00E+00	1.16E-01	1.00E+00	1.16E-01	2.40E-02	2.55E-01	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	4.54E+00	1.00E+00	3.45E+00	1.00E+00	3.45E+00	7.18E-01	7.62E+00	No TRV	No TRV	No Kow	no	No TRV
RDX	2.59E-01	1.00E+00	1.97E-01	1.00E+00	1.97E-01	4.09E-02	4.34E-01	No TRV	No TRV	no	no	No TRV
								HI =	1.22E+03			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for robins = 0.76
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for robins = 0.76
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for robins = 0.158
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-51. CB-3 and CB-801 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-S} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals									
Aluminum	1.20E+04	1.30E-04	1.58E-05	8.00E-04	7.01E-01	7.50E-02	4.40E+02	8.77E+02	1.32E+03
Antimony	1.10E+02	6.00E-03	6.66E-06	4.00E-02	3.19E-01	5.00E-02	2.67E+00	7.99E+00	1.10E+01
Arsenic	1.29E+01	1.20E-03	1.56E-07	8.00E-03	7.50E-03	6.60E-03	4.14E-02	9.38E-01	9.87E-01
Barium	1.54E+02	3.00E-03	4.67E-06	3.00E-02	3.35E-01	7.50E-03	5.61E-01	1.12E+01	1.21E+01
Cadmium	6.28E+00	3.00E-02	1.91E-06	1.10E-01	5.03E-02	1.10E+01	3.37E+01	4.57E-01	3.42E+01
Calcium	1.99E+05	7.00E-02	1.41E-01	7.00E-01	1.01E+04	1.00E+00	9.68E+04	1.45E+04	1.21E+05
Chromium	4.38E+01	9.00E-04	3.99E-07	1.50E-03	4.79E-03	1.60E-01	3.42E+00	3.19E+00	6.61E+00
Chromium, hexavalent	1.40E+00	9.00E-04	1.28E-08	1.50E-03	1.53E-04	1.60E-01	1.09E-01	1.02E-01	2.11E-01
Copper	5.60E+01	5.00E-02	2.84E-05	8.00E-02	3.26E-01	1.60E-01	4.37E+00	4.08E+00	8.77E+00
Iron	3.02E+04	2.00E-04	6.12E-05	8.00E-04	1.76E+00	1.00E+00	1.47E+04	2.20E+03	1.69E+04
Lead	6.06E+02	1.80E-03	1.10E-05	9.00E-03	3.97E-01	2.00E+00	5.90E+02	4.41E+01	6.34E+02
Magnesium	5.55E+03	1.10E-01	6.18E-03	2.00E-01	8.07E+01	1.00E+00	2.70E+03	4.04E+02	3.19E+03
Manganese	1.26E+03	1.00E-02	1.28E-04	5.00E-02	4.59E+00	2.00E-02	1.23E+01	9.18E+01	1.09E+02
Mercury	1.41E-01	4.00E-02	5.69E-08	1.80E-01	1.84E-03	3.40E-01	2.33E-02	1.02E-02	3.54E-02
Nickel	2.27E+01	1.20E-02	2.75E-06	1.20E-02	1.98E-02	2.30E-01	2.54E+00	1.65E+00	4.21E+00
Potassium	1.24E+03	1.10E-01	1.38E-03	2.00E-01	1.80E+01	1.00E+00	6.02E+02	8.99E+01	7.10E+02
Selenium	6.92E-01	5.00E-03	3.50E-08	5.00E-03	2.52E-04	7.60E-01	2.56E-01	5.04E-02	3.07E-01
Sodium	3.00E+02	1.10E-02	3.34E-05	1.50E-02	3.28E-01	1.00E+00	1.46E+02	2.19E+01	1.68E+02
Zinc	2.60E+02	1.80E-01	4.75E-04	3.00E-01	5.69E+00	1.80E+00	2.28E+02	1.90E+01	2.53E+02
Organics-Semivolatile									
Anthracene	3.71E+00	2.00E-02	7.51E-07	2.00E-02	5.40E-03	5.00E-02	9.03E-02	2.70E-01	3.66E-01
Benzo(a)anthracene	1.40E+01	3.90E-03	5.53E-07	3.90E-03	3.97E-03	5.00E-02	3.41E-01	1.02E+00	1.36E+00
Benzo(a)pyrene	1.30E+01	2.60E-03	3.42E-07	2.60E-03	2.46E-03	5.00E-02	3.17E-01	9.46E-01	1.27E+00
Benzo(b)fluoranthene	1.50E+01	2.30E-03	3.49E-07	2.30E-03	2.51E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00
Benzo(g,h,i)perylene	8.20E+00	1.20E-03	9.96E-08	1.20E-03	7.16E-04	5.00E-02	2.00E-01	5.97E-01	7.97E-01
Benzo(k)fluoranthene	5.70E+00	2.30E-03	1.33E-07	2.30E-03	9.54E-04	5.00E-02	1.39E-01	4.15E-01	5.55E-01
Bis(2-ethylhexyl)phthalate	3.40E-01	8.70E-03	2.99E-08	8.70E-03	2.15E-04	5.00E-02	8.28E-03	2.48E-02	3.32E-02
Carbazole	2.64E+00	2.00E-02	5.34E-07	2.00E-02	3.84E-03	5.00E-02	6.42E-02	1.92E-01	2.60E-01
Chrysene	1.50E+01	3.90E-03	5.92E-07	3.90E-03	4.26E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00
Di-n-butyl phthalate	5.00E-01	7.60E-03	3.85E-08	7.60E-03	2.77E-04	5.00E-02	1.22E-02	3.64E-02	4.89E-02
Dibenzofuran	9.29E-01	2.00E-02	1.88E-07	2.00E-02	1.35E-03	5.00E-02	2.26E-02	6.76E-02	9.16E-02
Fluoranthene	3.90E+01	2.00E-02	7.90E-06	2.00E-02	5.68E-02	5.00E-02	9.50E-01	2.84E+00	3.85E+00
Fluorene	1.55E+00	2.00E-02	3.13E-07	2.00E-02	2.25E-03	5.00E-02	3.77E-02	1.13E-01	1.53E-01
Pentachlorophenol	8.30E-02	1.00E+00	8.40E-07	1.00E+00	6.04E-03	1.00E+00	4.04E-02	6.04E-03	5.25E-02
Phenanthrene	3.00E+01	2.00E-02	6.08E-06	2.00E-02	4.37E-02	5.00E-02	7.31E-01	2.18E+00	2.96E+00
Pyrene	4.10E+01	6.70E-03	2.78E-06	6.70E-03	2.00E-02	5.00E-02	9.99E-01	2.98E+00	4.00E+00

Appendix Table S-51. CB-3 and CB-801 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**RME Concentration** (mg/kg)	**SPr**	**ADD_P** (mg/kgBW/d) RME x SP_r x I_P x AUF	**SP_v**	**Prey ADD_P** (mg/kgBW/d) RME x SP_v x I_{P-S} x AUF-s	**BAF_i**	**Prey ADD_A** (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	**Prey ADD_S** (mg/kgBW/d) RME x I_{S-s} x AUF-s	**Prey ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Organics-Volatile									
Methylene chloride	2.98E-03	2.00E-02	6.03E-10	2.00E-02	4.34E-06	5.00E-02	7.26E-05	2.17E-04	2.94E-04
Organics-Pesticide/PCB									
4,4'-DDT	3.76E-02	7.70E-04	2.93E-10	7.70E-04	2.11E-06	5.70E-01	1.04E-02	2.74E-03	1.32E-02
Dieldrin	3.34E-02	2.00E-02	6.76E-09	2.00E-02	4.86E-05	5.50E+00	8.95E-02	2.43E-03	9.20E-02
Endrin aldehyde	2.10E-01	2.00E-02	4.25E-08	2.00E-02	3.06E-04	1.90E+00	1.94E-01	1.53E-02	2.10E-01
Endrin ketone	7.12E-02	2.00E-02	1.44E-08	2.00E-02	1.04E-04	1.90E+00	6.59E-02	5.18E-03	7.11E-02
Methoxychlor	2.60E-02	2.00E-02	5.27E-09	2.00E-02	3.79E-05	5.70E-01	7.22E-03	1.89E-03	9.15E-03
PCB-1254	4.30E+00	3.80E-01	1.65E-05	3.80E-01	1.19E-01	5.80E+00	1.22E+01	3.13E-01	1.26E+01
beta-BHC	1.88E-01	2.00E-02	3.80E-08	2.00E-02	2.73E-04	2.60E+00	2.38E-01	1.37E-02	2.51E-01
gamma-Chlordane	5.16E-02	5.10E-03	2.67E-09	5.10E-03	1.92E-05	1.60E+00	4.02E-02	3.76E-03	4.40E-02
Explosives									
2,4,6-Trinitrotoluene	3.69E-01	1.00E+00	3.74E-06	1.00E+00	2.69E-02	1.00E+00	1.80E-01	2.69E-02	2.34E-01
2-Amino-4,6-dinitrotoluene	9.70E-02	1.00E+00	9.82E-07	1.00E+00	7.06E-03	1.00E+00	4.73E-02	7.06E-03	6.14E-02
2-Nitrotoluene	1.76E-01	1.00E+00	1.78E-06	1.00E+00	1.28E-02	1.00E+00	8.58E-02	1.28E-02	1.11E-01
4-Amino-2,6-dinitrotoluene	1.52E-01	1.00E+00	1.54E-06	1.00E+00	1.11E-02	1.00E+00	7.41E-02	1.11E-02	9.62E-02
Nitrocellulose	4.54E+00	1.00E+00	4.60E-05	1.00E+00	3.31E-01	1.00E+00	2.21E+00	3.31E-01	2.87E+00
RDX	2.59E-01	1.00E+00	2.62E-06	1.00E+00	1.88E-02	1.00E+00	1.26E-01	1.88E-02	1.64E-01

Appendix Table S-51. CB-3 and CB-801 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs\ x\ BAF_v\ x\ I_A\ x$ AUF	ADD_S (mg/kgBW/d) RME $x\ I_S\ x$ AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	2.35E+03	7.50E-02	3.70E-02	7.42E-02	1.11E-01	5.46E-01	2.04E-01	no	no	18.23%
Antimony	1.96E+01	5.00E-02	2.06E-04	6.76E-04	8.89E-04	3.54E-02	2.51E-02	no	no	2.25%
Arsenic	1.76E+00	1.00E-01	3.70E-05	7.94E-05	1.17E-04	3.56E-02	3.27E-03	no	no	0.29%
Barium	2.16E+01	7.50E-03	3.40E-05	9.47E-04	9.85E-04	2.79E+00	3.53E-04	no	no	0.03%
Cadmium	6.10E+01	2.80E-02	3.59E-04	3.87E-05	3.99E-04	5.04E-01	7.92E-04	yes	yes	0.07%
Calcium	2.17E+05	1.00E+00	4.55E+01	1.22E+00	4.69E+01	No TRV	No TRV	No BAF	no	No TRV
Chromium	1.18E+01	2.80E-01	6.94E-04	2.70E-04	9.65E-04	1.43E+03	6.74E-07	no	no	0.00%
Chromium, hexavalent	3.77E-01	2.80E-01	2.22E-05	8.63E-06	3.08E-05	No TRV	No TRV	no	no	No TRV
Copper	1.57E+01	5.00E-01	1.64E-03	3.45E-04	2.02E-03	7.96E+00	2.54E-04	no	no	0.02%
Iron	3.02E+04	1.00E+00	6.35E+00	1.86E-01	6.54E+00	No TRV	No TRV	no	no	No TRV
Lead	1.13E+03	1.50E-02	3.57E-03	3.73E-03	7.31E-03	4.18E+00	1.75E-03	yes	yes	0.16%
Magnesium	5.69E+03	1.00E+00	1.19E+00	3.42E-02	1.23E+00	No TRV	No TRV	no	no	No TRV
Manganese	1.94E+02	2.00E-02	8.15E-04	7.77E-03	8.71E-03	4.60E+01	1.89E-04	no	no	0.02%
Mercury	6.32E-02	1.30E+01	1.72E-04	8.67E-07	1.73E-04	6.86E-01	2.53E-04	yes	yes	0.02%
Nickel	7.52E+00	3.00E-01	4.73E-04	1.40E-04	6.16E-04	2.09E+01	2.95E-05	no	no	0.00%
Potassium	1.27E+03	1.00E+00	2.66E-01	7.61E-03	2.75E-01	No TRV	No TRV	no	no	No TRV
Selenium	5.48E-01	7.50E-01	8.63E-05	4.26E-06	9.06E-05	1.05E-01	8.66E-04	no	no	0.08%
Sodium	3.01E+02	1.00E+00	6.32E-02	1.85E-03	6.51E-02	No TRV	No TRV	no	no	No TRV
Zinc	4.52E+02	5.00E+00	4.74E-01	1.60E-03	4.76E-01	8.36E+01	5.70E-03	yes	yes	0.51%
Organics-Semivolatile										
Anthracene	6.53E-01	4.80E-02	6.58E-06	2.28E-05	3.02E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	2.44E+00	7.60E-01	3.89E-04	8.63E-05	4.76E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	2.26E+00	1.50E+00	7.12E-04	8.01E-05	7.92E-04	2.83E-01	2.80E-03	yes	yes	0.25%
Benzo(b)fluoranthene	2.61E+00	1.90E+00	1.04E-03	9.24E-05	1.13E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	1.42E+00	6.00E+00	1.79E-03	5.05E-05	1.84E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	9.91E-01	1.90E+00	3.95E-04	3.51E-05	4.31E-04	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	5.94E-02	1.90E-01	2.37E-06	2.10E-06	4.49E-06	5.18E+00	8.68E-07	yes	yes	0.00%
Carbazole	4.64E-01	8.70E-03	8.48E-07	1.63E-05	1.76E-05	No TRV	No TRV	no	no	No TRV
Chrysene	2.61E+00	7.60E-01	4.17E-04	9.24E-05	5.10E-04	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	8.72E-02	2.40E-01	4.40E-06	3.08E-06	7.52E-06	1.56E+02	4.83E-08	yes	yes	0.00%
Dibenzofuran	1.64E-01	1.90E-02	6.53E-07	5.72E-06	6.57E-06	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	6.87E+00	1.30E-01	1.87E-04	2.40E-04	4.36E-04	No TRV	No TRV	yes	yes	No TRV
Fluorene	2.73E-01	2.40E-02	1.37E-06	9.54E-06	1.12E-05	1.30E+00	8.67E-06	yes	yes	0.00%
Pentachlorophenol	9.38E-02	1.00E+00	1.97E-05	5.12E-07	2.10E-05	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	5.28E+00	4.80E-02	5.32E-05	1.85E-04	2.44E-04	No TRV	No TRV	yes	yes	No TRV
Pyrene	7.15E+00	3.00E-01	4.50E-04	2.53E-04	7.06E-04	2.42E+02	2.92E-06	yes	yes	0.00%

Appendix Table S-51. CB-3 and CB-801 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) Cs *x* BAF_v *x* I_A *x* AUF	ADD_S (mg/kgBW/d) RME *x* I_S *x* AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Volatile										
Methylene chloride	5.25E-04	3.00E-05	3.31E-12	1.84E-08	1.90E-08	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB										
4,4'-DDT	2.35E-02	2.90E+00	1.43E-05	2.32E-07	1.46E-05	4.18E-01	3.48E-05	yes	yes	0.00%
Dieldrin	1.64E-01	2.90E+00	1.00E-04	2.06E-07	1.00E-04	1.05E-02	9.59E-03	yes	yes	0.86%
Endrin aldehyde	3.75E-01	2.90E+00	2.28E-04	1.29E-06	2.30E-04	No TRV	No TRV	no	no	No TRV
Endrin ketone	1.27E-01	2.90E+00	7.74E-05	4.39E-07	7.78E-05	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	1.63E-02	2.90E+00	9.95E-06	1.60E-07	1.01E-05	No TRV	No TRV	yes	yes	No TRV
PCB-1254	2.25E+01	2.90E+00	1.37E-02	2.65E-05	1.37E-02	1.59E-02	8.64E-01	yes	yes	77.21%
beta-BHC	4.49E-01	2.90E+00	2.73E-04	1.16E-06	2.75E-04	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	7.86E-02	2.90E+00	4.79E-05	3.18E-07	4.82E-05	No TRV	No TRV	yes	yes	No TRV
Explosives										
2,4,6-Trinitrotoluene	4.17E-01	1.00E+00	8.76E-05	2.27E-06	9.36E-05	3.82E+00	2.45E-05	no	no	0.00%
2-Amino-4,6-dinitrotoluene	1.10E-01	1.00E+00	2.30E-05	5.98E-07	2.46E-05	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	1.99E-01	1.00E+00	4.18E-05	1.09E-06	4.47E-05	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	1.72E-01	1.00E+00	3.61E-05	9.37E-07	3.86E-05	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	5.13E+00	1.00E+00	1.08E-03	2.80E-05	1.15E-03	No TRV	No TRV	No Kow	no	No TRV
RDX	2.92E-01	1.00E+00	6.14E-05	1.59E-06	6.56E-05	No TRV	No TRV	no	no	No TRV
						HI =	1.12E+00			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for red foxes = 0.00317
ADD_P = Average daily dose; plant
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728
AUF = Area use factor = .00319
AUF_{prey} = Area use factor = 1.0
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728

IR_f = Ingestion rate of food for shrews
BAF_v = Animal-to-animal; vertebrates
I_A (kg/kgBW/d) = Animal ingestion rate for red foxes = 0.0658
I_S (kg/kgBW/d) = Soil ingestion rate for red foxes = 0.00193
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
HQ = Hazard quotient
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds
(bioaccumulation factor greater than 2 for inorganics, and a
log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard index (Sum of HQs)

Appendix Table S-52. CB-3/CB-801 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals								
Aluminum	1.20E+04	8.00E-04	0.00E+00	7.01E-01	7.50E-02	4.40E+02	8.77E+02	1.32E+03
Antimony	1.10E+02	4.00E-02	0.00E+00	3.19E-01	5.00E-02	2.67E+00	7.99E+00	1.10E+01
Arsenic	1.29E+01	8.00E-03	0.00E+00	7.50E-03	6.60E-03	4.14E-02	9.38E-01	9.87E-01
Barium	1.54E+02	3.00E-02	0.00E+00	3.35E-01	7.50E-03	5.61E-01	1.12E+01	1.21E+01
Cadmium	6.28E+00	1.10E-01	0.00E+00	5.03E-02	1.10E+01	3.37E+01	4.57E-01	3.42E+01
Calcium	1.99E+05	7.00E-01	0.00E+00	1.01E+04	1.00E+00	9.68E+04	1.45E+04	1.21E+05
Chromium	4.38E+01	1.50E-03	0.00E+00	4.79E-03	1.60E-01	3.42E+00	3.19E+00	6.61E+00
Chromium, hexavalent	1.40E+00	1.50E-03	0.00E+00	1.53E-04	1.60E-01	1.09E-01	1.02E-01	2.11E-01
Copper	5.60E+01	8.00E-02	0.00E+00	3.26E-01	1.60E-01	4.37E+00	4.08E+00	8.77E+00
Iron	3.02E+04	8.00E-04	0.00E+00	1.76E+00	1.00E+00	1.47E+04	2.20E+03	1.69E+04
Lead	6.06E+02	9.00E-03	0.00E+00	3.97E-01	2.00E+00	5.90E+02	4.41E+01	6.34E+02
Magnesium	5.55E+03	2.00E-01	0.00E+00	8.07E+01	1.00E+00	2.70E+03	4.04E+02	3.19E+03
Manganese	1.26E+03	5.00E-02	0.00E+00	4.59E+00	2.00E-02	1.23E+01	9.18E+01	1.09E+02
Mercury	1.41E-01	1.80E-01	0.00E+00	1.84E-03	3.40E-01	2.33E-02	1.02E-02	3.54E-02
Nickel	2.27E+01	1.20E-02	0.00E+00	1.98E-02	2.30E-01	2.54E+00	1.65E+00	4.21E+00
Potassium	1.24E+03	2.00E-01	0.00E+00	1.80E+01	1.00E+00	6.02E+02	8.99E+01	7.10E+02
Selenium	6.92E-01	5.00E-03	0.00E+00	2.52E-04	7.60E-01	2.56E-01	5.04E-02	3.07E-01
Sodium	3.00E+02	1.50E-02	0.00E+00	3.28E-01	1.00E+00	1.46E+02	2.19E+01	1.68E+02
Zinc	2.60E+02	3.00E-01	0.00E+00	5.69E+00	1.80E+00	2.28E+02	1.90E+01	2.53E+02
Organics-Semivolatil								
Anthracene	3.71E+00	2.00E-02	0.00E+00	5.40E-03	5.00E-02	9.03E-02	2.70E-01	3.66E-01
Benzo(a)anthracene	1.40E+01	3.90E-03	0.00E+00	3.97E-03	5.00E-02	3.41E-01	1.02E+00	1.36E+00
Benzo(a)pyrene	1.30E+01	2.60E-03	0.00E+00	2.46E-03	5.00E-02	3.17E-01	9.46E-01	1.27E+00
Benzo(b)fluoranthene	1.50E+01	2.30E-03	0.00E+00	2.51E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00
Benzo(g,h,i)perylene	8.20E+00	1.20E-03	0.00E+00	7.16E-04	5.00E-02	2.00E-01	5.97E-01	7.97E-01
Benzo(k)fluoranthene	5.70E+00	2.30E-03	0.00E+00	9.54E-04	5.00E-02	1.39E-01	4.15E-01	5.55E-01
Bis(2-ethylhexyl)phthalate	3.40E-01	8.70E-03	0.00E+00	2.15E-04	5.00E-02	8.28E-03	2.48E-02	3.32E-02
Carbazole	2.64E+00	2.00E-02	0.00E+00	3.84E-03	5.00E-02	6.42E-02	1.92E-01	2.60E-01
Chrysene	1.50E+01	3.90E-03	0.00E+00	4.26E-03	5.00E-02	3.65E-01	1.09E+00	1.46E+00
Di-n-butyl phthalate	5.00E-01	7.60E-03	0.00E+00	2.77E-04	5.00E-02	1.22E-02	3.64E-02	4.89E-02
Dibenzofuran	9.29E-01	2.00E-02	0.00E+00	1.35E-03	5.00E-02	2.26E-02	6.76E-02	9.16E-02
Fluoranthene	3.90E+01	2.00E-02	0.00E+00	5.68E-02	5.00E-02	9.50E-01	2.84E+00	3.85E+00
Fluorene	1.55E+00	2.00E-02	0.00E+00	2.25E-03	5.00E-02	3.77E-02	1.13E-01	1.53E-01
Pentachlorophenol	8.30E-02	1.00E+00	0.00E+00	6.04E-03	1.00E+00	4.04E-02	6.04E-03	5.25E-02
Phenanthrene	3.00E+01	2.00E-02	0.00E+00	4.37E-02	5.00E-02	7.31E-01	2.18E+00	2.96E+00
Pyrene	4.10E+01	6.70E-03	0.00E+00	2.00E-02	5.00E-02	9.99E-01	2.98E+00	4.00E+00

Appendix Table S-52. CB-3/CB-801 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-S} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Organics-Volatile								
Methylene chloride	2.98E-03	2.00E-02	0.00E+00	4.34E-06	5.00E-02	7.26E-05	2.17E-04	2.94E-04
Organics-Pesticide/PCB								
4,4'-DDT	3.76E-02	7.70E-04	0.00E+00	2.11E-06	5.70E-01	1.04E-02	2.74E-03	1.32E-02
Dieldrin	3.34E-02	2.00E-02	0.00E+00	4.86E-05	5.50E+00	8.95E-02	2.43E-03	9.20E-02
Endrin aldehyde	2.10E-01	2.00E-02	0.00E+00	3.06E-04	1.90E+00	1.94E-01	1.53E-02	2.10E-01
Endrin ketone	7.12E-02	2.00E-02	0.00E+00	1.04E-04	1.90E+00	6.59E-02	5.18E-03	7.11E-02
Methoxychlor	2.60E-02	2.00E-02	0.00E+00	3.79E-05	5.70E-01	7.22E-03	1.89E-03	9.15E-03
PCB-1254	4.30E+00	3.80E-01	0.00E+00	1.19E-01	5.80E+00	1.22E+01	3.13E-01	1.26E+01
beta-BHC	1.88E-01	2.00E-02	0.00E+00	2.73E-04	2.60E+00	2.38E-01	1.37E-02	2.51E-01
gamma-Chlordane	5.16E-02	5.10E-03	0.00E+00	1.92E-05	1.60E+00	4.02E-02	3.76E-03	4.40E-02
Explosives								
2,4,6-Trinitrotoluene	3.69E-01	1.00E+00	0.00E+00	2.69E-02	1.00E+00	1.80E-01	2.69E-02	2.34E-01
2-Amino-4,6-dinitrotoluene	9.70E-02	1.00E+00	0.00E+00	7.06E-03	1.00E+00	4.73E-02	7.06E-03	6.14E-02
2-Nitrotoluene	1.76E-01	1.00E+00	0.00E+00	1.28E-02	1.00E+00	8.58E-02	1.28E-02	1.11E-01
4-Amino-2,6-dinitrotoluene	1.52E-01	1.00E+00	0.00E+00	1.11E-02	1.00E+00	7.41E-02	1.11E-02	9.62E-02
Nitrocellulose	4.54E+00	1.00E+00	0.00E+00	3.31E-01	1.00E+00	2.21E+00	3.31E-01	2.87E+00
RDX	2.59E-01	1.00E+00	0.00E+00	1.88E-02	1.00E+00	1.26E-01	1.88E-02	1.64E-01

EU = Exposure Unit

aTRV adjusted by 0.1 for Threatened and Endangered Species

RME = Reasonable maximum exposure

SP_r = Soil-to-plant; reproductive

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for barn owl = 0.00

ADD_P = Average daily dose; plant

Cs (mg/kg) = Concentration in the prey

IR_f (kg/kgBW/d)= Ingestion rate of food for shrews = 0.56

BAF_v = Animal-to-mammal

I_A (kg/kgBW/d) = Animal ingestion rate for barn owl = 0.125

I_S (kg/kgBW/d) = Soil ingestion rate for barn owl = 0.00

I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728

AUF = Area use factor = 1.0

AUF_{prey} = Area use factor = 1.0

BAF_i = Soil-to-animal; invertebrates

Appendix Table S-52. CB-3/CB-801 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) $RME \times I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV^a(mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	2.35E+03	7.50E-02	2.21E+01	0.00E+00	2.21E+01	1.10E+01	2.01E+00	no	yes	0.28%
Antimony	1.96E+01	5.00E-02	1.23E-01	0.00E+00	1.23E-01	No TRV	No TRV	no	no	No TRV
Arsenic	1.76E+00	1.00E-01	2.20E-02	0.00E+00	2.20E-02	5.14E-01	4.29E-02	no	no	0.01%
Barium	2.16E+01	7.50E-03	2.02E-02	0.00E+00	2.02E-02	2.08E+00	9.71E-03	no	no	0.00%
Cadmium	6.10E+01	2.80E-02	2.13E-01	0.00E+00	2.13E-01	1.45E-01	1.47E+00	yes	yes	0.21%
Calcium	2.17E+05	1.00E+00	2.71E+04	0.00E+00	2.71E+04	No TRV	No TRV	No BAF	no	No TRV
Chromium	1.18E+01	2.80E-01	4.13E-01	0.00E+00	4.13E-01	1.00E-01	4.13E+00	no	yes	0.58%
Chromium, hexavalent	3.77E-01	2.80E-01	1.32E-02	0.00E+00	1.32E-02	No TRV	No TRV	no	no	No TRV
Copper	1.57E+01	5.00E-01	9.79E-01	0.00E+00	9.79E-01	4.70E+00	2.08E-01	no	no	0.03%
Iron	3.02E+04	1.00E+00	3.78E+03	0.00E+00	3.78E+03	No TRV	No TRV	no	no	No TRV
Lead	1.13E+03	1.50E-02	2.12E+00	0.00E+00	2.12E+00	1.13E-01	1.88E+01	yes	yes	2.63%
Magnesium	5.69E+03	1.00E+00	7.11E+02	0.00E+00	7.11E+02	No TRV	No TRV	no	no	No TRV
Manganese	1.94E+02	2.00E-02	4.85E-01	0.00E+00	4.85E-01	9.77E+01	4.97E-03	no	no	0.00%
Mercury	6.32E-02	1.30E+01	1.03E-01	0.00E+00	1.03E-01	4.50E-02	2.28E+00	yes	yes	0.32%
Nickel	7.52E+00	3.00E-01	2.82E-01	0.00E+00	2.82E-01	7.74E+00	3.64E-02	no	no	0.01%
Potassium	1.27E+03	1.00E+00	1.58E+02	0.00E+00	1.58E+02	No TRV	No TRV	no	no	No TRV
Selenium	5.48E-01	7.50E-01	5.13E-02	0.00E+00	5.13E-02	5.00E-02	1.03E+00	no	yes	0.14%
Sodium	3.01E+02	1.00E+00	3.76E+01	0.00E+00	3.76E+01	No TRV	No TRV	no	no	No TRV
Zinc	4.52E+02	5.00E+00	2.82E+02	0.00E+00	2.82E+02	1.45E+00	1.95E+02	yes	yes	27.22%
Organics-Semivolatil										
Anthracene	6.53E-01	4.80E-02	3.92E-03	0.00E+00	3.92E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	2.44E+00	7.60E-01	2.31E-01	0.00E+00	2.31E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	2.26E+00	1.50E+00	4.24E-01	0.00E+00	4.24E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	2.61E+00	1.90E+00	6.19E-01	0.00E+00	6.19E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	1.42E+00	6.00E+00	1.07E+00	0.00E+00	1.07E+00	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	9.91E-01	1.90E+00	2.35E-01	0.00E+00	2.35E-01	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	5.94E-02	1.90E-01	1.41E-03	0.00E+00	1.41E-03	1.10E-01	1.28E-02	yes	yes	0.00%
Carbazole	4.64E-01	8.70E-03	5.05E-04	0.00E+00	5.05E-04	No TRV	No TRV	no	no	No TRV
Chrysene	2.61E+00	7.60E-01	2.48E-01	0.00E+00	2.48E-01	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	8.72E-02	2.40E-01	2.62E-03	0.00E+00	2.62E-03	1.11E-02	2.36E-01	yes	yes	0.03%
Dibenzofuran	1.64E-01	1.90E-02	3.89E-04	0.00E+00	3.89E-04	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	6.87E+00	1.30E-01	1.12E-01	0.00E+00	1.12E-01	No TRV	No TRV	yes	yes	No TRV
Fluorene	2.73E-01	2.40E-02	8.18E-04	0.00E+00	8.18E-04	No TRV	No TRV	yes	yes	No TRV
Pentachlorophenol	9.38E-02	1.00E+00	1.17E-02	0.00E+00	1.17E-02	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	5.28E+00	4.80E-02	3.17E-02	0.00E+00	3.17E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	7.15E+00	3.00E-01	2.68E-01	0.00E+00	2.68E-01	No TRV	No TRV	yes	yes	No TRV

Appendix Table S-52. CB-3/CB-801 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs\ x\ BAF_v\ x\ I_A\ x$ AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Volatile										
Methylene chloride	5.25E-04	3.00E-05	1.97E-09	0.00E+00	1.97E-09	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB										
4,4'-DDT	2.35E-02	2.90E+00	8.53E-03	0.00E+00	8.53E-03	2.80E-04	3.05E+01	yes	yes	4.25%
Dieldrin	1.64E-01	2.90E+00	5.95E-02	0.00E+00	5.95E-02	7.70E-03	7.73E+00	yes	yes	1.08%
Endrin aldehyde	3.75E-01	2.90E+00	1.36E-01	0.00E+00	1.36E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	1.27E-01	2.90E+00	4.61E-02	0.00E+00	4.61E-02	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	1.63E-02	2.90E+00	5.92E-03	0.00E+00	5.92E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	2.25E+01	2.90E+00	8.15E+00	0.00E+00	8.15E+00	1.80E-02	4.53E+02	yes	yes	63.21%
beta-BHC	4.49E-01	2.90E+00	1.63E-01	0.00E+00	1.63E-01	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	7.86E-02	2.90E+00	2.85E-02	0.00E+00	2.85E-02	No TRV	No TRV	yes	yes	No TRV
Explosives										
2,4,6-Trinitrotoluene	4.17E-01	1.00E+00	5.21E-02	0.00E+00	5.21E-02	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	1.10E-01	1.00E+00	1.37E-02	0.00E+00	1.37E-02	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	1.99E-01	1.00E+00	2.49E-02	0.00E+00	2.49E-02	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	1.72E-01	1.00E+00	2.15E-02	0.00E+00	2.15E-02	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	5.13E+00	1.00E+00	6.41E-01	0.00E+00	6.41E-01	No TRV	No TRV	No Kow	no	No TRV
RDX	2.92E-01	1.00E+00	3.65E-02	0.00E+00	3.65E-02	No TRV	No TRV	no	no	No TRV
						HI =	7.16E+02			

ADD_A = Average daily dose; animal

I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487

ADD_S = Average daily dose; soil

I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

HQ = Hazard quotient

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

HI = Hazard index (Sum of HQs)

Appendix Table S-53. CB-4/4A and CA-6/6A Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals													
Aluminum	1.01E+04	5.00E+01	2.03E+02	yes	no	yes	8.08%	No TRV	No TRV	yes	no	no	No TRV
Arsenic	1.09E+01	1.00E+01	1.09E+00	yes	no	yes	0.04%	6.00E+01	1.82E-01	no	no	no	0.26%
Barium	1.39E+02	5.00E+02	2.78E-01	no	no	no	0.01%	No TRV	No TRV	yes	no	no	No TRV
Cadmium	1.81E+00	4.00E+00	4.53E-01	no	yes	yes	0.02%	2.00E+01	9.05E-02	no	yes	yes	0.13%
Calcium	9.71E+03	No TRV	No TRV	yes	No BAF	no	No TRV	No TRV	No TRV	yes	No BAF	no	No TRV
Chromium	2.49E+01	1.00E+00	2.49E+01	yes	no	yes	0.99%	4.00E-01	6.22E+01	yes	no	yes	89.78%
Cobalt	8.88E+00	2.00E+01	4.44E-01	no	no	no	0.02%	No TRV	No TRV	yes	no	no	No TRV
Copper	1.06E+02	1.00E+02	1.06E+00	yes	no	yes	0.04%	6.00E+01	1.77E+00	yes	no	yes	2.55%
Cyanide	5.54E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Iron	2.25E+04	1.00E+01	2.25E+03	yes	no	yes	89.85%	No TRV	No TRV	yes	no	no	No TRV
Lead	2.84E+02	5.00E+01	5.67E+00	yes	yes	yes	0.23%	5.00E+02	5.67E-01	no	yes	yes	0.82%
Magnesium	2.67E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Manganese	7.01E+02	5.00E+02	1.40E+00	yes	no	yes	0.06%	No TRV	No TRV	yes	no	no	No TRV
Mercury	3.42E-01	3.00E-01	1.14E+00	yes	yes	yes	0.05%	1.00E-01	3.42E+00	yes	yes	yes	4.94%
Nickel	1.76E+01	3.00E+01	5.87E-01	no	no	no	0.02%	2.00E+02	8.81E-02	no	no	no	0.13%
Potassium	9.97E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Selenium	7.86E-01	1.00E+00	7.86E-01	no	no	no	0.03%	7.00E+01	1.12E-02	no	no	no	0.02%
Sodium	2.79E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Thallium	5.35E-01	1.00E+00	5.35E-01	no	no	no	0.02%	No TRV	No TRV	yes	no	no	No TRV
Vanadium	1.91E+01	2.00E+00	9.53E+00	yes	no	yes	0.38%	No TRV	No TRV	yes	no	no	No TRV
Zinc	1.92E+02	5.00E+01	3.83E+00	yes	yes	yes	0.15%	2.00E+02	9.58E-01	no	yes	yes	1.38%
Organics-Semivolatile													
Anthracene	5.37E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)anthracene	6.41E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)pyrene	6.09E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(b)fluoranthene	6.62E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(g,h,i)perylene	5.44E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(k)fluoranthene	5.51E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.10E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Butylbenzyl phthalate	5.00E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Carbazole	3.80E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV

Appendix Table S-53. CB-4/4A and CA-6/6A Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Chrysene	6.34E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Dibenzofuran	1.90E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluoranthene	9.07E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluorene	3.10E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Phenanthrene	7.69E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Pyrene	8.33E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Organics-Volatile													
Acetone	8.06E-03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Methylene chloride	3.30E-03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Organics-Pesticide/PCB													
4,4'-DDE	1.19E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
4,4'-DDT	4.10E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Dieldrin	9.85E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Endrin aldehyde	4.40E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Endrin ketone	1.40E-02	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Heptachlor	7.19E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Heptachlor epoxide	3.10E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Methoxychlor	1.40E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
PCB-1016	1.40E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
PCB-1254	1.10E+03	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
alpha-Chlordane	7.80E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
beta-BHC	9.70E-03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
gamma-Chlordane	8.88E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Explosives													
1,3,5-Trinitrobenzene	5.90E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
1,3-Dinitrobenzene	5.90E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
2,4,6-Trinitrotoluene	2.97E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
2,6-Dinitrotoluene	8.60E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
2-Amino-4,6-dinitrotoluene	6.92E+00	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
2-Nitrotoluene	6.90E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
3-Nitrotoluene	1.80E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
4-Amino-2,6-dinitrotoluene	5.90E+00	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV

Appendix Table S-53. CB-4/4A and CA-6/6A Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
HMX	1.57E+01	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Nitrocellulose	1.95E+01	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Nitroglycerin	7.40E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Nitroguanidine	3.50E-02	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
RDX	1.00E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
		HI =	2.51E+03					HI =	6.93E+01				

RME = Reasonable maximum exposure
TRV = toxicity reference value
HQ = Hazard quotient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard Index (Sum of HQs)
[a]Plant TRV reference from Efroymson et al. (1997a)
[b]Earthworm TRV reference from Efroymson et al. (1997b)
Kow = octanol/water partition coefficient

Appendix Table S-54. CB-4/4A and CA-6/6A Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.01E+04	8.00E-04	6.64E-01	7.50E-02	9.41E+01	4.25E+01	1.37E+02	2.09E+00	6.59E+01	no	yes	0.12%
Arsenic	1.09E+01	8.00E-03	6.34E-03	6.60E-03	3.50E-02	7.93E-01	8.34E-01	1.36E-01	6.13E+00	no	yes	0.01%
Barium	1.39E+02	3.00E-02	3.03E-01	7.50E-03	5.08E-01	1.01E+01	1.09E+01	1.07E+01	1.02E+00	no	yes	0.00%
Cadmium	1.81E+00	1.10E-01	1.45E-02	1.10E+01	9.70E+00	1.32E-01	9.85E+00	1.93E+00	5.11E+00	yes	yes	0.01%
Calcium	9.71E+03	7.00E-01	4.95E+02	1.00E+00	4.73E+03	7.07E+02	5.93E+03	No TRV	No TRV	No BAF	no	No TRV
Chromium	2.49E+01	1.50E-03	2.72E-03	1.60E-01	1.94E+00	1.81E+00	3.75E+00	5.47E+03	6.86E-04	no	no	0.00%
Cobalt	8.88E+00	4.00E-03	2.59E-03	1.00E+00	4.33E+00	6.47E-01	4.98E+00	No TRV	No TRV	no	no	No TRV
Copper	1.06E+02	8.00E-02	6.17E-01	1.60E-01	8.26E+00	7.72E+00	1.66E+01	3.04E+01	5.46E-01	no	no	0.00%
Cyanide	5.54E-01	1.00E+00	4.03E-02	0.00E+00	0.00E+00	4.03E-02	8.06E-02	1.29E+02	6.25E-04	no	no	0.00%
Iron	2.25E+04	8.00E-04	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04	No TRV	No TRV	no	no	No TRV
Lead	2.84E+02	9.00E-03	1.86E-01	2.00E+00	2.76E+02	2.06E+01	2.97E+02	1.60E+01	1.86E+01	yes	yes	0.03%
Magnesium	2.67E+03	2.00E-01	3.89E+01	1.00E+00	1.30E+03	1.95E+02	1.54E+03	No TRV	No TRV	no	no	No TRV
Manganese	7.01E+02	5.00E-02	2.55E+00	2.00E-02	6.83E+00	5.10E+01	6.04E+01	1.76E+02	3.44E-01	no	no	0.00%
Mercury	3.42E-01	1.80E-01	4.48E-03	3.40E-01	5.66E-02	2.49E-02	8.60E-02	2.62E+00	3.28E-02	yes	yes	0.00%
Nickel	1.76E+01	1.20E-02	1.54E-02	2.30E-01	1.97E+00	1.28E+00	3.27E+00	7.99E+01	4.09E-02	no	no	0.00%
Potassium	9.97E+02	2.00E-01	1.45E+01	1.00E+00	4.86E+02	7.26E+01	5.73E+02	No TRV	No TRV	no	no	No TRV
Selenium	7.86E-01	5.00E-03	2.86E-04	7.60E-01	2.91E-01	5.72E-02	3.49E-01	3.99E-01	8.73E-01	no	no	0.00%
Sodium	2.79E+02	1.50E-02	3.05E-01	1.00E+00	1.36E+02	2.03E+01	1.56E+02	No TRV	No TRV	no	no	No TRV
Thallium	5.35E-01	8.00E-04	3.12E-05	1.00E+00	2.61E-01	3.90E-02	3.00E-01	1.49E-02	2.01E+01	no	yes	0.04%
Vanadium	1.91E+01	1.10E-03	1.53E-03	1.30E-01	1.21E+00	1.39E+00	2.59E+00	3.89E-01	6.66E+00	no	yes	0.01%
Zinc	1.92E+02	3.00E-01	4.18E+00	1.80E+00	1.68E+02	1.39E+01	1.86E+02	3.20E+02	5.82E-01	yes	yes	0.00%
Organics-Semivolatil												
Anthracene	5.37E-01	2.00E-02	7.82E-04	5.00E-02	1.31E-02	3.91E-02	5.30E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.41E-01	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.67E-02	6.24E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	6.09E-01	2.60E-03	1.15E-04	5.00E-02	1.48E-02	4.43E-02	5.93E-02	1.08E+00	5.49E-02	yes	yes	0.00%
Benzo(b)fluoranthene	6.62E-01	2.30E-03	1.11E-04	5.00E-02	1.61E-02	4.82E-02	6.44E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	5.44E-01	1.20E-03	4.76E-05	5.00E-02	1.33E-02	3.96E-02	5.29E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.51E-01	2.30E-03	9.23E-05	5.00E-02	1.34E-02	4.01E-02	5.36E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.10E-01	8.70E-03	6.97E-05	5.00E-02	2.68E-03	8.01E-03	1.08E-02	1.98E+01	5.44E-04	yes	yes	0.00%
Butylbenzyl phthalate	5.00E-02	2.00E-02	7.28E-05	5.00E-02	1.22E-03	3.64E-03	4.93E-03	No TRV	No TRV	yes	yes	No TRV
Carbazole	3.80E-01	2.00E-02	5.53E-04	5.00E-02	9.26E-03	2.77E-02	3.75E-02	No TRV	No TRV	no	no	No TRV
Chrysene	6.34E-01	3.90E-03	1.80E-04	5.00E-02	1.54E-02	4.61E-02	6.17E-02	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	1.90E-01	2.00E-02	2.77E-04	5.00E-02	4.63E-03	1.38E-02	1.87E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	9.07E-01	2.00E-02	1.32E-03	5.00E-02	2.21E-02	6.60E-02	8.94E-02	No TRV	No TRV	yes	yes	No TRV
Fluorene	3.10E-01	2.00E-02	4.51E-04	5.00E-02	7.55E-03	2.26E-02	3.06E-02	4.95E+00	6.18E-03	yes	yes	0.00%
Phenanthrene	7.69E-01	2.00E-02	1.12E-03	5.00E-02	1.87E-02	5.60E-02	7.58E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	8.33E-01	6.70E-03	4.06E-04	5.00E-02	2.03E-02	6.07E-02	8.14E-02	9.23E+02	8.81E-05	yes	yes	0.00%
Organics-Volatil												
Acetone	8.06E-03	2.00E-02	1.17E-05	5.00E-02	1.96E-04	5.86E-04	7.94E-04	2.00E+01	3.98E-05	no	no	0.00%
Methylene chloride	3.30E-03	2.00E-02	4.80E-06	5.00E-02	8.04E-05	2.40E-04	3.25E-04	No TRV	No TRV	no	no	No TRV

Appendix Table S-54. CB-4/4A and CA-6/6A Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Pesticide/PCB												
4,4'-DDE	1.19E+00	2.00E-03	1.74E-04	1.70E+00	9.88E-01	8.69E-02	1.08E+00	No TRV	No TRV	yes	yes	No TRV
4,4'-DDT	4.10E-02	7.70E-04	2.30E-06	5.70E-01	1.14E-02	2.98E-03	1.44E-02	1.60E+00	9.00E-03	yes	yes	0.00%
Dieldrin	9.85E-02	2.00E-02	1.43E-04	5.50E+00	2.64E-01	7.17E-03	2.71E-01	3.99E-02	6.79E+00	yes	yes	0.01%
Endrin aldehyde	4.40E+00	2.00E-02	6.41E-03	1.90E+00	4.07E+00	3.20E-01	4.40E+00	No TRV	No TRV	no	no	No TRV
Endrin ketone	1.40E-02	2.00E-02	2.04E-05	1.90E+00	1.30E-02	1.02E-03	1.40E-02	No TRV	No TRV	No Kow	no	No TRV
Heptachlor	7.19E-02	2.00E-02	1.05E-04	1.00E+00	3.50E-02	5.23E-03	4.04E-02	No TRV	No TRV	yes	yes	No TRV
Heptachlor epoxide	3.10E-02	5.90E-03	1.33E-05	1.00E+00	1.51E-02	2.26E-03	1.74E-02	No TRV	No TRV	yes	yes	No TRV
Methoxychlor	1.40E-02	2.00E-02	2.04E-05	5.70E-01	3.89E-03	1.02E-03	4.93E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1016	1.40E-01	1.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.10E+03	3.80E-01	3.04E+01	5.80E+00	3.11E+03	8.01E+01	3.22E+03	6.07E-02	5.30E+04	yes	yes	99.72%
alpha-Chlordane	7.80E-02	5.10E-03	2.90E-05	1.60E+00	6.08E-02	5.68E-03	6.65E-02	4.95E+00	1.34E-02	yes	yes	0.00%
beta-BHC	9.70E-03	2.00E-02	1.41E-05	2.60E+00	1.23E-02	7.06E-04	1.30E-02	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	8.88E-01	5.10E-03	3.30E-04	1.60E+00	6.92E-01	6.47E-02	7.57E-01	No TRV	No TRV	yes	yes	No TRV
Explosives												
1,3,5-Trinitrobenzene	5.90E+00	1.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00	No TRV	No TRV	no	no	No TRV
1,3-Dinitrobenzene	5.90E+00	1.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00	3.20E+00	1.17E+00	no	yes	0.00%
2,4,6-Trinitrotoluene	2.97E+02	1.00E+00	2.17E+01	1.00E+00	1.45E+02	2.17E+01	1.88E+02	1.46E+01	1.29E+01	no	yes	0.02%
2,6-Dinitrotoluene	8.60E-01	2.00E-02	1.25E-03	5.00E-02	2.09E-02	6.26E-02	8.48E-02	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	6.92E+00	1.00E+00	5.04E-01	1.00E+00	3.37E+00	5.04E-01	4.38E+00	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	6.90E-01	1.00E+00	5.02E-02	1.00E+00	3.36E-01	5.02E-02	4.37E-01	No TRV	No TRV	no	no	No TRV
3-Nitrotoluene	1.80E-01	1.00E+00	1.31E-02	1.00E+00	8.77E-02	1.31E-02	1.14E-01	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	5.90E+00	1.00E+00	4.30E-01	1.00E+00	2.87E+00	4.30E-01	3.73E+00	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01	No TRV	No TRV	no	no	No TRV
HMX	1.57E+01	1.00E+00	1.14E+00	1.00E+00	7.66E+00	1.14E+00	9.95E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.95E+01	1.00E+00	1.42E+00	1.00E+00	9.51E+00	1.42E+00	1.23E+01	No TRV	No TRV	No Kow	no	No TRV
Nitroglycerin	7.40E+00	1.00E+00	5.39E-01	1.00E+00	3.61E+00	5.39E-01	4.68E+00	No TRV	No TRV	no	no	No TRV
Nitroguanidine	3.50E-02	1.00E+00	2.55E-03	1.00E+00	1.71E-02	2.55E-03	2.21E-02	No TRV	No TRV	No Kow	no	No TRV
RDX	1.00E+02	1.00E+00	7.29E+00	1.00E+00	4.88E+01	7.29E+00	6.34E+01	No TRV	No TRV	no	no	No TRV
								HI =	5.31E+04			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for deer mice = 0.0819
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for deer mice = 0.1239
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for deer mice = 0.0042
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV). For metals, is the BAF>2 and for organics is the Kow≥ 4
HI = Hazard index

Appendix Table S-55. CB-4/4A and CA-6/6A Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPv	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.01E+04	8.00E-04	1.06E-02	7.50E-02	0.00E+00	2.66E-01	2.76E-01	2.93E-01	9.43E-01	no	no	1.39%
Arsenic	1.09E+01	8.00E-03	1.14E-04	6.60E-03	0.00E+00	2.86E-04	4.00E-04	1.91E-02	2.09E-02	no	no	0.03%
Barium	1.39E+02	3.00E-02	5.46E-03	7.50E-03	0.00E+00	3.64E-03	9.10E-03	1.50E+00	6.07E-03	no	no	0.01%
Cadmium	1.81E+00	1.10E-01	2.61E-04	1.10E+01	0.00E+00	4.75E-05	3.08E-04	2.71E-01	1.14E-03	yes	yes	0.00%
Calcium	9.71E+03	7.00E-01	8.91E+00	1.00E+00	0.00E+00	2.55E-01	9.17E+00	No TRV	No TRV	no	no	No TRV
Chromium	2.49E+01	1.50E-03	4.89E-05	1.60E-01	0.00E+00	6.52E-04	7.01E-04	7.68E+02	9.13E-07	no	no	0.00%
Cobalt	8.88E+00	4.00E-03	4.66E-05	1.00E+00	0.00E+00	2.33E-04	2.79E-04	No TRV	No TRV	no	no	No TRV
Copper	1.06E+02	8.00E-02	1.11E-02	1.60E-01	0.00E+00	2.78E-03	1.39E-02	4.27E+00	3.25E-03	no	no	0.00%
Cyanide	5.54E-01	1.00E+00	7.26E-04	0.00E+00	0.00E+00	1.45E-05	7.41E-04	1.81E+01	4.09E-05	no	no	0.00%
Iron	2.25E+04	8.00E-04	2.36E-02	1.00E+00	0.00E+00	5.90E-01	6.14E-01	No TRV	No TRV	no	no	No TRV
Lead	2.84E+02	9.00E-03	3.34E-03	2.00E+00	0.00E+00	7.43E-03	1.08E-02	2.24E+00	4.80E-03	yes	yes	0.01%
Magnesium	2.67E+03	2.00E-01	7.01E-01	1.00E+00	0.00E+00	7.01E-02	7.71E-01	No TRV	No TRV	no	no	No TRV
Manganese	7.01E+02	5.00E-02	4.59E-02	2.00E-02	0.00E+00	1.84E-02	6.43E-02	2.47E+01	2.60E-03	no	no	0.00%
Mercury	3.42E-01	1.80E-01	8.06E-05	3.40E-01	0.00E+00	8.96E-06	8.96E-05	3.68E-01	2.43E-04	yes	yes	0.00%
Nickel	1.76E+01	1.20E-02	2.77E-04	2.30E-01	0.00E+00	4.62E-04	7.39E-04	1.12E+01	6.58E-05	no	no	0.00%
Potassium	9.97E+02	2.00E-01	2.61E-01	1.00E+00	0.00E+00	2.61E-02	2.87E-01	No TRV	No TRV	no	no	No TRV
Selenium	7.86E-01	5.00E-03	5.15E-06	7.60E-01	0.00E+00	2.06E-05	2.58E-05	5.61E-02	4.59E-04	no	no	0.00%
Sodium	2.79E+02	1.50E-02	5.48E-03	1.00E+00	0.00E+00	7.31E-03	1.28E-02	No TRV	No TRV	no	no	No TRV
Thallium	5.35E-01	8.00E-04	5.61E-07	1.00E+00	0.00E+00	1.40E-05	1.46E-05	2.10E-03	6.96E-03	no	no	0.01%
Vanadium	1.91E+01	1.10E-03	2.75E-05	1.30E-01	0.00E+00	4.99E-04	5.27E-04	5.47E-02	9.63E-03	no	no	0.01%
Zinc	1.92E+02	3.00E-01	7.53E-02	1.80E+00	0.00E+00	5.02E-03	8.03E-02	4.49E+01	1.79E-03	yes	yes	0.00%
Organics-Semivolatil												
Anthracene	5.37E-01	2.00E-02	1.41E-05	5.00E-02	0.00E+00	1.41E-05	2.82E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.41E-01	3.90E-03	3.28E-06	5.00E-02	0.00E+00	1.68E-05	2.01E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	6.09E-01	2.60E-03	2.08E-06	5.00E-02	0.00E+00	1.60E-05	1.80E-05	1.52E-01	1.19E-04	yes	yes	0.00%
Benzo(b)fluoranthene	6.62E-01	2.30E-03	1.99E-06	5.00E-02	0.00E+00	1.73E-05	1.93E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	5.44E-01	1.20E-03	8.56E-07	5.00E-02	0.00E+00	1.43E-05	1.51E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.51E-01	2.30E-03	1.66E-06	5.00E-02	0.00E+00	1.44E-05	1.61E-05	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.10E-01	8.70E-03	1.25E-06	5.00E-02	0.00E+00	2.88E-06	4.14E-06	2.78E+00	1.49E-06	yes	yes	0.00%
Butylbenzyl phthalate	5.00E-02	2.00E-02	1.31E-06	5.00E-02	0.00E+00	1.31E-06	2.62E-06	No TRV	No TRV	yes	yes	No TRV
Carbazole	3.80E-01	2.00E-02	9.96E-06	5.00E-02	0.00E+00	9.96E-06	1.99E-05	No TRV	No TRV	no	no	No TRV
Chrysene	6.34E-01	3.90E-03	3.24E-06	5.00E-02	0.00E+00	1.66E-05	1.99E-05	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	1.90E-01	2.00E-02	4.98E-06	5.00E-02	0.00E+00	4.98E-06	9.96E-06	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	9.07E-01	2.00E-02	2.38E-05	5.00E-02	0.00E+00	2.38E-05	4.75E-05	No TRV	No TRV	yes	yes	No TRV
Fluorene	3.10E-01	2.00E-02	8.13E-06	5.00E-02	0.00E+00	8.13E-06	1.63E-05	6.95E-01	2.34E-05	yes	yes	0.00%
Phenanthrene	7.69E-01	2.00E-02	2.02E-05	5.00E-02	0.00E+00	2.02E-05	4.03E-05	No TRV	No TRV	yes	yes	No TRV
Pyrene	8.33E-01	6.70E-03	7.32E-06	5.00E-02	0.00E+00	2.18E-05	2.92E-05	1.30E+02	2.25E-07	yes	yes	0.00%
Organics-Volatil												
Acetone	8.06E-03	2.00E-02	2.11E-07	5.00E-02	0.00E+00	2.11E-07	4.22E-07	2.81E+00	1.51E-07	no	no	0.00%
Methylene chloride	3.30E-03	2.00E-02	8.65E-08	5.00E-02	0.00E+00	8.65E-08	1.73E-07	No TRV	No TRV	no	no	No TRV

Appendix Table S-55. CB-4/4A and CA-6/6A Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPv	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Pesticide/PCB												
4,4'-DDE	1.19E+00	2.00E-03	3.13E-06	1.70E+00	0.00E+00	3.13E-05	3.44E-05	No TRV	No TRV	yes	yes	No TRV
4,4'-DDT	4.10E-02	7.70E-04	4.14E-08	5.70E-01	0.00E+00	1.07E-06	1.12E-06	2.24E-01	4.97E-06	yes	yes	0.00%
Dieldrin	9.85E-02	2.00E-02	2.58E-06	5.50E+00	0.00E+00	2.58E-06	5.16E-06	5.61E-03	9.20E-04	yes	yes	0.00%
Endrin aldehyde	4.40E+00	2.00E-02	1.15E-04	1.90E+00	0.00E+00	1.15E-04	2.31E-04	No TRV	No TRV	no	no	No TRV
Endrin ketone	1.40E-02	2.00E-02	3.67E-07	1.90E+00	0.00E+00	3.67E-07	7.34E-07	No TRV	No TRV	No Kow	no	No TRV
Heptachlor	7.19E-02	2.00E-02	1.88E-06	1.00E+00	0.00E+00	1.88E-06	3.77E-06	No TRV	No TRV	yes	yes	No TRV
Heptachlor epoxide	3.10E-02	5.90E-03	2.40E-07	1.00E+00	0.00E+00	8.13E-07	1.05E-06	No TRV	No TRV	yes	yes	No TRV
Methoxychlor	1.40E-02	2.00E-02	3.67E-07	5.70E-01	0.00E+00	3.67E-07	7.34E-07	No TRV	No TRV	yes	yes	No TRV
PCB-1016	1.40E-01	1.00E+00	1.84E-04	1.00E+00	0.00E+00	3.67E-06	1.87E-04	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.10E+03	3.80E-01	5.48E-01	5.80E+00	0.00E+00	2.88E-02	5.77E-01	8.53E-03	6.76E+01	yes	yes	99.60%
alpha-Chlordane	7.80E-02	5.10E-03	5.22E-07	1.60E+00	0.00E+00	2.05E-06	2.57E-06	6.95E-01	3.69E-06	yes	yes	0.00%
beta-BHC	9.70E-03	2.00E-02	2.54E-07	2.60E+00	0.00E+00	2.54E-07	5.09E-07	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	8.88E-01	5.10E-03	5.94E-06	1.60E+00	0.00E+00	2.33E-05	2.92E-05	No TRV	No TRV	yes	yes	No TRV
Explosives												
1,3,5-Trinitrobenzene	5.90E+00	1.00E+00	7.73E-03	1.00E+00	0.00E+00	1.55E-04	7.88E-03	No TRV	No TRV	no	no	No TRV
1,3-Dinitrobenzene	5.90E+00	1.00E+00	7.73E-03	1.00E+00	0.00E+00	1.55E-04	7.88E-03	4.49E-01	1.76E-02	no	no	0.03%
2,4,6-Trinitrotoluene	2.97E+02	1.00E+00	3.90E-01	1.00E+00	0.00E+00	7.80E-03	3.98E-01	2.05E+00	1.94E-01	no	no	0.29%
2,6-Dinitrotoluene	8.60E-01	2.00E-02	2.25E-05	5.00E-02	0.00E+00	2.25E-05	4.51E-05	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	6.92E+00	1.00E+00	9.07E-03	1.00E+00	0.00E+00	1.81E-04	9.26E-03	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	6.90E-01	1.00E+00	9.04E-04	1.00E+00	0.00E+00	1.81E-05	9.23E-04	No TRV	No TRV	no	no	No TRV
3-Nitrotoluene	1.80E-01	1.00E+00	2.36E-04	1.00E+00	0.00E+00	4.72E-06	2.41E-04	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	5.90E+00	1.00E+00	7.73E-03	1.00E+00	0.00E+00	1.55E-04	7.89E-03	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	2.62E-04	1.00E+00	0.00E+00	5.24E-06	2.67E-04	No TRV	No TRV	no	no	No TRV
HMX	1.57E+01	1.00E+00	2.06E-02	1.00E+00	0.00E+00	4.12E-04	2.10E-02	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.95E+01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	5.11E-04	2.61E-02	No TRV	No TRV	No Kow	no	No TRV
Nitroglycerin	7.40E+00	1.00E+00	9.70E-03	1.00E+00	0.00E+00	1.94E-04	9.89E-03	No TRV	No TRV	no	no	No TRV
Nitroguanidine	3.50E-02	1.00E+00	4.59E-05	1.00E+00	0.00E+00	9.18E-07	4.68E-05	No TRV	No TRV	No Kow	no	No TRV
RDX	1.00E+02	1.00E+00	1.31E-01	1.00E+00	0.00E+00	2.63E-03	1.34E-01	No TRV	No TRV	no	no	No TRV
								HI =	6.79E+01			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for white-tailed deer = 0.031

ADD_P = Average daily dose; plant

AUF = Area use factor 4.23E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for white-tailed deer = 0.00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for white-tailed deer = 0.00062

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-56. CB-4/4A and CA-6/6A Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.01E+04	8.00E-04	5.90E-01	7.50E-02	3.70E+02	7.37E+02	1.11E+03	2.22E+00	4.98E+02	no	yes	0.99%
Arsenic	1.09E+01	8.00E-03	6.34E-03	6.60E-03	3.50E-02	7.93E-01	8.34E-01	1.45E-01	5.74E+00	no	yes	0.01%
Barium	1.39E+02	3.00E-02	3.03E-01	7.50E-03	5.08E-01	1.01E+01	1.09E+01	1.14E+01	9.60E-01	no	no	0.00%
Cadmium	1.81E+00	1.10E-01	1.45E-02	1.10E+01	9.70E+00	1.32E-01	9.85E+00	2.05E+00	4.79E+00	yes	yes	0.01%
Calcium	9.71E+03	7.00E-01	4.95E+02	1.00E+00	4.73E+03	7.07E+02	5.93E+03	No TRV	No TRV	no	no	No TRV
Chromium	2.49E+01	1.50E-03	2.72E-03	1.60E-01	1.94E+00	1.81E+00	3.75E+00	5.83E+03	6.44E-04	no	no	0.00%
Cobalt	8.88E+00	4.00E-03	2.59E-03	1.00E+00	4.33E+00	6.47E-01	4.98E+00	No TRV	No TRV	no	no	No TRV
Copper	1.06E+02	8.00E-02	6.17E-01	1.60E-01	8.26E+00	7.72E+00	1.66E+01	3.24E+01	5.12E-01	no	no	0.00%
Cyanide	5.54E-01	1.00E+00	4.03E-02	0.00E+00	0.00E+00	4.03E-02	8.06E-02	1.38E+02	5.86E-04	no	no	0.00%
Iron	2.25E+04	8.00E-04	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04	No TRV	No TRV	no	no	No TRV
Lead	2.84E+02	9.00E-03	1.86E-01	2.00E+00	2.76E+02	2.06E+01	2.97E+02	1.70E+01	1.74E+01	yes	yes	0.03%
Magnesium	2.67E+03	2.00E-01	3.89E+01	1.00E+00	1.30E+03	1.95E+02	1.54E+03	No TRV	No TRV	no	no	No TRV
Manganese	7.01E+02	5.00E-02	2.55E+00	2.00E-02	6.83E+00	5.10E+01	6.04E+01	1.87E+02	3.22E-01	no	no	0.00%
Mercury	3.42E-01	1.80E-01	4.48E-03	3.40E-01	5.66E-02	2.49E-02	8.60E-02	2.80E+00	3.07E-02	yes	yes	0.00%
Nickel	1.76E+01	1.20E-02	1.54E-02	2.30E-01	1.97E+00	1.28E+00	3.27E+00	8.52E+01	3.84E-02	no	no	0.00%
Potassium	9.97E+02	2.00E-01	1.45E+01	1.00E+00	4.86E+02	7.26E+01	5.73E+02	No TRV	No TRV	no	no	No TRV
Selenium	7.86E-01	5.00E-03	2.86E-04	7.60E-01	2.91E-01	5.72E-02	3.49E-01	4.26E-01	8.18E-01	no	no	0.00%
Sodium	2.79E+02	1.50E-02	3.05E-01	1.00E+00	1.36E+02	2.03E+01	1.56E+02	No TRV	No TRV	no	no	No TRV
Thallium	5.35E-01	8.00E-04	3.12E-05	1.00E+00	2.61E-01	3.90E-02	3.00E-01	1.59E-02	1.88E+01	no	yes	0.04%
Vanadium	1.91E+01	1.10E-03	1.53E-03	1.30E-01	1.21E+00	1.39E+00	2.59E+00	4.15E-01	6.25E+00	no	yes	0.01%
Zinc	1.92E+02	3.00E-01	4.18E+00	1.80E+00	1.68E+02	1.39E+01	1.86E+02	3.41E+02	5.46E-01	yes	yes	0.00%
Organics-Semivolatile												
Anthracene	5.37E-01	2.00E-02	7.82E-04	5.00E-02	1.31E-02	3.91E-02	5.30E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.41E-01	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.67E-02	6.24E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	6.09E-01	2.60E-03	1.15E-04	5.00E-02	1.48E-02	4.43E-02	5.93E-02	1.15E+00	5.15E-02	yes	yes	0.00%
Benzo(b)fluoranthene	6.62E-01	2.30E-03	1.11E-04	5.00E-02	1.61E-02	4.82E-02	6.44E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	5.44E-01	1.20E-03	4.76E-05	5.00E-02	1.33E-02	3.96E-02	5.29E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.51E-01	2.30E-03	9.23E-05	5.00E-02	1.34E-02	4.01E-02	5.36E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.10E-01	8.70E-03	6.97E-05	5.00E-02	2.68E-03	8.01E-03	1.08E-02	2.11E+01	5.10E-04	yes	yes	0.00%
Butylbenzyl phthalate	5.00E-02	2.00E-02	7.28E-05	5.00E-02	1.22E-03	3.64E-03	4.93E-03	No TRV	No TRV	yes	yes	No TRV
Carbazole	3.80E-01	2.00E-02	5.53E-04	5.00E-02	9.26E-03	2.77E-02	3.75E-02	No TRV	No TRV	no	no	No TRV
Chrysene	6.34E-01	3.90E-03	1.80E-04	5.00E-02	1.54E-02	4.61E-02	6.17E-02	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	1.90E-01	2.00E-02	2.77E-04	5.00E-02	4.63E-03	1.38E-02	1.87E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	9.07E-01	2.00E-02	1.32E-03	5.00E-02	2.21E-02	6.60E-02	8.94E-02	No TRV	No TRV	yes	yes	No TRV
Fluorene	3.10E-01	2.00E-02	4.51E-04	5.00E-02	7.55E-03	2.26E-02	3.06E-02	5.28E+00	5.79E-03	yes	yes	0.00%
Phenanthrene	7.69E-01	2.00E-02	1.12E-03	5.00E-02	1.87E-02	5.60E-02	7.58E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	8.33E-01	6.70E-03	4.06E-04	5.00E-02	2.03E-02	6.07E-02	8.14E-02	9.85E+02	8.26E-05	yes	yes	0.00%
Organics-Volatile												
Acetone	8.06E-03	2.00E-02	1.17E-05	5.00E-02	1.96E-04	5.86E-04	7.94E-04	2.13E+01	3.73E-05	no	no	0.00%
Methylene chloride	3.30E-03	2.00E-02	4.80E-06	5.00E-02	8.04E-05	2.40E-04	3.25E-04	No TRV	No TRV	no	no	No TRV

Appendix Table S-56. CB-4/4A and CA-6/6A Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Organics-Pesticide/PCB												
4,4'-DDE	1.19E+00	2.00E-03	1.74E-04	1.70E+00	9.88E-01	8.69E-02	1.08E+00	No TRV	No TRV	yes	yes	No TRV
4,4'-DDT	4.10E-02	7.70E-04	2.30E-06	5.70E-01	1.14E-02	2.98E-03	1.44E-02	1.70E+00	8.43E-03	yes	yes	0.00%
Dieldrin	9.85E-02	2.00E-02	1.43E-04	5.50E+00	2.64E-01	7.17E-03	2.71E-01	4.26E-02	6.36E+00	yes	yes	0.01%
Endrin aldehyde	4.40E+00	2.00E-02	6.41E-03	1.90E+00	4.07E+00	3.20E-01	4.40E+00	No TRV	No TRV	no	no	No TRV
Endrin ketone	1.40E-02	2.00E-02	2.04E-05	1.90E+00	1.30E-02	1.02E-03	1.40E-02	No TRV	No TRV	No Kow	no	No TRV
Heptachlor	7.19E-02	2.00E-02	1.05E-04	1.00E+00	3.50E-02	5.23E-03	4.04E-02	No TRV	No TRV	yes	yes	No TRV
Heptachlor epoxide	3.10E-02	5.90E-03	1.33E-05	1.00E+00	1.51E-02	2.26E-03	1.74E-02	No TRV	No TRV	yes	yes	No TRV
Methoxychlor	1.40E-02	2.00E-02	2.04E-05	5.70E-01	3.89E-03	1.02E-03	4.93E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1016	1.40E-01	1.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.10E+03	3.80E-01	3.04E+01	5.80E+00	3.11E+03	8.01E+01	3.22E+03	6.48E-02	4.97E+04	yes	yes	98.86%
alpha-Chlordane	7.80E-02	5.10E-03	2.90E-05	1.60E+00	6.08E-02	5.68E-03	6.65E-02	5.28E+00	1.26E-02	yes	yes	0.00%
beta-BHC	9.70E-03	2.00E-02	1.41E-05	2.60E+00	1.23E-02	7.06E-04	1.30E-02	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	8.88E-01	5.10E-03	3.30E-04	1.60E+00	6.92E-01	6.47E-02	7.57E-01	No TRV	No TRV	yes	yes	No TRV
Explosives												
1,3,5-Trinitrobenzene	5.90E+00	1.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00	No TRV	No TRV	no	no	No TRV
1,3-Dinitrobenzene	5.90E+00	1.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00	3.41E+00	1.09E+00	no	yes	0.00%
2,4,6-Trinitrotoluene	2.97E+02	1.00E+00	2.17E+01	1.00E+00	1.45E+02	2.17E+01	1.88E+02	1.56E+01	1.21E+01	no	yes	0.02%
2,6-Dinitrotoluene	8.60E-01	2.00E-02	1.25E-03	5.00E-02	2.09E-02	6.26E-02	8.48E-02	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	6.92E+00	1.00E+00	5.04E-01	1.00E+00	3.37E+00	5.04E-01	4.38E+00	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	6.90E-01	1.00E+00	5.02E-02	1.00E+00	3.36E-01	5.02E-02	4.37E-01	No TRV	No TRV	no	no	No TRV
3-Nitrotoluene	1.80E-01	1.00E+00	1.31E-02	1.00E+00	8.77E-02	1.31E-02	1.14E-01	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	5.90E+00	1.00E+00	4.30E-01	1.00E+00	2.87E+00	4.30E-01	3.73E+00	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01	No TRV	No TRV	no	no	No TRV
HMX	1.57E+01	1.00E+00	1.14E+00	1.00E+00	7.66E+00	1.14E+00	9.95E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.95E+01	1.00E+00	1.42E+00	1.00E+00	9.51E+00	1.42E+00	1.23E+01	No TRV	No TRV	No Kow	no	No TRV
Nitroglycerin	7.40E+00	1.00E+00	5.39E-01	1.00E+00	3.61E+00	5.39E-01	4.68E+00	No TRV	No TRV	no	no	No TRV
Nitroguanidine	3.50E-02	1.00E+00	2.55E-03	1.00E+00	1.71E-02	2.55E-03	2.21E-02	No TRV	No TRV	No Kow	no	No TRV
RDX	1.00E+02	1.00E+00	7.29E+00	1.00E+00	4.88E+01	7.29E+00	6.34E+01	No TRV	No TRV	no	no	No TRV
								HI =	5.03E+04			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for shrew = 0.073
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-57. CB-4/4A and CA-6/6A Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.01E+04	1.30E-04	1.00E+00	7.50E-02	5.77E+02	1.20E+02	6.99E+02	1.10E+02	6.37E+00	no	yes	0.02%
Arsenic	1.09E+01	1.20E-03	9.93E-03	6.60E-03	5.46E-02	1.14E-02	7.59E-02	5.14E+00	1.48E-02	no	no	0.00%
Barium	1.39E+02	3.00E-03	3.17E-01	7.50E-03	7.92E-01	1.65E-01	1.27E+00	2.08E+01	6.11E-02	no	no	0.00%
Cadmium	1.81E+00	3.00E-02	4.13E-02	1.10E+01	1.51E+01	3.15E+00	1.83E+01	1.45E+00	1.26E+01	yes	yes	0.04%
Calcium	9.71E+03	7.00E-02	5.17E+02	1.00E+00	7.38E+03	1.54E+03	9.43E+03	No TRV	No TRV	no	no	No TRV
Chromium	2.49E+01	9.00E-04	1.70E-02	1.60E-01	3.02E+00	6.29E-01	3.67E+00	1.00E+00	3.67E+00	no	yes	0.01%
Cobalt	8.88E+00	1.40E-03	9.45E-03	1.00E+00	6.75E+00	1.40E+00	8.16E+00	No TRV	No TRV	no	no	No TRV
Copper	1.06E+02	5.00E-02	4.03E+00	1.60E-01	1.29E+01	2.68E+00	1.96E+01	4.70E+01	4.17E-01	no	no	0.00%
Cyanide	5.54E-01	1.00E+00	4.21E-01	0.00E+00	0.00E+00	0.00E+00	4.21E-01	No TRV	No TRV	no	no	No TRV
Iron	2.25E+04	2.00E-04	3.42E+00	1.00E+00	1.71E+04	3.56E+03	2.07E+04	No TRV	No TRV	no	no	No TRV
Lead	2.84E+02	1.80E-03	3.88E-01	2.00E+00	4.31E+02	8.96E+01	5.21E+02	1.13E+00	4.61E+02	yes	yes	1.32%
Magnesium	2.67E+03	1.10E-01	2.23E+02	1.00E+00	2.03E+03	4.22E+02	2.68E+03	No TRV	No TRV	no	no	No TRV
Manganese	7.01E+02	1.00E-02	5.32E+00	2.00E-02	1.06E+01	2.21E+00	1.82E+01	9.77E+02	1.86E-02	no	no	0.00%
Mercury	3.42E-01	4.00E-02	1.04E-02	3.40E-01	8.83E-02	1.84E-02	1.17E-01	4.50E-01	2.60E-01	yes	yes	0.00%
Nickel	1.76E+01	1.20E-02	1.61E-01	2.30E-01	3.08E+00	6.40E-01	3.88E+00	7.74E+01	5.01E-02	no	no	0.00%
Potassium	9.97E+02	1.10E-01	8.33E+01	1.00E+00	7.57E+02	1.58E+02	9.98E+02	No TRV	No TRV	no	no	No TRV
Selenium	7.86E-01	5.00E-03	2.99E-03	7.60E-01	4.54E-01	9.44E-02	5.51E-01	5.00E-01	1.10E+00	no	yes	0.00%
Sodium	2.79E+02	1.10E-02	2.33E+00	1.00E+00	2.12E+02	4.41E+01	2.58E+02	No TRV	No TRV	no	no	No TRV
Thallium	5.35E-01	8.00E-05	3.26E-05	1.00E+00	4.07E-01	8.46E-02	4.92E-01	No TRV	No TRV	no	no	No TRV
Vanadium	1.91E+01	6.00E-04	8.69E-03	1.30E-01	1.88E+00	3.91E-01	2.28E+00	1.14E+01	2.01E-01	no	no	0.00%
Zinc	1.92E+02	1.80E-01	2.62E+01	1.80E+00	2.62E+02	5.45E+01	3.43E+02	1.45E+01	2.36E+01	yes	yes	0.07%
Organics-Semivolatile												
Anthracene	5.37E-01	2.00E-02	8.16E-03	5.00E-02	2.04E-02	4.24E-03	3.28E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.41E-01	3.90E-03	1.90E-03	5.00E-02	2.44E-02	5.06E-03	3.13E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	6.09E-01	2.60E-03	1.20E-03	5.00E-02	2.31E-02	4.82E-03	2.92E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	6.62E-01	2.30E-03	1.16E-03	5.00E-02	2.51E-02	5.23E-03	3.15E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	5.44E-01	1.20E-03	4.96E-04	5.00E-02	2.07E-02	4.30E-03	2.55E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.51E-01	2.30E-03	9.63E-04	5.00E-02	2.09E-02	4.36E-03	2.63E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.10E-01	8.70E-03	7.27E-04	5.00E-02	4.18E-03	8.69E-04	5.78E-03	1.10E+00	5.25E-03	yes	yes	0.00%
Butylbenzyl phthalate	5.00E-02	2.00E-02	7.60E-04	5.00E-02	1.90E-03	3.95E-04	3.06E-03	No TRV	No TRV	yes	yes	No TRV
Carbazole	3.80E-01	2.00E-02	5.78E-03	5.00E-02	1.44E-02	3.00E-03	2.32E-02	No TRV	No TRV	no	no	No TRV
Chrysene	6.34E-01	3.90E-03	1.88E-03	5.00E-02	2.41E-02	5.01E-03	3.10E-02	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	1.90E-01	2.00E-02	2.89E-03	5.00E-02	7.22E-03	1.50E-03	1.16E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	9.07E-01	2.00E-02	1.38E-02	5.00E-02	3.45E-02	7.17E-03	5.54E-02	No TRV	No TRV	yes	yes	No TRV
Fluorene	3.10E-01	2.00E-02	4.71E-03	5.00E-02	1.18E-02	2.45E-03	1.89E-02	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	7.69E-01	2.00E-02	1.17E-02	5.00E-02	2.92E-02	6.08E-03	4.70E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	8.33E-01	6.70E-03	4.24E-03	5.00E-02	3.17E-02	6.59E-03	4.25E-02	No TRV	No TRV	yes	yes	No TRV
Organics-Volatile												
Acetone	8.06E-03	2.00E-02	1.22E-04	5.00E-02	3.06E-04	6.37E-05	4.92E-04	No TRV	No TRV	no	no	No TRV
Methylene chloride	3.30E-03	2.00E-02	5.02E-05	5.00E-02	1.25E-04	2.61E-05	2.02E-04	No TRV	No TRV	no	no	No TRV

Appendix Table S-57. CB-4/4A and CA-6/6A Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Pesticide/PCB												
4,4'-DDE	1.19E+00	2.00E-03	1.81E-03	1.70E+00	1.54E+00	3.21E-01	1.86E+00	No TRV	No TRV	yes	yes	No TRV
4,4'-DDT	4.10E-02	7.70E-04	2.40E-05	5.70E-01	1.78E-02	3.69E-03	2.15E-02	2.80E-03	7.67E+00	yes	yes	0.02%
Dieldrin	9.85E-02	2.00E-02	1.50E-03	5.50E+00	4.12E-01	8.56E-02	4.99E-01	7.70E-02	6.48E+00	yes	yes	0.02%
Endrin aldehyde	4.40E+00	2.00E-02	6.69E-02	1.90E+00	6.35E+00	1.32E+00	7.74E+00	No TRV	No TRV	no	no	No TRV
Endrin ketone	1.40E-02	2.00E-02	2.13E-04	1.90E+00	2.02E-02	4.20E-03	2.46E-02	No TRV	No TRV	No Kow	no	No TRV
Heptachlor	7.19E-02	2.00E-02	1.09E-03	1.00E+00	5.46E-02	1.14E-02	6.71E-02	No TRV	No TRV	yes	yes	No TRV
Heptachlor epoxide	3.10E-02	5.90E-03	1.39E-04	1.00E+00	2.36E-02	4.90E-03	2.86E-02	No TRV	No TRV	yes	yes	No TRV
Methoxychlor	1.40E-02	2.00E-02	2.13E-04	5.70E-01	6.06E-03	1.26E-03	7.54E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1016	1.40E-01	1.00E+00	1.06E-01	1.00E+00	1.06E-01	2.21E-02	2.35E-01	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.10E+03	3.80E-01	3.18E+02	5.80E+00	4.85E+03	1.01E+03	6.18E+03	1.80E-01	3.43E+04	yes	yes	98.50%
alpha-Chlordane	7.80E-02	5.10E-03	3.02E-04	1.60E+00	9.49E-02	1.97E-02	1.15E-01	2.14E+00	5.37E-02	yes	yes	0.00%
beta-BHC	9.70E-03	2.00E-02	1.47E-04	2.60E+00	1.92E-02	3.99E-03	2.33E-02	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	8.88E-01	5.10E-03	3.44E-03	1.60E+00	1.08E+00	2.25E-01	1.31E+00	No TRV	No TRV	yes	yes	No TRV
Explosives												
1,3,5-Trinitrobenzene	5.90E+00	1.00E+00	4.48E+00	1.00E+00	4.48E+00	9.32E-01	9.90E+00	No TRV	No TRV	no	no	No TRV
1,3-Dinitrobenzene	5.90E+00	1.00E+00	4.48E+00	1.00E+00	4.48E+00	9.32E-01	9.90E+00	No TRV	No TRV	no	no	No TRV
2,4,6-Trinitrotoluene	2.97E+02	1.00E+00	2.26E+02	1.00E+00	2.26E+02	4.70E+01	4.99E+02	No TRV	No TRV	no	no	No TRV
2,6-Dinitrotoluene	8.60E-01	2.00E-02	1.31E-02	5.00E-02	3.27E-02	6.80E-03	5.25E-02	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	6.92E+00	1.00E+00	5.26E+00	1.00E+00	5.26E+00	1.09E+00	1.16E+01	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	6.90E-01	1.00E+00	5.24E-01	1.00E+00	5.24E-01	1.09E-01	1.16E+00	No TRV	No TRV	no	no	No TRV
3-Nitrotoluene	1.80E-01	1.00E+00	1.37E-01	1.00E+00	1.37E-01	2.85E-02	3.02E-01	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	5.90E+00	1.00E+00	4.48E+00	1.00E+00	4.48E+00	9.33E-01	9.90E+00	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	1.52E-01	1.00E+00	1.52E-01	3.16E-02	3.36E-01	No TRV	No TRV	no	no	No TRV
HMX	1.57E+01	1.00E+00	1.19E+01	1.00E+00	1.19E+01	2.49E+00	2.64E+01	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.95E+01	1.00E+00	1.48E+01	1.00E+00	1.48E+01	3.08E+00	3.27E+01	No TRV	No TRV	No Kow	no	No TRV
Nitroglycerin	7.40E+00	1.00E+00	5.62E+00	1.00E+00	5.62E+00	1.17E+00	1.24E+01	No TRV	No TRV	no	no	No TRV
Nitroguanidine	3.50E-02	1.00E+00	2.66E-02	1.00E+00	2.66E-02	5.53E-03	5.87E-02	No TRV	No TRV	No Kow	no	No TRV
RDX	1.00E+02	1.00E+00	7.62E+01	1.00E+00	7.62E+01	1.58E+01	1.68E+02	No TRV	No TRV	no	no	No TRV
								HI =	3.48E+04			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for robins = 0.76
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for robins = 0.76
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for robins = 0.158
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-58. CB-4/4A and CA-6/6A Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-S} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-S} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADD_S
Metals									
Aluminum	1.01E+04	1.30E-04	5.18E-05	8.00E-04	5.90E-01	7.50E-02	3.70E+02	7.37E+02	1.11E+03
Arsenic	1.09E+01	1.20E-03	5.14E-07	8.00E-03	6.34E-03	6.60E-03	3.50E-02	7.93E-01	8.34E-01
Barium	1.39E+02	3.00E-03	1.64E-05	3.00E-02	3.03E-01	7.50E-03	5.08E-01	1.01E+01	1.09E+01
Cadmium	1.81E+00	3.00E-02	2.14E-06	1.10E-01	1.45E-02	1.10E+01	9.70E+00	1.32E-01	9.85E+00
Calcium	9.71E+03	7.00E-02	2.68E-02	7.00E-01	4.95E+02	1.00E+00	4.73E+03	7.07E+02	5.93E+03
Chromium	2.49E+01	9.00E-04	8.81E-07	1.50E-03	2.72E-03	1.60E-01	1.94E+00	1.81E+00	3.75E+00
Cobalt	8.88E+00	1.40E-03	4.89E-07	4.00E-03	2.59E-03	1.00E+00	4.33E+00	6.47E-01	4.98E+00
Copper	1.06E+02	5.00E-02	2.09E-04	8.00E-02	6.17E-01	1.60E-01	8.26E+00	7.72E+00	1.66E+01
Cyanide	5.54E-01	1.00E+00	2.18E-05	1.00E+00	4.03E-02	0.00E+00	0.00E+00	4.03E-02	8.06E-02
Iron	2.25E+04	2.00E-04	1.77E-04	8.00E-04	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04
Lead	2.84E+02	1.80E-03	2.01E-05	9.00E-03	1.86E-01	2.00E+00	2.76E+02	2.06E+01	2.97E+02
Magnesium	2.67E+03	1.10E-01	1.16E-02	2.00E-01	3.89E+01	1.00E+00	1.30E+03	1.95E+02	1.54E+03
Manganese	7.01E+02	1.00E-02	2.76E-04	5.00E-02	2.55E+00	2.00E-02	6.83E+00	5.10E+01	6.04E+01
Mercury	3.42E-01	4.00E-02	5.38E-07	1.80E-01	4.48E-03	3.40E-01	5.66E-02	2.49E-02	8.60E-02
Nickel	1.76E+01	1.20E-02	8.32E-06	1.20E-02	1.54E-02	2.30E-01	1.97E+00	1.28E+00	3.27E+00
Potassium	9.97E+02	1.10E-01	4.32E-03	2.00E-01	1.45E+01	1.00E+00	4.86E+02	7.26E+01	5.73E+02
Selenium	7.86E-01	5.00E-03	1.55E-07	5.00E-03	2.86E-04	7.60E-01	2.91E-01	5.72E-02	3.49E-01
Sodium	2.79E+02	1.10E-02	1.21E-04	1.50E-02	3.05E-01	1.00E+00	1.36E+02	2.03E+01	1.56E+02
Thallium	5.35E-01	8.00E-05	1.69E-09	8.00E-04	3.12E-05	1.00E+00	2.61E-01	3.90E-02	3.00E-01
Vanadium	1.91E+01	6.00E-04	4.50E-07	1.10E-03	1.53E-03	1.30E-01	1.21E+00	1.39E+00	2.59E+00
Zinc	1.92E+02	1.80E-01	1.36E-03	3.00E-01	4.18E+00	1.80E+00	1.68E+02	1.39E+01	1.86E+02
Organics-Semivolatile									
Anthracene	5.37E-01	2.00E-02	4.23E-07	2.00E-02	7.82E-04	5.00E-02	1.31E-02	3.91E-02	5.30E-02
Benzo(a)anthracene	6.41E-01	3.90E-03	9.84E-08	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.67E-02	6.24E-02
Benzo(a)pyrene	6.09E-01	2.60E-03	6.23E-08	2.60E-03	1.15E-04	5.00E-02	1.48E-02	4.43E-02	5.93E-02
Benzo(b)fluoranthene	6.62E-01	2.30E-03	5.99E-08	2.30E-03	1.11E-04	5.00E-02	1.61E-02	4.82E-02	6.44E-02
Benzo(g,h,i)perylene	5.44E-01	1.20E-03	2.57E-08	1.20E-03	4.76E-05	5.00E-02	1.33E-02	3.96E-02	5.29E-02
Benzo(k)fluoranthene	5.51E-01	2.30E-03	4.99E-08	2.30E-03	9.23E-05	5.00E-02	1.34E-02	4.01E-02	5.36E-02
Bis(2-ethylhexyl)phthalate	1.10E-01	8.70E-03	3.77E-08	8.70E-03	6.97E-05	5.00E-02	2.68E-03	8.01E-03	1.08E-02
Butylbenzyl phthalate	5.00E-02	2.00E-02	3.94E-08	2.00E-02	7.28E-05	5.00E-02	1.22E-03	3.64E-03	4.93E-03
Carbazole	3.80E-01	2.00E-02	2.99E-07	2.00E-02	5.53E-04	5.00E-02	9.26E-03	2.77E-02	3.75E-02

Appendix Table S-58. CB-4/4A and CA-6/6A Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-S} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-S} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADD_S
Chrysene	6.34E-01	3.90E-03	9.73E-08	3.90E-03	1.80E-04	5.00E-02	1.54E-02	4.61E-02	6.17E-02
Dibenzofuran	1.90E-01	2.00E-02	1.50E-07	2.00E-02	2.77E-04	5.00E-02	4.63E-03	1.38E-02	1.87E-02
Fluoranthene	9.07E-01	2.00E-02	7.14E-07	2.00E-02	1.32E-03	5.00E-02	2.21E-02	6.60E-02	8.94E-02
Fluorene	3.10E-01	2.00E-02	2.44E-07	2.00E-02	4.51E-04	5.00E-02	7.55E-03	2.26E-02	3.06E-02
Phenanthrene	7.69E-01	2.00E-02	6.05E-07	2.00E-02	1.12E-03	5.00E-02	1.87E-02	5.60E-02	7.58E-02
Pyrene	8.33E-01	6.70E-03	2.20E-07	6.70E-03	4.06E-04	5.00E-02	2.03E-02	6.07E-02	8.14E-02
Organics-Volatile									
Acetone	8.06E-03	2.00E-02	6.34E-09	2.00E-02	1.17E-05	5.00E-02	1.96E-04	5.86E-04	7.94E-04
Methylene chloride	3.30E-03	2.00E-02	2.60E-09	2.00E-02	4.80E-06	5.00E-02	8.04E-05	2.40E-04	3.25E-04
Organics-Pesticide/PCB									
4,4'-DDE	1.19E+00	2.00E-03	9.39E-08	2.00E-03	1.74E-04	1.70E+00	9.88E-01	8.69E-02	1.08E+00
4,4'-DDT	4.10E-02	7.70E-04	1.24E-09	7.70E-04	2.30E-06	5.70E-01	1.14E-02	2.98E-03	1.44E-02
Dieldrin	9.85E-02	2.00E-02	7.75E-08	2.00E-02	1.43E-04	5.50E+00	2.64E-01	7.17E-03	2.71E-01
Endrin aldehyde	4.40E+00	2.00E-02	3.46E-06	2.00E-02	6.41E-03	1.90E+00	4.07E+00	3.20E-01	4.40E+00
Endrin ketone	1.40E-02	2.00E-02	1.10E-08	2.00E-02	2.04E-05	1.90E+00	1.30E-02	1.02E-03	1.40E-02
Heptachlor	7.19E-02	2.00E-02	5.66E-08	2.00E-02	1.05E-04	1.00E+00	3.50E-02	5.23E-03	4.04E-02
Heptachlor epoxide	3.10E-02	5.90E-03	7.20E-09	5.90E-03	1.33E-05	1.00E+00	1.51E-02	2.26E-03	1.74E-02
Methoxychlor	1.40E-02	2.00E-02	1.10E-08	2.00E-02	2.04E-05	5.70E-01	3.89E-03	1.02E-03	4.93E-03
PCB-1016	1.40E-01	1.00E+00	5.51E-06	1.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02
PCB-1254	1.10E+03	3.80E-01	1.65E-02	3.80E-01	3.04E+01	5.80E+00	3.11E+03	8.01E+01	3.22E+03
alpha-Chlordane	7.80E-02	5.10E-03	1.57E-08	5.10E-03	2.90E-05	1.60E+00	6.08E-02	5.68E-03	6.65E-02
beta-BHC	9.70E-03	2.00E-02	7.64E-09	2.00E-02	1.41E-05	2.60E+00	1.23E-02	7.06E-04	1.30E-02
gamma-Chlordane	8.88E-01	5.10E-03	1.78E-07	5.10E-03	3.30E-04	1.60E+00	6.92E-01	6.47E-02	7.57E-01
Explosives									
1,3,5-Trinitrobenzene	5.90E+00	1.00E+00	2.32E-04	1.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00
1,3-Dinitrobenzene	5.90E+00	1.00E+00	2.32E-04	1.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00
2,4,6-Trinitrotoluene	2.97E+02	1.00E+00	1.17E-02	1.00E+00	2.17E+01	1.00E+00	1.45E+02	2.17E+01	1.88E+02
2,6-Dinitrotoluene	8.60E-01	2.00E-02	6.77E-07	2.00E-02	1.25E-03	5.00E-02	2.09E-02	6.26E-02	8.48E-02
2-Amino-4,6-dinitrotoluene	6.92E+00	1.00E+00	2.72E-04	1.00E+00	5.04E-01	1.00E+00	3.37E+00	5.04E-01	4.38E+00
2-Nitrotoluene	6.90E-01	1.00E+00	2.72E-05	1.00E+00	5.02E-02	1.00E+00	3.36E-01	5.02E-02	4.37E-01

Appendix Table S-58. CB-4/4A and CA-6/6A Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-S} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-S} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADD_S
3-Nitrotoluene	1.80E-01	1.00E+00	7.08E-06	1.00E+00	1.31E-02	1.00E+00	8.77E-02	1.31E-02	1.14E-01
4-Amino-2,6-dinitrotoluene	5.90E+00	1.00E+00	2.32E-04	1.00E+00	4.30E-01	1.00E+00	2.87E+00	4.30E-01	3.73E+00
4-Nitrotoluene	2.00E-01	1.00E+00	7.87E-06	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01
HMX	1.57E+01	1.00E+00	6.19E-04	1.00E+00	1.14E+00	1.00E+00	7.66E+00	1.14E+00	9.95E+00
Nitrocellulose	1.95E+01	1.00E+00	7.68E-04	1.00E+00	1.42E+00	1.00E+00	9.51E+00	1.42E+00	1.23E+01
Nitroglycerin	7.40E+00	1.00E+00	2.91E-04	1.00E+00	5.39E-01	1.00E+00	3.61E+00	5.39E-01	4.68E+00
Nitroguanidine	3.50E-02	1.00E+00	1.38E-06	1.00E+00	2.55E-03	1.00E+00	1.71E-02	2.55E-03	2.21E-02
RDX	1.00E+02	1.00E+00	3.94E-03	1.00E+00	7.29E+00	1.00E+00	4.88E+01	7.29E+00	6.34E+01

Appendix Table S-58. CB-4/4A and CA-6/6A Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) Cs *x* BAF_v *x* I_A *x* AUF	ADD_S (mg/kgBW/d) RME *x* I_S *x* AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	1.98E+03	7.50E-02	1.21E-01	2.43E-01	3.64E-01	5.46E-01	6.67E-01	no	no	0.08%
Arsenic	1.49E+00	1.00E-01	1.22E-04	2.61E-04	3.83E-04	3.56E-02	1.07E-02	no	no	0.00%
Barium	1.95E+01	7.50E-03	1.19E-04	3.33E-03	3.46E-03	2.79E+00	1.24E-03	no	no	0.00%
Cadmium	1.76E+01	2.80E-02	4.02E-04	4.34E-05	4.47E-04	5.04E-01	8.87E-04	yes	yes	0.00%
Calcium	1.06E+04	1.00E+00	8.65E+00	2.33E-01	8.91E+00	No TRV	No TRV	No BAF	no	No TRV
Chromium	6.70E+00	2.80E-01	1.53E-03	5.96E-04	2.13E-03	1.43E+03	1.49E-06	no	no	0.00%
Cobalt	8.89E+00	1.00E+00	7.25E-03	2.13E-04	7.47E-03	No TRV	No TRV	no	no	No TRV
Copper	2.96E+01	5.00E-01	1.21E-02	2.54E-03	1.48E-02	7.96E+00	1.87E-03	no	no	0.00%
Cyanide	1.44E-01	0.00E+00	0.00E+00	1.33E-05	3.51E-05	3.37E+01	1.04E-06	no	no	0.00%
Iron	2.25E+04	1.00E+00	1.84E+01	5.40E-01	1.89E+01	No TRV	No TRV	no	no	No TRV
Lead	5.30E+02	1.50E-02	6.49E-03	6.79E-03	1.33E-02	4.18E+00	3.18E-03	yes	yes	0.00%
Magnesium	2.74E+03	1.00E+00	2.24E+00	6.40E-02	2.31E+00	No TRV	No TRV	no	no	No TRV
Manganese	1.08E+02	2.00E-02	1.76E-03	1.68E-02	1.88E-02	4.60E+01	4.09E-04	no	no	0.00%
Mercury	1.54E-01	1.30E+01	1.63E-03	8.19E-06	1.64E-03	6.86E-01	2.39E-03	yes	yes	0.00%
Nickel	5.84E+00	3.00E-01	1.43E-03	4.22E-04	1.86E-03	2.09E+01	8.90E-05	no	no	0.00%
Potassium	1.02E+03	1.00E+00	8.35E-01	2.39E-02	8.63E-01	No TRV	No TRV	no	no	No TRV
Selenium	6.22E-01	7.50E-01	3.81E-04	1.88E-05	4.00E-04	1.05E-01	3.83E-03	no	no	0.00%
Sodium	2.79E+02	1.00E+00	2.28E-01	6.68E-03	2.35E-01	No TRV	No TRV	no	no	No TRV
Thallium	5.35E-01	1.00E+00	4.37E-04	1.28E-05	4.50E-04	3.91E-03	1.15E-01	no	no	0.01%
Vanadium	4.63E+00	1.30E-01	4.92E-04	4.56E-04	9.49E-04	1.02E-01	9.31E-03	no	no	0.00%
Zinc	3.32E+02	5.00E+00	1.36E+00	4.59E-03	1.36E+00	8.36E+01	1.63E-02	yes	yes	0.00%
Organics-Semivolatile										
Anthracene	9.46E-02	4.80E-02	3.71E-06	1.29E-05	1.70E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.12E-01	7.60E-01	6.92E-05	1.54E-05	8.46E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.06E-01	1.50E+00	1.30E-04	1.46E-05	1.44E-04	2.83E-01	5.10E-04	yes	yes	0.00%
Benzo(b)fluoranthene	1.15E-01	1.90E+00	1.78E-04	1.58E-05	1.94E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	9.45E-02	6.00E+00	4.63E-04	1.30E-05	4.76E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	9.58E-02	1.90E+00	1.49E-04	1.32E-05	1.62E-04	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.92E-02	1.90E-01	2.98E-06	2.64E-06	5.65E-06	5.18E+00	1.09E-06	yes	yes	0.00%
Butylbenzyl phthalate	8.81E-03	1.20E-01	8.62E-07	1.20E-06	2.10E-06	No TRV	No TRV	yes	yes	No TRV
Carbazole	6.69E-02	8.70E-03	4.75E-07	9.10E-06	9.88E-06	No TRV	No TRV	no	no	No TRV

Appendix Table S-58. CB-4/4A and CA-6/6A Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) RME $\times$ $I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Chrysene	1.10E-01	7.60E-01	6.84E-05	1.52E-05	8.37E-05	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	3.35E-02	1.90E-02	5.19E-07	4.55E-06	5.22E-06	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.60E-01	1.30E-01	1.69E-05	2.17E-05	3.94E-05	No TRV	No TRV	yes	yes	No TRV
Fluorene	5.46E-02	2.40E-02	1.07E-06	7.43E-06	8.74E-06	1.30E+00	6.75E-06	yes	yes	0.00%
Phenanthrene	1.35E-01	4.80E-02	5.31E-06	1.84E-05	2.43E-05	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.45E-01	3.00E-01	3.56E-05	2.00E-05	5.58E-05	2.42E+02	2.31E-07	yes	yes	0.00%
Organics-Volatile										
Acetone	1.42E-03	8.70E-07	1.01E-12	1.93E-07	1.99E-07	5.23E+00	3.81E-08	no	no	0.00%
Methylene chloride	5.81E-04	3.00E-05	1.42E-11	7.91E-08	8.17E-08	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB										
4,4'-DDE	1.92E+00	2.90E+00	4.54E-03	2.86E-05	4.57E-03	No TRV	No TRV	yes	yes	No TRV
4,4'-DDT	2.57E-02	2.90E+00	6.08E-05	9.82E-07	6.17E-05	4.18E-01	1.48E-04	yes	yes	0.00%
Dieldrin	4.84E-01	2.90E+00	1.15E-03	2.36E-06	1.15E-03	1.05E-02	1.10E-01	yes	yes	0.01%
Endrin aldehyde	7.86E+00	2.90E+00	1.86E-02	1.05E-04	1.87E-02	No TRV	No TRV	no	no	No TRV
Endrin ketone	2.50E-02	2.90E+00	5.92E-05	3.35E-07	5.95E-05	No TRV	No TRV	No Kow	no	No TRV
Heptachlor	7.21E-02	2.90E+00	1.71E-04	1.72E-06	1.72E-04	No TRV	No TRV	yes	yes	No TRV
Heptachlor epoxide	3.10E-02	2.90E+00	7.34E-05	7.43E-07	7.42E-05	No TRV	No TRV	yes	yes	No TRV
Methoxychlor	8.80E-03	2.90E+00	2.08E-05	3.35E-07	2.12E-05	No TRV	No TRV	yes	yes	No TRV
PCB-1016	1.58E-01	1.00E+00	1.29E-04	3.35E-06	1.38E-04	No TRV	No TRV	yes	yes	No TRV
PCB-1254	5.75E+03	2.90E+00	1.36E+01	2.64E-02	1.36E+01	1.59E-02	8.59E+02	yes	yes	99.88%
alpha-Chlordane	1.19E-01	2.90E+00	2.81E-04	1.87E-06	2.83E-04	1.30E+00	2.19E-04	yes	yes	0.00%
beta-BHC	2.32E-02	2.90E+00	5.50E-05	2.32E-07	5.52E-05	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	1.35E+00	2.90E+00	3.20E-03	2.13E-05	3.22E-03	No TRV	No TRV	yes	yes	No TRV
Explosives										
1,3,5-Trinitrobenzene	6.66E+00	1.00E+00	5.44E-03	1.41E-04	5.81E-03	No TRV	No TRV	no	no	No TRV
1,3-Dinitrobenzene	6.66E+00	1.00E+00	5.44E-03	1.41E-04	5.81E-03	8.36E-01	6.95E-03	no	no	0.00%
2,4,6-Trinitrotoluene	3.36E+02	1.00E+00	2.74E-01	7.12E-03	2.93E-01	3.82E+00	7.68E-02	no	no	0.01%
2,6-Dinitrotoluene	1.51E-01	1.90E-04	2.35E-08	2.06E-05	2.13E-05	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	7.82E+00	1.00E+00	6.38E-03	1.66E-04	6.82E-03	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	7.80E-01	1.00E+00	6.36E-04	1.65E-05	6.80E-04	No TRV	No TRV	no	no	No TRV

Appendix Table S-58. CB-4/4A and CA-6/6A Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) Cs *x* BAF_v *x* I_A *x* AUF	ADD_S (mg/kgBW/d) RME *x* I_S *x* AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
3-Nitrotoluene	2.03E-01	1.00E+00	1.66E-04	4.31E-06	1.77E-04	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	6.67E+00	1.00E+00	5.44E-03	1.41E-04	5.82E-03	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.26E-01	1.00E+00	1.84E-04	4.79E-06	1.97E-04	No TRV	No TRV	no	no	No TRV
HMX	1.78E+01	1.00E+00	1.45E-02	3.77E-04	1.55E-02	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	2.20E+01	1.00E+00	1.80E-02	4.67E-04	1.92E-02	No TRV	No TRV	No Kow	no	No TRV
Nitroglycerin	8.36E+00	1.00E+00	6.83E-03	1.77E-04	7.29E-03	No TRV	No TRV	no	no	No TRV
Nitroguanidine	3.96E-02	1.00E+00	3.23E-05	8.38E-07	3.45E-05	No TRV	No TRV	No Kow	no	No TRV
RDX	1.13E+02	1.00E+00	9.24E-02	2.40E-03	9.88E-02	No TRV	No TRV	no	no	No TRV
						HI =	8.60E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for red foxes = 0.00317
ADD_P = Average daily dose; plant
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728
AUF = Area use factor = 0.0124
AUF_{prey} = Area use factor = 1.0
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
Cs (mg/kg) = Concentration in the prey

IR_f = Ingestion rate of food for shrews
BAF_v = Animal-to-animal; vertebrates
I_A (kg/kgBW/d) = Animal ingestion rate for red foxes = 0.0658
I_S (kg/kgBW/d) = Soil ingestion rate for red foxes = 0.00193
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
HQ = Hazard quotient
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds
(bioaccumulation factor greater than 2 for inorganics,
and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard index (Sum of HQs)

Appendix Table S-59. CB-4/4A and CA-6/6A Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals								
Aluminum	1.01E+04	8.00E-04	0.00E+00	5.90E-01	7.50E-02	3.70E+02	7.37E+02	1.11E+03
Arsenic	1.09E+01	8.00E-03	0.00E+00	6.34E-03	6.60E-03	3.50E-02	7.93E-01	8.34E-01
Barium	1.39E+02	3.00E-02	0.00E+00	3.03E-01	7.50E-03	5.08E-01	1.01E+01	1.09E+01
Cadmium	1.81E+00	1.10E-01	0.00E+00	1.45E-02	1.10E+01	9.70E+00	1.32E-01	9.85E+00
Calcium	9.71E+03	7.00E-01	0.00E+00	4.95E+02	1.00E+00	4.73E+03	7.07E+02	5.93E+03
Chromium	2.49E+01	1.50E-03	0.00E+00	2.72E-03	1.60E-01	1.94E+00	1.81E+00	3.75E+00
Cobalt	8.88E+00	4.00E-03	0.00E+00	2.59E-03	1.00E+00	4.33E+00	6.47E-01	4.98E+00
Copper	1.06E+02	8.00E-02	0.00E+00	6.17E-01	1.60E-01	8.26E+00	7.72E+00	1.66E+01
Cyanide	5.54E-01	1.00E+00	0.00E+00	4.03E-02	0.00E+00	0.00E+00	4.03E-02	8.06E-02
Iron	2.25E+04	8.00E-04	0.00E+00	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04
Lead	2.84E+02	9.00E-03	0.00E+00	1.86E-01	2.00E+00	2.76E+02	2.06E+01	2.97E+02
Magnesium	2.67E+03	2.00E-01	0.00E+00	3.89E+01	1.00E+00	1.30E+03	1.95E+02	1.54E+03
Manganese	7.01E+02	5.00E-02	0.00E+00	2.55E+00	2.00E-02	6.83E+00	5.10E+01	6.04E+01
Mercury	3.42E-01	1.80E-01	0.00E+00	4.48E-03	3.40E-01	5.66E-02	2.49E-02	8.60E-02
Nickel	1.76E+01	1.20E-02	0.00E+00	1.54E-02	2.30E-01	1.97E+00	1.28E+00	3.27E+00
Potassium	9.97E+02	2.00E-01	0.00E+00	1.45E+01	1.00E+00	4.86E+02	7.26E+01	5.73E+02
Selenium	7.86E-01	5.00E-03	0.00E+00	2.86E-04	7.60E-01	2.91E-01	5.72E-02	3.49E-01
Sodium	2.79E+02	1.50E-02	0.00E+00	3.05E-01	1.00E+00	1.36E+02	2.03E+01	1.56E+02
Thallium	5.35E-01	8.00E-04	0.00E+00	3.12E-05	1.00E+00	2.61E-01	3.90E-02	3.00E-01
Vanadium	1.91E+01	1.10E-03	0.00E+00	1.53E-03	1.30E-01	1.21E+00	1.39E+00	2.59E+00
Zinc	1.92E+02	3.00E-01	0.00E+00	4.18E+00	1.80E+00	1.68E+02	1.39E+01	1.86E+02
Organics-Semivolatil								
Anthracene	5.37E-01	2.00E-02	0.00E+00	7.82E-04	5.00E-02	1.31E-02	3.91E-02	5.30E-02
Benzo(a)anthracene	6.41E-01	3.90E-03	0.00E+00	1.82E-04	5.00E-02	1.56E-02	4.67E-02	6.24E-02
Benzo(a)pyrene	6.09E-01	2.60E-03	0.00E+00	1.15E-04	5.00E-02	1.48E-02	4.43E-02	5.93E-02
Benzo(b)fluoranthene	6.62E-01	2.30E-03	0.00E+00	1.11E-04	5.00E-02	1.61E-02	4.82E-02	6.44E-02
Benzo(g,h,i)perylene	5.44E-01	1.20E-03	0.00E+00	4.76E-05	5.00E-02	1.33E-02	3.96E-02	5.29E-02
Benzo(k)fluoranthene	5.51E-01	2.30E-03	0.00E+00	9.23E-05	5.00E-02	1.34E-02	4.01E-02	5.36E-02
Bis(2-ethylhexyl)phthalate	1.10E-01	8.70E-03	0.00E+00	6.97E-05	5.00E-02	2.68E-03	8.01E-03	1.08E-02
Butylbenzyl phthalate	5.00E-02	2.00E-02	0.00E+00	7.28E-05	5.00E-02	1.22E-03	3.64E-03	4.93E-03
Carbazole	3.80E-01	2.00E-02	0.00E+00	5.53E-04	5.00E-02	9.26E-03	2.77E-02	3.75E-02
Chrysene	6.34E-01	3.90E-03	0.00E+00	1.80E-04	5.00E-02	1.54E-02	4.61E-02	6.17E-02
Dibenzofuran	1.90E-01	2.00E-02	0.00E+00	2.77E-04	5.00E-02	4.63E-03	1.38E-02	1.87E-02
Fluoranthene	9.07E-01	2.00E-02	0.00E+00	1.32E-03	5.00E-02	2.21E-02	6.60E-02	8.94E-02
Fluorene	3.10E-01	2.00E-02	0.00E+00	4.51E-04	5.00E-02	7.55E-03	2.26E-02	3.06E-02
Phenanthrene	7.69E-01	2.00E-02	0.00E+00	1.12E-03	5.00E-02	1.87E-02	5.60E-02	7.58E-02
Pyrene	8.33E-01	6.70E-03	0.00E+00	4.06E-04	5.00E-02	2.03E-02	6.07E-02	8.14E-02
Organics-Volatil								
Acetone	8.06E-03	2.00E-02	0.00E+00	1.17E-05	5.00E-02	1.96E-04	5.86E-04	7.94E-04
Methylene chloride	3.30E-03	2.00E-02	0.00E+00	4.80E-06	5.00E-02	8.04E-05	2.40E-04	3.25E-04

Appendix Table S-59. CB-4/4A and CA-6/6A Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x $SP_v x$ I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x $SP_v x$ I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x $BAF_i x$ $I_{A-s} x$ AUF-s	Prey ADD_S (mg/kgBW/d) RME x $I_{S-s} x$ AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Organics-Pesticide/PCB								
4,4'-DDE	1.19E+00	2.00E-03	0.00E+00	1.74E-04	1.70E+00	9.88E-01	8.69E-02	1.08E+00
4,4'-DDT	4.10E-02	7.70E-04	0.00E+00	2.30E-06	5.70E-01	1.14E-02	2.98E-03	1.44E-02
Dieldrin	9.85E-02	2.00E-02	0.00E+00	1.43E-04	5.50E+00	2.64E-01	7.17E-03	2.71E-01
Endrin aldehyde	4.40E+00	2.00E-02	0.00E+00	6.41E-03	1.90E+00	4.07E+00	3.20E-01	4.40E+00
Endrin ketone	1.40E-02	2.00E-02	0.00E+00	2.04E-05	1.90E+00	1.30E-02	1.02E-03	1.40E-02
Heptachlor	7.19E-02	2.00E-02	0.00E+00	1.05E-04	1.00E+00	3.50E-02	5.23E-03	4.04E-02
Heptachlor epoxide	3.10E-02	5.90E-03	0.00E+00	1.33E-05	1.00E+00	1.51E-02	2.26E-03	1.74E-02
Methoxychlor	1.40E-02	2.00E-02	0.00E+00	2.04E-05	5.70E-01	3.89E-03	1.02E-03	4.93E-03
PCB-1016	1.40E-01	1.00E+00	0.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02
PCB-1254	1.10E+03	3.80E-01	0.00E+00	3.04E+01	5.80E+00	3.11E+03	8.01E+01	3.22E+03
alpha-Chlordane	7.80E-02	5.10E-03	0.00E+00	2.90E-05	1.60E+00	6.08E-02	5.68E-03	6.65E-02
beta-BHC	9.70E-03	2.00E-02	0.00E+00	1.41E-05	2.60E+00	1.23E-02	7.06E-04	1.30E-02
gamma-Chlordane	8.88E-01	5.10E-03	0.00E+00	3.30E-04	1.60E+00	6.92E-01	6.47E-02	7.57E-01
Explosives								
1,3,5-Trinitrobenzene	5.90E+00	1.00E+00	0.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00
1,3-Dinitrobenzene	5.90E+00	1.00E+00	0.00E+00	4.29E-01	1.00E+00	2.87E+00	4.29E-01	3.73E+00
2,4,6-Trinitrotoluene	2.97E+02	1.00E+00	0.00E+00	2.17E+01	1.00E+00	1.45E+02	2.17E+01	1.88E+02
2,6-Dinitrotoluene	8.60E-01	2.00E-02	0.00E+00	1.25E-03	5.00E-02	2.09E-02	6.26E-02	8.48E-02
2-Amino-4,6-dinitrotoluene	6.92E+00	1.00E+00	0.00E+00	5.04E-01	1.00E+00	3.37E+00	5.04E-01	4.38E+00
2-Nitrotoluene	6.90E-01	1.00E+00	0.00E+00	5.02E-02	1.00E+00	3.36E-01	5.02E-02	4.37E-01
3-Nitrotoluene	1.80E-01	1.00E+00	0.00E+00	1.31E-02	1.00E+00	8.77E-02	1.31E-02	1.14E-01
4-Amino-2,6-dinitrotoluene	5.90E+00	1.00E+00	0.00E+00	4.30E-01	1.00E+00	2.87E+00	4.30E-01	3.73E+00
4-Nitrotoluene	2.00E-01	1.00E+00	0.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01
HMX	1.57E+01	1.00E+00	0.00E+00	1.14E+00	1.00E+00	7.66E+00	1.14E+00	9.95E+00
Nitrocellulose	1.95E+01	1.00E+00	0.00E+00	1.42E+00	1.00E+00	9.51E+00	1.42E+00	1.23E+01
Nitroglycerin	7.40E+00	1.00E+00	0.00E+00	5.39E-01	1.00E+00	3.61E+00	5.39E-01	4.68E+00
Nitroguanidine	3.50E-02	1.00E+00	0.00E+00	2.55E-03	1.00E+00	1.71E-02	2.55E-03	2.21E-02
RDX	1.00E+02	1.00E+00	0.00E+00	7.29E+00	1.00E+00	4.88E+01	7.29E+00	6.34E+01

EU = Exposure Unit
aTRV adjusted by 0.1 for Threatened and Endangered Species
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for barn owl = 0.00
ADD_P = Average daily dose; plant
Cs (mg/kg) = Concentration in the prey
IR_f (kg/kgBW/d)= Ingestion rate of food for shrews = 0.56
BAF_v = Animal-to-mammal
I_A (kg/kgBW/d) = Animal ingestion rate for barn owl = 0.125
I_S (kg/kgBW/d) = Soil ingestion rate for barn owl = 0.00
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728
AUF = Area use factor = 1.0
AUF_{prey} = Area use factor = 1.0
BAF_i = Soil-to-animal; invertebrates

Appendix Table S-59. CB-4/4A and CA-6/6A Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs\ x\ BAF_v\ x\ I_A\ x$ AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	1.98E+03	7.50E-02	1.86E+01	0.00E+00	1.86E+01	1.10E+01	1.69E+00	no	yes	0.00%
Arsenic	1.49E+00	1.00E-01	1.86E-02	0.00E+00	1.86E-02	5.14E-01	3.63E-02	no	no	0.00%
Barium	1.95E+01	7.50E-03	1.83E-02	0.00E+00	1.83E-02	2.08E+00	8.78E-03	no	no	0.00%
Cadmium	1.76E+01	2.80E-02	6.15E-02	0.00E+00	6.15E-02	1.45E-01	4.24E-01	yes	yes	0.00%
Calcium	1.06E+04	1.00E+00	1.32E+03	0.00E+00	1.32E+03	No TRV	No TRV	No BAF	no	No TRV
Chromium	6.70E+00	2.80E-01	2.34E-01	0.00E+00	2.34E-01	1.00E-01	2.34E+00	no	yes	0.00%
Cobalt	8.89E+00	1.00E+00	1.11E+00	0.00E+00	1.11E+00	No TRV	No TRV	no	no	No TRV
Copper	2.96E+01	5.00E-01	1.85E+00	0.00E+00	1.85E+00	4.70E+00	3.94E-01	no	no	0.00%
Cyanide	1.44E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	no	no	No TRV
Iron	2.25E+04	1.00E+00	2.82E+03	0.00E+00	2.82E+03	No TRV	No TRV	no	no	No TRV
Lead	5.30E+02	1.50E-02	9.95E-01	0.00E+00	9.95E-01	1.13E-01	8.80E+00	yes	yes	0.01%
Magnesium	2.74E+03	1.00E+00	3.43E+02	0.00E+00	3.43E+02	No TRV	No TRV	no	no	No TRV
Manganese	1.08E+02	2.00E-02	2.70E-01	0.00E+00	2.70E-01	9.77E+01	2.76E-03	no	no	0.00%
Mercury	1.54E-01	1.30E+01	2.49E-01	0.00E+00	2.49E-01	4.50E-02	5.54E+00	yes	yes	0.00%
Nickel	5.84E+00	3.00E-01	2.19E-01	0.00E+00	2.19E-01	7.74E+00	2.83E-02	no	no	0.00%
Potassium	1.02E+03	1.00E+00	1.28E+02	0.00E+00	1.28E+02	No TRV	No TRV	no	no	No TRV
Selenium	6.22E-01	7.50E-01	5.83E-02	0.00E+00	5.83E-02	5.00E-02	1.17E+00	no	yes	0.00%
Sodium	2.79E+02	1.00E+00	3.49E+01	0.00E+00	3.49E+01	No TRV	No TRV	no	no	No TRV
Thallium	5.35E-01	1.00E+00	6.69E-02	0.00E+00	6.69E-02	No TRV	No TRV	no	no	No TRV
Vanadium	4.63E+00	1.30E-01	7.53E-02	0.00E+00	7.53E-02	1.14E+00	6.62E-02	no	no	0.00%
Zinc	3.32E+02	5.00E+00	2.08E+02	0.00E+00	2.08E+02	1.45E+00	1.43E+02	yes	yes	0.12%
Organics-Semivolatil										
Anthracene	9.46E-02	4.80E-02	5.67E-04	0.00E+00	5.67E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.12E-01	7.60E-01	1.06E-02	0.00E+00	1.06E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.06E-01	1.50E+00	1.99E-02	0.00E+00	1.99E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	1.15E-01	1.90E+00	2.73E-02	0.00E+00	2.73E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	9.45E-02	6.00E+00	7.09E-02	0.00E+00	7.09E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	9.58E-02	1.90E+00	2.27E-02	0.00E+00	2.27E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.92E-02	1.90E-01	4.56E-04	0.00E+00	4.56E-04	1.10E-01	4.15E-03	yes	yes	0.00%
Butylbenzyl phthalate	8.81E-03	1.20E-01	1.32E-04	0.00E+00	1.32E-04	No TRV	No TRV	yes	yes	No TRV
Carbazole	6.69E-02	8.70E-03	7.28E-05	0.00E+00	7.28E-05	No TRV	No TRV	no	no	No TRV
Chrysene	1.10E-01	7.60E-01	1.05E-02	0.00E+00	1.05E-02	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	3.35E-02	1.90E-02	7.95E-05	0.00E+00	7.95E-05	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.60E-01	1.30E-01	2.59E-03	0.00E+00	2.59E-03	No TRV	No TRV	yes	yes	No TRV
Fluorene	5.46E-02	2.40E-02	1.64E-04	0.00E+00	1.64E-04	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	1.35E-01	4.80E-02	8.12E-04	0.00E+00	8.12E-04	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.45E-01	3.00E-01	5.45E-03	0.00E+00	5.45E-03	No TRV	No TRV	yes	yes	No TRV
Organics-Volatil										
Acetone	1.42E-03	8.70E-07	1.54E-10	0.00E+00	1.54E-10	No TRV	No TRV	no	no	No TRV
Methylene chloride	5.81E-04	3.00E-05	2.18E-09	0.00E+00	2.18E-09	No TRV	No TRV	no	no	No TRV

Appendix Table S-59. CB-4/4A and CA-6/6A Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) $RME \times I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Pesticide/PCB										
4,4'-DDE	1.92E+00	2.90E+00	6.96E-01	0.00E+00	6.96E-01	No TRV	No TRV	yes	yes	No TRV
4,4'-DDT	2.57E-02	2.90E+00	9.30E-03	0.00E+00	9.30E-03	2.80E-04	3.32E+01	yes	yes	0.03%
Dieldrin	4.84E-01	2.90E+00	1.76E-01	0.00E+00	1.76E-01	7.70E-03	2.28E+01	yes	yes	0.02%
Endrin aldehyde	7.86E+00	2.90E+00	2.85E+00	0.00E+00	2.85E+00	No TRV	No TRV	no	no	No TRV
Endrin ketone	2.50E-02	2.90E+00	9.06E-03	0.00E+00	9.06E-03	No TRV	No TRV	No Kow	no	No TRV
Heptachlor	7.21E-02	2.90E+00	2.61E-02	0.00E+00	2.61E-02	No TRV	No TRV	yes	yes	No TRV
Heptachlor epoxide	3.10E-02	2.90E+00	1.12E-02	0.00E+00	1.12E-02	No TRV	No TRV	yes	yes	No TRV
Methoxychlor	8.80E-03	2.90E+00	3.19E-03	0.00E+00	3.19E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1016	1.58E-01	1.00E+00	1.98E-02	0.00E+00	1.98E-02	No TRV	No TRV	yes	yes	No TRV
PCB-1254	5.75E+03	2.90E+00	2.08E+03	0.00E+00	2.08E+03	1.80E-02	1.16E+05	yes	yes	99.81%
alpha-Chlordane	1.19E-01	2.90E+00	4.31E-02	0.00E+00	4.31E-02	2.14E-01	2.01E-01	yes	yes	0.00%
beta-BHC	2.32E-02	2.90E+00	8.42E-03	0.00E+00	8.42E-03	No TRV	No TRV	no	no	No TRV
gamma-Chlordane	1.35E+00	2.90E+00	4.90E-01	0.00E+00	4.90E-01	No TRV	No TRV	yes	yes	No TRV
Explosives										
1,3,5-Trinitrobenzene	6.66E+00	1.00E+00	8.33E-01	0.00E+00	8.33E-01	No TRV	No TRV	no	no	No TRV
1,3-Dinitrobenzene	6.66E+00	1.00E+00	8.33E-01	0.00E+00	8.33E-01	No TRV	No TRV	no	no	No TRV
2,4,6-Trinitrotoluene	3.36E+02	1.00E+00	4.20E+01	0.00E+00	4.20E+01	No TRV	No TRV	no	no	No TRV
2,6-Dinitrotoluene	1.51E-01	1.90E-04	3.60E-06	0.00E+00	3.60E-06	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	7.82E+00	1.00E+00	9.78E-01	0.00E+00	9.78E-01	No TRV	No TRV	No Kow	no	No TRV
2-Nitrotoluene	7.80E-01	1.00E+00	9.75E-02	0.00E+00	9.75E-02	No TRV	No TRV	no	no	No TRV
3-Nitrotoluene	2.03E-01	1.00E+00	2.54E-02	0.00E+00	2.54E-02	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	6.67E+00	1.00E+00	8.33E-01	0.00E+00	8.33E-01	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.26E-01	1.00E+00	2.83E-02	0.00E+00	2.83E-02	No TRV	No TRV	no	no	No TRV
HMX	1.78E+01	1.00E+00	2.22E+00	0.00E+00	2.22E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	2.20E+01	1.00E+00	2.76E+00	0.00E+00	2.76E+00	No TRV	No TRV	No Kow	no	No TRV
Nitroglycerin	8.36E+00	1.00E+00	1.05E+00	0.00E+00	1.05E+00	No TRV	No TRV	no	no	No TRV
Nitroguanidine	3.96E-02	1.00E+00	4.94E-03	0.00E+00	4.94E-03	No TRV	No TRV	No Kow	no	No TRV
RDX	1.13E+02	1.00E+00	1.42E+01	0.00E+00	1.42E+01	No TRV	No TRV	no	no	No TRV
						HI =	1.16E+05			

ADD_A = Average daily dose; animal

I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487

ADD_S = Average daily dose; soil

I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

HQ = Hazard quotient

Kow = octanol/water partition coefficient

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

HI = Hazard index (Sum of HQs)

Appendix Table S-60. CB-13 and CB-10 Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals													
Aluminum	1.30E+04	5.00E+01	2.60E+02	yes	no	yes	10.06%	No TRV	No TRV	yes	no	no	No TRV
Antimony	1.26E+00	5.00E+00	2.52E-01	no	no	no	0.01%	No TRV	No TRV	yes	no	no	No TRV
Arsenic	1.11E+01	1.00E+01	1.11E+00	yes	no	yes	0.04%	6.00E+01	1.85E-01	no	no	no	0.19%
Barium	1.38E+02	5.00E+02	2.76E-01	no	no	no	0.01%	No TRV	No TRV	yes	no	no	No TRV
Calcium	3.99E+04	No TRV	No TRV	yes	No BAF	no	No TRV	No TRV	No TRV	yes	No BAF	no	No TRV
Cadmium	6.49E+00	4.00E+00	1.62E+00	yes	yes	yes	0.06%	2.00E+01	3.24E-01	no	yes	yes	0.34%
Chromium	3.52E+01	1.00E+00	3.52E+01	yes	no	yes	1.36%	4.00E-01	8.80E+01	yes	no	yes	92.12%
Cobalt	9.97E+00	2.00E+01	4.98E-01	no	no	no	0.02%	No TRV	No TRV	yes	no	no	No TRV
Copper	1.92E+02	1.00E+02	1.92E+00	yes	no	yes	0.07%	6.00E+01	3.20E+00	yes	no	yes	3.35%
Iron	2.26E+04	1.00E+01	2.26E+03	yes	no	yes	87.31%	No TRV	No TRV	yes	no	no	No TRV
Lead	2.53E+02	5.00E+01	5.07E+00	yes	yes	yes	0.20%	5.00E+02	5.07E-01	no	yes	yes	0.53%
Magnesium	6.49E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Manganese	1.31E+03	5.00E+02	2.62E+00	yes	no	yes	0.10%	No TRV	No TRV	yes	no	no	No TRV
Mercury	9.12E-02	3.00E-01	3.04E-01	no	yes	yes	0.01%	1.00E-01	9.12E-01	no	yes	yes	0.95%
Nickel	2.09E+01	3.00E+01	6.98E-01	no	no	no	0.03%	2.00E+02	1.05E-01	no	no	no	0.11%
Potassium	1.30E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Selenium	8.27E-01	1.00E+00	8.27E-01	no	no	no	0.03%	7.00E+01	1.18E-02	no	no	no	0.01%
Sodium	3.84E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Vanadium	1.69E+01	2.00E+00	8.43E+00	yes	no	yes	0.33%	No TRV	No TRV	yes	no	no	No TRV
Zinc	4.57E+02	5.00E+01	9.14E+00	yes	yes	yes	0.35%	2.00E+02	2.28E+00	yes	yes	yes	2.39%
Organics-Semivolatile													
Anthracene	7.30E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)anthracene	4.10E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)pyrene	3.70E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(b)fluoranthene	4.52E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(g,h,i)perylene	2.12E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(k)fluoranthene	2.04E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Carbazole	7.20E-02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Chrysene	4.80E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluoranthene	5.84E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluorene	4.10E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Phenanthrene	3.15E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Pyrene	7.90E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV

Appendix Table S-60. CB-13 and CB-10 Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Organics-Volatile													
Acetone	5.00E-03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Methylene chloride	2.20E-03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Explosives													
2,4,6-Trinitrotoluene	2.52E+01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
2,4-Dinitrotoluene	1.49E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
2,6-Dinitrotoluene	6.00E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
2-Amino-4,6-dinitrotoluene	1.24E+00	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
4-Amino-2,6-dinitrotoluene	1.01E+00	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
HMX	1.65E+00	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Nitrocellulose	1.82E+01	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
RDX	3.69E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Organics-Pesticide/PCB													
Endrin aldehyde	5.30E-02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Heptachlor	1.69E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
PCB-1254	1.70E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
gamma-Chlordane	2.10E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
		HI =	2.58E+03					HI =	9.55E+01				

RME = Reasonable maximum exposure
TRV = toxicity reference value
HQ = Hazard quotient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard Index (Sum of HQs)
[a]Plant TRV reference from Efroymson et al. (1997a)
[b]Earthworm TRV reference from Efroymson et al. (1997b)
Kow = octanol/water partition coefficient

Appendix Table S-61. CB-13 and CB-10 Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.30E+04	8.00E-04	8.52E-01	7.50E-02	1.21E+02	5.46E+01	1.76E+02	2.09E+00	8.45E+01	no	yes	38.20%
Antimony	1.26E+00	4.00E-02	3.67E-03	5.00E-02	3.07E-02	9.19E-02	1.26E-01	1.35E-01	9.35E-01	no	no	0.42%
Arsenic	1.11E+01	8.00E-03	6.47E-03	6.60E-03	3.57E-02	8.09E-01	8.51E-01	1.36E-01	6.25E+00	no	yes	2.83%
Barium	1.38E+02	3.00E-02	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.09E+01	1.07E+01	1.02E+00	no	yes	0.46%
Calcium	3.99E+04	7.00E-01	2.03E+03	1.00E+00	1.94E+04	2.90E+03	2.44E+04	No TRV	No TRV	No BAF	no	No TRV
Cadmium	6.49E+00	1.10E-01	5.19E-02	1.10E+01	3.48E+01	4.72E-01	3.53E+01	1.93E+00	1.83E+01	yes	yes	8.28%
Chromium	3.52E+01	1.50E-03	3.84E-03	1.60E-01	2.74E+00	2.56E+00	5.31E+00	5.47E+03	9.71E-04	no	no	0.00%
Cobalt	9.97E+00	4.00E-03	2.90E-03	1.00E+00	4.86E+00	7.26E-01	5.59E+00	No TRV	No TRV	no	no	No TRV
Copper	1.92E+02	8.00E-02	1.12E+00	1.60E-01	1.50E+01	1.40E+01	3.01E+01	3.04E+01	9.89E-01	no	no	0.45%
Iron	2.26E+04	8.00E-04	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04	No TRV	No TRV	no	no	No TRV
Lead	2.53E+02	9.00E-03	1.66E-01	2.00E+00	2.47E+02	1.84E+01	2.65E+02	1.60E+01	1.66E+01	yes	yes	7.51%
Magnesium	6.49E+03	2.00E-01	9.45E+01	1.00E+00	3.16E+03	4.72E+02	3.73E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.31E+03	5.00E-02	4.76E+00	2.00E-02	1.28E+01	9.53E+01	1.13E+02	1.76E+02	6.42E-01	no	no	0.29%
Mercury	9.12E-02	1.80E-01	1.19E-03	3.40E-01	1.51E-02	6.64E-03	2.29E-02	2.62E+00	8.74E-03	yes	yes	0.00%
Nickel	2.09E+01	1.20E-02	1.83E-02	2.30E-01	2.35E+00	1.52E+00	3.89E+00	7.99E+01	4.87E-02	no	no	0.02%
Potassium	1.30E+03	2.00E-01	1.89E+01	1.00E+00	6.34E+02	9.47E+01	7.48E+02	No TRV	No TRV	no	no	No TRV
Selenium	8.27E-01	5.00E-03	3.01E-04	7.60E-01	3.06E-01	6.02E-02	3.66E-01	3.99E-01	9.18E-01	no	no	0.41%
Sodium	3.84E+02	1.50E-02	4.20E-01	1.00E+00	1.87E+02	2.80E+01	2.16E+02	No TRV	No TRV	no	no	No TRV
Vanadium	1.69E+01	1.10E-03	1.35E-03	1.30E-01	1.07E+00	1.23E+00	2.30E+00	3.89E-01	5.90E+00	no	yes	2.67%
Zinc	4.57E+02	3.00E-01	9.98E+00	1.80E+00	4.01E+02	3.33E+01	4.44E+02	3.20E+02	1.39E+00	yes	yes	0.63%
Organics-Semivolatile												
Anthracene	7.30E-02	2.00E-02	1.06E-04	5.00E-02	1.78E-03	5.31E-03	7.20E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	4.10E-01	3.90E-03	1.16E-04	5.00E-02	9.99E-03	2.98E-02	4.00E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	3.70E-01	2.60E-03	7.00E-05	5.00E-02	9.01E-03	2.69E-02	3.60E-02	1.08E+00	3.33E-02	yes	yes	0.02%
Benzo(b)fluoranthene	4.52E-01	2.30E-03	7.57E-05	5.00E-02	1.10E-02	3.29E-02	4.40E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	2.12E-01	1.20E-03	1.85E-05	5.00E-02	5.15E-03	1.54E-02	2.06E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	2.04E-01	2.30E-03	3.41E-05	5.00E-02	4.96E-03	1.48E-02	1.98E-02	No TRV	No TRV	yes	yes	No TRV
Carbazole	7.20E-02	2.00E-02	1.05E-04	5.00E-02	1.75E-03	5.24E-03	7.10E-03	No TRV	No TRV	no	no	No TRV
Chrysene	4.80E-01	3.90E-03	1.36E-04	5.00E-02	1.17E-02	3.49E-02	4.68E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.84E-01	2.00E-02	8.51E-04	5.00E-02	1.42E-02	4.25E-02	5.76E-02	No TRV	No TRV	yes	yes	No TRV
Fluorene	4.10E-02	2.00E-02	5.97E-05	5.00E-02	9.99E-04	2.98E-03	4.04E-03	4.95E+00	8.17E-04	yes	yes	0.00%
Phenanthrene	3.15E-01	2.00E-02	4.59E-04	5.00E-02	7.68E-03	2.30E-02	3.11E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	7.90E-01	6.70E-03	3.85E-04	5.00E-02	1.92E-02	5.75E-02	7.71E-02	9.23E+02	8.35E-05	yes	yes	0.00%
Organics-Volatile												
Acetone	5.00E-03	2.00E-02	7.28E-06	5.00E-02	1.22E-04	3.64E-04	4.93E-04	2.00E+01	2.47E-05	no	no	0.00%
Methylene chloride	2.20E-03	2.00E-02	3.20E-06	5.00E-02	5.36E-05	1.60E-04	2.17E-04	No TRV	No TRV	no	no	No TRV

Appendix Table S-61. CB-13 and CB-10 Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Explosives												
2,4,6-Trinitrotoluene	2.52E+01	1.00E+00	1.84E+00	1.00E+00	1.23E+01	1.84E+00	1.60E+01	1.46E+01	1.09E+00	no	yes	0.49%
2,4-Dinitrotoluene	1.49E+00	1.00E+00	1.08E-01	1.00E+00	7.24E-01	1.08E-01	9.40E-01	1.40E+00	6.73E-01	no	no	0.30%
2,6-Dinitrotoluene	6.00E-01	2.00E-02	8.74E-04	5.00E-02	1.46E-02	4.37E-02	5.92E-02	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	1.24E+00	1.00E+00	9.04E-02	1.00E+00	6.05E-01	9.04E-02	7.86E-01	No TRV	No TRV	No Kow	no	No TRV
4-Amino-2,6-dinitrotoluene	1.01E+00	1.00E+00	7.32E-02	1.00E+00	4.90E-01	7.32E-02	6.36E-01	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01	No TRV	No TRV	no	no	No TRV
HMX	1.65E+00	1.00E+00	1.20E-01	1.00E+00	8.06E-01	1.20E-01	1.05E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.82E+01	1.00E+00	1.32E+00	1.00E+00	8.86E+00	1.32E+00	1.15E+01	No TRV	No TRV	No Kow	no	No TRV
RDX	3.69E+00	1.00E+00	2.69E-01	1.00E+00	1.80E+00	2.69E-01	2.33E+00	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
Endrin aldehyde	5.30E-02	2.00E-02	7.72E-05	1.90E+00	4.91E-02	3.86E-03	5.30E-02	No TRV	No TRV	no	no	No TRV
Heptachlor	1.69E-02	2.00E-02	2.46E-05	1.00E+00	8.22E-03	1.23E-03	9.47E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.70E+00	3.80E-01	4.70E-02	5.80E+00	4.80E+00	1.24E-01	4.97E+00	6.07E-02	8.19E+01	yes	yes	37.02%
gamma-Chlordane	2.10E-02	5.10E-03	7.78E-06	1.60E+00	1.63E-02	1.53E-03	1.79E-02	No TRV	No TRV	yes	yes	No TRV
								HI =	2.21E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for deer mice = 0.0819
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for deer mice = 0.1239
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for deer mice = 0.0042
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV). For metals, is the BAF>2 and for organics is the $K_o \geq 4$
HI = Hazard index

Appendix Table S-62. CB-13 and CB-10 Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPv	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.30E+04	8.00E-04	5.90E-03	7.50E-02	0.00E+00	1.47E-01	1.53E-01	2.93E-01	5.23E-01	no	no	86.04%
Antimony	1.26E+00	4.00E-02	2.86E-05	5.00E-02	0.00E+00	1.43E-05	4.29E-05	1.90E-02	2.26E-03	no	no	0.37%
Arsenic	1.11E+01	8.00E-03	5.04E-05	6.60E-03	0.00E+00	1.26E-04	1.76E-04	1.91E-02	9.22E-03	no	no	1.52%
Barium	1.38E+02	3.00E-02	2.35E-03	7.50E-03	0.00E+00	1.56E-03	3.91E-03	1.50E+00	2.61E-03	no	no	0.43%
Calcium	3.99E+04	7.00E-01	1.58E+01	1.00E+00	0.00E+00	4.52E-01	1.63E+01	No TRV	No TRV	no	no	No TRV
Cadmium	6.49E+00	1.10E-01	4.04E-04	1.10E+01	0.00E+00	7.35E-05	4.78E-04	2.71E-01	1.77E-03	yes	yes	0.29%
Chromium	3.52E+01	1.50E-03	2.99E-05	1.60E-01	0.00E+00	3.99E-04	4.29E-04	7.68E+02	5.59E-07	no	no	0.00%
Cobalt	9.97E+00	4.00E-03	2.26E-05	1.00E+00	0.00E+00	1.13E-04	1.36E-04	No TRV	No TRV	no	no	No TRV
Copper	1.92E+02	8.00E-02	8.71E-03	1.60E-01	0.00E+00	2.18E-03	1.09E-02	4.27E+00	2.55E-03	no	no	0.42%
Iron	2.26E+04	8.00E-04	1.02E-02	1.00E+00	0.00E+00	2.56E-01	2.66E-01	No TRV	No TRV	no	no	No TRV
Lead	2.53E+02	9.00E-03	1.29E-03	2.00E+00	0.00E+00	2.87E-03	4.16E-03	2.24E+00	1.86E-03	yes	yes	0.31%
Magnesium	6.49E+03	2.00E-01	7.36E-01	1.00E+00	0.00E+00	7.36E-02	8.09E-01	No TRV	No TRV	no	no	No TRV
Manganese	1.31E+03	5.00E-02	3.71E-02	2.00E-02	0.00E+00	1.48E-02	5.19E-02	2.47E+01	2.10E-03	no	no	0.35%
Mercury	9.12E-02	1.80E-01	9.30E-06	3.40E-01	0.00E+00	1.03E-06	1.03E-05	3.68E-01	2.81E-05	yes	yes	0.00%
Nickel	2.09E+01	1.20E-02	1.42E-04	2.30E-01	0.00E+00	2.37E-04	3.80E-04	1.12E+01	3.38E-05	no	no	0.01%
Potassium	1.30E+03	2.00E-01	1.47E-01	1.00E+00	0.00E+00	1.47E-02	1.62E-01	No TRV	No TRV	no	no	No TRV
Selenium	8.27E-01	5.00E-03	2.34E-06	7.60E-01	0.00E+00	9.37E-06	1.17E-05	5.61E-02	2.09E-04	no	no	0.03%
Sodium	3.84E+02	1.50E-02	3.27E-03	1.00E+00	0.00E+00	4.36E-03	7.62E-03	No TRV	No TRV	no	no	No TRV
Vanadium	1.69E+01	1.10E-03	1.05E-05	1.30E-01	0.00E+00	1.91E-04	2.02E-04	5.47E-02	3.69E-03	no	no	0.61%
Zinc	4.57E+02	3.00E-01	7.77E-02	1.80E+00	0.00E+00	5.18E-03	8.29E-02	4.49E+01	1.85E-03	yes	yes	0.30%
Organics-Semivolatil												
Anthracene	7.30E-02	2.00E-02	8.28E-07	5.00E-02	0.00E+00	8.28E-07	1.66E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	4.10E-01	3.90E-03	9.06E-07	5.00E-02	0.00E+00	4.65E-06	5.55E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	3.70E-01	2.60E-03	5.45E-07	5.00E-02	0.00E+00	4.19E-06	4.74E-06	1.52E-01	3.12E-05	yes	yes	0.01%
Benzo(b)fluoranthene	4.52E-01	2.30E-03	5.90E-07	5.00E-02	0.00E+00	5.13E-06	5.72E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	2.12E-01	1.20E-03	1.44E-07	5.00E-02	0.00E+00	2.40E-06	2.54E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	2.04E-01	2.30E-03	2.65E-07	5.00E-02	0.00E+00	2.31E-06	2.57E-06	No TRV	No TRV	yes	yes	No TRV
Carbazole	7.20E-02	2.00E-02	8.16E-07	5.00E-02	0.00E+00	8.16E-07	1.63E-06	No TRV	No TRV	no	no	No TRV
Chrysene	4.80E-01	3.90E-03	1.06E-06	5.00E-02	0.00E+00	5.44E-06	6.50E-06	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.84E-01	2.00E-02	6.63E-06	5.00E-02	0.00E+00	6.63E-06	1.33E-05	No TRV	No TRV	yes	yes	No TRV
Fluorene	4.10E-02	2.00E-02	4.65E-07	5.00E-02	0.00E+00	4.65E-07	9.30E-07	6.95E-01	1.34E-06	yes	yes	0.00%
Phenanthrene	3.15E-01	2.00E-02	3.58E-06	5.00E-02	0.00E+00	3.58E-06	7.15E-06	No TRV	No TRV	yes	yes	No TRV
Pyrene	7.90E-01	6.70E-03	3.00E-06	5.00E-02	0.00E+00	8.96E-06	1.20E-05	1.30E+02	9.22E-08	yes	yes	0.00%
Organics-Volatil												
Acetone	5.00E-03	2.00E-02	5.67E-08	5.00E-02	0.00E+00	5.67E-08	1.13E-07	2.81E+00	4.04E-08	no	no	0.00%
Methylene chloride	2.20E-03	2.00E-02	2.49E-08	5.00E-02	0.00E+00	2.49E-08	4.99E-08	No TRV	No TRV	no	no	No TRV
Explosives												
2,4,6-Trinitrotoluene	2.52E+01	1.00E+00	1.43E-02	1.00E+00	0.00E+00	2.86E-04	1.46E-02	2.05E+00	7.12E-03	no	no	1.17%
2,4-Dinitrotoluene	1.49E+00	1.00E+00	8.42E-04	1.00E+00	0.00E+00	1.68E-05	8.59E-04	1.96E-01	4.38E-03	no	no	0.72%

Appendix Table S-62. CB-13 and CB-10 Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**RME Concentration** (mg/kg)	**SPv**	**ADD_P** (mg/kgBW/d) RME x SP_v x I_P x AUF	**BAF_i**	**ADD_A** (mg/kgBW/d) RME x BAF_i x I_A x AUF	**ADD_S** (mg/kgBW/d) RME x I_S x AUF	**ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	**TRV** (mg/kgBW/d)	**Site HQ** ADD_{total} / TRV	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
2,6-Dinitrotoluene	6.00E-01	2.00E-02	6.80E-06	5.00E-02	0.00E+00	6.80E-06	1.36E-05	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	1.24E+00	1.00E+00	7.04E-04	1.00E+00	0.00E+00	1.41E-05	7.18E-04	No TRV	No TRV	No Kow	no	No TRV
4-Amino-2,6-dinitrotoluene	1.01E+00	1.00E+00	5.70E-04	1.00E+00	0.00E+00	1.14E-05	5.81E-04	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	1.13E-04	1.00E+00	0.00E+00	2.27E-06	1.16E-04	No TRV	No TRV	no	no	No TRV
HMX	1.65E+00	1.00E+00	9.38E-04	1.00E+00	0.00E+00	1.88E-05	9.56E-04	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.82E+01	1.00E+00	1.03E-02	1.00E+00	0.00E+00	2.06E-04	1.05E-02	No TRV	No TRV	No Kow	no	No TRV
RDX	3.69E+00	1.00E+00	2.09E-03	1.00E+00	0.00E+00	4.18E-05	2.13E-03	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
Endrin aldehyde	5.30E-02	2.00E-02	6.01E-07	1.90E+00	0.00E+00	6.01E-07	1.20E-06	No TRV	No TRV	no	no	No TRV
Heptachlor	1.69E-02	2.00E-02	1.91E-07	1.00E+00	0.00E+00	1.91E-07	3.83E-07	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.70E+00	3.80E-01	3.66E-04	5.80E+00	0.00E+00	1.93E-05	3.85E-04	8.53E-03	4.52E-02	yes	yes	7.43%
gamma-Chlordane	2.10E-02	5.10E-03	6.06E-08	1.60E+00	0.00E+00	2.38E-07	2.98E-07	No TRV	No TRV	yes	yes	No TRV
								HI =	6.08E-01			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for white-tailed deer = 0.031

ADD_P = Average daily dose; plant

AUF = Area use factor 1.83E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for white-tailed deer = 0.00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for white-tailed deer = 0.00062

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-63. CB-13 and CB-10 Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.30E+04	8.00E-04	7.57E-01	7.50E-02	4.75E+02	9.46E+02	1.42E+03	2.22E+00	6.39E+02	no	yes	83.30%
Antimony	1.26E+00	4.00E-02	3.67E-03	5.00E-02	3.07E-02	9.19E-02	1.26E-01	1.44E-01	8.77E-01	no	no	0.11%
Arsenic	1.11E+01	8.00E-03	6.47E-03	6.60E-03	3.57E-02	8.09E-01	8.51E-01	1.45E-01	5.86E+00	no	yes	0.76%
Barium	1.38E+02	3.00E-02	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.09E+01	1.14E+01	9.54E-01	no	no	0.12%
Calcium	3.99E+04	7.00E-01	2.03E+03	1.00E+00	1.94E+04	2.90E+03	2.44E+04	No TRV	No TRV	no	no	No TRV
Cadmium	6.49E+00	1.10E-01	5.19E-02	1.10E+01	3.48E+01	4.72E-01	3.53E+01	2.05E+00	1.72E+01	yes	yes	2.24%
Chromium	3.52E+01	1.50E-03	3.84E-03	1.60E-01	2.74E+00	2.56E+00	5.31E+00	5.83E+03	9.11E-04	no	no	0.00%
Cobalt	9.97E+00	4.00E-03	2.90E-03	1.00E+00	4.86E+00	7.26E-01	5.59E+00	No TRV	No TRV	no	no	No TRV
Copper	1.92E+02	8.00E-02	1.12E+00	1.60E-01	1.50E+01	1.40E+01	3.01E+01	3.24E+01	9.27E-01	no	no	0.12%
Iron	2.26E+04	8.00E-04	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04	No TRV	No TRV	no	no	No TRV
Lead	2.53E+02	9.00E-03	1.66E-01	2.00E+00	2.47E+02	1.84E+01	2.65E+02	1.70E+01	1.56E+01	yes	yes	2.03%
Magnesium	6.49E+03	2.00E-01	9.45E+01	1.00E+00	3.16E+03	4.72E+02	3.73E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.31E+03	5.00E-02	4.76E+00	2.00E-02	1.28E+01	9.53E+01	1.13E+02	1.87E+02	6.02E-01	no	no	0.08%
Mercury	9.12E-02	1.80E-01	1.19E-03	3.40E-01	1.51E-02	6.64E-03	2.29E-02	2.80E+00	8.20E-03	yes	yes	0.00%
Nickel	2.09E+01	1.20E-02	1.83E-02	2.30E-01	2.35E+00	1.52E+00	3.89E+00	8.52E+01	4.56E-02	no	no	0.01%
Potassium	1.30E+03	2.00E-01	1.89E+01	1.00E+00	6.34E+02	9.47E+01	7.48E+02	No TRV	No TRV	no	no	No TRV
Selenium	8.27E-01	5.00E-03	3.01E-04	7.60E-01	3.06E-01	6.02E-02	3.66E-01	4.26E-01	8.60E-01	no	no	0.11%
Sodium	3.84E+02	1.50E-02	4.20E-01	1.00E+00	1.87E+02	2.80E+01	2.16E+02	No TRV	No TRV	no	no	No TRV
Vanadium	1.69E+01	1.10E-03	1.35E-03	1.30E-01	1.07E+00	1.23E+00	2.30E+00	4.15E-01	5.53E+00	no	yes	0.72%
Zinc	4.57E+02	3.00E-01	9.98E+00	1.80E+00	4.01E+02	3.33E+01	4.44E+02	3.41E+02	1.30E+00	yes	yes	0.17%
Organics-Semivolatile												
Anthracene	7.30E-02	2.00E-02	1.06E-04	5.00E-02	1.78E-03	5.31E-03	7.20E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	4.10E-01	3.90E-03	1.16E-04	5.00E-02	9.99E-03	2.98E-02	4.00E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	3.70E-01	2.60E-03	7.00E-05	5.00E-02	9.01E-03	2.69E-02	3.60E-02	1.15E+00	3.13E-02	yes	yes	0.00%
Benzo(b)fluoranthene	4.52E-01	2.30E-03	7.57E-05	5.00E-02	1.10E-02	3.29E-02	4.40E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	2.12E-01	1.20E-03	1.85E-05	5.00E-02	5.15E-03	1.54E-02	2.06E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	2.04E-01	2.30E-03	3.41E-05	5.00E-02	4.96E-03	1.48E-02	1.98E-02	No TRV	No TRV	yes	yes	No TRV
Carbazole	7.20E-02	2.00E-02	1.05E-04	5.00E-02	1.75E-03	5.24E-03	7.10E-03	No TRV	No TRV	no	no	No TRV
Chrysene	4.80E-01	3.90E-03	1.36E-04	5.00E-02	1.17E-02	3.49E-02	4.68E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.84E-01	2.00E-02	8.51E-04	5.00E-02	1.42E-02	4.25E-02	5.76E-02	No TRV	No TRV	yes	yes	No TRV
Fluorene	4.10E-02	2.00E-02	5.97E-05	5.00E-02	9.99E-04	2.98E-03	4.04E-03	5.28E+00	7.66E-04	yes	yes	0.00%
Phenanthrene	3.15E-01	2.00E-02	4.59E-04	5.00E-02	7.68E-03	2.30E-02	3.11E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	7.90E-01	6.70E-03	3.85E-04	5.00E-02	1.92E-02	5.75E-02	7.71E-02	9.85E+02	7.83E-05	yes	yes	0.00%
Organics-Volatile												
Acetone	5.00E-03	2.00E-02	7.28E-06	5.00E-02	1.22E-04	3.64E-04	4.93E-04	2.13E+01	2.31E-05	no	no	0.00%
Methylene chloride	2.20E-03	2.00E-02	3.20E-06	5.00E-02	5.36E-05	1.60E-04	2.17E-04	No TRV	No TRV	no	no	No TRV

Appendix Table S-63. CB-13 and CB-10 Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Explosives												
2,4,6-Trinitrotoluene	2.52E+01	1.00E+00	1.84E+00	1.00E+00	1.23E+01	1.84E+00	1.60E+01	1.56E+01	1.03E+00	no	yes	0.13%
2,4-Dinitrotoluene	1.49E+00	1.00E+00	1.08E-01	1.00E+00	7.24E-01	1.08E-01	9.40E-01	1.49E+00	6.31E-01	no	no	0.08%
2,6-Dinitrotoluene	6.00E-01	2.00E-02	8.74E-04	5.00E-02	1.46E-02	4.37E-02	5.92E-02	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	1.24E+00	1.00E+00	9.04E-02	1.00E+00	6.05E-01	9.04E-02	7.86E-01	No TRV	No TRV	No Kow	no	No TRV
4-Amino-2,6-dinitrotoluene	1.01E+00	1.00E+00	7.32E-02	1.00E+00	4.90E-01	7.32E-02	6.36E-01	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01	No TRV	No TRV	no	no	No TRV
HMX	1.65E+00	1.00E+00	1.20E-01	1.00E+00	8.06E-01	1.20E-01	1.05E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.82E+01	1.00E+00	1.32E+00	1.00E+00	8.86E+00	1.32E+00	1.15E+01	No TRV	No TRV	No Kow	no	No TRV
RDX	3.69E+00	1.00E+00	2.69E-01	1.00E+00	1.80E+00	2.69E-01	2.33E+00	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
Endrin aldehyde	5.30E-02	2.00E-02	7.72E-05	1.90E+00	4.91E-02	3.86E-03	5.30E-02	No TRV	No TRV	no	no	No TRV
Heptachlor	1.69E-02	2.00E-02	2.46E-05	1.00E+00	8.22E-03	1.23E-03	9.47E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.70E+00	3.80E-01	4.70E-02	5.80E+00	4.80E+00	1.24E-01	4.97E+00	6.48E-02	7.68E+01	yes	yes	10.01%
gamma-Chlordane	2.10E-02	5.10E-03	7.78E-06	1.60E+00	1.63E-02	1.53E-03	1.79E-02	No TRV	No TRV	yes	yes	No TRV
								HI =	7.68E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for shrew = 0.073
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-64. CB-13 and CB-10 Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.30E+04	1.30E-04	1.28E+00	7.50E-02	7.41E+02	1.54E+02	8.96E+02	1.10E+02	8.17E+00	no	yes	1.40%
Antimony	1.26E+00	6.00E-03	5.75E-03	5.00E-02	4.80E-02	9.97E-03	6.37E-02	No TRV	No TRV	no	no	No TRV
Arsenic	1.11E+01	1.20E-03	1.01E-02	6.60E-03	5.57E-02	1.16E-02	7.75E-02	5.14E+00	1.51E-02	no	no	0.00%
Barium	1.38E+02	3.00E-03	3.15E-01	7.50E-03	7.87E-01	1.64E-01	1.26E+00	2.08E+01	6.07E-02	no	no	0.01%
Calcium	3.99E+04	7.00E-02	2.12E+03	1.00E+00	3.03E+04	6.30E+03	3.87E+04	No TRV	No TRV	no	no	No TRV
Cadmium	6.49E+00	3.00E-02	1.48E-01	1.10E+01	5.42E+01	1.13E+01	6.56E+01	1.45E+00	4.53E+01	yes	yes	7.77%
Chromium	3.52E+01	9.00E-04	2.41E-02	1.60E-01	4.28E+00	8.90E-01	5.19E+00	1.00E+00	5.19E+00	no	yes	0.89%
Cobalt	9.97E+00	1.40E-03	1.06E-02	1.00E+00	7.58E+00	1.58E+00	9.16E+00	No TRV	No TRV	no	no	No TRV
Copper	1.92E+02	5.00E-02	7.30E+00	1.60E-01	2.33E+01	4.86E+00	3.55E+01	4.70E+01	7.56E-01	no	no	0.13%
Iron	2.26E+04	2.00E-04	3.43E+00	1.00E+00	1.72E+04	3.57E+03	2.07E+04	No TRV	No TRV	no	no	No TRV
Lead	2.53E+02	1.80E-03	3.47E-01	2.00E+00	3.85E+02	8.01E+01	4.65E+02	1.13E+00	4.12E+02	yes	yes	70.74%
Magnesium	6.49E+03	1.10E-01	5.42E+02	1.00E+00	4.93E+03	1.03E+03	6.50E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.31E+03	1.00E-02	9.95E+00	2.00E-02	1.99E+01	4.14E+00	3.40E+01	9.77E+02	3.48E-02	no	no	0.01%
Mercury	9.12E-02	4.00E-02	2.77E-03	3.40E-01	2.36E-02	4.90E-03	3.12E-02	4.50E-01	6.94E-02	yes	yes	0.01%
Nickel	2.09E+01	1.20E-02	1.91E-01	2.30E-01	3.66E+00	7.61E-01	4.61E+00	7.74E+01	5.96E-02	no	no	0.01%
Potassium	1.30E+03	1.10E-01	1.09E+02	1.00E+00	9.89E+02	2.06E+02	1.30E+03	No TRV	No TRV	no	no	No TRV
Selenium	8.27E-01	5.00E-03	3.14E-03	7.60E-01	4.77E-01	9.93E-02	5.80E-01	5.00E-01	1.16E+00	no	yes	0.20%
Sodium	3.84E+02	1.10E-02	3.21E+00	1.00E+00	2.92E+02	6.08E+01	3.56E+02	No TRV	No TRV	no	no	No TRV
Vanadium	1.69E+01	6.00E-04	7.69E-03	1.30E-01	1.67E+00	3.46E-01	2.02E+00	1.14E+01	1.77E-01	no	no	0.03%
Zinc	4.57E+02	1.80E-01	6.25E+01	1.80E+00	6.25E+02	1.30E+02	8.18E+02	1.45E+01	5.64E+01	yes	yes	9.69%
Organics-Semivolatile												
Anthracene	7.30E-02	2.00E-02	1.11E-03	5.00E-02	2.77E-03	5.77E-04	4.46E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	4.10E-01	3.90E-03	1.22E-03	5.00E-02	1.56E-02	3.24E-03	2.00E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	3.70E-01	2.60E-03	7.31E-04	5.00E-02	1.41E-02	2.92E-03	1.77E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	4.52E-01	2.30E-03	7.91E-04	5.00E-02	1.72E-02	3.57E-03	2.16E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	2.12E-01	1.20E-03	1.93E-04	5.00E-02	8.04E-03	1.67E-03	9.91E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	2.04E-01	2.30E-03	3.56E-04	5.00E-02	7.73E-03	1.61E-03	9.70E-03	No TRV	No TRV	yes	yes	No TRV
Carbazole	7.20E-02	2.00E-02	1.09E-03	5.00E-02	2.74E-03	5.69E-04	4.40E-03	No TRV	No TRV	no	no	No TRV
Chrysene	4.80E-01	3.90E-03	1.42E-03	5.00E-02	1.82E-02	3.79E-03	2.35E-02	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.84E-01	2.00E-02	8.88E-03	5.00E-02	2.22E-02	4.62E-03	3.57E-02	No TRV	No TRV	yes	yes	No TRV
Fluorene	4.10E-02	2.00E-02	6.23E-04	5.00E-02	1.56E-03	3.24E-04	2.51E-03	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	3.15E-01	2.00E-02	4.79E-03	5.00E-02	1.20E-02	2.49E-03	1.93E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	7.90E-01	6.70E-03	4.02E-03	5.00E-02	3.00E-02	6.24E-03	4.03E-02	No TRV	No TRV	yes	yes	No TRV
Organics-Volatile												
Acetone	5.00E-03	2.00E-02	7.60E-05	5.00E-02	1.90E-04	3.95E-05	3.06E-04	No TRV	No TRV	no	no	No TRV
Methylene chloride	2.20E-03	2.00E-02	3.34E-05	5.00E-02	8.36E-05	1.74E-05	1.34E-04	No TRV	No TRV	no	no	No TRV

Appendix Table S-64. CB-13 and CB-10 Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Explosives												
2,4,6-Trinitrotoluene	2.52E+01	1.00E+00	1.92E+01	1.00E+00	1.92E+01	3.99E+00	4.24E+01	No TRV	No TRV	no	no	No TRV
2,4-Dinitrotoluene	1.49E+00	1.00E+00	1.13E+00	1.00E+00	1.13E+00	2.35E-01	2.49E+00	No TRV	No TRV	no	no	No TRV
2,6-Dinitrotoluene	6.00E-01	2.00E-02	9.12E-03	5.00E-02	2.28E-02	4.74E-03	3.67E-02	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	1.24E+00	1.00E+00	9.44E-01	1.00E+00	9.44E-01	1.96E-01	2.08E+00	No TRV	No TRV	No Kow	no	No TRV
4-Amino-2,6-dinitrotoluene	1.01E+00	1.00E+00	7.64E-01	1.00E+00	7.64E-01	1.59E-01	1.69E+00	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.00E-01	1.00E+00	1.52E-01	1.00E+00	1.52E-01	3.16E-02	3.36E-01	No TRV	No TRV	no	no	No TRV
HMX	1.65E+00	1.00E+00	1.26E+00	1.00E+00	1.26E+00	2.61E-01	2.78E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	1.82E+01	1.00E+00	1.38E+01	1.00E+00	1.38E+01	2.88E+00	3.05E+01	No TRV	No TRV	No Kow	no	No TRV
RDX	3.69E+00	1.00E+00	2.80E+00	1.00E+00	2.80E+00	5.83E-01	6.19E+00	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
Endrin aldehyde	5.30E-02	2.00E-02	8.06E-04	1.90E+00	7.65E-02	1.59E-02	9.33E-02	No TRV	No TRV	no	no	No TRV
Heptachlor	1.69E-02	2.00E-02	2.56E-04	1.00E+00	1.28E-02	2.67E-03	1.57E-02	No TRV	No TRV	yes	yes	No TRV
PCB-1254	1.70E+00	3.80E-01	4.91E-01	5.80E+00	7.49E+00	1.56E+00	9.54E+00	1.80E-01	5.30E+01	yes	yes	9.10%
gamma-Chlordane	2.10E-02	5.10E-03	8.12E-05	1.60E+00	2.55E-02	5.30E-03	3.09E-02	No TRV	No TRV	yes	yes	No TRV
								HI =	5.82E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for robins = 0.76
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for robins = 0.76
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for robins = 0.158
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-65. CB-13 and CB-10 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals									
Aluminum	1.30E+04	1.30E-04	2.88E-05	8.00E-04	7.57E-01	7.50E-02	4.75E+02	9.46E+02	1.42E+03
Antimony	1.26E+00	6.00E-03	1.29E-07	4.00E-02	3.67E-03	5.00E-02	3.07E-02	9.19E-02	1.26E-01
Arsenic	1.11E+01	1.20E-03	2.27E-07	8.00E-03	6.47E-03	6.60E-03	3.57E-02	8.09E-01	8.51E-01
Barium	1.38E+02	3.00E-03	7.06E-06	3.00E-02	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.09E+01
Calcium	3.99E+04	7.00E-02	4.76E-02	7.00E-01	2.03E+03	1.00E+00	1.94E+04	2.90E+03	2.44E+04
Cadmium	6.49E+00	3.00E-02	3.32E-06	1.10E-01	5.19E-02	1.10E+01	3.48E+01	4.72E-01	3.53E+01
Chromium	3.52E+01	9.00E-04	5.40E-07	1.50E-03	3.84E-03	1.60E-01	2.74E+00	2.56E+00	5.31E+00
Cobalt	9.97E+00	1.40E-03	2.38E-07	4.00E-03	2.90E-03	1.00E+00	4.86E+00	7.26E-01	5.59E+00
Copper	1.92E+02	5.00E-02	1.64E-04	8.00E-02	1.12E+00	1.60E-01	1.50E+01	1.40E+01	3.01E+01
Iron	2.26E+04	2.00E-04	7.69E-05	8.00E-04	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04
Lead	2.53E+02	1.80E-03	7.77E-06	9.00E-03	1.66E-01	2.00E+00	2.47E+02	1.84E+01	2.65E+02
Magnesium	6.49E+03	1.10E-01	1.22E-02	2.00E-01	9.45E+01	1.00E+00	3.16E+03	4.72E+02	3.73E+03
Manganese	1.31E+03	1.00E-02	2.23E-04	5.00E-02	4.76E+00	2.00E-02	1.28E+01	9.53E+01	1.13E+02
Mercury	9.12E-02	4.00E-02	6.21E-08	1.80E-01	1.19E-03	3.40E-01	1.51E-02	6.64E-03	2.29E-02
Nickel	2.09E+01	1.20E-02	4.28E-06	1.20E-02	1.83E-02	2.30E-01	2.35E+00	1.52E+00	3.89E+00
Potassium	1.30E+03	1.10E-01	2.44E-03	2.00E-01	1.89E+01	1.00E+00	6.34E+02	9.47E+01	7.48E+02
Selenium	8.27E-01	5.00E-03	7.04E-08	5.00E-03	3.01E-04	7.60E-01	3.06E-01	6.02E-02	3.66E-01
Sodium	3.84E+02	1.10E-02	7.21E-05	1.50E-02	4.20E-01	1.00E+00	1.87E+02	2.80E+01	2.16E+02
Vanadium	1.69E+01	6.00E-04	1.72E-07	1.10E-03	1.35E-03	1.30E-01	1.07E+00	1.23E+00	2.30E+00
Zinc	4.57E+02	1.80E-01	1.40E-03	3.00E-01	9.98E+00	1.80E+00	4.01E+02	3.33E+01	4.44E+02
Organics-Semivolatile									
Anthracene	7.30E-02	2.00E-02	2.49E-08	2.00E-02	1.06E-04	5.00E-02	1.78E-03	5.31E-03	7.20E-03
Benzo(a)anthracene	4.10E-01	3.90E-03	2.73E-08	3.90E-03	1.16E-04	5.00E-02	9.99E-03	2.98E-02	4.00E-02
Benzo(a)pyrene	3.70E-01	2.60E-03	1.64E-08	2.60E-03	7.00E-05	5.00E-02	9.01E-03	2.69E-02	3.60E-02
Benzo(b)fluoranthene	4.52E-01	2.30E-03	1.77E-08	2.30E-03	7.57E-05	5.00E-02	1.10E-02	3.29E-02	4.40E-02
Benzo(g,h,i)perylene	2.12E-01	1.20E-03	4.33E-09	1.20E-03	1.85E-05	5.00E-02	5.15E-03	1.54E-02	2.06E-02
Benzo(k)fluoranthene	2.04E-01	2.30E-03	7.98E-09	2.30E-03	3.41E-05	5.00E-02	4.96E-03	1.48E-02	1.98E-02
Carbazole	7.20E-02	2.00E-02	2.45E-08	2.00E-02	1.05E-04	5.00E-02	1.75E-03	5.24E-03	7.10E-03
Chrysene	4.80E-01	3.90E-03	3.19E-08	3.90E-03	1.36E-04	5.00E-02	1.17E-02	3.49E-02	4.68E-02
Fluoranthene	5.84E-01	2.00E-02	1.99E-07	2.00E-02	8.51E-04	5.00E-02	1.42E-02	4.25E-02	5.76E-02
Fluorene	4.10E-02	2.00E-02	1.40E-08	2.00E-02	5.97E-05	5.00E-02	9.99E-04	2.98E-03	4.04E-03
Phenanthrene	3.15E-01	2.00E-02	1.08E-07	2.00E-02	4.59E-04	5.00E-02	7.68E-03	2.30E-02	3.11E-02
Pyrene	7.90E-01	6.70E-03	9.02E-08	6.70E-03	3.85E-04	5.00E-02	1.92E-02	5.75E-02	7.71E-02
Organics-Volatile									
Acetone	5.00E-03	2.00E-02	1.70E-09	2.00E-02	7.28E-06	5.00E-02	1.22E-04	3.64E-04	4.93E-04
Methylene chloride	2.20E-03	2.00E-02	7.50E-10	2.00E-02	3.20E-06	5.00E-02	5.36E-05	1.60E-04	2.17E-04

Appendix Table S-65. CB-13 and CB-10 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Explosives									
2,4,6-Trinitrotoluene	2.52E+01	1.00E+00	4.30E-04	1.00E+00	1.84E+00	1.00E+00	1.23E+01	1.84E+00	1.60E+01
2,4-Dinitrotoluene	1.49E+00	1.00E+00	2.53E-05	1.00E+00	1.08E-01	1.00E+00	7.24E-01	1.08E-01	9.40E-01
2,6-Dinitrotoluene	6.00E-01	2.00E-02	2.05E-07	2.00E-02	8.74E-04	5.00E-02	1.46E-02	4.37E-02	5.92E-02
2-Amino-4,6-dinitrotoluene	1.24E+00	1.00E+00	2.12E-05	1.00E+00	9.04E-02	1.00E+00	6.05E-01	9.04E-02	7.86E-01
4-Amino-2,6-dinitrotoluene	1.01E+00	1.00E+00	1.71E-05	1.00E+00	7.32E-02	1.00E+00	4.90E-01	7.32E-02	6.36E-01
4-Nitrotoluene	2.00E-01	1.00E+00	3.41E-06	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01
HMX	1.65E+00	1.00E+00	2.82E-05	1.00E+00	1.20E-01	1.00E+00	8.06E-01	1.20E-01	1.05E+00
Nitrocellulose	1.82E+01	1.00E+00	3.10E-04	1.00E+00	1.32E+00	1.00E+00	8.86E+00	1.32E+00	1.15E+01
RDX	3.69E+00	1.00E+00	6.29E-05	1.00E+00	2.69E-01	1.00E+00	1.80E+00	2.69E-01	2.33E+00
Organics-Pesticide/PCB									
Endrin aldehyde	5.30E-02	2.00E-02	1.81E-08	2.00E-02	7.72E-05	1.90E+00	4.91E-02	3.86E-03	5.30E-02
Heptachlor	1.69E-02	2.00E-02	5.75E-09	2.00E-02	2.46E-05	1.00E+00	8.22E-03	1.23E-03	9.47E-03
PCB-1254	1.70E+00	3.80E-01	1.10E-05	3.80E-01	4.70E-02	5.80E+00	4.80E+00	1.24E-01	4.97E+00
gamma-Chlordane	2.10E-02	5.10E-03	1.82E-09	5.10E-03	7.78E-06	1.60E+00	1.63E-02	1.53E-03	1.79E-02

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for red foxes = 0.00317
ADD_P = Average daily dose; plant
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728
AUF = Area use factor = 0.00537
AUF_{prey} = Area use factor = 1.0
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
Cs (mg/kg) = Concentration in the prey
IR_f = Ingestion rate of food for shrews
BAF_v = Animal-to-animal; vertebrates
I_A (kg/kgBW/d) = Animal ingestion rate for red foxes = 0.0658
I_S (kg/kgBW/d) = Soil ingestion rate for red foxes = 0.00193
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
HQ = Hazard quotient
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds
(bioaccumulation factor greater than 2 for inorganics,
and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or
the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard index (Sum of HQs)

Appendix Table S-65. CB-13 and CB-10 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) RME $\times$ $I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	2.54E+03	7.50E-02	6.73E-02	1.35E-01	2.02E-01	5.46E-01	3.71E-01	no	no	37.71%
Antimony	2.26E-01	5.00E-02	3.99E-06	1.31E-05	1.72E-05	3.54E-02	4.87E-04	no	no	0.05%
Arsenic	1.52E+00	1.00E-01	5.37E-05	1.15E-04	1.69E-04	3.56E-02	4.75E-03	no	no	0.48%
Barium	1.94E+01	7.50E-03	5.14E-05	1.43E-03	1.49E-03	2.79E+00	5.34E-04	no	no	0.05%
Calcium	4.35E+04	1.00E+00	1.54E+01	4.14E-01	1.58E+01	No TRV	No TRV	No BAF	no	No TRV
Cadmium	6.30E+01	2.80E-02	6.24E-04	6.73E-05	6.94E-04	5.04E-01	1.38E-03	yes	yes	0.14%
Chromium	9.48E+00	2.80E-01	9.38E-04	3.65E-04	1.30E-03	1.43E+03	9.11E-07	no	no	0.00%
Cobalt	9.97E+00	1.00E+00	3.53E-03	1.03E-04	3.63E-03	No TRV	No TRV	no	no	No TRV
Copper	5.37E+01	5.00E-01	9.49E-03	1.99E-03	1.16E-02	7.96E+00	1.46E-03	no	no	0.15%
Iron	2.26E+04	1.00E+00	7.98E+00	2.34E-01	8.21E+00	No TRV	No TRV	no	no	No TRV
Lead	4.74E+02	1.50E-02	2.51E-03	2.63E-03	5.15E-03	4.18E+00	1.23E-03	yes	yes	0.13%
Magnesium	6.66E+03	1.00E+00	2.35E+00	6.73E-02	2.43E+00	No TRV	No TRV	no	no	No TRV
Manganese	2.01E+02	2.00E-02	1.42E-03	1.36E-02	1.52E-02	4.60E+01	3.31E-04	no	no	0.03%
Mercury	4.09E-02	1.30E+01	1.88E-04	9.46E-07	1.89E-04	6.86E-01	2.76E-04	yes	yes	0.03%
Nickel	6.94E+00	3.00E-01	7.36E-04	2.17E-04	9.58E-04	2.09E+01	4.58E-05	no	no	0.00%
Potassium	1.33E+03	1.00E+00	4.72E-01	1.35E-02	4.88E-01	No TRV	No TRV	no	no	No TRV
Selenium	6.54E-01	7.50E-01	1.74E-04	8.57E-06	1.82E-04	1.05E-01	1.74E-03	no	no	0.18%
Sodium	3.85E+02	1.00E+00	1.36E-01	3.99E-03	1.40E-01	No TRV	No TRV	no	no	No TRV
Vanadium	4.10E+00	1.30E-01	1.88E-04	1.75E-04	3.64E-04	1.02E-01	3.57E-03	no	no	0.36%
Zinc	7.93E+02	5.00E+00	1.40E+00	4.74E-03	1.41E+00	8.36E+01	1.68E-02	yes	yes	1.71%
Organics-Semivolatile										
Anthracene	1.29E-02	4.80E-02	2.18E-07	7.57E-07	1.00E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	7.13E-02	7.60E-01	1.92E-05	4.25E-06	2.34E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	6.43E-02	1.50E+00	3.41E-05	3.84E-06	3.80E-05	2.83E-01	1.34E-04	yes	yes	0.01%
Benzo(b)fluoranthene	7.86E-02	1.90E+00	5.28E-05	4.69E-06	5.75E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	3.67E-02	6.00E+00	7.79E-05	2.20E-06	8.01E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	3.54E-02	1.90E+00	2.38E-05	2.11E-06	2.59E-05	No TRV	No TRV	yes	yes	No TRV
Carbazole	1.27E-02	8.70E-03	3.90E-08	7.47E-07	8.11E-07	No TRV	No TRV	no	no	No TRV
Chrysene	8.35E-02	7.60E-01	2.24E-05	4.98E-06	2.75E-05	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.03E-01	1.30E-01	4.73E-06	6.06E-06	1.10E-05	No TRV	No TRV	yes	yes	No TRV
Fluorene	7.22E-03	2.40E-02	6.13E-08	4.25E-07	5.01E-07	1.30E+00	3.86E-07	yes	yes	0.00%
Phenanthrene	5.55E-02	4.80E-02	9.42E-07	3.27E-06	4.32E-06	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.38E-01	3.00E-01	1.46E-05	8.20E-06	2.29E-05	2.42E+02	9.47E-08	yes	yes	0.00%
Organics-Volatile										
Acetone										
Methylene chloride	3.87E-04	3.00E-05	4.11E-12	2.28E-08	2.36E-08	No TRV	No TRV	no	no	No TRV

Appendix Table S-65. CB-13 and CB-10 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**Cs** (mg/kg) Prey ADD_{total}/IR_f	**BAF_v**	**ADD_A** (mg/kgBW/d) Cs *x* BAF_v *x* I_A *x* AUF	**ADD_S** (mg/kgBW/d) RME *x* I_S *x* AUF	**ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	**TRV** (mg/kgBW/d)	**Site HQ** ADD_{total} / TRV	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Explosives										
2,4,6-Trinitrotoluene	2.85E+01	1.00E+00	1.01E-02	2.62E-04	1.08E-02	3.82E+00	2.82E-03	no	no	0.29%
2,4-Dinitrotoluene	1.68E+00	1.00E+00	5.94E-04	1.54E-05	6.34E-04	3.66E-01	1.73E-03	no	no	0.18%
2,6-Dinitrotoluene	1.06E-01	1.90E-04	7.10E-09	6.22E-06	6.44E-06	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluene	1.40E+00	1.00E+00	4.96E-04	1.29E-05	5.30E-04	No TRV	No TRV	No Kow	no	No TRV
4-Amino-2,6-dinitrotoluene	1.14E+00	1.00E+00	4.01E-04	1.04E-05	4.29E-04	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.26E-01	1.00E+00	7.99E-05	2.07E-06	8.54E-05	No TRV	No TRV	no	no	No TRV
HMX	1.87E+00	1.00E+00	6.61E-04	1.72E-05	7.06E-04	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	2.06E+01	1.00E+00	7.27E-03	1.89E-04	7.76E-03	No TRV	No TRV	No Kow	no	No TRV
RDX	4.17E+00	1.00E+00	1.47E-03	3.83E-05	1.57E-03	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB										
Endrin aldehyde	9.46E-02	2.90E+00	9.70E-05	5.50E-07	9.76E-05	No TRV	No TRV	no	no	No TRV
Heptachlor	1.69E-02	2.90E+00	1.73E-05	1.75E-07	1.75E-05	No TRV	No TRV	yes	yes	No TRV
PCB-1254	8.88E+00	2.90E+00	9.11E-03	1.76E-05	9.13E-03	1.59E-02	5.75E-01	yes	yes	58.49%
gamma-Chlordane	3.19E-02	2.90E+00	3.27E-05	2.17E-07	3.29E-05	No TRV	No TRV	yes	yes	No TRV
						HI =	9.83E-01			

Appendix Table S-66. CB-13 and CB-10 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals								
Aluminum	1.30E+04	8.00E-04	0.00E+00	7.57E-01	7.50E-02	4.75E+02	9.46E+02	1.42E+03
Antimony	1.26E+00	4.00E-02	0.00E+00	3.67E-03	5.00E-02	3.07E-02	9.19E-02	1.26E-01
Arsenic	1.11E+01	8.00E-03	0.00E+00	6.47E-03	6.60E-03	3.57E-02	8.09E-01	8.51E-01
Barium	1.38E+02	3.00E-02	0.00E+00	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.09E+01
Calcium	3.99E+04	7.00E-01	0.00E+00	2.03E+03	1.00E+00	1.94E+04	2.90E+03	2.44E+04
Cadmium	6.49E+00	1.10E-01	0.00E+00	5.19E-02	1.10E+01	3.48E+01	4.72E-01	3.53E+01
Chromium	3.52E+01	1.50E-03	0.00E+00	3.84E-03	1.60E-01	2.74E+00	2.56E+00	5.31E+00
Cobalt	9.97E+00	4.00E-03	0.00E+00	2.90E-03	1.00E+00	4.86E+00	7.26E-01	5.59E+00
Copper	1.92E+02	8.00E-02	0.00E+00	1.12E+00	1.60E-01	1.50E+01	1.40E+01	3.01E+01
Iron	2.26E+04	8.00E-04	0.00E+00	1.31E+00	1.00E+00	1.10E+04	1.64E+03	1.26E+04
Lead	2.53E+02	9.00E-03	0.00E+00	1.66E-01	2.00E+00	2.47E+02	1.84E+01	2.65E+02
Magnesium	6.49E+03	2.00E-01	0.00E+00	9.45E+01	1.00E+00	3.16E+03	4.72E+02	3.73E+03
Manganese	1.31E+03	5.00E-02	0.00E+00	4.76E+00	2.00E-02	1.28E+01	9.53E+01	1.13E+02
Mercury	9.12E-02	1.80E-01	0.00E+00	1.19E-03	3.40E-01	1.51E-02	6.64E-03	2.29E-02
Nickel	2.09E+01	1.20E-02	0.00E+00	1.83E-02	2.30E-01	2.35E+00	1.52E+00	3.89E+00
Potassium	1.30E+03	2.00E-01	0.00E+00	1.89E+01	1.00E+00	6.34E+02	9.47E+01	7.48E+02
Selenium	8.27E-01	5.00E-03	0.00E+00	3.01E-04	7.60E-01	3.06E-01	6.02E-02	3.66E-01
Sodium	3.84E+02	1.50E-02	0.00E+00	4.20E-01	1.00E+00	1.87E+02	2.80E+01	2.16E+02
Vanadium	1.69E+01	1.10E-03	0.00E+00	1.35E-03	1.30E-01	1.07E+00	1.23E+00	2.30E+00
Zinc	4.57E+02	3.00E-01	0.00E+00	9.98E+00	1.80E+00	4.01E+02	3.33E+01	4.44E+02
Organics-Semivolatil								
Anthracene	7.30E-02	2.00E-02	0.00E+00	1.06E-04	5.00E-02	1.78E-03	5.31E-03	7.20E-03
Benzo(a)anthracene	4.10E-01	3.90E-03	0.00E+00	1.16E-04	5.00E-02	9.99E-03	2.98E-02	4.00E-02
Benzo(a)pyrene	3.70E-01	2.60E-03	0.00E+00	7.00E-05	5.00E-02	9.01E-03	2.69E-02	3.60E-02
Benzo(b)fluoranthene	4.52E-01	2.30E-03	0.00E+00	7.57E-05	5.00E-02	1.10E-02	3.29E-02	4.40E-02
Benzo(g,h,i)perylene	2.12E-01	1.20E-03	0.00E+00	1.85E-05	5.00E-02	5.15E-03	1.54E-02	2.06E-02
Benzo(k)fluoranthene	2.04E-01	2.30E-03	0.00E+00	3.41E-05	5.00E-02	4.96E-03	1.48E-02	1.98E-02
Carbazole	7.20E-02	2.00E-02	0.00E+00	1.05E-04	5.00E-02	1.75E-03	5.24E-03	7.10E-03
Chrysene	4.80E-01	3.90E-03	0.00E+00	1.36E-04	5.00E-02	1.17E-02	3.49E-02	4.68E-02
Fluoranthene	5.84E-01	2.00E-02	0.00E+00	8.51E-04	5.00E-02	1.42E-02	4.25E-02	5.76E-02
Fluorene	4.10E-02	2.00E-02	0.00E+00	5.97E-05	5.00E-02	9.99E-04	2.98E-03	4.04E-03
Phenanthrene	3.15E-01	2.00E-02	0.00E+00	4.59E-04	5.00E-02	7.68E-03	2.30E-02	3.11E-02
Pyrene	7.90E-01	6.70E-03	0.00E+00	3.85E-04	5.00E-02	1.92E-02	5.75E-02	7.71E-02
Organics-Volatil								
Acetone	5.00E-03	2.00E-02	0.00E+00	7.28E-06	5.00E-02	1.22E-04	3.64E-04	4.93E-04
Methylene chloride	2.20E-03	2.00E-02	0.00E+00	3.20E-06	5.00E-02	5.36E-05	1.60E-04	2.17E-04

Appendix Table S-66. CB-13 and CB-10 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Explosives								
2,4,6-Trinitrotoluene	2.52E+01	1.00E+00	0.00E+00	1.84E+00	1.00E+00	1.23E+01	1.84E+00	1.60E+01
2,4-Dinitrotoluene	1.49E+00	1.00E+00	0.00E+00	1.08E-01	1.00E+00	7.24E-01	1.08E-01	9.40E-01
2,6-Dinitrotoluene	6.00E-01	2.00E-02	0.00E+00	8.74E-04	5.00E-02	1.46E-02	4.37E-02	5.92E-02
2-Amino-4,6-dinitrotoluene	1.24E+00	1.00E+00	0.00E+00	9.04E-02	1.00E+00	6.05E-01	9.04E-02	7.86E-01
4-Amino-2,6-dinitrotoluene	1.01E+00	1.00E+00	0.00E+00	7.32E-02	1.00E+00	4.90E-01	7.32E-02	6.36E-01
4-Nitrotoluene	2.00E-01	1.00E+00	0.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01
HMX	1.65E+00	1.00E+00	0.00E+00	1.20E-01	1.00E+00	8.06E-01	1.20E-01	1.05E+00
Nitrocellulose	1.82E+01	1.00E+00	0.00E+00	1.32E+00	1.00E+00	8.86E+00	1.32E+00	1.15E+01
RDX	3.69E+00	1.00E+00	0.00E+00	2.69E-01	1.00E+00	1.80E+00	2.69E-01	2.33E+00
Organics-Pesticide/PCB								
Endrin aldehyde	5.30E-02	2.00E-02	0.00E+00	7.72E-05	1.90E+00	4.91E-02	3.86E-03	5.30E-02
Heptachlor	1.69E-02	2.00E-02	0.00E+00	2.46E-05	1.00E+00	8.22E-03	1.23E-03	9.47E-03
PCB-1254	1.70E+00	3.80E-01	0.00E+00	4.70E-02	5.80E+00	4.80E+00	1.24E-01	4.97E+00
gamma-Chlordane	2.10E-02	5.10E-03	0.00E+00	7.78E-06	1.60E+00	1.63E-02	1.53E-03	1.79E-02

EU = Exposure Unit
aTRV adjusted by 0.1 for Threatened and Endangered Species
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for barn owl = 0.00
ADD_P = Average daily dose; plant
Cs (mg/kg) = Concentration in the prey
IR_f (kg/kgBW/d)= Ingestion rate of food for shrews = 0.56
BAF_v = Animal-to-mammal
I_A (kg/kgBW/d) = Animal ingestion rate for barn owl = 0.125
I_S (kg/kgBW/d) = Soil ingestion rate for barn owl = 0.00
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728
AUF = Area use factor = 1.0

Appendix Table S-66. CB-13 and CB-10 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) $RME \times I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	2.54E+03	7.50E-02	2.38E+01	0.00E+00	2.38E+01	1.10E+01	2.17E+00	no	yes	0.40%
Antimony	2.26E-01	5.00E-02	1.41E-03	0.00E+00	1.41E-03	No TRV	No TRV	no	no	No TRV
Arsenic	1.52E+00	1.00E-01	1.90E-02	0.00E+00	1.90E-02	5.14E-01	3.70E-02	no	no	0.01%
Barium	1.94E+01	7.50E-03	1.82E-02	0.00E+00	1.82E-02	2.08E+00	8.72E-03	no	no	0.00%
Calcium	4.35E+04	1.00E+00	5.44E+03	0.00E+00	5.44E+03	No TRV	No TRV	No BAF	no	No TRV
Cadmium	6.30E+01	2.80E-02	2.20E-01	0.00E+00	2.20E-01	1.45E-01	1.52E+00	yes	yes	0.28%
Chromium	9.48E+00	2.80E-01	3.32E-01	0.00E+00	3.32E-01	1.00E-01	3.32E+00	no	yes	0.62%
Cobalt	9.97E+00	1.00E+00	1.25E+00	0.00E+00	1.25E+00	No TRV	No TRV	no	no	No TRV
Copper	5.37E+01	5.00E-01	3.36E+00	0.00E+00	3.36E+00	4.70E+00	7.14E-01	no	no	0.13%
Iron	2.26E+04	1.00E+00	2.82E+03	0.00E+00	2.82E+03	No TRV	No TRV	no	no	No TRV
Lead	4.74E+02	1.50E-02	8.89E-01	0.00E+00	8.89E-01	1.13E-01	7.86E+00	yes	yes	1.46%
Magnesium	6.66E+03	1.00E+00	8.32E+02	0.00E+00	8.32E+02	No TRV	No TRV	no	no	No TRV
Manganese	2.01E+02	2.00E-02	5.04E-01	0.00E+00	5.04E-01	9.77E+01	5.15E-03	no	no	0.00%
Mercury	4.09E-02	1.30E+01	6.65E-02	0.00E+00	6.65E-02	4.50E-02	1.48E+00	yes	yes	0.27%
Nickel	6.94E+00	3.00E-01	2.60E-01	0.00E+00	2.60E-01	7.74E+00	3.36E-02	no	no	0.01%
Potassium	1.33E+03	1.00E+00	1.67E+02	0.00E+00	1.67E+02	No TRV	No TRV	no	no	No TRV
Selenium	6.54E-01	7.50E-01	6.14E-02	0.00E+00	6.14E-02	5.00E-02	1.23E+00	no	yes	0.23%
Sodium	3.85E+02	1.00E+00	4.81E+01	0.00E+00	4.81E+01	No TRV	No TRV	no	no	No TRV
Vanadium	4.10E+00	1.30E-01	6.66E-02	0.00E+00	6.66E-02	1.14E+00	5.86E-02	no	no	0.01%
Zinc	7.93E+02	5.00E+00	4.95E+02	0.00E+00	4.95E+02	1.45E+00	3.42E+02	yes	yes	63.41%
Organics-Semivolatil										
Anthracene	1.29E-02	4.80E-02	7.71E-05	0.00E+00	7.71E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	7.13E-02	7.60E-01	6.78E-03	0.00E+00	6.78E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	6.43E-02	1.50E+00	1.21E-02	0.00E+00	1.21E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	7.86E-02	1.90E+00	1.87E-02	0.00E+00	1.87E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	3.67E-02	6.00E+00	2.76E-02	0.00E+00	2.76E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	3.54E-02	1.90E+00	8.40E-03	0.00E+00	8.40E-03	No TRV	No TRV	yes	yes	No TRV
Carbazole	1.27E-02	8.70E-03	1.38E-05	0.00E+00	1.38E-05	No TRV	No TRV	no	no	No TRV
Chrysene	8.35E-02	7.60E-01	7.93E-03	0.00E+00	7.93E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.03E-01	1.30E-01	1.67E-03	0.00E+00	1.67E-03	No TRV	No TRV	yes	yes	No TRV
Fluorene	7.22E-03	2.40E-02	2.17E-05	0.00E+00	2.17E-05	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	5.55E-02	4.80E-02	3.33E-04	0.00E+00	3.33E-04	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.38E-01	3.00E-01	5.17E-03	0.00E+00	5.17E-03	No TRV	No TRV	yes	yes	No TRV
Organics-Volatil										
Acetone	8.81E-04	8.70E-07	9.58E-11	0.00E+00	9.58E-11	No TRV	No TRV	no	no	No TRV
Methylene chloride	3.87E-04	3.00E-05	1.45E-09	0.00E+00	1.45E-09	No TRV	No TRV	no	no	No TRV

Appendix Table S-66. CB-13 and CB-10 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs\ x\ BAF_v\ x\ I_A\ x$ AUF	ADD_S (mg/kgBW/d) $RME\ x\ I_S\ x$ AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Explosives										
2,4,6-Trinitrotoluene	2.85E+01	1.00E+00	3.57E+00	0.00E+00	3.57E+00	No TRV	No TRV	no	no	No TRV
2,4-Dinitrotoluene	1.68E+00	1.00E+00	2.10E-01	0.00E+00	2.10E-01	No TRV	No TRV	no	no	No TRV
2,6-Dinitrotoluene	1.06E-01	1.90E-04	2.51E-06	0.00E+00	2.51E-06	No TRV	No TRV	no	no	No TRV
2-Amino-4,6-dinitrotoluen	1.40E+00	1.00E+00	1.75E-01	0.00E+00	1.75E-01	No TRV	No TRV	No Kow	no	No TRV
4-Amino-2,6-dinitrotoluen	1.14E+00	1.00E+00	1.42E-01	0.00E+00	1.42E-01	No TRV	No TRV	No Kow	no	No TRV
4-Nitrotoluene	2.26E-01	1.00E+00	2.83E-02	0.00E+00	2.83E-02	No TRV	No TRV	no	no	No TRV
HMX	1.87E+00	1.00E+00	2.34E-01	0.00E+00	2.34E-01	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	2.06E+01	1.00E+00	2.57E+00	0.00E+00	2.57E+00	No TRV	No TRV	No Kow	no	No TRV
RDX	4.17E+00	1.00E+00	5.21E-01	0.00E+00	5.21E-01	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB										
Endrin aldehyde	9.46E-02	2.90E+00	3.43E-02	0.00E+00	3.43E-02	No TRV	No TRV	no	no	No TRV
Heptachlor	1.69E-02	2.90E+00	6.13E-03	0.00E+00	6.13E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	8.88E+00	2.90E+00	3.22E+00	0.00E+00	3.22E+00	1.80E-02	1.79E+02	yes	yes	33.17%
gamma-Chlordane	3.19E-02	2.90E+00	1.16E-02	0.00E+00	1.16E-02	No TRV	No TRV	yes	yes	No TRV
						HI =	5.39E+02			

AUF_{prey} = Area use factor = 1.0
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
HQ = Hazard quotient
nd= not detected, na= not applicable

Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard index (Sum of HQs)

Appendix Table S-67. CB14, CB-17, and CA-15 Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals													
Aluminum	1.99E+04	5.00E+01	3.98E+02	yes	no	yes	8.90%	No TRV	No TRV	yes	no	no	No TRV
Arsenic	2.14E+01	1.00E+01	2.14E+00	yes	no	yes	0.05%	6.00E+01	3.57E-01	no	no	no	0.49%
Barium	1.35E+02	5.00E+02	2.70E-01	no	no	no	0.01%	No TRV	No TRV	yes	no	no	No TRV
Cadmium	2.07E+00	4.00E+00	5.18E-01	no	yes	yes	0.01%	2.00E+01	1.04E-01	no	yes	yes	0.14%
Calcium	3.50E+04	No TRV	No TRV	yes	No BAF	no	No TRV	No TRV	No TRV	yes	No BAF	no	No TRV
Chromium	2.76E+01	1.00E+00	2.76E+01	yes	no	yes	0.62%	4.00E-01	6.90E+01	yes	no	yes	95.08%
Cobalt	1.46E+01	2.00E+01	7.32E-01	no	no	no	0.02%	No TRV	No TRV	yes	no	no	No TRV
Copper	4.93E+01	1.00E+02	4.93E-01	no	no	no	0.01%	6.00E+01	8.21E-01	no	no	no	1.13%
Cyanide	1.11E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Iron	4.02E+04	1.00E+01	4.02E+03	yes	no	yes	89.75%	No TRV	No TRV	yes	no	no	No TRV
Lead	1.11E+02	5.00E+01	2.22E+00	yes	yes	yes	0.05%	5.00E+02	2.22E-01	no	yes	yes	0.31%
Magnesium	6.00E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Manganese	1.18E+03	5.00E+02	2.36E+00	yes	no	yes	0.05%	No TRV	No TRV	yes	no	no	No TRV
Mercury	8.14E-02	3.00E-01	2.71E-01	no	yes	yes	0.01%	1.00E-01	8.14E-01	no	yes	yes	1.12%
Nickel	3.18E+01	3.00E+01	1.06E+00	yes	no	yes	0.02%	2.00E+02	1.59E-01	no	no	no	0.22%
Potassium	2.17E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Sodium	3.55E+02	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Thallium	9.12E-01	1.00E+00	9.12E-01	no	no	no	0.02%	No TRV	No TRV	yes	no	no	No TRV
Vanadium	3.50E+01	2.00E+00	1.75E+01	yes	no	yes	0.39%	No TRV	No TRV	yes	no	no	No TRV
Zinc	2.19E+02	5.00E+01	4.37E+00	yes	yes	yes	0.10%	2.00E+02	1.09E+00	yes	yes	yes	1.51%
Organics-Semivolatile													
Anthracene	1.60E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)anthracene	6.40E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(a)pyrene	8.22E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(b)fluoranthene	1.10E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(g,h,i)perylene	6.10E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Benzo(k)fluoranthene	3.00E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.40E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Carbazole	1.10E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Chrysene	6.40E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Di-n-butyl phthalate	7.20E-01	2.00E+02	3.60E-03	no	yes	yes	0.00%	No TRV	No TRV	yes	yes	yes	No TRV
Dibenzo(a,h)anthracene	1.80E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Dibenzofuran	4.50E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV

Appendix Table S-67. CB14, CB-17, and CA-15 Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Fluoranthene	1.40E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluorene	5.70E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Phenanthrene	6.48E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Pyrene	1.00E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Organics-Volatile													
Methylene chloride	2.10E-03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Organics-Pesticide/PCB													
Endrin aldehyde	3.00E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Endrin ketone	4.10E-03	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Methoxychlor	3.70E-03	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
PCB-1254	4.70E+00	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
alpha-Chlordane	4.90E-03	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
gamma-Chlordane	1.30E-01	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Explosives													
2,4,6-Trinitrotoluene	4.50E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
4-Amino-2,6-dinitrotoluene	5.41E-01	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
HMX	2.31E+00	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
Nitrocellulose	8.60E+01	No TRV	No TRV	yes	No Kow	no	No TRV	No TRV	No TRV	yes	No Kow	no	No TRV
RDX	2.85E+01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
		HI =	4.47E+03					HI =	7.25E+01				

RME = Reasonable maximum exposure
TRV = toxicity reference value
HQ = Hazard quotient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard Index (Sum of HQs)
[a]Plant TRV reference from Efroymson et al. (1997a)
[b]Earthworm TRV reference from Efroymson et al. (1997b)
Kow = octanol/water partition coefficient

Appendix Table S-68. CB14, CB-17, and CA-15 Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.99E+04	8.00E-04	1.30E+00	7.50E-02	1.85E+02	8.36E+01	2.70E+02	2.09E+00	1.29E+02	no	yes	30.08%
Arsenic	2.14E+01	8.00E-03	1.25E-02	6.60E-03	6.88E-02	1.56E+00	1.64E+00	1.36E-01	1.20E+01	no	yes	2.80%
Barium	1.35E+02	3.00E-02	2.95E-01	7.50E-03	4.94E-01	9.84E+00	1.06E+01	1.07E+01	9.96E-01	no	no	0.23%
Cadmium	2.07E+00	1.10E-01	1.66E-02	1.10E+01	1.11E+01	1.51E-01	1.13E+01	1.93E+00	5.85E+00	yes	yes	1.36%
Calcium	3.50E+04	7.00E-01	1.78E+03	1.00E+00	1.70E+04	2.55E+03	2.14E+04	No TRV	No TRV	No BAF	no	No TRV
Chromium	2.76E+01	1.50E-03	3.01E-03	1.60E-01	2.15E+00	2.01E+00	4.16E+00	5.47E+03	7.61E-04	no	no	0.00%
Cobalt	1.46E+01	4.00E-03	4.26E-03	1.00E+00	7.13E+00	1.07E+00	8.20E+00	No TRV	No TRV	no	no	No TRV
Copper	4.93E+01	8.00E-02	2.87E-01	1.60E-01	3.84E+00	3.59E+00	7.71E+00	3.04E+01	2.54E-01	no	no	0.06%
Cyanide	1.11E+00	1.00E+00	8.07E-02	0.00E+00	0.00E+00	8.07E-02	1.61E-01	1.29E+02	1.25E-03	no	no	0.00%
Iron	4.02E+04	8.00E-04	2.34E+00	1.00E+00	1.96E+04	2.92E+03	2.25E+04	No TRV	No TRV	no	no	No TRV
Lead	1.11E+02	9.00E-03	7.26E-02	2.00E+00	1.08E+02	8.07E+00	1.16E+02	1.60E+01	7.27E+00	yes	yes	1.69%
Magnesium	6.00E+03	2.00E-01	8.73E+01	1.00E+00	2.92E+03	4.37E+02	3.45E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.18E+03	5.00E-02	4.29E+00	2.00E-02	1.15E+01	8.58E+01	1.02E+02	1.76E+02	5.78E-01	no	no	0.13%
Mercury	8.14E-02	1.80E-01	1.07E-03	3.40E-01	1.35E-02	5.92E-03	2.05E-02	2.62E+00	7.80E-03	yes	yes	0.00%
Nickel	3.18E+01	1.20E-02	2.78E-02	2.30E-01	3.56E+00	2.32E+00	5.91E+00	7.99E+01	7.40E-02	no	no	0.02%
Potassium	2.17E+03	2.00E-01	3.16E+01	1.00E+00	1.06E+03	1.58E+02	1.25E+03	No TRV	No TRV	no	no	No TRV
Sodium	3.55E+02	1.50E-02	3.88E-01	1.00E+00	1.73E+02	2.59E+01	1.99E+02	No TRV	No TRV	no	no	No TRV
Thallium	9.12E-01	8.00E-04	5.31E-05	1.00E+00	4.44E-01	6.64E-02	5.10E-01	1.49E-02	3.42E+01	no	yes	7.94%
Vanadium	3.50E+01	1.10E-03	2.80E-03	1.30E-01	2.22E+00	2.55E+00	4.76E+00	3.89E-01	1.22E+01	no	yes	2.84%
Zinc	2.19E+02	3.00E-01	4.77E+00	1.80E+00	1.92E+02	1.59E+01	2.12E+02	3.20E+02	6.64E-01	yes	yes	0.15%
Organics-Semivolatile												
Anthracene	1.60E-01	2.00E-02	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.40E-01	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	8.22E-01	2.60E-03	1.55E-04	5.00E-02	2.00E-02	5.98E-02	8.00E-02	1.08E+00	7.40E-02	yes	yes	0.02%
Benzo(b)fluoranthene	1.10E+00	2.30E-03	1.84E-04	5.00E-02	2.68E-02	8.01E-02	1.07E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	6.10E-01	1.20E-03	5.33E-05	5.00E-02	1.49E-02	4.44E-02	5.93E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	3.00E-01	2.30E-03	5.02E-05	5.00E-02	7.31E-03	2.18E-02	2.92E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.40E-01	8.70E-03	8.87E-05	5.00E-02	3.41E-03	1.02E-02	1.37E-02	1.98E+01	6.92E-04	yes	yes	0.00%
Carbazole	1.10E-01	2.00E-02	1.60E-04	5.00E-02	2.68E-03	8.01E-03	1.08E-02	No TRV	No TRV	no	no	No TRV
Chrysene	6.40E-01	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	7.20E-01	7.60E-03	3.98E-04	5.00E-02	1.75E-02	5.24E-02	7.04E-02	5.94E+02	1.18E-04	yes	yes	0.00%
Dibenzo(a,h)anthracene	1.80E-01	1.40E-03	1.83E-05	5.00E-02	4.38E-03	1.31E-02	1.75E-02	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	4.50E-02	2.00E-02	6.55E-05	5.00E-02	1.10E-03	3.28E-03	4.44E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.40E+00	2.00E-02	2.04E-03	5.00E-02	3.41E-02	1.02E-01	1.38E-01	No TRV	No TRV	yes	yes	No TRV
Fluorene	5.70E-02	2.00E-02	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03	4.95E+00	1.14E-03	yes	yes	0.00%
Phenanthrene	6.48E-01	2.00E-02	9.44E-04	5.00E-02	1.58E-02	4.72E-02	6.39E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.00E+00	6.70E-03	4.88E-04	5.00E-02	2.44E-02	7.28E-02	9.76E-02	9.23E+02	1.06E-04	yes	yes	0.00%

Appendix Table S-68. CB14, CB-17, and CA-15 Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Organics-Volatile												
Methylene chloride	2.10E-03	2.00E-02	3.06E-06	5.00E-02	5.12E-05	1.53E-04	2.07E-04	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
Endrin aldehyde	3.00E-01	2.00E-02	4.37E-04	1.90E+00	2.78E-01	2.18E-02	3.00E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	4.10E-03	2.00E-02	5.97E-06	1.90E+00	3.80E-03	2.98E-04	4.10E-03	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	3.70E-03	2.00E-02	5.39E-06	5.70E-01	1.03E-03	2.69E-04	1.30E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.70E+00	3.80E-01	1.30E-01	5.80E+00	1.33E+01	3.42E-01	1.38E+01	6.07E-02	2.26E+02	yes	yes	52.62%
alpha-Chlordane	4.90E-03	5.10E-03	1.82E-06	1.60E+00	3.82E-03	3.57E-04	4.18E-03	4.95E+00	8.44E-04	yes	yes	0.00%
gamma-Chlordane	1.30E-01	5.10E-03	4.83E-05	1.60E+00	1.01E-01	9.46E-03	1.11E-01	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	4.50E+00	1.00E+00	3.28E-01	1.00E+00	2.19E+00	3.28E-01	2.85E+00	1.46E+01	1.95E-01	no	no	0.05%
4-Amino-2,6-dinitrotoluene	5.41E-01	1.00E+00	3.94E-02	1.00E+00	2.64E-01	3.94E-02	3.42E-01	No TRV	No TRV	No Kow	no	No TRV
HMX	2.31E+00	1.00E+00	1.68E-01	1.00E+00	1.12E+00	1.68E-01	1.46E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	8.60E+01	1.00E+00	6.26E+00	1.00E+00	4.19E+01	6.26E+00	5.44E+01	No TRV	No TRV	No Kow	no	No TRV
RDX	2.85E+01	1.00E+00	2.08E+00	1.00E+00	1.39E+01	2.08E+00	1.81E+01	No TRV	No TRV	no	no	No TRV
								HI =	4.30E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for deer mice = 0.0819
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for deer mice = 0.1239
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for deer mice = 0.0042
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV). For metals, is the BAF>2 and for organics is the $K_O \geq 4$
HI = Hazard index

Appendix Table S-69. CB14, CB-17, and CA-15 Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPv	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.99E+04	8.00E-04	8.18E-03	7.50E-02	0.00E+00	2.05E-01	2.13E-01	2.93E-01	7.26E-01	no	no	82.99%
Arsenic	2.14E+01	8.00E-03	8.80E-05	6.60E-03	0.00E+00	2.20E-04	3.08E-04	1.91E-02	1.61E-02	no	no	1.84%
Barium	1.35E+02	3.00E-02	2.08E-03	7.50E-03	0.00E+00	1.39E-03	3.47E-03	1.50E+00	2.32E-03	no	no	0.26%
Cadmium	2.07E+00	1.10E-01	1.17E-04	1.10E+01	0.00E+00	2.13E-05	1.38E-04	2.71E-01	5.12E-04	yes	yes	0.06%
Calcium	3.50E+04	7.00E-01	1.26E+01	1.00E+00	0.00E+00	3.59E-01	1.29E+01	No TRV	No TRV	no	no	No TRV
Chromium	2.76E+01	1.50E-03	2.13E-05	1.60E-01	0.00E+00	2.83E-04	3.05E-04	7.68E+02	3.97E-07	no	no	0.00%
Cobalt	1.46E+01	4.00E-03	3.01E-05	1.00E+00	0.00E+00	1.50E-04	1.80E-04	No TRV	No TRV	no	no	No TRV
Copper	4.93E+01	8.00E-02	2.02E-03	1.60E-01	0.00E+00	5.06E-04	2.53E-03	4.27E+00	5.92E-04	no	no	0.07%
Cyanide	1.11E+00	1.00E+00	5.70E-04	0.00E+00	0.00E+00	1.14E-05	5.81E-04	1.81E+01	3.21E-05	no	no	0.00%
Iron	4.02E+04	8.00E-04	1.65E-02	1.00E+00	0.00E+00	4.13E-01	4.29E-01	No TRV	No TRV	no	no	No TRV
Lead	1.11E+02	9.00E-03	5.12E-04	2.00E+00	0.00E+00	1.14E-03	1.65E-03	2.24E+00	7.35E-04	yes	yes	0.08%
Magnesium	6.00E+03	2.00E-01	6.16E-01	1.00E+00	0.00E+00	6.16E-02	6.78E-01	No TRV	No TRV	no	no	No TRV
Manganese	1.18E+03	5.00E-02	3.03E-02	2.00E-02	0.00E+00	1.21E-02	4.24E-02	2.47E+01	1.72E-03	no	no	0.20%
Mercury	8.14E-02	1.80E-01	7.52E-06	3.40E-01	0.00E+00	8.36E-07	8.36E-06	3.68E-01	2.27E-05	yes	yes	0.00%
Nickel	3.18E+01	1.20E-02	1.96E-04	2.30E-01	0.00E+00	3.27E-04	5.23E-04	1.12E+01	4.66E-05	no	no	0.01%
Potassium	2.17E+03	2.00E-01	2.23E-01	1.00E+00	0.00E+00	2.23E-02	2.45E-01	No TRV	No TRV	no	no	No TRV
Sodium	3.55E+02	1.50E-02	2.74E-03	1.00E+00	0.00E+00	3.65E-03	6.39E-03	No TRV	No TRV	no	no	No TRV
Thallium	9.12E-01	8.00E-04	3.75E-07	1.00E+00	0.00E+00	9.37E-06	9.74E-06	2.10E-03	4.64E-03	no	no	0.53%
Vanadium	3.50E+01	1.10E-03	1.98E-05	1.30E-01	0.00E+00	3.59E-04	3.79E-04	5.47E-02	6.93E-03	no	no	0.79%
Zinc	2.19E+02	3.00E-01	3.37E-02	1.80E+00	0.00E+00	2.24E-03	3.59E-02	4.49E+01	8.00E-04	yes	yes	0.09%
Organics-Semivolatil												
Anthracene	1.60E-01	2.00E-02	1.64E-06	5.00E-02	0.00E+00	1.64E-06	3.29E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.40E-01	3.90E-03	1.28E-06	5.00E-02	0.00E+00	6.58E-06	7.86E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	8.22E-01	2.60E-03	1.10E-06	5.00E-02	0.00E+00	8.44E-06	9.54E-06	1.52E-01	6.28E-05	yes	yes	0.01%
Benzo(b)fluoranthene	1.10E+00	2.30E-03	1.30E-06	5.00E-02	0.00E+00	1.13E-05	1.26E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	6.10E-01	1.20E-03	3.76E-07	5.00E-02	0.00E+00	6.27E-06	6.64E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	3.00E-01	2.30E-03	3.54E-07	5.00E-02	0.00E+00	3.08E-06	3.44E-06	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.40E-01	8.70E-03	6.26E-07	5.00E-02	0.00E+00	1.44E-06	2.06E-06	2.78E+00	7.43E-07	yes	yes	0.00%
Carbazole	1.10E-01	2.00E-02	1.13E-06	5.00E-02	0.00E+00	1.13E-06	2.26E-06	No TRV	No TRV	no	no	No TRV
Chrysene	6.40E-01	3.90E-03	1.28E-06	5.00E-02	0.00E+00	6.58E-06	7.86E-06	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	7.20E-01	7.60E-03	2.81E-06	5.00E-02	0.00E+00	7.40E-06	1.02E-05	8.35E+01	1.22E-07	yes	yes	0.00%
Dibenzo(a,h)anthracene	1.80E-01	1.40E-03	1.29E-07	5.00E-02	0.00E+00	1.85E-06	1.98E-06	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	4.50E-02	2.00E-02	4.62E-07	5.00E-02	0.00E+00	4.62E-07	9.25E-07	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.40E+00	2.00E-02	1.44E-05	5.00E-02	0.00E+00	1.44E-05	2.88E-05	No TRV	No TRV	yes	yes	No TRV
Fluorene	5.70E-02	2.00E-02	5.86E-07	5.00E-02	0.00E+00	5.86E-07	1.17E-06	6.95E-01	1.68E-06	yes	yes	0.00%
Phenanthrene	6.48E-01	2.00E-02	6.66E-06	5.00E-02	0.00E+00	6.66E-06	1.33E-05	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.00E+00	6.70E-03	3.44E-06	5.00E-02	0.00E+00	1.03E-05	1.37E-05	1.30E+02	1.06E-07	yes	yes	0.00%
Organics-Volatil												
Methylene chloride	2.10E-03	2.00E-02	2.16E-08	5.00E-02	0.00E+00	2.16E-08	4.32E-08	No TRV	No TRV	no	no	No TRV

Appendix Table S-69. CB14, CB-17, and CA-15 Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	**RME Concentration** (mg/kg)	**SPv**	**ADD_P** (mg/kgBW/d) RME x SP_v x I_P x AUF	**BAF_i**	**ADD_A** (mg/kgBW/d) RME x BAF_i x I_A x AUF	**ADD_S** (mg/kgBW/d) RME x I_S x AUF	**ADD_{total}** (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	**TRV** (mg/kgBW/d)	**Site HQ** ADD_{total} / TRV	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Organics-Pesticide/PCB												
Endrin aldehyde	3.00E-01	2.00E-02	3.08E-06	1.90E+00	0.00E+00	3.08E-06	6.16E-06	No TRV	No TRV	no	no	No TRV
Endrin ketone	4.10E-03	2.00E-02	4.21E-08	1.90E+00	0.00E+00	4.21E-08	8.42E-08	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	3.70E-03	2.00E-02	3.80E-08	5.70E-01	0.00E+00	3.80E-08	7.60E-08	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.70E+00	3.80E-01	9.17E-04	5.80E+00	0.00E+00	4.83E-05	9.66E-04	8.53E-03	1.13E-01	yes	yes	12.94%
alpha-Chlordane	4.90E-03	5.10E-03	1.28E-08	1.60E+00	0.00E+00	5.03E-08	6.32E-08	6.95E-01	9.09E-08	yes	yes	0.00%
gamma-Chlordane	1.30E-01	5.10E-03	3.41E-07	1.60E+00	0.00E+00	1.34E-06	1.68E-06	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	4.50E+00	1.00E+00	2.31E-03	1.00E+00	0.00E+00	4.62E-05	2.36E-03	2.05E+00	1.15E-03	no	no	0.13%
4-Amino-2,6-dinitrotoluene	5.41E-01	1.00E+00	2.78E-04	1.00E+00	0.00E+00	5.56E-06	2.83E-04	No TRV	No TRV	No Kow	no	No TRV
HMX	2.31E+00	1.00E+00	1.19E-03	1.00E+00	0.00E+00	2.37E-05	1.21E-03	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	8.60E+01	1.00E+00	4.42E-02	1.00E+00	0.00E+00	8.83E-04	4.50E-02	No TRV	No TRV	No Kow	no	No TRV
RDX	2.85E+01	1.00E+00	1.47E-02	1.00E+00	0.00E+00	2.93E-04	1.50E-02	No TRV	No TRV	no	no	No TRV
								HI =	8.75E-01			

EU = Exposure Unit

RME = Reasonable maximum exposure

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for white-tailed deer = 0.031

ADD_P = Average daily dose; plant

AUF = Area use factor 1.66E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = Animal ingestion rate for white-tailed deer = 0.00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = Soil ingestion rate for white-tailed deer = 0.00062

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

nd= not detected, na= not applicable

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-70. CB14, CB-17, and CA-15 Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.99E+04	8.00E-04	1.16E+00	7.50E-02	7.28E+02	1.45E+03	2.18E+03	2.22E+00	9.79E+02	no	yes	77.63%
Arsenic	2.14E+01	8.00E-03	1.25E-02	6.60E-03	6.88E-02	1.56E+00	1.64E+00	1.45E-01	1.13E+01	no	yes	0.90%
Barium	1.35E+02	3.00E-02	2.95E-01	7.50E-03	4.94E-01	9.84E+00	1.06E+01	1.14E+01	9.34E-01	no	no	0.07%
Cadmium	2.07E+00	1.10E-01	1.66E-02	1.10E+01	1.11E+01	1.51E-01	1.13E+01	2.05E+00	5.49E+00	yes	yes	0.44%
Calcium	3.50E+04	7.00E-01	1.78E+03	1.00E+00	1.70E+04	2.55E+03	2.14E+04	No TRV	No TRV	no	no	No TRV
Chromium	2.76E+01	1.50E-03	3.01E-03	1.60E-01	2.15E+00	2.01E+00	4.16E+00	5.83E+03	7.14E-04	no	no	0.00%
Cobalt	1.46E+01	4.00E-03	4.26E-03	1.00E+00	7.13E+00	1.07E+00	8.20E+00	No TRV	No TRV	no	no	No TRV
Copper	4.93E+01	8.00E-02	2.87E-01	1.60E-01	3.84E+00	3.59E+00	7.71E+00	3.24E+01	2.38E-01	no	no	0.02%
Cyanide	1.11E+00	1.00E+00	8.07E-02	0.00E+00	0.00E+00	8.07E-02	1.61E-01	1.38E+02	1.17E-03	no	no	0.00%
Iron	4.02E+04	8.00E-04	2.34E+00	1.00E+00	1.96E+04	2.92E+03	2.25E+04	No TRV	No TRV	no	no	No TRV
Lead	1.11E+02	9.00E-03	7.26E-02	2.00E+00	1.08E+02	8.07E+00	1.16E+02	1.70E+01	6.81E+00	yes	yes	0.54%
Magnesium	6.00E+03	2.00E-01	8.73E+01	1.00E+00	2.92E+03	4.37E+02	3.45E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.18E+03	5.00E-02	4.29E+00	2.00E-02	1.15E+01	8.58E+01	1.02E+02	1.87E+02	5.42E-01	no	no	0.04%
Mercury	8.14E-02	1.80E-01	1.07E-03	3.40E-01	1.35E-02	5.92E-03	2.05E-02	2.80E+00	7.32E-03	yes	yes	0.00%
Nickel	3.18E+01	1.20E-02	2.78E-02	2.30E-01	3.56E+00	2.32E+00	5.91E+00	8.52E+01	6.93E-02	no	no	0.01%
Potassium	2.17E+03	2.00E-01	3.16E+01	1.00E+00	1.06E+03	1.58E+02	1.25E+03	No TRV	No TRV	no	no	No TRV
Sodium	3.55E+02	1.50E-02	3.88E-01	1.00E+00	1.73E+02	2.59E+01	1.99E+02	No TRV	No TRV	no	no	No TRV
Thallium	9.12E-01	8.00E-04	5.31E-05	1.00E+00	4.44E-01	6.64E-02	5.10E-01	1.59E-02	3.20E+01	no	yes	2.54%
Vanadium	3.50E+01	1.10E-03	2.80E-03	1.30E-01	2.22E+00	2.55E+00	4.76E+00	4.15E-01	1.15E+01	no	yes	0.91%
Zinc	2.19E+02	3.00E-01	4.77E+00	1.80E+00	1.92E+02	1.59E+01	2.12E+02	3.41E+02	6.23E-01	yes	yes	0.05%
Organics-Semivolatile												
Anthracene	1.60E-01	2.00E-02	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.40E-01	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	8.22E-01	2.60E-03	1.55E-04	5.00E-02	2.00E-02	5.98E-02	8.00E-02	1.15E+00	6.94E-02	yes	yes	0.01%
Benzo(b)fluoranthene	1.10E+00	2.30E-03	1.84E-04	5.00E-02	2.68E-02	8.01E-02	1.07E-01	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	6.10E-01	1.20E-03	5.33E-05	5.00E-02	1.49E-02	4.44E-02	5.93E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	3.00E-01	2.30E-03	5.02E-05	5.00E-02	7.31E-03	2.18E-02	2.92E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.40E-01	8.70E-03	8.87E-05	5.00E-02	3.41E-03	1.02E-02	1.37E-02	2.11E+01	6.49E-04	yes	yes	0.00%
Carbazole	1.10E-01	2.00E-02	1.60E-04	5.00E-02	2.68E-03	8.01E-03	1.08E-02	No TRV	No TRV	no	no	No TRV
Chrysene	6.40E-01	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	7.20E-01	7.60E-03	3.98E-04	5.00E-02	1.75E-02	5.24E-02	7.04E-02	6.34E+02	1.11E-04	yes	yes	0.00%
Dibenzo(a,h)anthracene	1.80E-01	1.40E-03	1.83E-05	5.00E-02	4.38E-03	1.31E-02	1.75E-02	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	4.50E-02	2.00E-02	6.55E-05	5.00E-02	1.10E-03	3.28E-03	4.44E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.40E+00	2.00E-02	2.04E-03	5.00E-02	3.41E-02	1.02E-01	1.38E-01	No TRV	No TRV	yes	yes	No TRV
Fluorene	5.70E-02	2.00E-02	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03	5.28E+00	1.06E-03	yes	yes	0.00%
Phenanthrene	6.48E-01	2.00E-02	9.44E-04	5.00E-02	1.58E-02	4.72E-02	6.39E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.00E+00	6.70E-03	4.88E-04	5.00E-02	2.44E-02	7.28E-02	9.76E-02	9.85E+02	9.91E-05	yes	yes	0.00%

Appendix Table S-70. CB14, CB-17, and CA-15 Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Organics-Volatile												
Methylene chloride	2.10E-03	2.00E-02	3.06E-06	5.00E-02	5.12E-05	1.53E-04	2.07E-04	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
Endrin aldehyde	3.00E-01	2.00E-02	4.37E-04	1.90E+00	2.78E-01	2.18E-02	3.00E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	4.10E-03	2.00E-02	5.97E-06	1.90E+00	3.80E-03	2.98E-04	4.10E-03	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	3.70E-03	2.00E-02	5.39E-06	5.70E-01	1.03E-03	2.69E-04	1.30E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.70E+00	3.80E-01	1.30E-01	5.80E+00	1.33E+01	3.42E-01	1.38E+01	6.48E-02	2.12E+02	yes	yes	16.83%
alpha-Chlordane	4.90E-03	5.10E-03	1.82E-06	1.60E+00	3.82E-03	3.57E-04	4.18E-03	5.28E+00	7.92E-04	yes	yes	0.00%
gamma-Chlordane	1.30E-01	5.10E-03	4.83E-05	1.60E+00	1.01E-01	9.46E-03	1.11E-01	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	4.50E+00	1.00E+00	3.28E-01	1.00E+00	2.19E+00	3.28E-01	2.85E+00	1.56E+01	1.83E-01	no	no	0.01%
4-Amino-2,6-dinitrotoluene	5.41E-01	1.00E+00	3.94E-02	1.00E+00	2.64E-01	3.94E-02	3.42E-01	No TRV	No TRV	No Kow	no	No TRV
HMX	2.31E+00	1.00E+00	1.68E-01	1.00E+00	1.12E+00	1.68E-01	1.46E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	8.60E+01	1.00E+00	6.26E+00	1.00E+00	4.19E+01	6.26E+00	5.44E+01	No TRV	No TRV	No Kow	no	No TRV
RDX	2.85E+01	1.00E+00	2.08E+00	1.00E+00	1.39E+01	2.08E+00	1.81E+01	No TRV	No TRV	no	no	No TRV
								HI =	1.26E+03			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for shrew = 0.073
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-71. CB14, CB-17, and CA-15 Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.99E+04	1.30E-04	1.97E+00	7.50E-02	1.13E+03	2.36E+02	1.37E+03	1.10E+02	1.25E+01	no	yes	3.24%
Arsenic	2.14E+01	1.20E-03	1.95E-02	6.60E-03	1.07E-01	2.23E-02	1.49E-01	5.14E+00	2.91E-02	no	no	0.01%
Barium	1.35E+02	3.00E-03	3.08E-01	7.50E-03	7.70E-01	1.60E-01	1.24E+00	2.08E+01	5.95E-02	no	no	0.02%
Cadmium	2.07E+00	3.00E-02	4.73E-02	1.10E+01	1.73E+01	3.60E+00	2.10E+01	1.45E+00	1.45E+01	yes	yes	3.75%
Calcium	3.50E+04	7.00E-02	1.86E+03	1.00E+00	2.66E+04	5.53E+03	3.40E+04	No TRV	No TRV	no	no	No TRV
Chromium	2.76E+01	9.00E-04	1.89E-02	1.60E-01	3.35E+00	6.98E-01	4.07E+00	1.00E+00	4.07E+00	no	yes	1.05%
Cobalt	1.46E+01	1.40E-03	1.56E-02	1.00E+00	1.11E+01	2.31E+00	1.34E+01	No TRV	No TRV	no	no	No TRV
Copper	4.93E+01	5.00E-02	1.87E+00	1.60E-01	5.99E+00	1.25E+00	9.11E+00	4.70E+01	1.94E-01	no	no	0.05%
Cyanide	1.11E+00	1.00E+00	8.43E-01	0.00E+00	0.00E+00	0.00E+00	8.43E-01	No TRV	No TRV	no	no	No TRV
Iron	4.02E+04	2.00E-04	6.10E+00	1.00E+00	3.05E+04	6.35E+03	3.69E+04	No TRV	No TRV	no	no	No TRV
Lead	1.11E+02	1.80E-03	1.52E-01	2.00E+00	1.68E+02	3.50E+01	2.04E+02	1.13E+00	1.80E+02	yes	yes	46.68%
Magnesium	6.00E+03	1.10E-01	5.01E+02	1.00E+00	4.56E+03	9.48E+02	6.01E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.18E+03	1.00E-02	8.96E+00	2.00E-02	1.79E+01	3.73E+00	3.06E+01	9.77E+02	3.13E-02	no	no	0.01%
Mercury	8.14E-02	4.00E-02	2.47E-03	3.40E-01	2.10E-02	4.37E-03	2.79E-02	4.50E-01	6.19E-02	yes	yes	0.02%
Nickel	3.18E+01	1.20E-02	2.90E-01	2.30E-01	5.56E+00	1.16E+00	7.01E+00	7.74E+01	9.05E-02	no	no	0.02%
Potassium	2.17E+03	1.10E-01	1.82E+02	1.00E+00	1.65E+03	3.43E+02	2.18E+03	No TRV	No TRV	no	no	No TRV
Sodium	3.55E+02	1.10E-02	2.97E+00	1.00E+00	2.70E+02	5.62E+01	3.29E+02	No TRV	No TRV	no	no	No TRV
Thallium	9.12E-01	8.00E-05	5.54E-05	1.00E+00	6.93E-01	1.44E-01	8.37E-01	No TRV	No TRV	no	no	No TRV
Vanadium	3.50E+01	6.00E-04	1.60E-02	1.30E-01	3.46E+00	7.19E-01	4.19E+00	1.14E+01	3.68E-01	no	no	0.10%
Zinc	2.19E+02	1.80E-01	2.99E+01	1.80E+00	2.99E+02	6.22E+01	3.91E+02	1.45E+01	2.70E+01	yes	yes	6.99%
Organics-Semivolatile												
Anthracene	1.60E-01	2.00E-02	2.43E-03	5.00E-02	6.08E-03	1.26E-03	9.78E-03	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	6.40E-01	3.90E-03	1.90E-03	5.00E-02	2.43E-02	5.06E-03	3.13E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	8.22E-01	2.60E-03	1.62E-03	5.00E-02	3.12E-02	6.49E-03	3.93E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	1.10E+00	2.30E-03	1.92E-03	5.00E-02	4.18E-02	8.69E-03	5.24E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	6.10E-01	1.20E-03	5.56E-04	5.00E-02	2.32E-02	4.82E-03	2.86E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	3.00E-01	2.30E-03	5.24E-04	5.00E-02	1.14E-02	2.37E-03	1.43E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	1.40E-01	8.70E-03	9.26E-04	5.00E-02	5.32E-03	1.11E-03	7.35E-03	1.10E+00	6.68E-03	yes	yes	0.00%
Carbazole	1.10E-01	2.00E-02	1.67E-03	5.00E-02	4.18E-03	8.69E-04	6.72E-03	No TRV	No TRV	no	no	No TRV
Chrysene	6.40E-01	3.90E-03	1.90E-03	5.00E-02	2.43E-02	5.06E-03	3.13E-02	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	7.20E-01	7.60E-03	4.16E-03	5.00E-02	2.74E-02	5.69E-03	3.72E-02	1.11E-01	3.35E-01	yes	yes	0.09%
Dibenzo(a,h)anthracene	1.80E-01	1.40E-03	1.92E-04	5.00E-02	6.84E-03	1.42E-03	8.45E-03	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	4.50E-02	2.00E-02	6.84E-04	5.00E-02	1.71E-03	3.56E-04	2.75E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.40E+00	2.00E-02	2.13E-02	5.00E-02	5.32E-02	1.11E-02	8.55E-02	No TRV	No TRV	yes	yes	No TRV
Fluorene	5.70E-02	2.00E-02	8.66E-04	5.00E-02	2.17E-03	4.51E-04	3.48E-03	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	6.48E-01	2.00E-02	9.86E-03	5.00E-02	2.46E-02	5.12E-03	3.96E-02	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.00E+00	6.70E-03	5.09E-03	5.00E-02	3.80E-02	7.90E-03	5.10E-02	No TRV	No TRV	yes	yes	No TRV

Appendix Table S-71. CB14, CB-17, and CA-15 Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Organics-Volatile												
Methylene chloride	2.10E-03	2.00E-02	3.19E-05	5.00E-02	7.98E-05	1.66E-05	1.28E-04	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB												
Endrin aldehyde	3.00E-01	2.00E-02	4.56E-03	1.90E+00	4.33E-01	9.01E-02	5.28E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	4.10E-03	2.00E-02	6.23E-05	1.90E+00	5.92E-03	1.23E-03	7.21E-03	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	3.70E-03	2.00E-02	5.62E-05	5.70E-01	1.60E-03	3.33E-04	1.99E-03	No TRV	No TRV	yes	yes	No TRV
PCB-1254	4.70E+00	3.80E-01	1.36E+00	5.80E+00	2.07E+01	4.31E+00	2.64E+01	1.80E-01	1.47E+02	yes	yes	37.98%
alpha-Chlordane	4.90E-03	5.10E-03	1.90E-05	1.60E+00	5.96E-03	1.24E-03	7.22E-03	2.14E+00	3.37E-03	yes	yes	0.00%
gamma-Chlordane	1.30E-01	5.10E-03	5.04E-04	1.60E+00	1.58E-01	3.29E-02	1.91E-01	No TRV	No TRV	yes	yes	No TRV
Explosives												
2,4,6-Trinitrotoluene	4.50E+00	1.00E+00	3.42E+00	1.00E+00	3.42E+00	7.11E-01	7.55E+00	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	5.41E-01	1.00E+00	4.11E-01	1.00E+00	4.11E-01	8.55E-02	9.08E-01	No TRV	No TRV	No Kow	no	No TRV
HMX	2.31E+00	1.00E+00	1.75E+00	1.00E+00	1.75E+00	3.65E-01	3.87E+00	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	8.60E+01	1.00E+00	6.53E+01	1.00E+00	6.53E+01	1.36E+01	1.44E+02	No TRV	No TRV	No Kow	no	No TRV
RDX	2.85E+01	1.00E+00	2.17E+01	1.00E+00	2.17E+01	4.51E+00	4.79E+01	No TRV	No TRV	no	no	No TRV
								HI =	3.86E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for robins = 0.76
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for robins = 0.76
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for robins = 0.158
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-72. CB-14, CB-17, and CA-15 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals									
Aluminum	1.99E+04	1.30E-04	4.00E-05	8.00E-04	1.16E+00	7.50E-02	7.28E+02	1.45E+03	2.18E+03
Arsenic	2.14E+01	1.20E-03	3.97E-07	8.00E-03	1.25E-02	6.60E-03	6.88E-02	1.56E+00	1.64E+00
Barium	1.35E+02	3.00E-03	6.26E-06	3.00E-02	2.95E-01	7.50E-03	4.94E-01	9.84E+00	1.06E+01
Cadmium	2.07E+00	3.00E-02	9.61E-07	1.10E-01	1.66E-02	1.10E+01	1.11E+01	1.51E-01	1.13E+01
Calcium	3.50E+04	7.00E-02	3.78E-02	7.00E-01	1.78E+03	1.00E+00	1.70E+04	2.55E+03	2.14E+04
Chromium	2.76E+01	9.00E-04	3.84E-07	1.50E-03	3.01E-03	1.60E-01	2.15E+00	2.01E+00	4.16E+00
Cobalt	1.46E+01	1.40E-03	3.17E-07	4.00E-03	4.26E-03	1.00E+00	7.13E+00	1.07E+00	8.20E+00
Copper	4.93E+01	5.00E-02	3.81E-05	8.00E-02	2.87E-01	1.60E-01	3.84E+00	3.59E+00	7.71E+00
Cyanide	1.11E+00	1.00E+00	1.71E-05	1.00E+00	8.07E-02	0.00E+00	0.00E+00	8.07E-02	1.61E-01
Iron	4.02E+04	2.00E-04	1.24E-04	8.00E-04	2.34E+00	1.00E+00	1.96E+04	2.92E+03	2.25E+04
Lead	1.11E+02	1.80E-03	3.08E-06	9.00E-03	7.26E-02	2.00E+00	1.08E+02	8.07E+00	1.16E+02
Magnesium	6.00E+03	1.10E-01	1.02E-02	2.00E-01	8.73E+01	1.00E+00	2.92E+03	4.37E+02	3.45E+03
Manganese	1.18E+03	1.00E-02	1.82E-04	5.00E-02	4.29E+00	2.00E-02	1.15E+01	8.58E+01	1.02E+02
Mercury	8.14E-02	4.00E-02	5.03E-08	1.80E-01	1.07E-03	3.40E-01	1.35E-02	5.92E-03	2.05E-02
Nickel	3.18E+01	1.20E-02	5.90E-06	1.20E-02	2.78E-02	2.30E-01	3.56E+00	2.32E+00	5.91E+00
Potassium	2.17E+03	1.10E-01	3.69E-03	2.00E-01	3.16E+01	1.00E+00	1.06E+03	1.58E+02	1.25E+03
Sodium	3.55E+02	1.10E-02	6.04E-05	1.50E-02	3.88E-01	1.00E+00	1.73E+02	2.59E+01	1.99E+02
Thallium	9.12E-01	8.00E-05	1.13E-09	8.00E-04	5.31E-05	1.00E+00	4.44E-01	6.64E-02	5.10E-01
Vanadium	3.50E+01	6.00E-04	3.24E-07	1.10E-03	2.80E-03	1.30E-01	2.22E+00	2.55E+00	4.76E+00
Zinc	2.19E+02	1.80E-01	6.08E-04	3.00E-01	4.77E+00	1.80E+00	1.92E+02	1.59E+01	2.12E+02
Organics-Semivolatile									
Anthracene	1.60E-01	2.00E-02	4.95E-08	2.00E-02	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02
Benzo(a)anthracene	6.40E-01	3.90E-03	3.86E-08	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02
Benzo(a)pyrene	8.22E-01	2.60E-03	3.30E-08	2.60E-03	1.55E-04	5.00E-02	2.00E-02	5.98E-02	8.00E-02
Benzo(b)fluoranthene	1.10E+00	2.30E-03	3.91E-08	2.30E-03	1.84E-04	5.00E-02	2.68E-02	8.01E-02	1.07E-01
Benzo(g,h,i)perylene	6.10E-01	1.20E-03	1.13E-08	1.20E-03	5.33E-05	5.00E-02	1.49E-02	4.44E-02	5.93E-02
Benzo(k)fluoranthene	3.00E-01	2.30E-03	1.07E-08	2.30E-03	5.02E-05	5.00E-02	7.31E-03	2.18E-02	2.92E-02
Bis(2-ethylhexyl)phthalate	1.40E-01	8.70E-03	1.88E-08	8.70E-03	8.87E-05	5.00E-02	3.41E-03	1.02E-02	1.37E-02
Carbazole	1.10E-01	2.00E-02	3.40E-08	2.00E-02	1.60E-04	5.00E-02	2.68E-03	8.01E-03	1.08E-02
Chrysene	6.40E-01	3.90E-03	3.86E-08	3.90E-03	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02
Di-n-butyl phthalate	7.20E-01	7.60E-03	8.46E-08	7.60E-03	3.98E-04	5.00E-02	1.75E-02	5.24E-02	7.04E-02
Dibenzo(a,h)anthracene	1.80E-01	1.40E-03	3.90E-09	1.40E-03	1.83E-05	5.00E-02	4.38E-03	1.31E-02	1.75E-02
Dibenzofuran	4.50E-02	2.00E-02	1.39E-08	2.00E-02	6.55E-05	5.00E-02	1.10E-03	3.28E-03	4.44E-03
Fluoranthene	1.40E+00	2.00E-02	4.33E-07	2.00E-02	2.04E-03	5.00E-02	3.41E-02	1.02E-01	1.38E-01
Fluorene	5.70E-02	2.00E-02	1.76E-08	2.00E-02	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03
Phenanthrene	6.48E-01	2.00E-02	2.00E-07	2.00E-02	9.44E-04	5.00E-02	1.58E-02	4.72E-02	6.39E-02
Pyrene	1.00E+00	6.70E-03	1.04E-07	6.70E-03	4.88E-04	5.00E-02	2.44E-02	7.28E-02	9.76E-02

Appendix Table S-72. CB-14, CB-17, and CA-15 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Organics-Volatile									
Methylene chloride	2.10E-03	2.00E-02	6.49E-10	2.00E-02	3.06E-06	5.00E-02	5.12E-05	1.53E-04	2.07E-04
Organics-Pesticide/PCB									
Endrin aldehyde	3.00E-01	2.00E-02	9.27E-08	2.00E-02	4.37E-04	1.90E+00	2.78E-01	2.18E-02	3.00E-01
Endrin ketone	4.10E-03	2.00E-02	1.27E-09	2.00E-02	5.97E-06	1.90E+00	3.80E-03	2.98E-04	4.10E-03
Methoxychlor	3.70E-03	2.00E-02	1.14E-09	2.00E-02	5.39E-06	5.70E-01	1.03E-03	2.69E-04	1.30E-03
PCB-1254	4.70E+00	3.80E-01	2.76E-05	3.80E-01	1.30E-01	5.80E+00	1.33E+01	3.42E-01	1.38E+01
alpha-Chlordane	4.90E-03	5.10E-03	3.86E-10	5.10E-03	1.82E-06	1.60E+00	3.82E-03	3.57E-04	4.18E-03
gamma-Chlordane	1.30E-01	5.10E-03	1.02E-08	5.10E-03	4.83E-05	1.60E+00	1.01E-01	9.46E-03	1.11E-01
Explosives									
2,4,6-Trinitrotoluene	4.50E+00	1.00E+00	6.96E-05	1.00E+00	3.28E-01	1.00E+00	2.19E+00	3.28E-01	2.85E+00
4-Amino-2,6-dinitrotoluene	5.41E-01	1.00E+00	8.36E-06	1.00E+00	3.94E-02	1.00E+00	2.64E-01	3.94E-02	3.42E-01
HMX	2.31E+00	1.00E+00	3.57E-05	1.00E+00	1.68E-01	1.00E+00	1.12E+00	1.68E-01	1.46E+00
Nitrocellulose	8.60E+01	1.00E+00	1.33E-03	1.00E+00	6.26E+00	1.00E+00	4.19E+01	6.26E+00	5.44E+01
RDX	2.85E+01	1.00E+00	4.41E-04	1.00E+00	2.08E+00	1.00E+00	1.39E+01	2.08E+00	1.81E+01

Appendix Table S-72. CB-14, CB-17, and CA-15 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) RME $\times$ $I_S \times$ AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	3.89E+03	7.50E-02	9.35E-02	1.87E-01	2.81E-01	5.46E-01	5.15E-01	no	no	25.01%
Arsenic	2.93E+00	1.00E-01	9.39E-05	2.01E-04	2.96E-04	3.56E-02	8.30E-03	no	no	0.40%
Barium	1.90E+01	7.50E-03	4.56E-05	1.27E-03	1.32E-03	2.79E+00	4.74E-04	no	no	0.02%
Cadmium	2.01E+01	2.80E-02	1.81E-04	1.95E-05	2.01E-04	5.04E-01	3.99E-04	yes	yes	0.02%
Calcium	3.81E+04	1.00E+00	1.22E+01	3.29E-01	1.26E+01	No TRV	No TRV	No BAF	no	No TRV
Chromium	7.43E+00	2.80E-01	6.67E-04	2.59E-04	9.27E-04	1.43E+03	6.48E-07	no	no	0.00%
Cobalt	1.46E+01	1.00E+00	4.69E-03	1.38E-04	4.83E-03	No TRV	No TRV	no	no	No TRV
Copper	1.38E+01	5.00E-01	2.21E-03	4.63E-04	2.71E-03	7.96E+00	3.40E-04	no	no	0.02%
Cyanide	2.88E-01	0.00E+00	0.00E+00	1.04E-05	2.76E-05	3.37E+01	8.17E-07	no	no	0.00%
Iron	4.02E+04	1.00E+00	1.29E+01	3.78E-01	1.33E+01	No TRV	No TRV	no	no	No TRV
Lead	2.07E+02	1.50E-02	9.97E-04	1.04E-03	2.04E-03	4.18E+00	4.88E-04	yes	yes	0.02%
Magnesium	6.15E+03	1.00E+00	1.97E+00	5.64E-02	2.04E+00	No TRV	No TRV	no	no	No TRV
Manganese	1.81E+02	2.00E-02	1.16E-03	1.11E-02	1.24E-02	4.60E+01	2.70E-04	no	no	0.01%
Mercury	3.65E-02	1.30E+01	1.52E-04	7.66E-07	1.53E-04	6.86E-01	2.23E-04	yes	yes	0.01%
Nickel	1.06E+01	3.00E-01	1.01E-03	2.99E-04	1.32E-03	2.09E+01	6.31E-05	no	no	0.00%
Potassium	2.23E+03	1.00E+00	7.14E-01	2.04E-02	7.39E-01	No TRV	No TRV	no	no	No TRV
Sodium	3.56E+02	1.00E+00	1.14E-01	3.34E-03	1.18E-01	No TRV	No TRV	no	no	No TRV
Thallium	9.12E-01	1.00E+00	2.92E-04	8.58E-06	3.01E-04	3.91E-03	7.70E-02	no	no	3.74%
Vanadium	8.51E+00	1.30E-01	3.55E-04	3.29E-04	6.84E-04	1.02E-01	6.71E-03	no	no	0.33%
Zinc	3.79E+02	5.00E+00	6.08E-01	2.06E-03	6.10E-01	8.36E+01	7.30E-03	yes	yes	0.35%
Organics-Semivolatile										
Anthracene	2.82E-02	4.80E-02	4.34E-07	1.51E-06	1.99E-06	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.11E-01	7.60E-01	2.71E-05	6.02E-06	3.32E-05	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.43E-01	1.50E+00	6.87E-05	7.73E-06	7.64E-05	2.83E-01	2.70E-04	yes	yes	0.01%
Benzo(b)fluoranthene	1.91E-01	1.90E+00	1.16E-04	1.03E-05	1.27E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	1.06E-01	6.00E+00	2.04E-04	5.74E-06	2.10E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.21E-02	1.90E+00	3.18E-05	2.82E-06	3.46E-05	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	2.44E-02	1.90E-01	1.49E-06	1.32E-06	2.83E-06	5.18E+00	5.46E-07	yes	yes	0.00%
Carbazole	1.94E-02	8.70E-03	5.40E-08	1.03E-06	1.12E-06	No TRV	No TRV	no	no	No TRV
Chrysene	1.11E-01	7.60E-01	2.71E-05	6.02E-06	3.32E-05	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	1.26E-01	2.40E-01	9.67E-06	6.77E-06	1.65E-05	1.56E+02	1.06E-07	yes	yes	0.00%
Dibenzo(a,h)anthracene	3.13E-02	4.80E+00	4.81E-05	1.69E-06	4.98E-05	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	7.92E-03	1.90E-02	4.83E-08	4.23E-07	4.86E-07	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	2.47E-01	1.30E-01	1.03E-05	1.32E-05	2.39E-05	No TRV	No TRV	yes	yes	No TRV
Fluorene	1.00E-02	2.40E-02	7.72E-08	5.36E-07	6.31E-07	1.30E+00	4.87E-07	yes	yes	0.00%
Phenanthrene	1.14E-01	4.80E-02	1.76E-06	6.10E-06	8.06E-06	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.74E-01	3.00E-01	1.68E-05	9.41E-06	2.63E-05	2.42E+02	1.09E-07	yes	yes	0.00%

Appendix Table S-72. CB-14, CB-17, and CA-15 Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) $RME \times I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Volatile										
Methylene chloride	3.70E-04	3.00E-05	3.56E-12	1.98E-08	2.04E-08	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB										
Endrin aldehyde	5.36E-01	2.90E+00	4.98E-04	2.82E-06	5.01E-04	No TRV	No TRV	no	no	No TRV
Endrin ketone	7.32E-03	2.90E+00	6.81E-06	3.86E-08	6.85E-06	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	2.33E-03	2.90E+00	2.16E-06	3.48E-08	2.20E-06	No TRV	No TRV	yes	yes	No TRV
PCB-1254	2.46E+01	2.90E+00	2.28E-02	4.42E-05	2.29E-02	1.59E-02	1.44E+00	yes	yes	70.02%
alpha-Chlordane	7.46E-03	2.90E+00	6.94E-06	4.61E-08	6.98E-06	1.30E+00	5.39E-06	yes	yes	0.00%
gamma-Chlordane	1.98E-01	2.90E+00	1.84E-04	1.22E-06	1.85E-04	No TRV	No TRV	yes	yes	No TRV
Explosives										
2,4,6-Trinitrotoluene	5.09E+00	1.00E+00	1.63E-03	4.23E-05	1.74E-03	3.82E+00	4.56E-04	no	no	0.02%
4-Amino-2,6-dinitrotoluene	6.11E-01	1.00E+00	1.96E-04	5.09E-06	2.09E-04	No TRV	No TRV	No Kow	no	No TRV
HMX	2.61E+00	1.00E+00	8.36E-04	2.17E-05	8.93E-04	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	9.71E+01	1.00E+00	3.11E-02	8.09E-04	3.33E-02	No TRV	No TRV	No Kow	no	No TRV
RDX	3.23E+01	1.00E+00	1.03E-02	2.69E-04	1.10E-02	No TRV	No TRV	no	no	No TRV
						HI =	2.06E+00			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for red foxes = 0.00317
ADD_P = Average daily dose; plant
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728
AUF = Area use factor = 0.00487
AUF_{prey} = Area use factor = 1.0
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
Cs (mg/kg) = Concentration in the prey

IR_f = Ingestion rate of food for shrews
BAF_v = Animal-to-animal; vertebrates
I_A (kg/kgBW/d) = Animal ingestion rate for red foxes = 0.0658
I_S (kg/kgBW/d) = Soil ingestion rate for red foxes = 0.00193
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
HQ = Hazard quotient
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds
(bioaccumulation factor greater than 2 for inorganics,
and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard index (Sum of HQs)

Appendix Table S-73. CB-14, CB-17, and CA-15 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x $SP_v x$ I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x $SP_v x$ I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x $BAF_i x$ $I_{A-s} x$ AUF-s	Prey ADD_S (mg/kgBW/d) RME x $I_{S-s} x$ AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals								
Aluminum	1.99E+04	8.00E-04	0.00E+00	1.16E+00	7.50E-02	7.28E+02	1.45E+03	2.18E+03
Arsenic	2.14E+01	8.00E-03	0.00E+00	1.25E-02	6.60E-03	6.88E-02	1.56E+00	1.64E+00
Barium	1.35E+02	3.00E-02	0.00E+00	2.95E-01	7.50E-03	4.94E-01	9.84E+00	1.06E+01
Cadmium	2.07E+00	1.10E-01	0.00E+00	1.66E-02	1.10E+01	1.11E+01	1.51E-01	1.13E+01
Calcium	3.50E+04	7.00E-01	0.00E+00	1.78E+03	1.00E+00	1.70E+04	2.55E+03	2.14E+04
Chromium	2.76E+01	1.50E-03	0.00E+00	3.01E-03	1.60E-01	2.15E+00	2.01E+00	4.16E+00
Cobalt	1.46E+01	4.00E-03	0.00E+00	4.26E-03	1.00E+00	7.13E+00	1.07E+00	8.20E+00
Copper	4.93E+01	8.00E-02	0.00E+00	2.87E-01	1.60E-01	3.84E+00	3.59E+00	7.71E+00
Cyanide	1.11E+00	1.00E+00	0.00E+00	8.07E-02	0.00E+00	0.00E+00	8.07E-02	1.61E-01
Iron	4.02E+04	8.00E-04	0.00E+00	2.34E+00	1.00E+00	1.96E+04	2.92E+03	2.25E+04
Lead	1.11E+02	9.00E-03	0.00E+00	7.26E-02	2.00E+00	1.08E+02	8.07E+00	1.16E+02
Magnesium	6.00E+03	2.00E-01	0.00E+00	8.73E+01	1.00E+00	2.92E+03	4.37E+02	3.45E+03
Manganese	1.18E+03	5.00E-02	0.00E+00	4.29E+00	2.00E-02	1.15E+01	8.58E+01	1.02E+02
Mercury	8.14E-02	1.80E-01	0.00E+00	1.07E-03	3.40E-01	1.35E-02	5.92E-03	2.05E-02
Nickel	3.18E+01	1.20E-02	0.00E+00	2.78E-02	2.30E-01	3.56E+00	2.32E+00	5.91E+00
Potassium	2.17E+03	2.00E-01	0.00E+00	3.16E+01	1.00E+00	1.06E+03	1.58E+02	1.25E+03
Sodium	3.55E+02	1.50E-02	0.00E+00	3.88E-01	1.00E+00	1.73E+02	2.59E+01	1.99E+02
Thallium	9.12E-01	8.00E-04	0.00E+00	5.31E-05	1.00E+00	4.44E-01	6.64E-02	5.10E-01
Vanadium	3.50E+01	1.10E-03	0.00E+00	2.80E-03	1.30E-01	2.22E+00	2.55E+00	4.76E+00
Zinc	2.19E+02	3.00E-01	0.00E+00	4.77E+00	1.80E+00	1.92E+02	1.59E+01	2.12E+02
Organics-Semivolatil								
Anthracene	1.60E-01	2.00E-02	0.00E+00	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02
Benzo(a)anthracene	6.40E-01	3.90E-03	0.00E+00	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02
Benzo(a)pyrene	8.22E-01	2.60E-03	0.00E+00	1.55E-04	5.00E-02	2.00E-02	5.98E-02	8.00E-02
Benzo(b)fluoranthene	1.10E+00	2.30E-03	0.00E+00	1.84E-04	5.00E-02	2.68E-02	8.01E-02	1.07E-01
Benzo(g,h,i)perylene	6.10E-01	1.20E-03	0.00E+00	5.33E-05	5.00E-02	1.49E-02	4.44E-02	5.93E-02
Benzo(k)fluoranthene	3.00E-01	2.30E-03	0.00E+00	5.02E-05	5.00E-02	7.31E-03	2.18E-02	2.92E-02
Bis(2-ethylhexyl)phthalate	1.40E-01	8.70E-03	0.00E+00	8.87E-05	5.00E-02	3.41E-03	1.02E-02	1.37E-02
Carbazole	1.10E-01	2.00E-02	0.00E+00	1.60E-04	5.00E-02	2.68E-03	8.01E-03	1.08E-02
Chrysene	6.40E-01	3.90E-03	0.00E+00	1.82E-04	5.00E-02	1.56E-02	4.66E-02	6.24E-02
Di-n-butyl phthalate	7.20E-01	7.60E-03	0.00E+00	3.98E-04	5.00E-02	1.75E-02	5.24E-02	7.04E-02
Dibenzo(a,h)anthracene	1.80E-01	1.40E-03	0.00E+00	1.83E-05	5.00E-02	4.38E-03	1.31E-02	1.75E-02
Dibenzofuran	4.50E-02	2.00E-02	0.00E+00	6.55E-05	5.00E-02	1.10E-03	3.28E-03	4.44E-03
Fluoranthene	1.40E+00	2.00E-02	0.00E+00	2.04E-03	5.00E-02	3.41E-02	1.02E-01	1.38E-01
Fluorene	5.70E-02	2.00E-02	0.00E+00	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03
Phenanthrene	6.48E-01	2.00E-02	0.00E+00	9.44E-04	5.00E-02	1.58E-02	4.72E-02	6.39E-02
Pyrene	1.00E+00	6.70E-03	0.00E+00	4.88E-04	5.00E-02	2.44E-02	7.28E-02	9.76E-02

Appendix Table S-73. CB-14, CB-17, and CA-15 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x $SP_v x$ I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x $SP_v x$ I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x $BAF_i x$ $I_{A-s} x$ AUF-s	Prey ADD_S (mg/kgBW/d) RME x $I_{S-s} x$ AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Organics-Volatile								
Methylene chloride	2.10E-03	2.00E-02	0.00E+00	3.06E-06	5.00E-02	5.12E-05	1.53E-04	2.07E-04
Organics-Pesticide/PCB								
Endrin aldehyde	3.00E-01	2.00E-02	0.00E+00	4.37E-04	1.90E+00	2.78E-01	2.18E-02	3.00E-01
Endrin ketone	4.10E-03	2.00E-02	0.00E+00	5.97E-06	1.90E+00	3.80E-03	2.98E-04	4.10E-03
Methoxychlor	3.70E-03	2.00E-02	0.00E+00	5.39E-06	5.70E-01	1.03E-03	2.69E-04	1.30E-03
PCB-1254	4.70E+00	3.80E-01	0.00E+00	1.30E-01	5.80E+00	1.33E+01	3.42E-01	1.38E+01
alpha-Chlordane	4.90E-03	5.10E-03	0.00E+00	1.82E-06	1.60E+00	3.82E-03	3.57E-04	4.18E-03
gamma-Chlordane	1.30E-01	5.10E-03	0.00E+00	4.83E-05	1.60E+00	1.01E-01	9.46E-03	1.11E-01
Explosives								
2,4,6-Trinitrotoluene	4.50E+00	1.00E+00	0.00E+00	3.28E-01	1.00E+00	2.19E+00	3.28E-01	2.85E+00
4-Amino-2,6-dinitrotoluene	5.41E-01	1.00E+00	0.00E+00	3.94E-02	1.00E+00	2.64E-01	3.94E-02	3.42E-01
HMX	2.31E+00	1.00E+00	0.00E+00	1.68E-01	1.00E+00	1.12E+00	1.68E-01	1.46E+00
Nitrocellulose	8.60E+01	1.00E+00	0.00E+00	6.26E+00	1.00E+00	4.19E+01	6.26E+00	5.44E+01
RDX	2.85E+01	1.00E+00	0.00E+00	2.08E+00	1.00E+00	1.39E+01	2.08E+00	1.81E+01

EU = Exposure Unit

aTRV adjusted by 0.1 for Threatened and Endangered Species

RME = Reasonable maximum exposure

SP_r = Soil-to-plant; reproductive

SP_v = Soil-to-plant; vegetative

I_P (kg/kgBW/d) = Plant ingestion rate for barn owl = 0.00

ADD_P = Average daily dose; plant

Cs (mg/kg) = Concentration in the prey

IR_f (kg/kgBW/d)= Ingestion rate of food for shrews = 0.56

BAF_v = Animal-to-mammal

I_A (kg/kgBW/d) = Animal ingestion rate for barn owl = 0.125

I_S (kg/kgBW/d) = Soil ingestion rate for barn owl = 0.00

I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728

AUF = Area use factor = 1.0

AUF_{prey} = Area use factor = 1.0

Appendix Table S-73. CB-14, CB-17, and CA-15 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) $RME \times I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	3.89E+03	7.50E-02	3.65E+01	0.00E+00	3.65E+01	1.10E+01	3.32E+00	no	yes	0.50%
Arsenic	2.93E+00	1.00E-01	3.66E-02	0.00E+00	3.66E-02	5.14E-01	7.13E-02	no	no	0.01%
Barium	1.90E+01	7.50E-03	1.78E-02	0.00E+00	1.78E-02	2.08E+00	8.54E-03	no	no	0.00%
Cadmium	2.01E+01	2.80E-02	7.05E-02	0.00E+00	7.05E-02	1.45E-01	4.86E-01	yes	yes	0.07%
Calcium	3.81E+04	1.00E+00	4.77E+03	0.00E+00	4.77E+03	No TRV	No TRV	No BAF	no	No TRV
Chromium	7.43E+00	2.80E-01	2.60E-01	0.00E+00	2.60E-01	1.00E-01	2.60E+00	no	yes	0.39%
Cobalt	1.46E+01	1.00E+00	1.83E+00	0.00E+00	1.83E+00	No TRV	No TRV	no	no	No TRV
Copper	1.38E+01	5.00E-01	8.61E-01	0.00E+00	8.61E-01	4.70E+00	1.83E-01	no	no	0.03%
Cyanide	2.88E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	no	no	No TRV
Iron	4.02E+04	1.00E+00	5.02E+03	0.00E+00	5.02E+03	No TRV	No TRV	no	no	No TRV
Lead	2.07E+02	1.50E-02	3.89E-01	0.00E+00	3.89E-01	1.13E-01	3.44E+00	yes	yes	0.51%
Magnesium	6.15E+03	1.00E+00	7.69E+02	0.00E+00	7.69E+02	No TRV	No TRV	no	no	No TRV
Manganese	1.81E+02	2.00E-02	4.54E-01	0.00E+00	4.54E-01	9.77E+01	4.64E-03	no	no	0.00%
Mercury	3.65E-02	1.30E+01	5.94E-02	0.00E+00	5.94E-02	4.50E-02	1.32E+00	yes	yes	0.20%
Nickel	1.06E+01	3.00E-01	3.96E-01	0.00E+00	3.96E-01	7.74E+00	5.11E-02	no	no	0.01%
Potassium	2.23E+03	1.00E+00	2.79E+02	0.00E+00	2.79E+02	No TRV	No TRV	no	no	No TRV
Sodium	3.56E+02	1.00E+00	4.45E+01	0.00E+00	4.45E+01	No TRV	No TRV	no	no	No TRV
Thallium	9.12E-01	1.00E+00	1.14E-01	0.00E+00	1.14E-01	No TRV	No TRV	no	no	No TRV
Vanadium	8.51E+00	1.30E-01	1.38E-01	0.00E+00	1.38E-01	1.14E+00	1.21E-01	no	no	0.02%
Zinc	3.79E+02	5.00E+00	2.37E+02	0.00E+00	2.37E+02	1.45E+00	1.64E+02	yes	yes	24.40%
Organics-Semivolatil										
Anthracene	2.82E-02	4.80E-02	1.69E-04	0.00E+00	1.69E-04	No TRV	No TRV	yes	yes	No TRV
Benzo(a)anthracene	1.11E-01	7.60E-01	1.06E-02	0.00E+00	1.06E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(a)pyrene	1.43E-01	1.50E+00	2.68E-02	0.00E+00	2.68E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(b)fluoranthene	1.91E-01	1.90E+00	4.54E-02	0.00E+00	4.54E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(g,h,i)perylene	1.06E-01	6.00E+00	7.94E-02	0.00E+00	7.94E-02	No TRV	No TRV	yes	yes	No TRV
Benzo(k)fluoranthene	5.21E-02	1.90E+00	1.24E-02	0.00E+00	1.24E-02	No TRV	No TRV	yes	yes	No TRV
Bis(2-ethylhexyl)phthalate	2.44E-02	1.90E-01	5.81E-04	0.00E+00	5.81E-04	1.10E-01	5.28E-03	yes	yes	0.00%
Carbazole	1.94E-02	8.70E-03	2.11E-05	0.00E+00	2.11E-05	No TRV	No TRV	no	no	No TRV
Chrysene	1.11E-01	7.60E-01	1.06E-02	0.00E+00	1.06E-02	No TRV	No TRV	yes	yes	No TRV
Di-n-butyl phthalate	1.26E-01	2.40E-01	3.77E-03	0.00E+00	3.77E-03	1.11E-02	3.40E-01	yes	yes	0.05%
Dibenzo(a,h)anthracene	3.13E-02	4.80E+00	1.88E-02	0.00E+00	1.88E-02	No TRV	No TRV	yes	yes	No TRV
Dibenzofuran	7.92E-03	1.90E-02	1.88E-05	0.00E+00	1.88E-05	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	2.47E-01	1.30E-01	4.01E-03	0.00E+00	4.01E-03	No TRV	No TRV	yes	yes	No TRV
Fluorene	1.00E-02	2.40E-02	3.01E-05	0.00E+00	3.01E-05	No TRV	No TRV	yes	yes	No TRV
Phenanthrene	1.14E-01	4.80E-02	6.85E-04	0.00E+00	6.85E-04	No TRV	No TRV	yes	yes	No TRV
Pyrene	1.74E-01	3.00E-01	6.54E-03	0.00E+00	6.54E-03	No TRV	No TRV	yes	yes	No TRV

Appendix Table S-73. CB-14, CB-17, and CA-15 Surface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) Cs *x* BAF_v *x* I_A *x* AUF	ADD_S (mg/kgBW/d) RME *x* I_S *x* AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Organics-Volatile										
Methylene chloride	3.70E-04	3.00E-05	1.39E-09	0.00E+00	1.39E-09	No TRV	No TRV	no	no	No TRV
Organics-Pesticide/PCB										
Endrin aldehyde	5.36E-01	2.90E+00	1.94E-01	0.00E+00	1.94E-01	No TRV	No TRV	no	no	No TRV
Endrin ketone	7.32E-03	2.90E+00	2.65E-03	0.00E+00	2.65E-03	No TRV	No TRV	No Kow	no	No TRV
Methoxychlor	2.33E-03	2.90E+00	8.43E-04	0.00E+00	8.43E-04	No TRV	No TRV	yes	yes	No TRV
PCB-1254	2.46E+01	2.90E+00	8.90E+00	0.00E+00	8.90E+00	1.80E-02	4.95E+02	yes	yes	73.81%
alpha-Chlordane	7.46E-03	2.90E+00	2.70E-03	0.00E+00	2.70E-03	2.14E-01	1.26E-02	yes	yes	0.00%
gamma-Chlordane	1.98E-01	2.90E+00	7.18E-02	0.00E+00	7.18E-02	No TRV	No TRV	yes	yes	No TRV
Explosives										
2,4,6-Trinitrotoluene	5.09E+00	1.00E+00	6.36E-01	0.00E+00	6.36E-01	No TRV	No TRV	no	no	No TRV
4-Amino-2,6-dinitrotoluene	6.11E-01	1.00E+00	7.64E-02	0.00E+00	7.64E-02	No TRV	No TRV	No Kow	no	No TRV
HMX	2.61E+00	1.00E+00	3.26E-01	0.00E+00	3.26E-01	No TRV	No TRV	No Kow	no	No TRV
Nitrocellulose	9.71E+01	1.00E+00	1.21E+01	0.00E+00	1.21E+01	No TRV	No TRV	No Kow	no	No TRV
RDX	3.23E+01	1.00E+00	4.03E+00	0.00E+00	4.03E+00	No TRV	No TRV	no	no	No TRV
						HI =	6.70E+02			

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487

ADD_S = Average daily dose; soil

I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728

ADD_{total} = Average daily dose; total

TRV (mg/kgBW/d) = toxicity reference value

HQ = Hazard quotient

Kow = octanol/water partition coefficient

PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

HI = Hazard index (Sum of HQs)

Appendix Table S-74. Perimeter Area Surface Soil COPECs for Plant and Earthworms at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

		Plants						Earthworms					
Analytes remaining after the EU specific ESV screen?	**Surface Soil RME Concentrations** (mg/kg)	**Plant TRV[a]** (mg/kg)	**Plant HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**	**Earthworm TRV[b]** (mg/kg)	**Earthworm HQ**	**HQ>1? Yes or No**	**Is analyte a PBT compound?**	**COPEC?**	**%HI HQ / HI x100**
Metals													
Aluminum	1.41E+04	5.00E+01	2.81E+02	yes	no	yes	10.35%	No TRV	No TRV	yes	no	no	No TRV
Arsenic	1.26E+01	1.00E+01	1.26E+00	yes	no	yes	0.05%	6.00E+01	2.09E-01	no	no	no	0.48%
Cadmium	2.71E-01	4.00E+00	6.77E-02	no	yes	yes	0.00%	2.00E+01	1.35E-02	no	yes	yes	0.03%
Calcium	4.22E+03	No TRV	No TRV	yes	No BAF	no	No TRV	No TRV	No TRV	yes	No BAF	no	No TRV
Chromium	1.68E+01	1.00E+00	1.68E+01	yes	no	yes	0.62%	4.00E-01	4.20E+01	yes	no	yes	97.23%
Chromium, hexavalent	1.18E+00	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Cobalt	1.13E+01	2.00E+01	5.66E-01	no	no	no	0.02%	No TRV	No TRV	yes	no	no	No TRV
Cyanide	5.56E-01	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Iron	2.40E+04	1.00E+01	2.40E+03	yes	no	yes	88.23%	No TRV	No TRV	yes	no	no	No TRV
Lead	2.10E+01	5.00E+01	4.20E-01	no	yes	yes	0.02%	5.00E+02	4.20E-02	no	yes	yes	0.10%
Magnesium	1.94E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Manganese	1.41E+03	5.00E+02	2.81E+00	yes	no	yes	0.10%	No TRV	No TRV	yes	no	no	No TRV
Mercury	6.14E-02	3.00E-01	2.05E-01	no	yes	yes	0.01%	1.00E-01	6.14E-01	no	yes	yes	1.42%
Potassium	1.01E+03	No TRV	No TRV	yes	no	no	No TRV	No TRV	No TRV	yes	no	no	No TRV
Selenium	7.90E-01	1.00E+00	7.90E-01	no	no	no	0.03%	7.00E+01	1.13E-02	no	no	no	0.03%
Vanadium	2.88E+01	2.00E+00	1.44E+01	yes	no	yes	0.53%	No TRV	No TRV	yes	no	no	No TRV
Zinc	6.17E+01	5.00E+01	1.23E+00	yes	yes	yes	0.05%	2.00E+02	3.08E-01	no	yes	yes	0.71%
Organics-Semivolatile													
Benzo(b)fluoranthene	4.20E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes	yes	yes	No TRV
Fluoranthene	5.70E-02	No TRV	No TRV	yes	yes	yes	No TRV	No TRV	No TRV	yes		no	No TRV
		HI =	2.72E+03					HI =	4.32E+01				

RME = Reasonable maximum exposure
TRV = toxicity reference value
HQ = Hazard quotient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard Index (Sum of HQs)
[a]Plant TRV reference from Efroymson et al. (1997a)
[b]Earthworm TRV reference from Efroymson et al. (1997b)
Kow = octanol/water partition coefficient

Appendix Table S-75. Perimeter Area Surface Soil COPECs for Deer Mouse at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.41E+04	8.00E-04	9.21E-01	7.50E-02	1.31E+02	5.91E+01	1.91E+02	2.09E+00	9.14E+01	no	yes	81.29%
Arsenic	1.26E+01	8.00E-03	7.31E-03	6.60E-03	4.04E-02	9.14E-01	9.61E-01	1.36E-01	7.06E+00	no	yes	6.28%
Cadmium	2.71E-01	1.10E-01	2.17E-03	1.10E+01	1.45E+00	1.97E-02	1.47E+00	1.93E+00	7.65E-01	yes	yes	0.68%
Calcium	4.22E+03	7.00E-01	2.15E+02	1.00E+00	2.06E+03	3.07E+02	2.58E+03	No TRV	No TRV	No BAF	no	No TRV
Chromium	1.68E+01	1.50E-03	1.83E-03	1.60E-01	1.31E+00	1.22E+00	2.53E+00	5.47E+03	4.64E-04	no	no	0.00%
Chromium, hexavalent	1.18E+00	1.50E-03	1.29E-04	1.60E-01	9.20E-02	8.59E-02	1.78E-01	No TRV	No TRV	no	no	No TRV
Cobalt	1.13E+01	4.00E-03	3.30E-03	1.00E+00	5.52E+00	8.24E-01	6.34E+00	No TRV	No TRV	no	no	No TRV
Cyanide	5.56E-01	1.00E+00	4.04E-02	0.00E+00	0.00E+00	4.04E-02	8.09E-02	1.29E+02	6.27E-04	no	no	0.00%
Iron	2.40E+04	8.00E-04	1.40E+00	1.00E+00	1.17E+04	1.75E+03	1.34E+04	No TRV	No TRV	no	no	No TRV
Lead	2.10E+01	9.00E-03	1.38E-02	2.00E+00	2.05E+01	1.53E+00	2.20E+01	1.60E+01	1.38E+00	yes	yes	1.22%
Magnesium	1.94E+03	2.00E-01	2.83E+01	1.00E+00	9.47E+02	1.41E+02	1.12E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.41E+03	5.00E-02	5.12E+00	2.00E-02	1.37E+01	1.02E+02	1.21E+02	1.76E+02	6.90E-01	no	no	0.61%
Mercury	6.14E-02	1.80E-01	8.04E-04	3.40E-01	1.02E-02	4.47E-03	1.54E-02	2.62E+00	5.88E-03	yes	yes	0.01%
Potassium	1.01E+03	2.00E-01	1.47E+01	1.00E+00	4.94E+02	7.37E+01	5.82E+02	No TRV	No TRV	no	no	No TRV
Selenium	7.90E-01	5.00E-03	2.87E-04	7.60E-01	2.92E-01	5.75E-02	3.50E-01	3.99E-01	8.77E-01	no	no	0.78%
Vanadium	2.88E+01	1.10E-03	2.31E-03	1.30E-01	1.82E+00	2.10E+00	3.92E+00	3.89E-01	1.01E+01	no	yes	8.96%
Zinc	6.17E+01	3.00E-01	1.35E+00	1.80E+00	5.41E+01	4.49E+00	5.99E+01	3.20E+02	1.88E-01	yes	yes	0.17%
Organics-Semivolatile												
Benzo(b)fluoranthene	4.20E-02	2.30E-03	7.03E-06	5.00E-02	1.02E-03	3.06E-03	4.09E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.70E-02	2.00E-02	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03	No TRV	No TRV	yes	yes	No TRV
								HI =	1.12E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for deer mice = 0.0819
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for deer mice = 0.1239
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for deer mice = 0.0042
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
PBT = Persistent, bioaccumulative, and toxic pollutants (If PBT, analyte is retained even if concentration is below ESV). For metals, is the BAF>2 and for organics is the $K_o \geq 4$
HI = Hazard index

Appendix Table S-76. Perimeter Surface Soil COPECs for White-Tailed Deer at the Load Line 1, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPv	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADD_S	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.41E+04	8.00E-04	3.43E-01	7.50E-02	0.00E+00	8.57E+00	8.91E+00	2.93E-01	3.04E+01	no	yes	96.64%
Arsenic	1.26E+01	8.00E-03	3.06E-03	6.60E-03	0.00E+00	7.65E-03	1.07E-02	1.91E-02	5.60E-01	no	no	1.78%
Cadmium	2.71E-01	1.10E-01	9.08E-04	1.10E+01	0.00E+00	1.65E-04	1.07E-03	2.71E-01	3.97E-03	yes	yes	0.01%
Calcium	4.22E+03	7.00E-01	9.00E+01	1.00E+00	0.00E+00	2.57E+00	9.26E+01	No TRV	No TRV	no	no	No TRV
Chromium	1.68E+01	1.50E-03	7.68E-04	1.60E-01	0.00E+00	1.02E-02	1.10E-02	7.68E+02	1.43E-05	no	no	0.00%
Chromium, hexavalent	1.18E+00	1.50E-03	5.39E-05	1.60E-01	0.00E+00	7.19E-04	7.73E-04	No TRV	No TRV	No BAF	no	No TRV
Cobalt	1.13E+01	4.00E-03	1.38E-03	1.00E+00	0.00E+00	6.90E-03	8.28E-03	No TRV	No TRV	no	no	No TRV
Cyanide	5.56E-01	1.00E+00	1.69E-02	0.00E+00	0.00E+00	3.39E-04	1.73E-02	1.81E+01	9.53E-04	no	no	0.00%
Iron	2.40E+04	8.00E-04	5.85E-01	1.00E+00	0.00E+00	1.46E+01	1.52E+01	No TRV	No TRV	no	no	No TRV
Lead	2.10E+01	9.00E-03	5.76E-03	2.00E+00	0.00E+00	1.28E-02	1.86E-02	2.24E+00	8.27E-03	yes	yes	0.03%
Magnesium	1.94E+03	2.00E-01	1.18E+01	1.00E+00	0.00E+00	1.18E+00	1.30E+01	No TRV	No TRV	no	no	No TRV
Manganese	1.41E+03	5.00E-02	2.14E+00	2.00E-02	0.00E+00	8.57E-01	3.00E+00	2.47E+01	1.22E-01	no	no	0.39%
Mercury	6.14E-02	1.80E-01	3.36E-04	3.40E-01	0.00E+00	3.74E-05	3.74E-04	3.68E-01	1.01E-03	yes	yes	0.00%
Potassium	1.01E+03	2.00E-01	6.17E+00	1.00E+00	0.00E+00	6.17E-01	6.79E+00	No TRV	No TRV	no	no	No TRV
Selenium	7.90E-01	5.00E-03	1.20E-04	7.60E-01	0.00E+00	4.81E-04	6.01E-04	5.61E-02	1.07E-02	no	no	0.03%
Vanadium	2.88E+01	1.10E-03	9.65E-04	1.30E-01	0.00E+00	1.75E-02	1.85E-02	5.47E-02	3.39E-01	no	no	1.08%
Zinc	6.17E+01	3.00E-01	5.64E-01	1.80E+00	0.00E+00	3.76E-02	6.01E-01	4.49E+01	1.34E-02	yes	yes	0.04%
Organics-Semivolatil												
Benzo(b)fluoranthene	4.20E-02	2.30E-03	2.94E-06	5.00E-02	0.00E+00	2.56E-05	2.85E-05	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.70E-02	2.00E-02	3.47E-05	5.00E-02	0.00E+00	3.47E-05	6.95E-05	No TRV	No TRV	yes	yes	No TRV
								HI =	3.15E+01			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for white-tailed deer = 0.031
ADD_P = Average daily dose; plant
AUF = Area use factor 9.83E-01
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for white-tailed deer = 0.00
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for white-tailed deer = 0.00062
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-77. Perimeter Area Surface Soil COPECs for Shrew at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.41E+04	8.00E-04	8.19E-01	7.50E-02	5.14E+02	1.02E+03	1.54E+03	2.22E+00	6.91E+02	no	yes	97.23%
Arsenic	1.26E+01	8.00E-03	7.31E-03	6.60E-03	4.04E-02	9.14E-01	9.61E-01	1.45E-01	6.62E+00	no	yes	0.93%
Cadmium	2.71E-01	1.10E-01	2.17E-03	1.10E+01	1.45E+00	1.97E-02	1.47E+00	2.05E+00	7.17E-01	yes	yes	0.10%
Calcium	4.22E+03	7.00E-01	2.15E+02	1.00E+00	2.06E+03	3.07E+02	2.58E+03	No TRV	No TRV	no	no	No TRV
Chromium	1.68E+01	1.50E-03	1.83E-03	1.60E-01	1.31E+00	1.22E+00	2.53E+00	5.83E+03	4.35E-04	no	no	0.00%
Chromium, hexavalent	1.18E+00	1.50E-03	1.29E-04	1.60E-01	9.20E-02	8.59E-02	1.78E-01	No TRV	No TRV	No BAF	no	No TRV
Cobalt	1.13E+01	4.00E-03	3.30E-03	1.00E+00	5.52E+00	8.24E-01	6.34E+00	No TRV	No TRV	no	no	No TRV
Cyanide	5.56E-01	1.00E+00	4.04E-02	0.00E+00	0.00E+00	4.04E-02	8.09E-02	1.38E+02	5.88E-04	no	no	0.00%
Iron	2.40E+04	8.00E-04	1.40E+00	1.00E+00	1.17E+04	1.75E+03	1.34E+04	No TRV	No TRV	no	no	No TRV
Lead	2.10E+01	9.00E-03	1.38E-02	2.00E+00	2.05E+01	1.53E+00	2.20E+01	1.70E+01	1.29E+00	yes	yes	0.18%
Magnesium	1.94E+03	2.00E-01	2.83E+01	1.00E+00	9.47E+02	1.41E+02	1.12E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.41E+03	5.00E-02	5.12E+00	2.00E-02	1.37E+01	1.02E+02	1.21E+02	1.87E+02	6.47E-01	no	no	0.09%
Mercury	6.14E-02	1.80E-01	8.04E-04	3.40E-01	1.02E-02	4.47E-03	1.54E-02	2.80E+00	5.52E-03	yes	yes	0.00%
Potassium	1.01E+03	2.00E-01	1.47E+01	1.00E+00	4.94E+02	7.37E+01	5.82E+02	No TRV	No TRV	no	no	No TRV
Selenium	7.90E-01	5.00E-03	2.87E-04	7.60E-01	2.92E-01	5.75E-02	3.50E-01	4.26E-01	8.22E-01	no	no	0.12%
Vanadium	2.88E+01	1.10E-03	2.31E-03	1.30E-01	1.82E+00	2.10E+00	3.92E+00	4.15E-01	9.45E+00	no	yes	1.33%
Zinc	6.17E+01	3.00E-01	1.35E+00	1.80E+00	5.41E+01	4.49E+00	5.99E+01	3.41E+02	1.76E-01	yes	yes	0.02%
Organics-Semivolatile												
Benzo(b)fluoranthene	4.20E-02	2.30E-03	7.03E-06	5.00E-02	1.02E-03	3.06E-03	4.09E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.70E-02	2.00E-02	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03	No TRV	No TRV	yes	yes	No TRV
								HI =	7.11E+02			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for shrew = 0.073
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-78. Perimeter Area Surface Soil COPECs for Robin at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen	RME Concentration (mg/kg)	SP_r	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	BAF_i	ADD_A (mg/kgBW/d) RME x BAF_i x I_A x AUF	ADD_S (mg/kgBW/d) RME x I_S x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound ?	COPEC?	%HI HQ / HI x100
Metals												
Aluminum	1.41E+04	1.30E-04	1.39E+00	7.50E-02	8.01E+02	1.67E+02	9.70E+02	1.10E+02	8.84E+00	no	yes	15.65%
Arsenic	1.26E+01	1.20E-03	1.14E-02	6.60E-03	6.30E-02	1.31E-02	8.75E-02	5.14E+00	1.70E-02	no	no	0.03%
Cadmium	2.71E-01	3.00E-02	6.18E-03	1.10E+01	2.26E+00	4.71E-01	2.74E+00	1.45E+00	1.89E+00	yes	yes	3.35%
Calcium	4.22E+03	7.00E-02	2.25E+02	1.00E+00	3.21E+03	6.67E+02	4.10E+03	No TRV	No TRV	no	no	No TRV
Chromium	1.68E+01	9.00E-04	1.15E-02	1.60E-01	2.04E+00	4.25E-01	2.48E+00	1.00E+00	2.48E+00	no	yes	4.39%
Chromium, hexavalent	1.18E+00	9.00E-04	8.07E-04	1.60E-01	1.43E-01	2.98E-02	1.74E-01	No TRV	No TRV	No BAF	no	No TRV
Cobalt	1.13E+01	1.40E-03	1.20E-02	1.00E+00	8.60E+00	1.79E+00	1.04E+01	No TRV	No TRV	no	no	No TRV
Cyanide	5.56E-01	1.00E+00	4.22E-01	0.00E+00	0.00E+00	0.00E+00	4.22E-01	No TRV	No TRV	no	no	No TRV
Iron	2.40E+04	2.00E-04	3.64E+00	1.00E+00	1.82E+04	3.79E+03	2.20E+04	No TRV	No TRV	no	no	No TRV
Lead	2.10E+01	1.80E-03	2.87E-02	2.00E+00	3.19E+01	6.64E+00	3.86E+01	1.13E+00	3.41E+01	yes	yes	60.45%
Magnesium	1.94E+03	1.10E-01	1.62E+02	1.00E+00	1.48E+03	3.07E+02	1.95E+03	No TRV	No TRV	no	no	No TRV
Manganese	1.41E+03	1.00E-02	1.07E+01	2.00E-02	2.14E+01	4.45E+00	3.65E+01	9.77E+02	3.74E-02	no	no	0.07%
Mercury	6.14E-02	4.00E-02	1.87E-03	3.40E-01	1.59E-02	3.30E-03	2.10E-02	4.50E-01	4.67E-02	yes	yes	0.08%
Potassium	1.01E+03	1.10E-01	8.47E+01	1.00E+00	7.70E+02	1.60E+02	1.01E+03	No TRV	No TRV	no	no	No TRV
Selenium	7.90E-01	5.00E-03	3.00E-03	7.60E-01	4.56E-01	9.49E-02	5.54E-01	5.00E-01	1.11E+00	no	yes	1.96%
Vanadium	2.88E+01	6.00E-04	1.31E-02	1.30E-01	2.85E+00	5.92E-01	3.45E+00	1.14E+01	3.03E-01	no	no	0.54%
Zinc	6.17E+01	1.80E-01	8.44E+00	1.80E+00	8.44E+01	1.76E+01	1.10E+02	1.45E+01	7.62E+00	yes	yes	13.49%
Organics-Semivolatile												
Benzo(b)fluoranthene	4.20E-02	2.30E-03	7.34E-05	5.00E-02	1.60E-03	3.32E-04	2.00E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	5.70E-02	2.00E-02	8.66E-04	5.00E-02	2.17E-03	4.51E-04	3.48E-03	No TRV	No TRV	yes	yes	No TRV
								HI =	5.65E+01			

EU = Exposure Unit
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
I_P (kg/kgBW/d) = Plant ingestion rate for robins = 0.76
ADD_P = Average daily dose; plant
AUF = Area use factor (1.0)
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_A (kg/kgBW/d) = Animal ingestion rate for robins = 0.76
ADD_S = Average daily dose; soil
I_S (kg/kgBW/d) = Soil ingestion rate for robins = 0.158
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
nd= not detected, na= not applicable
Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound

Appendix Table S-79. Perimeter Area Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SPr	ADD_P (mg/kgBW/d) RME x SP_r x I_P x AUF	SP_v	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-S} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADD_S
Metals									
Aluminum	1.41E+04	1.30E-04	1.68E-03	8.00E-04	8.19E-01	7.50E-02	5.14E+02	1.02E+03	1.54E+03
Arsenic	1.26E+01	1.20E-03	1.38E-05	8.00E-03	7.31E-03	6.60E-03	4.04E-02	9.14E-01	9.61E-01
Cadmium	2.71E-01	3.00E-02	7.45E-06	1.10E-01	2.17E-03	1.10E+01	1.45E+00	1.97E-02	1.47E+00
Calcium	4.22E+03	7.00E-02	2.71E-01	7.00E-01	2.15E+02	1.00E+00	2.06E+03	3.07E+02	2.58E+03
Chromium	1.68E+01	9.00E-04	1.39E-05	1.50E-03	1.83E-03	1.60E-01	1.31E+00	1.22E+00	2.53E+00
Chromium, hexavalent	1.18E+00	9.00E-04	9.74E-07	1.50E-03	1.29E-04	1.60E-01	9.20E-02	8.59E-02	1.78E-01
Cobalt	1.13E+01	1.40E-03	1.45E-05	4.00E-03	3.30E-03	1.00E+00	5.52E+00	8.24E-01	6.34E+00
Cyanide	5.56E-01	1.00E+00	5.10E-04	1.00E+00	4.04E-02	0.00E+00	0.00E+00	4.04E-02	8.09E-02
Iron	2.40E+04	2.00E-04	4.40E-03	8.00E-04	1.40E+00	1.00E+00	1.17E+04	1.75E+03	1.34E+04
Lead	2.10E+01	1.80E-03	3.47E-05	9.00E-03	1.38E-02	2.00E+00	2.05E+01	1.53E+00	2.20E+01
Magnesium	1.94E+03	1.10E-01	1.96E-01	2.00E-01	2.83E+01	1.00E+00	9.47E+02	1.41E+02	1.12E+03
Manganese	1.41E+03	1.00E-02	1.29E-02	5.00E-02	5.12E+00	2.00E-02	1.37E+01	1.02E+02	1.21E+02
Mercury	6.14E-02	4.00E-02	2.25E-06	1.80E-01	8.04E-04	3.40E-01	1.02E-02	4.47E-03	1.54E-02
Potassium	1.01E+03	1.10E-01	1.02E-01	2.00E-01	1.47E+01	1.00E+00	4.94E+02	7.37E+01	5.82E+02
Selenium	7.90E-01	5.00E-03	3.62E-06	5.00E-03	2.87E-04	7.60E-01	2.92E-01	5.75E-02	3.50E-01
Vanadium	2.88E+01	6.00E-04	1.59E-05	1.10E-03	2.31E-03	1.30E-01	1.82E+00	2.10E+00	3.92E+00
Zinc	6.17E+01	1.80E-01	1.02E-02	3.00E-01	1.35E+00	1.80E+00	5.41E+01	4.49E+00	5.99E+01
Organics-Semivolatile									
Benzo(b)fluoranthene	4.20E-02	2.30E-03	8.86E-08	2.30E-03	7.03E-06	5.00E-02	1.02E-03	3.06E-03	4.09E-03
Fluoranthene	5.70E-02	2.00E-02	1.05E-06	2.00E-02	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03

Appendix Table S-79. Perimeter Area Surface Soil COPECs for Red Foxes at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) Cs *x* BAF_v *x* I_A *x* AUF	ADD_S (mg/kgBW/d) RME *x* I_S *x* AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	2.75E+03	7.50E-02	3.92E+00	7.85E+00	1.18E+01	5.46E-01	2.16E+01	no	yes	96.14%
Arsenic	1.72E+00	1.00E-01	3.27E-03	7.01E-03	1.03E-02	3.56E-02	2.89E-01	no	no	1.29%
Cadmium	2.63E+00	2.80E-02	1.40E-03	1.51E-04	1.56E-03	5.04E-01	3.10E-03	yes	yes	0.01%
Calcium	4.61E+03	1.00E+00	8.76E+01	2.36E+00	9.02E+01	No TRV	No TRV	No BAF	no	No TRV
Chromium	4.53E+00	2.80E-01	2.41E-02	9.38E-03	3.35E-02	1.43E+03	2.34E-05	no	no	0.00%
Chromium, hexavalent	3.18E-01	2.80E-01	1.69E-03	6.59E-04	2.35E-03	No TRV	No TRV	no	no	No TRV
Cobalt	1.13E+01	1.00E+00	2.15E-01	6.32E-03	2.22E-01	No TRV	No TRV	no	no	No TRV
Cyanide	1.44E-01	0.00E+00	0.00E+00	3.10E-04	8.20E-04	3.37E+01	2.43E-05	no	no	0.00%
Iron	2.40E+04	1.00E+00	4.56E+02	1.34E+01	4.70E+02	No TRV	No TRV	no	no	No TRV
Lead	3.93E+01	1.50E-02	1.12E-02	1.17E-02	2.30E-02	4.18E+00	5.49E-03	yes	yes	0.02%
Magnesium	1.99E+03	1.00E+00	3.79E+01	1.08E+00	3.92E+01	No TRV	No TRV	no	no	No TRV
Manganese	2.17E+02	2.00E-02	8.24E-02	7.86E-01	8.81E-01	4.60E+01	1.92E-02	no	no	0.09%
Mercury	2.76E-02	1.30E+01	6.82E-03	3.43E-05	6.85E-03	6.86E-01	9.98E-03	yes	yes	0.04%
Potassium	1.04E+03	1.00E+00	1.98E+01	5.66E-01	2.04E+01	No TRV	No TRV	no	no	No TRV
Selenium	6.25E-01	7.50E-01	8.92E-03	4.41E-04	9.37E-03	1.05E-01	8.96E-02	no	no	0.40%
Vanadium	7.01E+00	1.30E-01	1.73E-02	1.61E-02	3.34E-02	1.02E-01	3.28E-01	no	no	1.46%
Zinc	1.07E+02	5.00E+00	1.02E+01	3.44E-02	1.02E+01	8.36E+01	1.22E-01	yes	yes	0.55%
Organics-Semivolatile										
Benzo(b)fluoranthene	7.30E-03	1.90E+00	2.64E-04	2.35E-05	2.87E-04	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.00E-02	1.30E-01	2.48E-05	3.18E-05	5.77E-05	No TRV	No TRV	yes	yes	No TRV
						HI =	2.24E+01			

EU = Exposure Unit
RME = Reasonable maximum exposur
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for red foxes = 0.0031
ADD_P = Average daily dose; plan
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.072
AUF = Area use factor = 0.289
AUF_{prey} = Area use factor = 1.0
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; anima
I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.48
ADD_S = Average daily dose; soi
I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.072
Cs (mg/kg) = Concentration in the prey

IR_f = Ingestion rate of food for shrew
BAF_v = Animal-to-animal; vertebrate
I_A (kg/kgBW/d) = Animal ingestion rate for red foxes = 0.065
I_S (kg/kgBW/d) = Soil ingestion rate for red foxes = 0.0019
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference valu
HQ = Hazard quotient
nd= not detected, na= not applicable
Kow = octanol/water partition coefficien
PBT = persistent, bioacummulative, and toxic compound
(bioaccumulation factor greater than 2 for inorganics, and a log
Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyt
is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard index (Sum of HQs)

Appendix Table S-80. Perimeter AreaSurface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	RME Concentration (mg/kg)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	Prey ADD_P (mg/kgBW/d) RME x SP_v x I_{P-s} x AUF-s	BAF_i	Prey ADD_A (mg/kgBW/d) RME x BAF_i x I_{A-s} x AUF-s	Prey ADD_S (mg/kgBW/d) RME x I_{S-s} x AUF-s	Prey ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$
Metals								
Aluminum	1.41E+04	8.00E-04	0.00E+00	8.19E-01	7.50E-02	5.14E+02	1.02E+03	1.54E+03
Arsenic	1.26E+01	8.00E-03	0.00E+00	7.31E-03	6.60E-03	4.04E-02	9.14E-01	9.61E-01
Cadmium	2.71E-01	1.10E-01	0.00E+00	2.17E-03	1.10E+01	1.45E+00	1.97E-02	1.47E+00
Calcium	4.22E+03	7.00E-01	0.00E+00	2.15E+02	1.00E+00	2.06E+03	3.07E+02	2.58E+03
Chromium	1.68E+01	1.50E-03	0.00E+00	1.83E-03	1.60E-01	1.31E+00	1.22E+00	2.53E+00
Chromium, hexavalent	1.18E+00	1.50E-03	0.00E+00	1.29E-04	1.60E-01	9.20E-02	8.59E-02	1.78E-01
Cobalt	1.13E+01	4.00E-03	0.00E+00	3.30E-03	1.00E+00	5.52E+00	8.24E-01	6.34E+00
Cyanide	5.56E-01	1.00E+00	0.00E+00	4.04E-02	0.00E+00	0.00E+00	4.04E-02	8.09E-02
Iron	2.40E+04	8.00E-04	0.00E+00	1.40E+00	1.00E+00	1.17E+04	1.75E+03	1.34E+04
Lead	2.10E+01	9.00E-03	0.00E+00	1.38E-02	2.00E+00	2.05E+01	1.53E+00	2.20E+01
Magnesium	1.94E+03	2.00E-01	0.00E+00	2.83E+01	1.00E+00	9.47E+02	1.41E+02	1.12E+03
Manganese	1.41E+03	5.00E-02	0.00E+00	5.12E+00	2.00E-02	1.37E+01	1.02E+02	1.21E+02
Mercury	6.14E-02	1.80E-01	0.00E+00	8.04E-04	3.40E-01	1.02E-02	4.47E-03	1.54E-02
Potassium	1.01E+03	2.00E-01	0.00E+00	1.47E+01	1.00E+00	4.94E+02	7.37E+01	5.82E+02
Selenium	7.90E-01	5.00E-03	0.00E+00	2.87E-04	7.60E-01	2.92E-01	5.75E-02	3.50E-01
Vanadium	2.88E+01	1.10E-03	0.00E+00	2.31E-03	1.30E-01	1.82E+00	2.10E+00	3.92E+00
Zinc	6.17E+01	3.00E-01	0.00E+00	1.35E+00	1.80E+00	5.41E+01	4.49E+00	5.99E+01
Organics-Semivolatil								
Benzo(b)fluoranthene	4.20E-02	2.30E-03	0.00E+00	7.03E-06	5.00E-02	1.02E-03	3.06E-03	4.09E-03
Fluoranthene	5.70E-02	2.00E-02	0.00E+00	8.30E-05	5.00E-02	1.39E-03	4.15E-03	5.62E-03

EU = Exposure Unit
aTRV adjusted by 0.1 for Threatened and Endangered Species
RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
SP_v = Soil-to-plant; vegetative
I_P (kg/kgBW/d) = Plant ingestion rate for barn owl = 0.00
ADD_P = Average daily dose; plant
Cs (mg/kg) = Concentration in the prey
IR_f (kg/kgBW/d)= Ingestion rate of food for shrews = 0.56
BAF_v = Animal-to-mammal
I_A (kg/kgBW/d) = Animal ingestion rate for barn owl = 0.125
I_S (kg/kgBW/d) = Soil ingestion rate for barn owl = 0.00
I_{P-s} (kg/kgBW/d) = Plant ingestion rate for shrews = 0.0728
AUF = Area use factor = 1.0
AUF_{prey} = Area use factor = 1.0

Appendix Table S-80. Perimeter AreaSurface Soil COPECs for Barn Owls at the Load Line 1 Ravenna Army Ammunition Plant, Ravenna, Ohio

Analytes remaining after the EU specific ESV screen?	Cs (mg/kg) Prey ADD_{total}/IR_f	BAF_v	ADD_A (mg/kgBW/d) $Cs \times BAF_v \times I_A \times AUF$	ADD_S (mg/kgBW/d) $RME \times I_S \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_S$	TRV[a](mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	%HI HQ / HI x100
Metals										
Aluminum	2.75E+03	7.50E-02	2.58E+01	0.00E+00	2.58E+01	1.10E+01	2.35E+00	no	yes	4.42%
Arsenic	1.72E+00	1.00E-01	2.15E-02	0.00E+00	2.15E-02	5.14E-01	4.18E-02	no	no	0.08%
Cadmium	2.63E+00	2.80E-02	9.21E-03	0.00E+00	9.21E-03	1.45E-01	6.35E-02	yes	yes	0.12%
Calcium	4.61E+03	1.00E+00	5.76E+02	0.00E+00	5.76E+02	No TRV	No TRV	No BAF	no	No TRV
Chromium	4.53E+00	2.80E-01	1.58E-01	0.00E+00	1.58E-01	1.00E-01	1.58E+00	no	yes	2.98%
Chromium, hexavalent	3.18E-01	2.80E-01	1.11E-02	0.00E+00	1.11E-02	No TRV	No TRV	no	no	No TRV
Cobalt	1.13E+01	1.00E+00	1.42E+00	0.00E+00	1.42E+00	No TRV	No TRV	no	no	No TRV
Cyanide	1.44E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	no	no	No TRV
Iron	2.40E+04	1.00E+00	3.00E+03	0.00E+00	3.00E+03	No TRV	No TRV	no	no	No TRV
Lead	3.93E+01	1.50E-02	7.37E-02	0.00E+00	7.37E-02	1.13E-01	6.52E-01	yes	yes	1.23%
Magnesium	1.99E+03	1.00E+00	2.49E+02	0.00E+00	2.49E+02	No TRV	No TRV	no	no	No TRV
Manganese	2.17E+02	2.00E-02	5.41E-01	0.00E+00	5.41E-01	9.77E+01	5.54E-03	no	no	0.01%
Mercury	2.76E-02	1.30E+01	4.48E-02	0.00E+00	4.48E-02	4.50E-02	9.95E-01	yes	yes	1.87%
Potassium	1.04E+03	1.00E+00	1.30E+02	0.00E+00	1.30E+02	No TRV	No TRV	no	no	No TRV
Selenium	6.25E-01	7.50E-01	5.86E-02	0.00E+00	5.86E-02	5.00E-02	1.17E+00	no	yes	2.21%
Vanadium	7.01E+00	1.30E-01	1.14E-01	0.00E+00	1.14E-01	1.14E+00	1.00E-01	no	no	0.19%
Zinc	1.07E+02	5.00E+00	6.69E+01	0.00E+00	6.69E+01	1.45E+00	4.62E+01	yes	yes	86.90%
Organics-Semivolatil										
Benzo(b)fluoranthene	7.30E-03	1.90E+00	1.73E-03	0.00E+00	1.73E-03	No TRV	No TRV	yes	yes	No TRV
Fluoranthene	1.00E-02	1.30E-01	1.63E-04	0.00E+00	1.63E-04	No TRV	No TRV	yes	yes	No TRV
						HI =	5.31E+01			

BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal
I_{A-s} (kg/kgBW/d) = Animal ingestion rate for shrews = 0.487
ADD_S = Average daily dose; soil
I_{S-s} (kg/kgBW/d) = Soil ingestion rate for shrews = 0.0728
ADD_{total} = Average daily dose; total
TRV (mg/kgBW/d) = toxicity reference value
HQ = Hazard quotient

Kow = octanol/water partition coefficient
PBT = persistent, bioacummulative, and toxic compounds (bioaccumulation factor greater than 2 for inorganics, and a log Kow greater than 4 for organics)
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = Hazard index (Sum of HQs)

Appendix Table S-81. Load Line 1 Outlets A and B Channel Sediment COPECs for Sediment-Dwelling Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Sediment RME Concentrations (mg/kg)	Toxicity Reference Value (mg/kg)	Reference	HQ (RME/TRV)	Is analyte a PBT compound?	COPEC?	% HI
Metals								
Aluminum	7429-90-5	1.31E+04	No TRV	No Source	no TRV	no	no	No TRV
Antimony	7440-36-0	5.20E+00	No TRV	No Source	no TRV	no	no	No TRV
Arsenic	7440-38-2	1.75E+01	9.79E+00	MacDonald et al.	**1.79E+00**	no	yes	0.1%
Barium	7440-39-3	1.23E+02	No TRV	No Source	no TRV	no	no	No TRV
Beryllium	7440-41-7	8.54E-01	No TRV	No Source	no TRV	no	no	No TRV
Cadmium	7440-43-9	1.50E+01	9.90E-01	MacDonald et al.	**1.52E+01**	yes	yes	0.7%
Calcium	7440-70-2	1.14E+04	No TRV	No Source	no TRV	no	no	No TRV
Chromium	7440-47-3	6.16E+01	4.34E+01	MacDonald et al.	**1.42E+00**	no	yes	0.1%
Chromium, hexavalent	18540-29-9	5.40E+00	No TRV	No Source	no TRV	no	no	No TRV
Copper	7440-50-8	1.56E+02	3.16E+01	MacDonald et al.	**4.94E+00**	no	yes	0.2%
Iron	7439-89-6	3.17E+04	No TRV	No Source	no TRV	no	no	No TRV
Lead	7439-92-1	5.08E+02	3.58E+01	MacDonald et al.	**1.42E+01**	yes	yes	0.6%
Magnesium	7439-95-4	6.29E+03	No TRV	No Source	no TRV	no	no	No TRV
Mercury	7487-94-6	4.47E-01	1.80E-01	MacDonald et al.	**2.48E+00**	yes	yes	0.1%
Nickel	7440-02-0	4.65E+01	2.27E+01	MacDonald et al.	**2.05E+00**	no	yes	0.1%
Selenium	7782-49-2	2.61E+00	No TRV	No Source	no TRV	no	no	No TRV
Sodium	7440-23-5	3.57E+02	No TRV	No Source	no TRV	no	no	No TRV
Thallium	6533-73-9	8.99E-01	No TRV	No Source	no TRV	no	no	No TRV
Vanadium	7440-62-2	2.85E+01	No TRV	No Source	no TRV	no	no	No TRV
Zinc	7440-66-6	1.00E+03	1.21E+02	MacDonald et al.	**8.27E+00**	yes	yes	0.4%
Organics-Pesticide/PCB								
Endrin	72-20-8	5.40E-02	2.22E-03	MacDonald et al.	**2.43E+01**	yes	yes	1.1%
PCB-1254	11097-69-1	6.10E-01	No TRV	No Source	no TRV	yes	yes	No TRV
gamma-Chlordane	5103-74-2	3.20E-02	3.24E-03	MacDonald et al.	**9.88E+00**	yes	yes	0.4%
Organics-Semivolatile								
Acenaphthene	83-32-9	7.00E-01	6.71E-03	EDQL EPA Region 5 (1998)	**1.04E+02**	no	yes	4.7%
Anthracene	120-12-7	2.20E+00	5.72E-02	MacDonald et al.	**3.85E+01**	yes	yes	1.7%
Benzo(a)anthracene	56-55-3	9.20E+00	1.08E-01	MacDonald et al.	**8.52E+01**	yes	yes	3.8%
Benzo(a)pyrene	50-32-8	9.50E+00	1.50E-01	MacDonald et al.	**6.33E+01**	yes	yes	2.8%
Benzo(b)fluoranthene	205-99-2	1.20E+01	1.04E+01	EDQL EPA Region 5 (1998)	**1.15E+00**	yes	yes	0.1%
Benzo(g,h,i)perylene	191-24-2	5.50E+00	1.70E-01	EDQL EPA Region 5 (1998)	**3.24E+01**	yes	yes	1.4%
Benzo(k)fluoranthene	207-08-9	5.40E+00	2.40E-01	EDQL EPA Region 5 (1998)	**2.25E+01**	yes	yes	1.0%
Carbazole	86-74-8	1.60E+00	No TRV	No Source	no TRV	no	no	No TRV

Appendix Table S-81. Load Line 1 Outlets A and B Channel Sediment COPECs for Sediment-Dwelling Biota at RVAAP, Ravenna, Ohio (continued)

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Sediment RME Concentrations (mg/kg)	Toxicity Reference Value (mg/kg)	Reference	HQ (RME/TRV)	Is analyte a PBT compound?	COPEC?	% HI
Chrysene	218-01-9	9.40E+00	1.66E-01	MacDonald et al.	**5.66E+01**	yes	yes	2.5%
Di-n-butylphthalate	84-74-2	7.10E-01	1.11E-01	EDQL EPA Region 5 (1998)	**6.43E+00**	yes	yes	0.3%
Dibenzo(a,h)anthracene	53-70-3	1.70E+00	3.30E-02	MacDonald et al.	**5.15E+01**	yes	yes	2.3%
Dibenzofuran	132-64-9	4.10E-01	1.52E+00	EDQL EPA Region 5 (1998)	2.70E-01	yes	yes	0.0%
Fluoranthene	206-44-0	2.50E+01	4.23E-01	MacDonald et al.	**5.91E+01**	yes	yes	2.6%
Fluorene	86-73-7	1.10E+00	7.74E-02	MacDonald et al.	**1.42E+01**	yes	yes	0.6%
Indeno(1,2,3-cd)pyrene	193-39-5	6.70E+00	2.00E-01	EDQL EPA Region 5 (1998)	**3.35E+01**	No Kow	yes	1.5%
Naphthalene	91-20-3	3.90E-01	1.76E-01	MacDonald et al.	**2.22E+00**	no	yes	0.1%
Phenanthrene	85-01-8	1.20E+01	2.04E-01	MacDonald et al.	**5.88E+01**	yes	yes	2.6%
Pyrene	129-00-0	1.50E+01	1.95E-01	MacDonald et al.	**7.69E+01**	yes	yes	3.4%
Organics-Volatile								
1,2-Dichloroethene	549-59-0	7.60E-03	No TRV	No Source	no TRV	no	no	No TRV
Explosives								
1,3,5-Trinitrobenzene	99-35-4	1.71E-01	1.21E-04	EDQL EPA Region 5 (1998)	**1.41E+03**	no	yes	63.4%
2,4,6-Trinitrotoluene	118-96-7	4.81E-01	No TRV	No Source	no TRV	no	no	No TRV
2,4-Dinitrotoluene	121-14-2	2.00E+00	7.51E-02	EDQL EPA Region 5 (1998)	**2.66E+01**	no	yes	1.2%
2-Amino-4,6-Dinitrotoluene	35572-78-2	6.15E-01	No TRV	No Source	no TRV	No Kow	no	No TRV
2-Nitrotoluene	88-72-2	1.80E-01	No TRV	No Source	no TRV	no	no	No TRV
4-Amino-2,6-Dinitrotoluene	19406-51-0	6.99E-01	No TRV	No Source	no TRV	No Kow	no	No TRV
HMX	2691-41-0	5.18E-01	No TRV	No Source	no TRV	No Kow	no	No TRV
Nitrocellulose	9004-70-0	3.33E+02	No TRV	No Source	no TRV	No Kow	no	No TRV
				HI =	**2.23E+03**			

EU = Exposure Unit
ESV = Ecological Screening Value
RME = Reasonable maximum exposure
TRV = Toxicity Reference Value = preferred ESV
HQ = hazard quotient = (RME/TRV)
PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HQs in **bold font** are greater than or equal to 1.0
HI = hazard quotient = sum of HQs

Appendix Table S-82. Load Line 1 Outlet C Channel and Charlie's Pond Sediment COPECs for Sediment-Dwelling Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Sediment RME Concentrations (mg/kg)	Toxicity Reference Value (mg/kg)	Reference	HQ (RME/TRV)	Is analyte a PBT compound?	COPEC?	% HI
Inorganics								
Antimony	7440-36-0	9.45E-01	No TRV	No Source	no TRV	no	no	No TRV
Arsenic	7440-38-2	2.50E+01	9.79E+00	MacDonald et al.	**2.55E+00**	no	yes	10.8%
Barium	7440-39-3	1.09E+02	No TRV	No Source	no TRV	no	no	No TRV
Beryllium	7440-41-7	7.58E-01	No TRV	No Source	no TRV	no	no	No TRV
Cadmium	7440-43-9	1.04E+00	9.90E-01	MacDonald et al.	**1.05E+00**	yes	yes	4.4%
Calcium	7440-70-2	8.45E+03	No TRV	No Source	no TRV	no	no	No TRV
Iron	7439-89-6	2.10E+04	No TRV	No Source	no TRV	no	no	No TRV
Lead	7439-92-1	3.96E+01	3.58E+01	MacDonald et al.	**1.11E+00**	yes	yes	4.7%
Magnesium	7439-95-4	1.86E+03	No TRV	No Source	no TRV	no	no	No TRV
Manganese	7439-96-5	2.35E+03	No TRV	No Source	no TRV	no	no	No TRV
Mercury	7439-97-6	8.52E-02	1.80E-01	MacDonald et al.	4.73E-01	yes	yes	2.0%
Nickel	7440-02-0	2.29E+01	2.27E+01	MacDonald et al.	**1.01E+00**	no	yes	4.3%
Potassium	7440-09-7	1.13E+03	No TRV	No Source	no TRV	no	no	No TRV
Selenium	7782-49-2	2.46E+00	No TRV	No Source	no TRV	no	no	No TRV
Sodium	7440-23-5	8.43E+01	No TRV	No Source	no TRV	no	no	No TRV
Organics-Pesticide/PCB								
4,4'-DDE	72-55-9	2.20E-02	3.16E-03	MacDonald et al.	**6.96E+00**	yes	yes	29.4%
PCB-1254	11097-69-1	8.70E-01	No TRV	No Source	no TRV	yes	yes	No TRV
Organics-Semivolatile								
Benzo(a)anthracene	56-55-3	7.70E-02	1.08E-01	MacDonald et al.	7.13E-01	yes	yes	3.0%
Benzo(a)pyrene	50-32-8	8.40E-02	1.50E-01	MacDonald et al.	5.60E-01	yes	yes	2.4%
Benzo(b)fluoranthene	205-99-2	1.80E-01	1.04E+01	EDQL EPA Region 5 (1998)	1.73E-02	yes	yes	0.1%
Benzo(g,h,i)perylene	191-24-2	5.80E-02	1.70E-01	EDQL EPA Region 5 (1998)	3.41E-01	yes	yes	1.4%
Benzo(k)fluoranthene	207-08-9	5.40E-02	2.40E-01	EDQL EPA Region 5 (1998)	2.25E-01	yes	yes	0.9%
Chrysene	218-01-9	1.30E-01	1.66E-01	MacDonald et al.	7.83E-01	yes	yes	3.3%
Fluoranthene	206-44-0	1.40E-01	4.23E-01	MacDonald et al.	3.31E-01	yes	yes	1.4%
Phenanthrene	85-01-8	5.90E-02	2.04E-01	MacDonald et al.	2.89E-01	yes	yes	1.2%
Pyrene	129-00-0	1.50E-01	1.95E-01	MacDonald et al.	7.69E-01	yes	yes	3.2%
Organics-Volatile								
1,2-Dichloroethene	549-59-0	1.00E-02	No TRV	No Source	no TRV	no	no	No TRV

Appendix Table S-82. Load Line 1 Outlet C Channel and Charlie's Pond Sediment COPECs for Sediment-Dwelling Biota at RVAAP, Ravenna, Ohio (continued)

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Sediment RME Concentrations (mg/kg)	Toxicity Reference Value (mg/kg)	Reference	HQ (RME/TRV)	Is analyte a PBT compound?	COPEC?	% HI
Explosives								
2,4,6-Trinitrotoluene	118-96-7	4.39E-01	No TRV	No Source	no TRV	no	no	No TRV
2,6-Dinitrotoluene	606-20-2	1.34E-01	2.06E-02	EDQL EPA Region 5 (1998)	**6.52E+00**	no	yes	27.5%
2-Amino-4,6-Dinitrotoluene	35572-78-2	3.31E-01	No TRV	No Source	no TRV	No Kow	no	No TRV
4-Amino-2,6-Dinitrotoluene	19406-51-0	3.90E-01	No TRV	No Source	no TRV	No Kow	no	No TRV
				HI =	**2.37E+01**			

EU = Exposure Unit
ESV = Ecological Screening Value
RME = Reasonable maximum exposure
TRV = Toxicity Reference Value = Preferred ESV
HQ = hazard quotient = (RME/TRV)
PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HQs in **bold font** are greater than or equal to 1.0
HI = hazard quotient = sum of HQs

Appendix Table S-83. Load Line 1 Outlets D/E/F Channel and Criggy's Pond Sediment COPECs for Sediment-Dwelling Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Sediment RME Concentrations (mg/kg)	Preferred Ecological Screening Value (mg/kg)	Reference	HQ (RME/TRV)	Is analyte a PBT compound?	COPEC?	% HI
Inorganics								
Antimony	7440-36-0	5.94E+02	No TRV	No Source	no TRV	no	no	No TRV
Arsenic	7440-38-2	2.10E+01	9.79E+00	MacDonald et al.	**2.15E+00**	no	yes	2.6%
Barium	7440-39-3	1.68E+02	No TRV	No Source	no TRV	no	no	No TRV
Beryllium	7440-41-7	1.10E+00	No TRV	No Source	no TRV	no	no	No TRV
Cadmium	7440-43-9	2.40E+00	9.90E-01	MacDonald et al.	**2.42E+00**	yes	yes	2.9%
Calcium	7440-70-2	5.38E+03	No TRV	No Source	no TRV	no	no	No TRV
Chromium	7440-47-3	1.24E+02	4.34E+01	MacDonald et al.	**2.86E+00**	no	yes	3.5%
Chromium, hexavalent	18540-29-9	1.10E+01	No TRV	No Source	no TRV	no	no	No TRV
Copper	7440-50-8	1.02E+03	3.16E+01	MacDonald et al.	**3.23E+01**	no	yes	39.0%
Iron	7439-89-6	3.10E+04	No TRV	No Source	no TRV	no	no	No TRV
Lead	7439-92-1	1.21E+03	3.58E+01	MacDonald et al.	**3.38E+01**	yes	yes	40.9%
Magnesium	7439-95-4	2.25E+03	No TRV	No Source	no TRV	no	no	No TRV
Manganese	7439-96-5	3.38E+03	No TRV	No Source	no TRV	no	no	No TRV
Mercury	7439-97-6	3.28E-01	1.80E-01	MacDonald et al.	**1.82E+00**	yes	yes	2.2%
Nickel	7440-02-0	4.34E+01	2.27E+01	MacDonald et al.	**1.91E+00**	no	yes	2.3%
Potassium	7440-09-7	9.88E+02	No TRV	No Source	no TRV	no	no	No TRV
Selenium	7782-49-2	1.99E+00	No TRV	No Source	no TRV	no	no	No TRV
Sodium	7440-23-5	8.48E+01	No TRV	No Source	no TRV	no	no	No TRV
Vanadium	7440-62-2	3.08E+01	No TRV	No Source	no TRV	no	no	No TRV
Zinc	7440-66-6	6.57E+02	1.21E+02	MacDonald et al.	**5.43E+00**	yes	yes	6.6%
				HI =	**8.27E+01**			

EU = Exposure Unit
ESV = Ecological Screening Value
RME = Reasonable maximum exposure
TRV = Toxicity Reference Value = preferred ESV
HQ = hazard quotient = (RME/TRV)
PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HQs in **bold font** are greater than or equal to 1.0
HI = hazard quotient = sum of HQs

AppendixTable S-84. Load Line 1 North Area Channel Sediment COPECs for Sediment-Dwelling Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Sediment RME Concentrations (mg/kg)	Toxicity Reference Value (mg/kg)	Reference	HQ (RME/TRV)	Is analyte a PBT compound?	COPEC?	% HI
Inorganics								
Barium	7440-39-3	1.33E+02	No TRV	No Source	no TRV	no	no	No TRV
Beryllium	7440-41-7	8.40E-01	No TRV	No Source	no TRV	no	no	No TRV
Cadmium	7440-43-9	4.40E-01	9.90E-01	MacDonald et al.	4.44E-01	yes	yes	15.8%
Calcium	7440-70-2	2.64E+03	No TRV	No Source	no TRV	no	no	No TRV
Iron	7439-89-6	1.98E+04	No TRV	No Source	no TRV	no	no	No TRV
Lead	7439-92-1	2.77E+01	3.58E+01	MacDonald et al.	7.74E-01	yes	yes	27.5%
Magnesium	7439-95-4	2.09E+03	No TRV	No Source	no TRV	no	no	No TRV
Mercury	7439-97-6	9.00E-02	1.80E-01	MacDonald et al.	5.00E-01	yes	yes	17.8%
Nickel	7440-02-0	2.48E+01	2.27E+01	MacDonald et al.	**1.09E+00**	no	yes	38.9%
Potassium	7440-09-7	1.20E+03	No TRV	No Source	no TRV	no	no	No TRV
				HI =	**2.81E+00**			

EU = Exposure Unit
ESV = Ecological Screening Value
RME = Reasonable maximum exposure
TRV = Toxicity Reference Value = preferred ESV
HQ = hazard quotient = (RME/TRV)
PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HQs in **bold font** are greater than or equal to 1.0
HI = hazard quotient = sum of HQs

Appendix Table S-85. Load Line 1 Off-AOC Channel Sediment COPECs for Sediment-Dwelling Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Sediment RME Concentrations (mg/kg)	Toxicity Reference Value (mg/kg)	Reference	HQ (RME/TRV)	Is analyte a PBT compound?	COPEC?	% HI
Inorganics								
Arsenic	7440-38-2	2.11E+01	9.79E+00	MacDonald et al.	**2.16E+00**	no	yes	3.5%
Beryllium	7440-41-7	2.93E-01	No TRV	No Source	no TRV	no	no	No TRV
Cadmium	7440-43-9	4.20E-01	9.90E-01	MacDonald et al.	4.24E-01	yes	yes	0.7%
Calcium	7440-70-2	3.64E+03	No TRV	No Source	no TRV	no	no	No TRV
Copper	7440-50-8	5.40E+01	3.16E+01	MacDonald et al.	**1.71E+00**	no	yes	2.8%
Iron	7439-89-6	3.31E+04	No TRV	No Source	no TRV	no	no	No TRV
Magnesium	7439-95-4	1.80E+03	No TRV	No Source	no TRV	no	no	No TRV
Mercury	7439-97-6	7.32E-02	1.80E-01	MacDonald et al.	4.07E-01	yes	yes	0.7%
Nickel	7440-02-0	2.20E+01	2.27E+01	MacDonald et al.	9.69E-01	no	no	1.6%
Selenium	7782-49-2	1.00E+00	No TRV	No Source	no TRV	no	no	No TRV
Vanadium	7440-62-2	1.57E+01	No TRV	No Source	no TRV	no	no	No TRV
Explosives								
1,3-Dinitrobenzene	99-65-0	5.10E-02	9.24E-04	EDQL EPA Region 5 (1998)	**5.52E+01**	no	yes	90.7%
4-Amino-2,6-Dinitrotoluene	19406-51-0	1.00E-01	No TRV	No Source	no TRV	No Kow	no	No TRV
Nitrocellulose	9004-70-0	5.70E+00	No TRV	No Source	no TRV	No Kow	no	No TRV
Nitroguanidine	556-88-7	7.60E-02	No TRV	No Source	no TRV	No Kow	no	No TRV
RDX	121-82-4	1.80E-01	No TRV	No Source	no TRV	no	no	No TRV
				HI =	**6.09E+01**			

EU = Exposure Unit
ESV = Ecological Screening Value
RME = Reasonable maximum exposure
TRV = Toxicity Reference Value = Preferred ESV
HQ = hazard quotient = (RME/TRV)
PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HQs in **bold font** are greater than or equal to 1.0
HI = hazard quotient = sum of HQs

Appendix Table S-86. Outlet C Channel and Charlie's Pond Surface Water COPECs for Aquatic Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Surface Water RME Concentrations (µg/L)	Preferred Ecological Screening Value (µg/L)	Reference	HQ	Is analyte a PBT compound?	COPEC?	%HI
Metals								
Calcium	7440-70-2	1.39E+04	No TRV	No Source	no TRV	no	no	No TRV
Iron	7439-89-6	1.04E+04	1.00E+03	NAWQC (Suter & Tsao 1996)	**1.04E+01**	no	yes	99.8%
Lead	7439-92-1	3.10E+00	1.20E+02	Ohio Administrative Code	2.58E-02	yes	yes	0.2%
Magnesium	7439-95-4	3.60E+03	No TRV	No Source	no TRV	no	no	No TRV
Potassium	7440-09-7	3.70E+03	No TRV	No Source	no TRV	no	no	No TRV
Sodium	7440-23-5	2.60E+03	No TRV	No Source	no TRV	no	no	No TRV
Explosives								
3-Nitrotoluene	99-08-1	1.70E-01	No TRV	No Source	no TRV	no	no	No TRV
				HI =	1.04E+01			

EU = Exposure Unit
ESV = Ecological Screening Value
RME = Reasonable maximum exposure
TRV = Toxicity Reference Value = preferred ESV
HQ = hazard quotient = (RME/TRV)
PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = hazard quotient = sum of HQs
HQs in **bold font** are greater than or equal to 1.0

Appendix Table S-87. Outlet C Channel and Charlie's Pond Surface Water COPECs for Mink at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_w$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC ?	% HI
Metals													
Calcium	7440-70-2	1.39E+04	7.00E-01	1.33E+01	4.00E+01	3.71E+01	7.44E-01	5.11E+01	No TRV	no TRV	no	no	No TRV
Iron	7439-89-6	1.04E+04	8.00E-04	1.13E-02	3.00E+02	2.08E+02	5.57E-01	2.09E+02	No TRV	no TRV	no	no	No TRV
Lead	7439-92-1	3.10E+00	9.00E-03	3.80E-05	3.00E+02	6.21E-02	1.66E-04	6.23E-02	4.18E+00	1.49E-02	yes	yes	100.0%
Magnesium	7439-95-4	3.60E+03	2.00E-01	9.81E-01	5.00E+02	1.20E+02	1.93E-01	1.21E+02	No TRV	no TRV	no	no	No TRV
Potassium	7440-09-7	3.70E+03	2.00E-01	1.01E+00	1.00E+03	2.47E+02	1.98E-01	2.48E+02	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	2.60E+03	1.50E-02	5.31E-02	1.00E+02	1.74E+01	1.39E-01	1.76E+01	No TRV	no TRV	no	no	No TRV
Explosives													
3-Nitrotoluene	99-08-1	1.70E-01	1.00E+00	2.32E-04	1.00E+05	1.13E+00	9.10E-06	1.14E+00	No TRV	No TRV	no	no	No TRV
										HI =	1.49E-02		

RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
ADD_P = Average daily dose; plant
I_P (kg/kgBW/d) = Plant ingestion rate 2.80E-03
AUF = Area use factor 4.87E-01
BCF = Water-to-animal
ADD_A = Average daily dose; animal
0.001 = Conversion from µg/L to mg/L
I_A (kg/kgBW/d) = Animal ingestion rate 1.37E-01

ADD_W = Average daily dose; drinking water
IR_W (L/kgBW/d) = Water ingestion rate 1.10E-01
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard Index

Appendix Table S-88. Outlet C Channel and Charlie's Pond Surface Water COPECs for Great Blue Heron at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A + ADD_w$	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	% HI
Metals													
Calcium	7440-70-2	1.39E+04	7.00E-01	0.00E+00	4.00E+01	2.56E+01	1.60E-01	2.57E+01	No TRV	no TRV	no	no	No TRV
Iron	7439-89-6	1.04E+04	8.00E-04	0.00E+00	3.00E+02	1.43E+02	1.20E-01	1.44E+02	No TRV	no TRV	no	no	No TRV
Lead	7439-92-1	3.10E+00	9.00E-03	0.00E+00	3.00E+02	4.28E-02	3.56E-05	4.28E-02	1.13E+00	3.79E-02	yes	yes	100.0%
Magnesium	7439-95-4	3.60E+03	2.00E-01	0.00E+00	5.00E+02	8.28E+01	4.14E-02	8.28E+01	No TRV	no TRV	no	no	No TRV
Potassium	7440-09-7	3.70E+03	2.00E-01	0.00E+00	1.00E+03	1.70E+02	4.25E-02	1.70E+02	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	2.60E+03	1.50E-02	0.00E+00	1.00E+02	1.20E+01	2.99E-02	1.20E+01	No TRV	no TRV	no	no	No TRV
Explosives													
3-Nitrotoluene	99-08-1	1.70E-01	1.00E+00	0.00E+00	1.00E+05	7.82E-01	1.95E-06	7.82E-01	No TRV	no TRV	no	no	No TRV
									HI =	3.79E-02			

RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
ADD_P = Average daily dose; plant
I_P (kg/kgBW/d) = Plant ingestion rate 0.00E+00
AUF = Area use factor 3.52E-01
BCF = Water-to-animal
ADD_A = Average daily dose; animal
0.001 = Conversion from µg/L to mg/L
I_A (kg/kgBW/d) = Animal ingestion rate 1.80E-01

ADD_W = Average daily dose; drinking water
IR_W (L/kgBW/d) = Water ingestion rate 4.50E-02
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard Index

Appendix Table S-89. Outlet C Channel and Charlie's Pond Surface Water COPECs for Mallard Ducks at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADDw	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	% HI
Metals												
Calcium	7440-70-2	1.39E+04	7.00E-01	1.53E+01	4.00E+01	0.00E+00	1.38E-02	1.53E+01	No TRV	no TRV	no	no	No TRV
Iron	7439-89-6	1.04E+04	8.00E-04	1.31E-02	3.00E+02	0.00E+00	1.03E-02	2.34E-02	No TRV	no TRV	no	no	No TRV
Lead	7439-92-1	3.10E+00	9.00E-03	4.39E-05	3.00E+02	0.00E+00	3.08E-06	4.70E-05	1.13E+00	4.16E-05	yes	yes	100.0%
Magnesium	7439-95-4	3.60E+03	2.00E-01	1.13E+00	5.00E+02	0.00E+00	3.57E-03	1.14E+00	No TRV	no TRV	no	no	No TRV
Potassium	7440-09-7	3.70E+03	2.00E-01	1.17E+00	1.00E+03	0.00E+00	3.67E-03	1.17E+00	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	2.60E+03	1.50E-02	6.14E-02	1.00E+02	0.00E+00	2.58E-03	6.40E-02	No TRV	no TRV	no	no	No TRV
Explosives												
3-Nitrotoluene	99-08-1	1.70E-01	1.00E+00	2.68E-04	1.00E+05	0.00E+00	1.69E-07	2.68E-04	No TRV	no TRV	no	no	No TRV
										HI =	4.16E-05		

RME = Reasonable maximum exposure
SP_v = Soil-to-plant; reproductive
ADD_P = Average daily dose; plant
I_P (kg/kgBW/d) = Plant ingestion rate 9.05E-02
AUF = Area use factor 1.74E-02
BCF = Water-to-animal
ADD_A = Average daily dose; animal
0.001 = Conversion from µg/L to mg/L
I_A (kg/kgBW/d) = Animal ingestion rate 0.00E+00

ADD_W = Average daily dose; drinking water
IR_W (L/kgBW/d) = Water ingestion rate 5.70E-02
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard Index

Appendix Table S-90. Outlets D/E/F Channel and Criggy's Pond Surface Water COPECs for Aquatic Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Surface Water RME Concentrations (µg/L)	Preferred Ecological Screening Value (µg/L)	Reference	HQ	Is analyte a PBT compound?	COPEC?	% HI
Metals								
Calcium	7440-70-2	1.74E+04	No ESV	No Source	no TRV	no	no	No TRV
Magnesium	7439-95-4	4.60E+03	No ESV	No Source	no TRV	no	no	No TRV
Potassium	7440-09-7	2.50E+03	No ESV	No Source	no TRV	no	no	No TRV
Sodium	7440-23-5	2.70E+03	No ESV	No Source	no TRV	no	no	No TRV
				HI =	0.00E+00			

EU = Exposure Unit
ESV = Ecological Screening Value
RME = Reasonable maximum exposure
TRV = Toxicity Reference Value = preferred ESV
HQ = hazard quotient = (RME/TRV)
PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)
Kow = octanol/water partition coefficient
COPEC = chemical of potential ecological concern
COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound
COPEC = no if HQ < 1 and not a PBT compound
HI = hazard quotient = sum of HQs
HQs in **bold font** are greater than or equal to 1.0

Appendix Table S-91. Outlets D/E/F Channel and Criggy's Pond Surface Water COPECs for Mink at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A +$ ADDw	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	% HI
Metals													
Calcium	7440-70-2	1.74E+04	7.00E-01	3.41E+01	4.00E+01	9.55E+01	1.91E+00	1.32E+02	No TRV	no TRV	no	no	No TRV
Magnesium	7439-95-4	4.60E+03	2.00E-01	2.58E+00	5.00E+02	3.16E+02	5.06E-01	3.19E+02	No TRV	no TRV	no	no	No TRV
Potassium	7440-09-7	2.50E+03	2.00E-01	1.40E+00	1.00E+03	3.43E+02	2.75E-01	3.45E+02	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	2.70E+03	1.50E-02	1.13E-01	1.00E+02	3.70E+01	2.97E-01	3.75E+01	No TRV	no TRV	no	no	No TRV
									HI =	0.00E+00			

RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
ADD_P = Average daily dose; plant
I_P (kg/kgBW/d) = Plant ingestion rate 2.80E-03
AUF = Area use factor 1.00E+00
BCF = Water-to-animal
ADD_A = Average daily dose; animal
0.001 = Conversion from µg/L to mg/L
I_A (kg/kgBW/d) = Animal ingestion rate 1.37E-01

ADD_W = Average daily dose; drinking water
IR_W (L/kgBW/d) = Water ingestion rate 1.10E-01
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard Index

Appendix Table S-92. Outlets D/E/F Channel and Criggy's Pond Surface Water COPECs for Great Blue Heron at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADDw	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	% HI
Metals												
Calcium	7440-70-2	1.74E+04	7.00E-01	0.00E+00	4.00E+01	1.08E+02	6.77E-01	1.09E+02	No TRV	no TRV	no	no	No TRV
Magnesium	7439-95-4	4.60E+03	2.00E-01	0.00E+00	5.00E+02	3.58E+02	1.79E-01	3.58E+02	No TRV	no TRV	no	no	No TRV
Potassium	7440-09-7	2.50E+03	2.00E-01	0.00E+00	1.00E+03	3.89E+02	9.73E-02	3.89E+02	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	2.70E+03	1.50E-02	0.00E+00	1.00E+02	4.20E+01	1.05E-01	4.21E+01	No TRV	no TRV	no	no	No TRV
									HI =	0.00E+00			

RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
ADD_P = Average daily dose; plant
I_P (kg/kgBW/d) = Plant ingestion rate 0.00E+00
AUF = Area use factor 8.65E-01
BCF = Water-to-animal
ADD_A = Average daily dose; animal
0.001 = Conversion from µg/L to mg/L
I_A (kg/kgBW/d) = Animal ingestion rate 1.80E-01

ADD_W = Average daily dose; drinking water
IR_W (L/kgBW/d) = Water ingestion rate 4.50E-02
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard Index

Appendix Table S-93. Outlets D/E/F Channel and Criggy's Pond Surface Water COPECs for Mallard Ducks at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADDw	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	% HI
Metals													
Calcium	7440-70-2	1.74E+04	7.00E-01	3.97E-01	4.00E+01	0.00E+00	3.57E-04	3.98E-01	No TRV	no TRV	no	no	No TRV
Magnesium	7439-95-4	4.60E+03	2.00E-01	3.00E-02	5.00E+02	0.00E+00	9.45E-05	3.01E-02	No TRV	no TRV	no	no	No TRV
Potassium	7440-09-7	2.50E+03	2.00E-01	1.63E-02	1.00E+03	0.00E+00	5.14E-05	1.64E-02	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	2.70E+03	1.50E-02	1.32E-03	1.00E+02	0.00E+00	5.55E-05	1.38E-03	No TRV	no TRV	no	no	No TRV
									HI =	0.00E+00			

RME = Reasonable maximum exposure
SP_r = Soil-to-plant; reproductive
ADD_P = Average daily dose; plant
I_P (kg/kgBW/d) = Plant ingestion rate 9.05E-02
AUF = Area use factor 3.60E-04
BCF = Water-to-animal
ADD_A = Average daily dose; animal
0.001 = Conversion from µg/L to mg/L
I_A (kg/kgBW/d) = Animal ingestion rate 0.00E+00

ADD_W = Average daily dose; drinking water
IR_W (L/kgBW/d) = Water ingestion rate 5.70E-02
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard Index

Appendix Table S-94. Off-AOC Channel Surface Water COPECs for Aquatic Biota at RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	Surface Water RME Concentrations (µg/L)	Preferred Ecological Screening Value (µg/L)	Reference	HQ	Is analyte a PBT compound?	COPEC?	% HI
Metals								
Calcium	7440-70-2	6.36E+04	No ESV	No Source	no TRV	no	no	No TRV
Iron	7439-89-6	3.63E+03	1.00E+03	NAWQC (Suter & Tsao 1996)	**3.63E+00**	no	yes	71.8%
Lead	7439-92-1	1.73E+00	1.20E+02	Ohio Administrative Code	1.44E-02	yes	yes	0.3%
Magnesium	7439-95-4	1.65E+04	No ESV	No Source	no TRV	no	no	No TRV
Manganese	7439-96-5	1.79E+03	1.60E+03	Ohio Administrative Code	**1.12E+00**	no	yes	22.2%
Potassium	7440-09-7	3.19E+03	No ESV	No Source	no TRV	no	no	No TRV
Sodium	7440-23-5	5.27E+03	No ESV	No Source	no TRV	no	no	No TRV
Zinc	7440-66-6	3.33E+01	1.20E+02	Ohio Administrative Code	2.77E-01	yes	yes	5.5%
Organics-Semivolatile								
Bis(2-ethylhexyl)phthalate	117-81-7	1.20E+01	1.10E+03	Ohio Administrative Code	1.09E-02	yes	yes	0.2%
Explosives								
2,4,6-Trinitrotoluene	118-96-7	1.10E-01	No ESV	No Source	no TRV	no	no	No TRV
2-Amino-4,6-Dinitrotoluene	35572-78-2	1.49E-01	No ESV	No Source	no TRV	No Kow	no	No TRV
2-Nitrotoluene	88-72-2	1.32E-01	No ESV	No Source	no TRV	no	no	No TRV
3-Nitrotoluene	99-08-1	1.18E-01	No ESV	No Source	no TRV	no	no	No TRV
4-Amino-2,6-Dinitrotoluene	19406-51-0	1.42E-01	No ESV	No Source	no TRV	No Kow	no	No TRV
4-Nitrotoluene	99-99-0	1.46E-01	No ESV	No Source	no TRV	no	no	No TRV
RDX	121-82-4	1.60E-01	No ESV	No Source	no TRV	no	no	No TRV
Tetryl	479-45-8	1.16E-01	No ESV	No Source	no TRV	No Kow	no	No TRV
				HI =	5.06E+00			

EU = Exposure Unit

ESV = Ecological Screening Value

RME = Reasonable maximum exposure

TRV = Toxicity Reference Value = preferred ESV

HQ = hazard quotient = (RME/TRV)

PBT = persistent, bioacummulative, and toxic compounds ("yes" if bioaccumulation factor greater than 2 for inorganics, or a log Kow greater than 4 for organics)

Kow = octanol/water partition coefficient

COPEC = chemical of potential ecological concern

COPEC = yes if HQ is greater than of equal to 1.0 and/or the analyte is a PBT compound

COPEC = no if HQ < 1 and not a PBT compound

HI = hazard quotient = sum of HQs

HQs in **bold font** are greater than or equal to 1.0

Appendix Table S-95. Off-AOC Channel Surface Water COPECs for Mink at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) $ADD_P + ADD_A +$ ADDw	TRV (mg/kgBW/d)	Site HQ ADD_{total} / TRV	Is analyte a PBT compound?	COPEC?	% HI
Metals													
Calcium	7440-70-2	6.36E+04	7.00E-01	1.25E+02	4.00E+01	3.49E+02	6.99E+00	4.81E+02	No TRV	no TRV	no	no	No TRV
Iron	7439-89-6	3.63E+03	8.00E-04	8.14E-03	3.00E+02	1.50E+02	4.00E-01	1.50E+02	No TRV	no TRV	no	no	No TRV
Lead	7439-92-1	1.73E+00	9.00E-03	4.37E-05	3.00E+02	7.13E-02	1.91E-04	7.16E-02	4.18E+00	1.71E-02	yes	yes	0.6%
Magnesium	7439-95-4	1.65E+04	2.00E-01	9.23E+00	5.00E+02	1.13E+03	1.81E+00	1.14E+03	No TRV	no TRV	no	no	No TRV
Manganese	7439-96-5	1.79E+03	5.00E-02	2.51E-01	4.00E+02	9.85E+01	1.97E-01	9.89E+01	4.60E+01	**2.15E+00**	no	yes	79.2%
Potassium	7440-09-7	3.19E+03	2.00E-01	1.79E+00	1.00E+03	4.38E+02	3.51E-01	4.40E+02	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	5.27E+03	1.50E-02	2.21E-01	1.00E+02	7.23E+01	5.80E-01	7.31E+01	No TRV	no TRV	no	no	No TRV
Zinc	7440-66-6	3.33E+01	3.00E-01	2.79E-02	1.00E+03	4.56E+00	3.66E-03	4.59E+00	8.36E+01	5.49E-02	yes	yes	2.0%
Organics-Semivolatile													
Bis(2-ethylhexyl)phthalate	117-81-7	1.20E+01	8.70E-03	2.92E-04	3.10E+02	5.10E-01	1.32E-03	5.12E-01	5.18E+00	9.89E-02	yes	yes	3.6%
Explosives													
2,4,6-Trinitrotoluene	118-96-7	1.10E-01	1.00E+00	3.08E-04	1.00E+05	1.51E+00	1.21E-05	1.51E+00	3.82E+00	3.95E-01	no	no	14.6%
2-Amino-4,6-Dinitrotoluene	35572-78-2	1.49E-01	1.00E+00	4.17E-04	1.00E+05	2.05E+00	1.64E-05	2.05E+00	No TRV	no TRV	No Kow	no	No TRV
2-Nitrotoluene	88-72-2	1.32E-01	1.00E+00	3.68E-04	1.00E+05	1.80E+00	1.45E-05	1.80E+00	No TRV	no TRV	no	no	No TRV
3-Nitrotoluene	99-08-1	1.18E-01	1.00E+00	3.29E-04	1.00E+05	1.61E+00	1.29E-05	1.61E+00	No TRV	no TRV	no	no	No TRV
4-Amino-2,6-Dinitrotoluene	19406-51-0	1.42E-01	1.00E+00	3.98E-04	1.00E+05	1.95E+00	1.56E-05	1.95E+00	No TRV	no TRV	No Kow	no	No TRV
4-Nitrotoluene	99-99-0	1.46E-01	1.00E+00	4.07E-04	1.00E+05	2.00E+00	1.60E-05	2.00E+00	No TRV	no TRV	no	no	No TRV
RDX	121-82-4	1.60E-01	1.00E+00	4.48E-04	1.00E+05	2.20E+00	1.76E-05	2.20E+00	No TRV	no TRV	no	no	No TRV
Tetryl	479-45-8	1.16E-01	1.00E+00	3.25E-04	1.00E+05	1.59E+00	1.28E-05	1.59E+00	No TRV	no TRV	No Kow	no	No TRV
									HI =	**2.72E+00**			

RME = Reasonable maximum exposure
SP_v = Soil-to-plant; vegetative
ADD_P = Average daily dose; plant
I_P (kg/kgBW/d) = Plant ingestion rate 2.80E-03
AUF = Area use factor 1.00E+00
BCF = Water-to-animal
ADD_A = Average daily dose; animal
0.001 = Conversion from µg/L to mg/L
I_A (kg/kgBW/d) = Animal ingestion rate 1.37E-01

ADD_W = Average daily dose; drinking water
IR_W (L/kgBW/d) = Water ingestion rate 1.10E-01
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard Index
HQs in **bold font** are greater than or equal to 1.0

Appendix Table S-96. Off-AOC Channel Surface Water COPECs for Great Blue Heron at the RVAAP, Ravenna, Ohio

Analytes carried forward from EU-specific ESV screen	CAS Registry Number	RME (mg/L)	SP_v	ADD_P (mg/kgBW/d) RME x SP_v x I_P x AUF	BCF	ADD_A (mg/kgBW/d) RME x 0.001 x BCF x I_A x AUF	ADD_W (mg/kgBW/d) RME x 0.001 x IR_W x AUF	ADD_{total} (mg/kgBW/d) ADD_P + ADD_A + ADDw	TRV (mg/kgBW/d)	Site HQ (ADD_{total} / TRV)	Is analyte a PBT compound?	COPEC?	% HI
Metals													
Calcium	7440-70-2	6.36E+04	7.00E-01	0.00E+00	4.00E+01	4.58E+02	2.86E+00	4.61E+02	No TRV	no TRV	no	no	No TRV
Iron	7439-89-6	3.63E+03	8.00E-04	0.00E+00	3.00E+02	1.96E+02	1.64E-01	1.96E+02	No TRV	no TRV	no	no	No TRV
Lead	7439-92-1	1.73E+00	9.00E-03	0.00E+00	3.00E+02	9.36E-02	7.80E-05	9.37E-02	1.13E+00	8.29E-02	yes	yes	6.7%
Magnesium	7439-95-4	1.65E+04	2.00E-01	0.00E+00	5.00E+02	1.48E+03	7.42E-01	1.48E+03	No TRV	no TRV	no	no	No TRV
Manganese	7439-96-5	1.79E+03	5.00E-02	0.00E+00	4.00E+02	1.29E+02	8.07E-02	1.29E+02	9.77E+02	1.32E-01	no	no	10.7%
Potassium	7440-09-7	3.19E+03	2.00E-01	0.00E+00	1.00E+03	5.74E+02	1.44E-01	5.74E+02	No TRV	no TRV	no	no	No TRV
Sodium	7440-23-5	5.27E+03	1.50E-02	0.00E+00	1.00E+02	9.49E+01	2.37E-01	9.51E+01	No TRV	no TRV	no	no	No TRV
Zinc	7440-66-6	3.33E+01	3.00E-01	0.00E+00	1.00E+03	5.99E+00	1.50E-03	5.99E+00	1.45E+01	4.13E-01	yes	yes	33.4%
Organics-Semivolatile													
Bis(2-ethylhexyl)phthalate	117-81-7	1.20E+01	8.70E-03	0.00E+00	3.10E+02	6.70E-01	5.40E-04	6.70E-01	1.10E+00	6.09E-01	yes	yes	49.2%
Explosives													
2,4,6-Trinitrotoluene	118-96-7	1.10E-01	1.00E+00	0.00E+00	1.00E+05	1.98E+00	4.95E-06	1.98E+00	No TRV	no TRV	no	no	No TRV
2-Amino-4,6-Dinitrotoluene	35572-78-2	1.49E-01	1.00E+00	0.00E+00	1.00E+05	2.68E+00	6.71E-06	2.68E+00	No TRV	no TRV	No Kow	no	No TRV
2-Nitrotoluene	88-72-2	1.32E-01	1.00E+00	0.00E+00	1.00E+05	2.37E+00	5.92E-06	2.37E+00	No TRV	no TRV	no	no	No TRV
3-Nitrotoluene	99-08-1	1.18E-01	1.00E+00	0.00E+00	1.00E+05	2.12E+00	5.29E-06	2.12E+00	No TRV	no TRV	no	no	No TRV
4-Amino-2,6-Dinitrotoluene	19406-51-0	1.42E-01	1.00E+00	0.00E+00	1.00E+05	2.56E+00	6.39E-06	2.56E+00	No TRV	no TRV	No Kow	no	No TRV
4-Nitrotoluene	99-99-0	1.46E-01	1.00E+00	0.00E+00	1.00E+05	2.62E+00	6.55E-06	2.62E+00	No TRV	no TRV	no	no	No TRV
RDX	121-82-4	1.60E-01	1.00E+00	0.00E+00	1.00E+05	2.88E+00	7.20E-06	2.88E+00	No TRV	no TRV	no	no	No TRV
Tetryl	479-45-8	1.16E-01	1.00E+00	0.00E+00	1.00E+05	2.09E+00	5.22E-06	2.09E+00	No TRV	no TRV	No Kow	no	No TRV
									HI =	1.24E+00			

RME = Reasonable maximum exposure

SP_v = Soil-to-plant; vegetative

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = Plant ingestion rate 0.00E+00

AUF = Area use factor 1.00E+00

BCF = Water-to-animal

ADD_A = Average daily dose; animal

0.001 = Conversion from µg/L to mg/L

I_A (kg/kgBW/d) = Animal ingestion rate 1.80E-01

ADD_W = Average daily dose; drinking water

IR_W (L/kgBW/d) = Water ingestion rate 4.50E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard Index