

APPENDIX L
ECOLOGICAL RISK ASSESSMENT DATA

(Data included in Excel files on this disk)

Table L.1 Summary of Ravenna Sitewide Surface Soil

Analysis Type	Analyte	Units	Results >				Site	Detects> Site		SRC?
			Detection Limit	Minimum Detect	Maximum Detect	Average Result	Exposure Concentration	Background Criteria	Background Criteria	
Explosives	1,3,5-Trinitrobenzene	mg/kg	15/ 99	0.06	490.00	6.28	14.59			Yes
Explosives	1,3-Dinitrobenzene	mg/kg	1/ 99	0.08	0.08	0.65	0.08			Yes
Explosives	2,4,6-Trinitrotoluene	mg/kg	29/ 99	0.03	3800.00	79.50	164.80			Yes
Explosives	2,4-Dinitrotoluene	mg/kg	8/ 99	0.07	0.55	0.20	0.30			Yes
Explosives	2,6-Dinitrotoluene	mg/kg	3/ 99	0.08	0.62	0.20	0.30			Yes
Explosives	2-Nitrotoluene	mg/kg	3/ 99	0.07	0.17	0.65	0.17			Yes
Explosives	3-Nitrotoluene	mg/kg	3/ 99	0.09	21.00	0.55	0.97			Yes
Explosives	4-Nitrotoluene	mg/kg	2/ 99	0.13	0.19	0.65	0.19			Yes
Explosives	HMX	mg/kg	14/ 99	0.11	1700.00	19.60	48.10			Yes
Explosives	Nitrobenzene	mg/kg	2/ 99	0.04	0.05	0.66	0.05			Yes
Explosives	Nitrocellulose as N	mg/kg	7/ 20	2.50	315.00	28.07	58.29			Yes
Explosives	Nitroglycerin	mg/kg	2/ 21	5.50	12.00	2.03	2.96			Yes
Explosives	RDX	mg/kg	10/ 99	0.18	9500.00	100.60	259.90			Yes
Explosives	Tetryl	mg/kg	5/ 99	0.09	0.48	1.69	0.48			Yes
Metals	Aluminum	mg/kg	149/ 149	1410.00	50100.00	12400.00	13070.00	17700.00	12/149	Yes
Metals	Antimony	mg/kg	38/ 77	0.48	27.90	3.36	4.54	0.96	34/ 77	Yes
Metals	Arsenic	mg/kg	149/ 149	2.50	35.80	13.20	13.70	15.40	31/149	Yes
Metals	Barium	mg/kg	148/ 149	11.70	10400.00	384.10	547.10	88.40	69/149	Yes
Metals	Beryllium	mg/kg	21/ 76	0.23	3.40	0.42	0.52	0.88	8/ 76	Yes
Metals	Cadmium	mg/kg	102/ 148	0.06	877.00	11.26	21.44		102/148	Yes
Metals	Calcium	mg/kg	77/ 77	805.00	111000.00	10180.00	13650.00	15800.00	11/ 77	No
Metals	Chromium	mg/kg	149/ 149	5.40	189.00	19.15	21.61	17.40	54/149	Yes
Metals	Cobalt	mg/kg	76/ 77	1.20	12.70	7.87	8.27	10.40	5/ 77	Yes
Metals	Copper	mg/kg	77/ 77	9.30	16800.00	416.50	792.20	17.70	63/ 77	Yes
Metals	Cyanide	mg/kg	7/ 76	0.06	1.20	0.33	0.36		7/ 76	Yes
Metals	Iron	mg/kg	77/ 77	9450.00	39100.00	22440.00	23450.00	23100.00	36/ 77	No
Metals	Lead	mg/kg	149/ 149	10.20	2200.00	168.40	219.10	26.10	76/149	Yes
Metals	Magnesium	mg/kg	77/ 77	1410.00	16700.00	3194.00	3628.00	3030.00	24/ 77	No
Metals	Manganese	mg/kg	149/ 149	65.40	3910.00	559.60	602.20	1450.00	7/149	No
Metals	Mercury	mg/kg	77/ 149	0.03	1.20	0.07	0.09	0.04	63/149	Yes
Metals	Nickel	mg/kg	77/ 77	7.40	133.00	20.76	23.58	21.10	25/ 77	Yes
Metals	Potassium	mg/kg	77/ 77	400.00	3050.00	1212.00	1338.00	927.00	57/ 77	No
Metals	Selenium	mg/kg	100/ 149	0.34	5.00	0.86	0.96	1.40	17/149	Yes
Metals	Silver	mg/kg	25/ 149	0.22	33.20	0.89	1.29		25/149	Yes

Table L.1 Summary of Ravenna Sitewide Surface Soil

Metals	Sodium	mg/kg	42/ 76	43.50	1080.00	128.70	166.10	123.00	23/ 76	No
Metals	Thallium	mg/kg	7/ 77	1.40	3.10	0.49	0.59		7/ 77	Yes
Metals	Vanadium	mg/kg	77/ 77	11.20	34.00	20.99	21.93	31.10	3/ 77	No
Metals	Zinc	mg/kg	149/ 149	28.60	24900.00	424.20	704.30	61.80	97/149	Yes
Organics-Semivoli:	2-Methylnaphthalene	mg/kg	3/ 14	0.05	0.15	0.16	0.15			Yes
Organics-Semivoli:	Acenaphthene	mg/kg	2/ 14	0.14	0.15	0.19	0.15			Yes
Organics-Semivoli:	Anthracene	mg/kg	2/ 14	0.44	0.48	0.23	0.28			Yes
Organics-Semivoli:	Benzo(a)anthracene	mg/kg	4/ 14	0.04	1.00	0.27	0.39			Yes
Organics-Semivoli:	Benzo(a)pyrene	mg/kg	4/ 14	0.06	0.80	0.25	0.34			Yes
Organics-Semivoli:	Benzo(b)fluoranthene	mg/kg	4/ 14	0.09	1.10	0.29	0.42			Yes
Organics-Semivoli:	Benzo(g,h,i)perylene	mg/kg	3/ 14	0.11	0.39	0.20	0.24			Yes
Organics-Semivoli:	Benzo(k)fluoranthene	mg/kg	3/ 14	0.09	0.50	0.22	0.27			Yes
Organics-Semivoli:	Bis(2-ethylhexyl)phthalate	mg/kg	1/ 14	0.03	0.03	0.19	0.03			Yes
Organics-Semivoli:	Carbazole	mg/kg	2/ 14	0.20	0.27	0.20	0.22			Yes
Organics-Semivoli:	Chrysene	mg/kg	4/ 14	0.05	1.00	0.27	0.39			Yes
Organics-Semivoli:	Di-n-butyl Phthalate	mg/kg	1/ 14	0.05	0.05	0.19	0.05			Yes
Organics-Semivoli:	Dibenzo(a,h)anthracene	mg/kg	2/ 14	0.05	0.11	0.18	0.11			Yes
Organics-Semivoli:	Dibenzofuran	mg/kg	2/ 14	0.11	0.16	0.19	0.16			Yes
Organics-Semivoli:	Fluoranthene	mg/kg	5/ 14	0.04	2.70	0.50	0.88			Yes
Organics-Semivoli:	Fluorene	mg/kg	2/ 14	0.18	0.24	0.20	0.22			Yes
Organics-Semivoli:	Indeno(1,2,3-cd)pyrene	mg/kg	3/ 14	0.13	0.48	0.21	0.25			Yes
Organics-Semivoli:	Naphthalene	mg/kg	1/ 14	0.08	0.08	0.18	0.08			Yes
Organics-Semivoli:	Phenanthrene	mg/kg	5/ 14	0.07	2.40	0.41	0.72			Yes
Organics-Semivoli:	Pyrene	mg/kg	5/ 14	0.04	2.10	0.40	0.67			Yes
Organics-Volatile	Chloroform	mg/kg	1/ 10	0.00	0.00	0.00	0.00			Yes
Organics-Volatile	Methylene Chloride	mg/kg	1/ 10	0.01	0.01	0.00	0.01			Yes
Organics-Volatile	Toluene	mg/kg	8/ 10	0.00	0.17	0.03	0.17			Yes

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD	Analysis		Units	Dist.	Exposure
	Type	Analyte			Concentration
PAD-01	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-01	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-01	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-01	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-01	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-01	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-01	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-01	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-01	Explosives	HMX	UG/KG	D	
PAD-01	Explosives	Nitrobenzene	UG/KG	D	
PAD-01	Explosives	RDX	UG/KG	D	
PAD-01	Explosives	Tetryl	UG/KG	D	
PAD-01	Metals	Aluminum	MG/KG	X	10100.00
PAD-01	Metals	Arsenic	MG/KG	X	11.00
PAD-01	Metals	Barium	MG/KG	X	48.50
PAD-01	Metals	Cadmium	MG/KG	D	
PAD-01	Metals	Chromium	MG/KG	X	13.20
PAD-01	Metals	Lead	MG/KG	X	11.00
PAD-01	Metals	Mercury	MG/KG	D	
PAD-01	Metals	Selenium	MG/KG	X	0.82
PAD-01	Metals	Silver	MG/KG	D	
PAD-01	Metals	Zinc	MG/KG	X	46.60
PAD-02	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-02	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-02	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-02	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-02	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-02	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-02	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-02	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-02	Explosives	HMX	UG/KG	D	
PAD-02	Explosives	Nitrobenzene	UG/KG	D	
PAD-02	Explosives	RDX	UG/KG	D	
PAD-02	Explosives	Tetryl	UG/KG	D	
PAD-02	Metals	Aluminum	MG/KG	X	10600.00
PAD-02	Metals	Arsenic	MG/KG	X	14.20
PAD-02	Metals	Barium	MG/KG	X	53.40
PAD-02	Metals	Cadmium	MG/KG	D	
PAD-02	Metals	Chromium	MG/KG	X	14.40
PAD-02	Metals	Lead	MG/KG	X	14.70
PAD-02	Metals	Mercury	MG/KG	D	
PAD-02	Metals	Selenium	MG/KG	X	1.00
PAD-02	Metals	Silver	MG/KG	D	
PAD-02	Metals	Zinc	MG/KG	X	57.50
PAD-03	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-03	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-03	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-03	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-03	Explosives	2,6-Dinitrotoluene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-03	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-03	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-03	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-03	Explosives	HMX	UG/KG	D	
PAD-03	Explosives	Nitrobenzene	UG/KG	D	
PAD-03	Explosives	RDX	UG/KG	D	
PAD-03	Explosives	Tetryl	UG/KG	D	
PAD-03	Metals	Aluminum	MG/KG	X	9000.00
PAD-03	Metals	Arsenic	MG/KG	X	16.40
PAD-03	Metals	Barium	MG/KG	X	30.00
PAD-03	Metals	Cadmium	MG/KG	D	
PAD-03	Metals	Chromium	MG/KG	X	10.40
PAD-03	Metals	Lead	MG/KG	X	12.80
PAD-03	Metals	Mercury	MG/KG	D	
PAD-03	Metals	Selenium	MG/KG	X	0.79
PAD-03	Metals	Silver	MG/KG	D	
PAD-03	Metals	Zinc	MG/KG	X	56.70
PAD-04	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-04	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-04	Explosives	2,4,6-Trinitrotoluene	UG/KG	X	230.00
PAD-04	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-04	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-04	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-04	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-04	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-04	Explosives	HMX	UG/KG	D	
PAD-04	Explosives	Nitrobenzene	UG/KG	D	
PAD-04	Explosives	RDX	UG/KG	D	
PAD-04	Explosives	Tetryl	UG/KG	D	
PAD-04	Metals	Aluminum	MG/KG	X	1410.00
PAD-04	Metals	Arsenic	MG/KG	X	21.30
PAD-04	Metals	Barium	MG/KG	X	11.70
PAD-04	Metals	Cadmium	MG/KG	X	0.15
PAD-04	Metals	Chromium	MG/KG	X	5.40
PAD-04	Metals	Lead	MG/KG	X	21.10
PAD-04	Metals	Mercury	MG/KG	D	
PAD-04	Metals	Selenium	MG/KG	X	1.00
PAD-04	Metals	Silver	MG/KG	D	
PAD-04	Metals	Zinc	MG/KG	X	28.60
PAD-05	Explosives	1,3,5-Trinitrobenzene	UG/KG	N	85.00
PAD-05	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-05	Explosives	2,4,6-Trinitrotoluene	UG/KG	N	1100.00
PAD-05	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-05	Explosives	2,6-Dinitrotoluene	UG/KG	D	143.30
PAD-05	Explosives	2-Nitrotoluene	UG/KG	N	74.00
PAD-05	Explosives	3-Nitrotoluene	UG/KG	N	91.00
PAD-05	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-05	Explosives	HMX	UG/KG	D	2993.00
PAD-05	Explosives	Nitrobenzene	UG/KG	D	143.30
PAD-05	Explosives	Nitrocellulose as N	UG/KG	D	
PAD-05	Explosives	Nitroglycerin	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-05	Explosives	RDX	UG/KG	D	1164.00
PAD-05	Explosives	Tetryl	UG/KG	D	325.00
PAD-05	Metals	Aluminum	MG/KG	L	12600.00
PAD-05	Metals	Antimony	MG/KG	D	0.33
PAD-05	Metals	Arsenic	MG/KG	L	20.40
PAD-05	Metals	Barium	MG/KG	L	76.80
PAD-05	Metals	Beryllium	MG/KG	D	0.41
PAD-05	Metals	Cadmium	MG/KG	D	0.06
PAD-05	Metals	Calcium	MG/KG	N	12900.00
PAD-05	Metals	Chromium	MG/KG	L	17.40
PAD-05	Metals	Cobalt	MG/KG	N	8.50
PAD-05	Metals	Copper	MG/KG	L	22.50
PAD-05	Metals	Cyanide	MG/KG	D	0.33
PAD-05	Metals	Iron	MG/KG	L	25600.00
PAD-05	Metals	Lead	MG/KG	L	20.50
PAD-05	Metals	Magnesium	MG/KG	L	2530.00
PAD-05	Metals	Mercury	MG/KG	L	0.04
PAD-05	Metals	Nickel	MG/KG	L	22.30
PAD-05	Metals	Potassium	MG/KG	L	1360.00
PAD-05	Metals	Selenium	MG/KG	D	1.39
PAD-05	Metals	Silver	MG/KG	D	0.81
PAD-05	Metals	Sodium	MG/KG	D	34.75
PAD-05	Metals	Thallium	MG/KG	D	0.33
PAD-05	Metals	Zinc	MG/KG	L	66.70
PAD-06	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-06	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-06	Explosives	2,4,6-Trinitrotoluene	UG/KG	N	2700.00
PAD-06	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-06	Explosives	2,6-Dinitrotoluene	UG/KG	D	143.30
PAD-06	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-06	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-06	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-06	Explosives	HMX	UG/KG	D	2993.00
PAD-06	Explosives	Nitrobenzene	UG/KG	D	143.30
PAD-06	Explosives	Nitrocellulose as N	UG/KG	D	
PAD-06	Explosives	Nitroglycerin	UG/KG	D	
PAD-06	Explosives	RDX	UG/KG	D	1164.00
PAD-06	Explosives	Tetryl	UG/KG	D	325.00
PAD-06	Metals	Aluminum	MG/KG	L	12600.00
PAD-06	Metals	Antimony	MG/KG	D	0.32
PAD-06	Metals	Arsenic	MG/KG	L	16.50
PAD-06	Metals	Barium	MG/KG	L	75.50
PAD-06	Metals	Beryllium	MG/KG	D	0.29
PAD-06	Metals	Cadmium	MG/KG	D	0.41
PAD-06	Metals	Calcium	MG/KG	N	4660.00
PAD-06	Metals	Chromium	MG/KG	L	16.10
PAD-06	Metals	Cobalt	MG/KG	L	8.90
PAD-06	Metals	Copper	MG/KG	X	17.30
PAD-06	Metals	Cyanide	MG/KG	D	0.32
PAD-06	Metals	Iron	MG/KG	N	21200.00
PAD-06	Metals	Lead	MG/KG	N	19.50

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-06	Metals	Magnesium	MG/KG	L	2340.00
PAD-06	Metals	Mercury	MG/KG	L	0.25
PAD-06	Metals	Nickel	MG/KG	L	19.70
PAD-06	Metals	Potassium	MG/KG	L	1040.00
PAD-06	Metals	Selenium	MG/KG	D	1.31
PAD-06	Metals	Silver	MG/KG	D	0.81
PAD-06	Metals	Sodium	MG/KG	D	24.50
PAD-06	Metals	Thallium	MG/KG	D	0.32
PAD-06	Metals	Zinc	MG/KG	N	67.16
PAD-06	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-06	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-06	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-06	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-06	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	
PAD-06	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	
PAD-06	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-06	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-06	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-06	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-06	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-06	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-06	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-06	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-06	Organics-Semivolatile	Fluoranthene	UG/KG	D	
PAD-06	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-06	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-06	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-06	Organics-Semivolatile	Phenanthrene	UG/KG	D	
PAD-06	Organics-Semivolatile	Pyrene	UG/KG	D	
PAD-07	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-07	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-07	Explosives	2,4,6-Trinitrotoluene	UG/KG	X	340.00
PAD-07	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-07	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-07	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-07	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-07	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-07	Explosives	HMX	UG/KG	D	
PAD-07	Explosives	Nitrobenzene	UG/KG	D	
PAD-07	Explosives	RDX	UG/KG	D	
PAD-07	Explosives	Tetryl	UG/KG	D	
PAD-07	Metals	Aluminum	MG/KG	X	8070.00
PAD-07	Metals	Arsenic	MG/KG	X	14.30
PAD-07	Metals	Barium	MG/KG	X	32.20
PAD-07	Metals	Cadmium	MG/KG	X	0.07
PAD-07	Metals	Chromium	MG/KG	X	9.50
PAD-07	Metals	Lead	MG/KG	X	14.00
PAD-07	Metals	Mercury	MG/KG	D	
PAD-07	Metals	Selenium	MG/KG	X	1.40
PAD-07	Metals	Silver	MG/KG	D	
PAD-07	Metals	Zinc	MG/KG	X	48.70

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-08	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-08	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-08	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-08	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-08	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-08	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-08	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-08	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-08	Explosives	HMX	UG/KG	D	
PAD-08	Explosives	Nitrobenzene	UG/KG	D	
PAD-08	Explosives	RDX	UG/KG	D	
PAD-08	Explosives	Tetryl	UG/KG	D	
PAD-08	Metals	Aluminum	MG/KG	X	8420.00
PAD-08	Metals	Antimony	MG/KG	D	
PAD-08	Metals	Arsenic	MG/KG	X	16.70
PAD-08	Metals	Barium	MG/KG	X	45.20
PAD-08	Metals	Beryllium	MG/KG	X	0.65
PAD-08	Metals	Cadmium	MG/KG	X	0.13
PAD-08	Metals	Calcium	MG/KG	X	2330.00
PAD-08	Metals	Chromium	MG/KG	X	9.80
PAD-08	Metals	Cobalt	MG/KG	X	8.90
PAD-08	Metals	Copper	MG/KG	X	14.40
PAD-08	Metals	Cyanide	MG/KG	X	0.59
PAD-08	Metals	Iron	MG/KG	X	22600.00
PAD-08	Metals	Lead	MG/KG	X	15.70
PAD-08	Metals	Magnesium	MG/KG	X	1480.00
PAD-08	Metals	Mercury	MG/KG	D	
PAD-08	Metals	Nickel	MG/KG	X	13.00
PAD-08	Metals	Potassium	MG/KG	X	493.00
PAD-08	Metals	Selenium	MG/KG	X	2.10
PAD-08	Metals	Silver	MG/KG	D	
PAD-08	Metals	Sodium	MG/KG	X	168.00
PAD-08	Metals	Thallium	MG/KG	X	3.10
PAD-08	Metals	Zinc	MG/KG	X	41.80
PAD-08	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	X	80.00
PAD-08	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-08	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-08	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-08	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	
PAD-08	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	
PAD-08	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-08	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-08	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-08	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-08	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-08	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-08	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-08	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-08	Organics-Semivolatile	Fluoranthene	UG/KG	D	
PAD-08	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-08	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-08	Organics-Semivolatile	Naphthalene	UG/KG	X	76.00
PAD-08	Organics-Semivolatile	Phenanthrene	UG/KG	X	70.00
PAD-08	Organics-Semivolatile	Pyrene	UG/KG	D	
PAD-08	Organics-Volatile	Chloroform	UG/KG	D	
PAD-08	Organics-Volatile	Methylene Chloride	UG/KG	D	
PAD-08	Organics-Volatile	Toluene	UG/KG	D	
PAD-14	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-14	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-14	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-14	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-14	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-14	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-14	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-14	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-14	Explosives	HMX	UG/KG	D	
PAD-14	Explosives	Nitrobenzene	UG/KG	D	
PAD-14	Explosives	RDX	UG/KG	D	
PAD-14	Explosives	Tetryl	UG/KG	D	
PAD-14	Metals	Aluminum	MG/KG	X	9880.00
PAD-14	Metals	Arsenic	MG/KG	X	12.60
PAD-14	Metals	Barium	MG/KG	X	52.60
PAD-14	Metals	Chromium	MG/KG	X	13.90
PAD-14	Metals	Lead	MG/KG	X	13.40
PAD-14	Metals	Mercury	MG/KG	D	
PAD-14	Metals	Selenium	MG/KG	X	1.70
PAD-14	Metals	Silver	MG/KG	D	
PAD-14	Metals	Zinc	MG/KG	X	54.40
PAD-15	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-15	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-15	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-15	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-15	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-15	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-15	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-15	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-15	Explosives	HMX	UG/KG	D	
PAD-15	Explosives	Nitrobenzene	UG/KG	D	
PAD-15	Explosives	RDX	UG/KG	D	
PAD-15	Explosives	Tetryl	UG/KG	D	
PAD-15	Metals	Aluminum	MG/KG	X	9030.00
PAD-15	Metals	Arsenic	MG/KG	X	15.30
PAD-15	Metals	Barium	MG/KG	X	53.00
PAD-15	Metals	Cadmium	MG/KG	D	
PAD-15	Metals	Chromium	MG/KG	X	11.40
PAD-15	Metals	Lead	MG/KG	X	17.70
PAD-15	Metals	Mercury	MG/KG	D	
PAD-15	Metals	Selenium	MG/KG	X	1.10
PAD-15	Metals	Silver	MG/KG	D	
PAD-15	Metals	Zinc	MG/KG	X	37.80
PAD-16	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-16	Explosives	1,3-Dinitrobenzene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-16	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-16	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-16	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-16	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-16	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-16	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-16	Explosives	HMX	UG/KG	D	
PAD-16	Explosives	Nitrobenzene	UG/KG	D	
PAD-16	Explosives	RDX	UG/KG	D	
PAD-16	Explosives	Tetryl	UG/KG	D	
PAD-16	Metals	Aluminum	MG/KG	X	11400.00
PAD-16	Metals	Arsenic	MG/KG	X	14.00
PAD-16	Metals	Barium	MG/KG	X	46.90
PAD-16	Metals	Cadmium	MG/KG	D	
PAD-16	Metals	Chromium	MG/KG	X	13.30
PAD-16	Metals	Lead	MG/KG	X	17.10
PAD-16	Metals	Mercury	MG/KG	D	
PAD-16	Metals	Selenium	MG/KG	X	1.10
PAD-16	Metals	Silver	MG/KG	D	
PAD-16	Metals	Zinc	MG/KG	X	51.00
PAD-17	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-17	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-17	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-17	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-17	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-17	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-17	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-17	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-17	Explosives	HMX	UG/KG	D	
PAD-17	Explosives	Nitrobenzene	UG/KG	D	
PAD-17	Explosives	RDX	UG/KG	D	
PAD-17	Explosives	Tetryl	UG/KG	D	
PAD-17	Metals	Aluminum	MG/KG	X	14000.00
PAD-17	Metals	Arsenic	MG/KG	X	11.10
PAD-17	Metals	Barium	MG/KG	X	59.10
PAD-17	Metals	Cadmium	MG/KG	D	
PAD-17	Metals	Chromium	MG/KG	X	16.10
PAD-17	Metals	Lead	MG/KG	X	15.90
PAD-17	Metals	Mercury	MG/KG	D	
PAD-17	Metals	Selenium	MG/KG	X	0.40
PAD-17	Metals	Silver	MG/KG	D	
PAD-17	Metals	Zinc	MG/KG	X	54.30
PAD-18	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-18	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-18	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-18	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-18	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-18	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-18	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-18	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-18	Explosives	HMX	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-18	Explosives	Nitrobenzene	UG/KG	D	
PAD-18	Explosives	RDX	UG/KG	D	
PAD-18	Explosives	Tetryl	UG/KG	D	
PAD-18	Metals	Aluminum	MG/KG	X	10400.00
PAD-18	Metals	Arsenic	MG/KG	X	15.00
PAD-18	Metals	Barium	MG/KG	X	81.00
PAD-18	Metals	Cadmium	MG/KG	D	
PAD-18	Metals	Chromium	MG/KG	X	12.90
PAD-18	Metals	Lead	MG/KG	X	15.60
PAD-18	Metals	Mercury	MG/KG	D	
PAD-18	Metals	Selenium	MG/KG	X	0.96
PAD-18	Metals	Silver	MG/KG	D	
PAD-18	Metals	Zinc	MG/KG	X	49.00
PAD-19	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-19	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-19	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-19	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-19	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-19	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-19	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-19	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-19	Explosives	HMX	UG/KG	D	
PAD-19	Explosives	Nitrobenzene	UG/KG	D	
PAD-19	Explosives	RDX	UG/KG	D	
PAD-19	Explosives	Tetryl	UG/KG	D	
PAD-19	Metals	Aluminum	MG/KG	X	8090.00
PAD-19	Metals	Arsenic	MG/KG	X	12.00
PAD-19	Metals	Barium	MG/KG	X	34.80
PAD-19	Metals	Cadmium	MG/KG	D	
PAD-19	Metals	Chromium	MG/KG	X	8.50
PAD-19	Metals	Lead	MG/KG	X	12.70
PAD-19	Metals	Mercury	MG/KG	D	
PAD-19	Metals	Selenium	MG/KG	D	
PAD-19	Metals	Silver	MG/KG	D	
PAD-19	Metals	Zinc	MG/KG	X	39.00
PAD-20	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-20	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-20	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-20	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-20	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-20	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-20	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-20	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-20	Explosives	HMX	UG/KG	D	
PAD-20	Explosives	Nitrobenzene	UG/KG	D	
PAD-20	Explosives	RDX	UG/KG	D	
PAD-20	Explosives	Tetryl	UG/KG	D	
PAD-20	Metals	Aluminum	MG/KG	X	11800.00
PAD-20	Metals	Arsenic	MG/KG	X	14.00
PAD-20	Metals	Barium	MG/KG	X	57.90
PAD-20	Metals	Cadmium	MG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-20	Metals	Chromium	MG/KG	X	14.80
PAD-20	Metals	Lead	MG/KG	X	18.90
PAD-20	Metals	Mercury	MG/KG	D	
PAD-20	Metals	Selenium	MG/KG	X	1.40
PAD-20	Metals	Silver	MG/KG	D	
PAD-20	Metals	Zinc	MG/KG	X	50.50
PAD-23	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-23	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-23	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-23	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-23	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-23	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-23	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-23	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-23	Explosives	HMX	UG/KG	D	
PAD-23	Explosives	Nitrobenzene	UG/KG	D	
PAD-23	Explosives	RDX	UG/KG	D	
PAD-23	Explosives	Tetryl	UG/KG	D	
PAD-23	Metals	Aluminum	MG/KG	X	10300.00
PAD-23	Metals	Arsenic	MG/KG	X	11.00
PAD-23	Metals	Barium	MG/KG	X	74.00
PAD-23	Metals	Cadmium	MG/KG	X	0.34
PAD-23	Metals	Chromium	MG/KG	X	10.80
PAD-23	Metals	Lead	MG/KG	X	13.70
PAD-23	Metals	Mercury	MG/KG	D	
PAD-23	Metals	Selenium	MG/KG	X	0.44
PAD-23	Metals	Silver	MG/KG	D	
PAD-23	Metals	Zinc	MG/KG	X	51.50
PAD-24	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-24	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-24	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-24	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-24	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-24	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-24	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-24	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-24	Explosives	HMX	UG/KG	D	
PAD-24	Explosives	Nitrobenzene	UG/KG	D	
PAD-24	Explosives	RDX	UG/KG	D	
PAD-24	Explosives	Tetryl	UG/KG	D	
PAD-24	Metals	Aluminum	MG/KG	X	11500.00
PAD-24	Metals	Arsenic	MG/KG	X	13.70
PAD-24	Metals	Barium	MG/KG	X	54.80
PAD-24	Metals	Cadmium	MG/KG	X	0.22
PAD-24	Metals	Chromium	MG/KG	X	14.10
PAD-24	Metals	Lead	MG/KG	X	11.40
PAD-24	Metals	Mercury	MG/KG	D	
PAD-24	Metals	Selenium	MG/KG	X	0.69
PAD-24	Metals	Silver	MG/KG	D	
PAD-24	Metals	Zinc	MG/KG	X	45.20
PAD-25	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-25	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-25	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-25	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-25	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-25	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-25	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-25	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-25	Explosives	HMX	UG/KG	D	
PAD-25	Explosives	Nitrobenzene	UG/KG	D	
PAD-25	Explosives	RDX	UG/KG	D	
PAD-25	Explosives	Tetryl	UG/KG	D	
PAD-25	Metals	Aluminum	MG/KG	X	8250.00
PAD-25	Metals	Arsenic	MG/KG	X	12.30
PAD-25	Metals	Barium	MG/KG	X	47.60
PAD-25	Metals	Cadmium	MG/KG	X	0.34
PAD-25	Metals	Chromium	MG/KG	X	10.20
PAD-25	Metals	Lead	MG/KG	X	15.10
PAD-25	Metals	Mercury	MG/KG	D	
PAD-25	Metals	Selenium	MG/KG	X	0.55
PAD-25	Metals	Silver	MG/KG	D	
PAD-25	Metals	Zinc	MG/KG	X	36.00
PAD-26	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-26	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-26	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-26	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-26	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-26	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-26	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-26	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-26	Explosives	HMX	UG/KG	D	
PAD-26	Explosives	Nitrobenzene	UG/KG	D	
PAD-26	Explosives	RDX	UG/KG	D	
PAD-26	Explosives	Tetryl	UG/KG	D	
PAD-26	Metals	Aluminum	MG/KG	X	9490.00
PAD-26	Metals	Arsenic	MG/KG	X	12.50
PAD-26	Metals	Barium	MG/KG	X	31.20
PAD-26	Metals	Cadmium	MG/KG	X	0.20
PAD-26	Metals	Chromium	MG/KG	X	10.30
PAD-26	Metals	Lead	MG/KG	X	12.50
PAD-26	Metals	Mercury	MG/KG	D	
PAD-26	Metals	Selenium	MG/KG	X	0.88
PAD-26	Metals	Silver	MG/KG	D	
PAD-26	Metals	Zinc	MG/KG	X	45.40
PAD-27	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-27	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-27	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-27	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-27	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-27	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-27	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-27	Explosives	4-Nitrotoluene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-27	Explosives	HMX	UG/KG	D	
PAD-27	Explosives	Nitrobenzene	UG/KG	D	
PAD-27	Explosives	RDX	UG/KG	D	
PAD-27	Explosives	Tetryl	UG/KG	D	
PAD-27	Metals	Aluminum	MG/KG	X	11400.00
PAD-27	Metals	Arsenic	MG/KG	X	12.90
PAD-27	Metals	Barium	MG/KG	X	75.70
PAD-27	Metals	Cadmium	MG/KG	X	0.57
PAD-27	Metals	Chromium	MG/KG	X	13.70
PAD-27	Metals	Lead	MG/KG	X	12.90
PAD-27	Metals	Mercury	MG/KG	D	
PAD-27	Metals	Selenium	MG/KG	X	2.10
PAD-27	Metals	Silver	MG/KG	D	
PAD-27	Metals	Zinc	MG/KG	X	47.40
PAD-28	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-28	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-28	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-28	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-28	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-28	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-28	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-28	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-28	Explosives	HMX	UG/KG	D	
PAD-28	Explosives	Nitrobenzene	UG/KG	D	
PAD-28	Explosives	RDX	UG/KG	D	
PAD-28	Explosives	Tetryl	UG/KG	D	
PAD-28	Metals	Aluminum	MG/KG	X	12500.00
PAD-28	Metals	Antimony	MG/KG	D	
PAD-28	Metals	Arsenic	MG/KG	X	15.10
PAD-28	Metals	Barium	MG/KG	X	42.70
PAD-28	Metals	Beryllium	MG/KG	X	0.58
PAD-28	Metals	Cadmium	MG/KG	D	
PAD-28	Metals	Calcium	MG/KG	X	805.00
PAD-28	Metals	Chromium	MG/KG	X	15.20
PAD-28	Metals	Cobalt	MG/KG	X	7.20
PAD-28	Metals	Copper	MG/KG	X	18.80
PAD-28	Metals	Cyanide	MG/KG	D	
PAD-28	Metals	Iron	MG/KG	X	27300.00
PAD-28	Metals	Lead	MG/KG	X	13.70
PAD-28	Metals	Magnesium	MG/KG	X	2640.00
PAD-28	Metals	Mercury	MG/KG	D	
PAD-28	Metals	Nickel	MG/KG	X	18.50
PAD-28	Metals	Potassium	MG/KG	X	824.00
PAD-28	Metals	Selenium	MG/KG	X	1.80
PAD-28	Metals	Silver	MG/KG	D	
PAD-28	Metals	Sodium	MG/KG	X	162.00
PAD-28	Metals	Thallium	MG/KG	X	1.80
PAD-28	Metals	Zinc	MG/KG	X	49.60
PAD-28	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-28	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-28	Organics-Semivolatile	Anthracene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-28	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-28	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	
PAD-28	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	
PAD-28	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-28	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-28	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-28	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-28	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-28	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-28	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-28	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-28	Organics-Semivolatile	Fluoranthene	UG/KG	D	
PAD-28	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-28	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-28	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-28	Organics-Semivolatile	Phenanthrene	UG/KG	D	
PAD-28	Organics-Semivolatile	Pyrene	UG/KG	D	
PAD-28	Organics-Volatile	Chloroform	UG/KG	D	
PAD-28	Organics-Volatile	Methylene Chloride	UG/KG	D	
PAD-28	Organics-Volatile	Toluene	UG/KG	X	40.00
PAD-29	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-29	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-29	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-29	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-29	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-29	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-29	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-29	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-29	Explosives	HMX	UG/KG	D	
PAD-29	Explosives	Nitrobenzene	UG/KG	D	
PAD-29	Explosives	RDX	UG/KG	D	
PAD-29	Explosives	Tetryl	UG/KG	D	
PAD-29	Metals	Aluminum	MG/KG	X	17400.00
PAD-29	Metals	Arsenic	MG/KG	X	7.90
PAD-29	Metals	Barium	MG/KG	X	100.00
PAD-29	Metals	Cadmium	MG/KG	D	
PAD-29	Metals	Chromium	MG/KG	X	18.40
PAD-29	Metals	Lead	MG/KG	X	15.80
PAD-29	Metals	Mercury	MG/KG	D	
PAD-29	Metals	Selenium	MG/KG	X	0.79
PAD-29	Metals	Silver	MG/KG	D	
PAD-29	Metals	Zinc	MG/KG	X	57.70
PAD-30	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-30	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-30	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-30	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-30	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-30	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-30	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-30	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-30	Explosives	HMX	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-30	Explosives	Nitrobenzene	UG/KG	D	
PAD-30	Explosives	RDX	UG/KG	D	
PAD-30	Explosives	Tetryl	UG/KG	D	
PAD-30	Metals	Aluminum	MG/KG	X	8500.00
PAD-30	Metals	Arsenic	MG/KG	X	19.80
PAD-30	Metals	Barium	MG/KG	X	39.20
PAD-30	Metals	Cadmium	MG/KG	D	
PAD-30	Metals	Chromium	MG/KG	X	12.40
PAD-30	Metals	Lead	MG/KG	X	13.20
PAD-30	Metals	Mercury	MG/KG	D	
PAD-30	Metals	Selenium	MG/KG	X	0.69
PAD-30	Metals	Silver	MG/KG	D	
PAD-30	Metals	Zinc	MG/KG	X	65.40
PAD-31	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-31	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-31	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-31	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-31	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-31	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-31	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-31	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-31	Explosives	HMX	UG/KG	D	
PAD-31	Explosives	Nitrobenzene	UG/KG	D	
PAD-31	Explosives	RDX	UG/KG	D	
PAD-31	Explosives	Tetryl	UG/KG	D	
PAD-31	Metals	Aluminum	MG/KG	X	12300.00
PAD-31	Metals	Arsenic	MG/KG	X	16.10
PAD-31	Metals	Barium	MG/KG	X	55.60
PAD-31	Metals	Cadmium	MG/KG	D	
PAD-31	Metals	Chromium	MG/KG	X	14.70
PAD-31	Metals	Lead	MG/KG	X	17.90
PAD-31	Metals	Mercury	MG/KG	D	
PAD-31	Metals	Selenium	MG/KG	X	1.40
PAD-31	Metals	Silver	MG/KG	D	
PAD-31	Metals	Zinc	MG/KG	X	54.00
PAD-32	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-32	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-32	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	125.00
PAD-32	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-32	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.00
PAD-32	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-32	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-32	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-32	Explosives	HMX	UG/KG	D	1000.00
PAD-32	Explosives	Nitrobenzene	UG/KG	D	130.00
PAD-32	Explosives	RDX	UG/KG	D	500.00
PAD-32	Explosives	Tetryl	UG/KG	D	325.00
PAD-32	Metals	Aluminum	MG/KG	N	20500.00
PAD-32	Metals	Arsenic	MG/KG	N	9.70
PAD-32	Metals	Barium	MG/KG	N	263.00
PAD-32	Metals	Cadmium	MG/KG	N	8.20

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-32	Metals	Chromium	MG/KG	N	11.20
PAD-32	Metals	Lead	MG/KG	N	56.20
PAD-32	Metals	Mercury	MG/KG	N	0.04
PAD-32	Metals	Selenium	MG/KG	N	1.00
PAD-32	Metals	Silver	MG/KG	D	0.12
PAD-32	Metals	Zinc	MG/KG	N	329.00
PAD-33	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-33	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-33	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-33	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-33	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-33	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-33	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-33	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-33	Explosives	HMX	UG/KG	D	
PAD-33	Explosives	Nitrobenzene	UG/KG	D	
PAD-33	Explosives	RDX	UG/KG	D	
PAD-33	Explosives	Tetryl	UG/KG	D	
PAD-33	Metals	Aluminum	MG/KG	X	14900.00
PAD-33	Metals	Arsenic	MG/KG	X	16.90
PAD-33	Metals	Barium	MG/KG	X	64.20
PAD-33	Metals	Cadmium	MG/KG	X	0.37
PAD-33	Metals	Chromium	MG/KG	X	18.00
PAD-33	Metals	Lead	MG/KG	X	15.50
PAD-33	Metals	Mercury	MG/KG	D	
PAD-33	Metals	Selenium	MG/KG	X	1.10
PAD-33	Metals	Silver	MG/KG	D	
PAD-33	Metals	Zinc	MG/KG	X	69.00
PAD-34	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-34	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-34	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-34	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-34	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-34	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-34	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-34	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-34	Explosives	HMX	UG/KG	D	
PAD-34	Explosives	Nitrobenzene	UG/KG	D	
PAD-34	Explosives	RDX	UG/KG	D	
PAD-34	Explosives	Tetryl	UG/KG	D	
PAD-34	Metals	Aluminum	MG/KG	X	13100.00
PAD-34	Metals	Arsenic	MG/KG	X	14.20
PAD-34	Metals	Barium	MG/KG	X	112.00
PAD-34	Metals	Cadmium	MG/KG	X	0.42
PAD-34	Metals	Chromium	MG/KG	X	17.90
PAD-34	Metals	Lead	MG/KG	X	18.50
PAD-34	Metals	Mercury	MG/KG	D	
PAD-34	Metals	Selenium	MG/KG	X	0.85
PAD-34	Metals	Silver	MG/KG	D	
PAD-34	Metals	Zinc	MG/KG	X	68.60
PAD-35	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-35	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-35	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-35	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-35	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-35	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-35	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-35	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-35	Explosives	HMX	UG/KG	D	
PAD-35	Explosives	Nitrobenzene	UG/KG	D	
PAD-35	Explosives	RDX	UG/KG	D	
PAD-35	Explosives	Tetryl	UG/KG	D	
PAD-35	Metals	Aluminum	MG/KG	X	12800.00
PAD-35	Metals	Arsenic	MG/KG	X	12.20
PAD-35	Metals	Barium	MG/KG	X	56.40
PAD-35	Metals	Cadmium	MG/KG	X	0.16
PAD-35	Metals	Chromium	MG/KG	X	15.20
PAD-35	Metals	Lead	MG/KG	X	17.00
PAD-35	Metals	Mercury	MG/KG	D	
PAD-35	Metals	Selenium	MG/KG	X	0.69
PAD-35	Metals	Silver	MG/KG	D	
PAD-35	Metals	Zinc	MG/KG	X	48.50
PAD-36	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-36	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-36	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-36	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-36	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-36	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-36	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-36	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-36	Explosives	HMX	UG/KG	D	
PAD-36	Explosives	Nitrobenzene	UG/KG	D	
PAD-36	Explosives	RDX	UG/KG	D	
PAD-36	Explosives	Tetryl	UG/KG	D	
PAD-36	Metals	Aluminum	MG/KG	X	12300.00
PAD-36	Metals	Arsenic	MG/KG	X	11.40
PAD-36	Metals	Barium	MG/KG	X	54.50
PAD-36	Metals	Cadmium	MG/KG	X	0.16
PAD-36	Metals	Chromium	MG/KG	X	14.20
PAD-36	Metals	Lead	MG/KG	X	18.60
PAD-36	Metals	Mercury	MG/KG	D	
PAD-36	Metals	Selenium	MG/KG	X	0.64
PAD-36	Metals	Silver	MG/KG	D	
PAD-36	Metals	Zinc	MG/KG	X	54.60
PAD-37	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	131.30
PAD-37	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-37	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	1146.00
PAD-37	Explosives	2,4-Dinitrotoluene	UG/KG	D	200.20
PAD-37	Explosives	2,6-Dinitrotoluene	UG/KG	D	129.80
PAD-37	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-37	Explosives	3-Nitrotoluene	UG/KG	D	120.00
PAD-37	Explosives	4-Nitrotoluene	UG/KG	D	152.30

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-37	Explosives	HMX	UG/KG	D	1103.00
PAD-37	Explosives	Nitrobenzene	UG/KG	D	54.00
PAD-37	Explosives	Nitrocellulose as N	UG/KG	N	315000.00
PAD-37	Explosives	Nitroglycerin	UG/KG	N	12000.00
PAD-37	Explosives	RDX	UG/KG	D	3513.00
PAD-37	Explosives	Tetryl	UG/KG	D	325.00
PAD-37	Metals	Aluminum	MG/KG	L	22780.00
PAD-37	Metals	Antimony	MG/KG	N	2.37
PAD-37	Metals	Arsenic	MG/KG	N	14.52
PAD-37	Metals	Barium	MG/KG	L	343.90
PAD-37	Metals	Beryllium	MG/KG	N	2.88
PAD-37	Metals	Cadmium	MG/KG	L	26.80
PAD-37	Metals	Calcium	MG/KG	L	111000.00
PAD-37	Metals	Chromium	MG/KG	L	27.82
PAD-37	Metals	Cobalt	MG/KG	N	7.92
PAD-37	Metals	Copper	MG/KG	N	59.00
PAD-37	Metals	Cyanide	MG/KG	D	0.23
PAD-37	Metals	Iron	MG/KG	N	24440.00
PAD-37	Metals	Lead	MG/KG	L	1490.00
PAD-37	Metals	Magnesium	MG/KG	L	16700.00
PAD-37	Metals	Mercury	MG/KG	D	0.03
PAD-37	Metals	Nickel	MG/KG	N	22.28
PAD-37	Metals	Potassium	MG/KG	N	2118.00
PAD-37	Metals	Selenium	MG/KG	L	1.68
PAD-37	Metals	Silver	MG/KG	D	0.86
PAD-37	Metals	Sodium	MG/KG	L	997.00
PAD-37	Metals	Thallium	MG/KG	D	1.81
PAD-37	Metals	Zinc	MG/KG	N	226.90
PAD-37	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-37	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-37	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-37	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-37	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	
PAD-37	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	
PAD-37	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-37	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-37	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	X	34.00
PAD-37	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-37	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-37	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	X	53.00
PAD-37	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-37	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-37	Organics-Semivolatile	Fluoranthene	UG/KG	D	
PAD-37	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-37	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-37	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-37	Organics-Semivolatile	Phenanthrene	UG/KG	D	
PAD-37	Organics-Semivolatile	Pyrene	UG/KG	D	
PAD-37	Organics-Volatile	Chloroform	UG/KG	D	
PAD-37	Organics-Volatile	Methylene Chloride	UG/KG	D	
PAD-37	Organics-Volatile	Toluene	UG/KG	X	17.00

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-38	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	57.00
PAD-38	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-38	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	2800.00
PAD-38	Explosives	2,4-Dinitrotoluene	UG/KG	D	310.00
PAD-38	Explosives	2,6-Dinitrotoluene	UG/KG	D	133.20
PAD-38	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-38	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-38	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-38	Explosives	HMX	UG/KG	D	1480.00
PAD-38	Explosives	Nitrobenzene	UG/KG	D	133.20
PAD-38	Explosives	Nitrocellulose as N	UG/KG	D	
PAD-38	Explosives	Nitroglycerin	UG/KG	D	
PAD-38	Explosives	RDX	UG/KG	D	660.00
PAD-38	Explosives	Tetryl	UG/KG	D	325.00
PAD-38	Metals	Aluminum	MG/KG	L	22200.00
PAD-38	Metals	Antimony	MG/KG	D	1.30
PAD-38	Metals	Arsenic	MG/KG	L	16.10
PAD-38	Metals	Barium	MG/KG	L	596.00
PAD-38	Metals	Beryllium	MG/KG	D	1.60
PAD-38	Metals	Cadmium	MG/KG	L	877.00
PAD-38	Metals	Calcium	MG/KG	L	56400.00
PAD-38	Metals	Chromium	MG/KG	N	26.77
PAD-38	Metals	Cobalt	MG/KG	N	9.00
PAD-38	Metals	Copper	MG/KG	L	82.00
PAD-38	Metals	Cyanide	MG/KG	D	0.34
PAD-38	Metals	Iron	MG/KG	N	25100.00
PAD-38	Metals	Lead	MG/KG	N	410.50
PAD-38	Metals	Magnesium	MG/KG	L	8220.00
PAD-38	Metals	Mercury	MG/KG	D	0.03
PAD-38	Metals	Nickel	MG/KG	N	21.20
PAD-38	Metals	Potassium	MG/KG	X	1670.00
PAD-38	Metals	Selenium	MG/KG	L	5.00
PAD-38	Metals	Silver	MG/KG	D	0.72
PAD-38	Metals	Sodium	MG/KG	D	328.00
PAD-38	Metals	Thallium	MG/KG	D	0.34
PAD-38	Metals	Zinc	MG/KG	L	877.00
PAD-39	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-39	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-39	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-39	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-39	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-39	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-39	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-39	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-39	Explosives	HMX	UG/KG	D	
PAD-39	Explosives	Nitrobenzene	UG/KG	D	
PAD-39	Explosives	RDX	UG/KG	D	
PAD-39	Explosives	Tetryl	UG/KG	D	
PAD-39	Metals	Aluminum	MG/KG	X	10200.00
PAD-39	Metals	Arsenic	MG/KG	X	12.30
PAD-39	Metals	Barium	MG/KG	X	41.90

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-39	Metals	Cadmium	MG/KG	X	0.24
PAD-39	Metals	Chromium	MG/KG	X	11.60
PAD-39	Metals	Lead	MG/KG	X	18.10
PAD-39	Metals	Mercury	MG/KG	D	
PAD-39	Metals	Selenium	MG/KG	X	0.64
PAD-39	Metals	Silver	MG/KG	D	
PAD-39	Metals	Zinc	MG/KG	X	82.20
PAD-40	Explosives	1,3,5-Trinitrobenzene	UG/KG	N	64.00
PAD-40	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-40	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	125.00
PAD-40	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-40	Explosives	2,6-Dinitrotoluene	UG/KG	D	143.30
PAD-40	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-40	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-40	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-40	Explosives	HMX	UG/KG	D	2993.00
PAD-40	Explosives	Nitrobenzene	UG/KG	D	143.30
PAD-40	Explosives	Nitrocellulose as N	UG/KG	D	
PAD-40	Explosives	Nitroglycerin	UG/KG	D	
PAD-40	Explosives	RDX	UG/KG	D	1164.00
PAD-40	Explosives	Tetryl	UG/KG	D	325.00
PAD-40	Metals	Aluminum	MG/KG	N	10900.00
PAD-40	Metals	Antimony	MG/KG	D	0.74
PAD-40	Metals	Arsenic	MG/KG	L	35.80
PAD-40	Metals	Barium	MG/KG	L	90.70
PAD-40	Metals	Beryllium	MG/KG	D	0.35
PAD-40	Metals	Cadmium	MG/KG	D	0.40
PAD-40	Metals	Calcium	MG/KG	L	29100.00
PAD-40	Metals	Chromium	MG/KG	L	14.30
PAD-40	Metals	Cobalt	MG/KG	N	9.50
PAD-40	Metals	Copper	MG/KG	N	25.00
PAD-40	Metals	Cyanide	MG/KG	D	0.32
PAD-40	Metals	Iron	MG/KG	N	26400.00
PAD-40	Metals	Lead	MG/KG	L	189.00
PAD-40	Metals	Magnesium	MG/KG	L	3080.00
PAD-40	Metals	Mercury	MG/KG	L	0.06
PAD-40	Metals	Nickel	MG/KG	L	29.20
PAD-40	Metals	Potassium	MG/KG	L	1120.00
PAD-40	Metals	Selenium	MG/KG	N	1.20
PAD-40	Metals	Silver	MG/KG	D	0.75
PAD-40	Metals	Sodium	MG/KG	D	38.41
PAD-40	Metals	Thallium	MG/KG	D	0.32
PAD-40	Metals	Zinc	MG/KG	L	317.00
PAD-40	Organics-Semivolatile	2,4-Dinitrotoluene	UG/KG	D	
PAD-40	Organics-Semivolatile	2,6-Dinitrotoluene	UG/KG	D	
PAD-40	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-40	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-40	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-40	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-40	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	
PAD-40	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-40	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-40	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-40	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-40	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-40	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-40	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-40	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-40	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-40	Organics-Semivolatile	Fluoranthene	UG/KG	D	
PAD-40	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-40	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-40	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-40	Organics-Semivolatile	Nitrobenzene	UG/KG	D	
PAD-40	Organics-Semivolatile	Phenanthrene	UG/KG	D	
PAD-40	Organics-Semivolatile	Pyrene	UG/KG	D	
PAD-41	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-41	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-41	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	125.00
PAD-41	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-41	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.00
PAD-41	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-41	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-41	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-41	Explosives	HMX	UG/KG	D	1000.00
PAD-41	Explosives	Nitrobenzene	UG/KG	D	130.00
PAD-41	Explosives	RDX	UG/KG	D	500.00
PAD-41	Explosives	Tetryl	UG/KG	D	325.00
PAD-41	Metals	Aluminum	MG/KG	N	8980.00
PAD-41	Metals	Arsenic	MG/KG	N	21.60
PAD-41	Metals	Barium	MG/KG	N	55.80
PAD-41	Metals	Cadmium	MG/KG	N	0.36
PAD-41	Metals	Chromium	MG/KG	N	10.30
PAD-41	Metals	Lead	MG/KG	N	18.10
PAD-41	Metals	Mercury	MG/KG	N	0.06
PAD-41	Metals	Selenium	MG/KG	N	1.70
PAD-41	Metals	Silver	MG/KG	D	0.14
PAD-41	Metals	Zinc	MG/KG	N	46.70
PAD-43	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-43	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-43	Explosives	2,4,6-Trinitrotoluene	UG/KG	N	450.00
PAD-43	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-43	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.00
PAD-43	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-43	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-43	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-43	Explosives	HMX	UG/KG	D	1000.00
PAD-43	Explosives	Nitrobenzene	UG/KG	D	130.00
PAD-43	Explosives	RDX	UG/KG	D	500.00
PAD-43	Explosives	Tetryl	UG/KG	D	325.00
PAD-43	Metals	Aluminum	MG/KG	N	15200.00
PAD-43	Metals	Arsenic	MG/KG	N	14.10

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-43	Metals	Barium	MG/KG	N	63.70
PAD-43	Metals	Cadmium	MG/KG	N	0.31
PAD-43	Metals	Chromium	MG/KG	N	17.20
PAD-43	Metals	Lead	MG/KG	N	13.40
PAD-43	Metals	Mercury	MG/KG	D	0.03
PAD-43	Metals	Selenium	MG/KG	N	0.56
PAD-43	Metals	Silver	MG/KG	D	0.14
PAD-43	Metals	Zinc	MG/KG	N	69.40
PAD-44	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-44	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-44	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-44	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-44	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-44	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-44	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-44	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-44	Explosives	HMX	UG/KG	D	
PAD-44	Explosives	Nitrobenzene	UG/KG	D	
PAD-44	Explosives	RDX	UG/KG	D	
PAD-44	Explosives	Tetryl	UG/KG	D	
PAD-44	Metals	Aluminum	MG/KG	X	12400.00
PAD-44	Metals	Arsenic	MG/KG	X	12.40
PAD-44	Metals	Barium	MG/KG	X	41.80
PAD-44	Metals	Cadmium	MG/KG	D	
PAD-44	Metals	Chromium	MG/KG	X	15.40
PAD-44	Metals	Lead	MG/KG	X	13.70
PAD-44	Metals	Mercury	MG/KG	D	
PAD-44	Metals	Selenium	MG/KG	X	0.72
PAD-44	Metals	Silver	MG/KG	D	
PAD-44	Metals	Zinc	MG/KG	X	55.60
PAD-45	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-45	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-45	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-45	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-45	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-45	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-45	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-45	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-45	Explosives	HMX	UG/KG	D	
PAD-45	Explosives	Nitrobenzene	UG/KG	D	
PAD-45	Explosives	RDX	UG/KG	D	
PAD-45	Explosives	Tetryl	UG/KG	D	
PAD-45	Metals	Aluminum	MG/KG	X	9910.00
PAD-45	Metals	Arsenic	MG/KG	X	12.10
PAD-45	Metals	Barium	MG/KG	X	99.90
PAD-45	Metals	Cadmium	MG/KG	X	1.80
PAD-45	Metals	Chromium	MG/KG	X	6.80
PAD-45	Metals	Lead	MG/KG	X	314.00
PAD-45	Metals	Mercury	MG/KG	D	
PAD-45	Metals	Selenium	MG/KG	X	0.82
PAD-45	Metals	Silver	MG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-45	Metals	Zinc	MG/KG	X	349.00
PAD-46	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-46	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-46	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-46	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-46	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-46	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-46	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-46	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-46	Explosives	HMX	UG/KG	D	
PAD-46	Explosives	Nitrobenzene	UG/KG	D	
PAD-46	Explosives	RDX	UG/KG	D	
PAD-46	Explosives	Tetryl	UG/KG	D	
PAD-46	Metals	Aluminum	MG/KG	X	8320.00
PAD-46	Metals	Arsenic	MG/KG	X	16.50
PAD-46	Metals	Barium	MG/KG	X	36.50
PAD-46	Metals	Cadmium	MG/KG	X	0.37
PAD-46	Metals	Chromium	MG/KG	X	11.40
PAD-46	Metals	Lead	MG/KG	X	12.40
PAD-46	Metals	Mercury	MG/KG	D	
PAD-46	Metals	Selenium	MG/KG	X	0.70
PAD-46	Metals	Silver	MG/KG	D	
PAD-46	Metals	Zinc	MG/KG	X	54.20
PAD-47	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-47	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-47	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-47	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-47	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-47	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-47	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-47	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-47	Explosives	HMX	UG/KG	D	
PAD-47	Explosives	Nitrobenzene	UG/KG	D	
PAD-47	Explosives	RDX	UG/KG	D	
PAD-47	Explosives	Tetryl	UG/KG	D	
PAD-47	Metals	Aluminum	MG/KG	X	10000.00
PAD-47	Metals	Arsenic	MG/KG	X	14.00
PAD-47	Metals	Barium	MG/KG	X	43.50
PAD-47	Metals	Cadmium	MG/KG	X	5.70
PAD-47	Metals	Chromium	MG/KG	X	12.10
PAD-47	Metals	Lead	MG/KG	X	13.70
PAD-47	Metals	Mercury	MG/KG	D	
PAD-47	Metals	Selenium	MG/KG	X	0.51
PAD-47	Metals	Silver	MG/KG	D	
PAD-47	Metals	Zinc	MG/KG	X	79.20
PAD-48	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-48	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-48	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-48	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-48	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-48	Explosives	2-Nitrotoluene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-48	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-48	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-48	Explosives	HMX	UG/KG	D	
PAD-48	Explosives	Nitrobenzene	UG/KG	D	
PAD-48	Explosives	RDX	UG/KG	D	
PAD-48	Explosives	Tetryl	UG/KG	D	
PAD-48	Metals	Aluminum	MG/KG	X	10100.00
PAD-48	Metals	Arsenic	MG/KG	X	13.10
PAD-48	Metals	Barium	MG/KG	X	31.80
PAD-48	Metals	Cadmium	MG/KG	X	0.14
PAD-48	Metals	Chromium	MG/KG	X	11.80
PAD-48	Metals	Lead	MG/KG	X	14.40
PAD-48	Metals	Mercury	MG/KG	D	
PAD-48	Metals	Selenium	MG/KG	X	0.75
PAD-48	Metals	Silver	MG/KG	D	
PAD-48	Metals	Zinc	MG/KG	X	50.50
PAD-49	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-49	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-49	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-49	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-49	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-49	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-49	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-49	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-49	Explosives	HMX	UG/KG	D	
PAD-49	Explosives	Nitrobenzene	UG/KG	D	
PAD-49	Explosives	RDX	UG/KG	D	
PAD-49	Explosives	Tetryl	UG/KG	D	
PAD-49	Metals	Aluminum	MG/KG	X	12600.00
PAD-49	Metals	Arsenic	MG/KG	X	17.60
PAD-49	Metals	Barium	MG/KG	X	38.80
PAD-49	Metals	Cadmium	MG/KG	X	0.88
PAD-49	Metals	Chromium	MG/KG	X	15.40
PAD-49	Metals	Lead	MG/KG	X	17.70
PAD-49	Metals	Mercury	MG/KG	D	
PAD-49	Metals	Selenium	MG/KG	X	0.97
PAD-49	Metals	Silver	MG/KG	D	
PAD-49	Metals	Zinc	MG/KG	X	60.40
PAD-50	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-50	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-50	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-50	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-50	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-50	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-50	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-50	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-50	Explosives	HMX	UG/KG	D	
PAD-50	Explosives	Nitrobenzene	UG/KG	D	
PAD-50	Explosives	RDX	UG/KG	D	
PAD-50	Explosives	Tetryl	UG/KG	D	
PAD-50	Metals	Aluminum	MG/KG	X	12400.00

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-50	Metals	Arsenic	MG/KG	X	16.40
PAD-50	Metals	Barium	MG/KG	X	65.70
PAD-50	Metals	Cadmium	MG/KG	X	0.28
PAD-50	Metals	Chromium	MG/KG	X	16.60
PAD-50	Metals	Lead	MG/KG	X	14.40
PAD-50	Metals	Mercury	MG/KG	D	
PAD-50	Metals	Selenium	MG/KG	X	0.77
PAD-50	Metals	Silver	MG/KG	D	
PAD-50	Metals	Zinc	MG/KG	X	65.00
PAD-51	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-51	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-51	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-51	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-51	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-51	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-51	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-51	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-51	Explosives	HMX	UG/KG	D	
PAD-51	Explosives	Nitrobenzene	UG/KG	D	
PAD-51	Explosives	RDX	UG/KG	D	
PAD-51	Explosives	Tetryl	UG/KG	D	
PAD-51	Metals	Aluminum	MG/KG	X	12800.00
PAD-51	Metals	Arsenic	MG/KG	X	15.60
PAD-51	Metals	Barium	MG/KG	X	53.00
PAD-51	Metals	Cadmium	MG/KG	X	0.43
PAD-51	Metals	Chromium	MG/KG	X	15.90
PAD-51	Metals	Lead	MG/KG	X	14.90
PAD-51	Metals	Mercury	MG/KG	X	0.04
PAD-51	Metals	Selenium	MG/KG	X	0.92
PAD-51	Metals	Silver	MG/KG	D	
PAD-51	Metals	Zinc	MG/KG	X	57.00
PAD-52	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-52	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-52	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-52	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-52	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-52	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-52	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-52	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-52	Explosives	HMX	UG/KG	D	
PAD-52	Explosives	Nitrobenzene	UG/KG	D	
PAD-52	Explosives	RDX	UG/KG	D	
PAD-52	Explosives	Tetryl	UG/KG	D	
PAD-52	Metals	Aluminum	MG/KG	X	11300.00
PAD-52	Metals	Arsenic	MG/KG	X	13.50
PAD-52	Metals	Barium	MG/KG	X	62.90
PAD-52	Metals	Cadmium	MG/KG	X	0.20
PAD-52	Metals	Chromium	MG/KG	X	13.40
PAD-52	Metals	Lead	MG/KG	X	14.40
PAD-52	Metals	Mercury	MG/KG	D	
PAD-52	Metals	Selenium	MG/KG	D	

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PAD-52	Metals	Silver	MG/KG	D	
PAD-52	Metals	Zinc	MG/KG	X	58.20
PAD-53	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-53	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-53	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-53	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-53	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-53	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-53	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-53	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-53	Explosives	HMX	UG/KG	D	
PAD-53	Explosives	Nitrobenzene	UG/KG	D	
PAD-53	Explosives	RDX	UG/KG	D	
PAD-53	Explosives	Tetryl	UG/KG	D	
PAD-53	Metals	Aluminum	MG/KG	X	14600.00
PAD-53	Metals	Arsenic	MG/KG	X	14.60
PAD-53	Metals	Barium	MG/KG	X	57.50
PAD-53	Metals	Cadmium	MG/KG	X	10.00
PAD-53	Metals	Chromium	MG/KG	X	15.90
PAD-53	Metals	Lead	MG/KG	X	21.50
PAD-53	Metals	Mercury	MG/KG	X	0.04
PAD-53	Metals	Selenium	MG/KG	X	0.72
PAD-53	Metals	Silver	MG/KG	D	
PAD-53	Metals	Zinc	MG/KG	X	67.70
PAD-54	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-54	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-54	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-54	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-54	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-54	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-54	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-54	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-54	Explosives	HMX	UG/KG	D	
PAD-54	Explosives	Nitrobenzene	UG/KG	D	
PAD-54	Explosives	RDX	UG/KG	D	
PAD-54	Explosives	Tetryl	UG/KG	D	
PAD-54	Metals	Aluminum	MG/KG	X	11600.00
PAD-54	Metals	Arsenic	MG/KG	X	15.20
PAD-54	Metals	Barium	MG/KG	X	63.30
PAD-54	Metals	Cadmium	MG/KG	X	0.41
PAD-54	Metals	Chromium	MG/KG	X	14.00
PAD-54	Metals	Lead	MG/KG	X	32.50
PAD-54	Metals	Mercury	MG/KG	X	0.04
PAD-54	Metals	Selenium	MG/KG	X	0.96
PAD-54	Metals	Silver	MG/KG	D	
PAD-54	Metals	Zinc	MG/KG	X	67.20
PAD-55	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-55	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-55	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-55	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-55	Explosives	2,6-Dinitrotoluene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-55	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-55	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-55	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-55	Explosives	HMX	UG/KG	D	
PAD-55	Explosives	Nitrobenzene	UG/KG	D	
PAD-55	Explosives	RDX	UG/KG	D	
PAD-55	Explosives	Tetryl	UG/KG	D	
PAD-55	Metals	Aluminum	MG/KG	X	8270.00
PAD-55	Metals	Antimony	MG/KG	D	
PAD-55	Metals	Arsenic	MG/KG	X	9.70
PAD-55	Metals	Barium	MG/KG	X	41.50
PAD-55	Metals	Cadmium	MG/KG	D	
PAD-55	Metals	Calcium	MG/KG	X	2100.00
PAD-55	Metals	Chromium	MG/KG	X	10.10
PAD-55	Metals	Cobalt	MG/KG	X	5.50
PAD-55	Metals	Copper	MG/KG	X	13.10
PAD-55	Metals	Cyanide	MG/KG	D	
PAD-55	Metals	Iron	MG/KG	X	17600.00
PAD-55	Metals	Lead	MG/KG	X	10.20
PAD-55	Metals	Magnesium	MG/KG	X	1930.00
PAD-55	Metals	Mercury	MG/KG	X	0.04
PAD-55	Metals	Nickel	MG/KG	X	12.20
PAD-55	Metals	Potassium	MG/KG	X	543.00
PAD-55	Metals	Selenium	MG/KG	X	0.79
PAD-55	Metals	Silver	MG/KG	D	
PAD-55	Metals	Sodium	MG/KG	X	163.00
PAD-55	Metals	Thallium	MG/KG	X	1.40
PAD-55	Metals	Zinc	MG/KG	X	39.90
PAD-55	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-55	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-55	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-55	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-55	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	
PAD-55	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	
PAD-55	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-55	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-55	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-55	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-55	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-55	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-55	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-55	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-55	Organics-Semivolatile	Fluoranthene	UG/KG	D	
PAD-55	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-55	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-55	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-55	Organics-Semivolatile	Phenanthrene	UG/KG	D	
PAD-55	Organics-Semivolatile	Pyrene	UG/KG	D	
PAD-55	Organics-Volatile	Chloroform	UG/KG	D	
PAD-55	Organics-Volatile	Methylene Chloride	UG/KG	X	12.00
PAD-55	Organics-Volatile	Toluene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-56	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-56	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-56	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-56	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-56	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-56	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-56	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-56	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-56	Explosives	HMX	UG/KG	D	
PAD-56	Explosives	Nitrobenzene	UG/KG	D	
PAD-56	Explosives	RDX	UG/KG	D	
PAD-56	Explosives	Tetryl	UG/KG	D	
PAD-56	Metals	Aluminum	MG/KG	X	9320.00
PAD-56	Metals	Arsenic	MG/KG	X	12.00
PAD-56	Metals	Barium	MG/KG	X	66.60
PAD-56	Metals	Cadmium	MG/KG	X	0.31
PAD-56	Metals	Chromium	MG/KG	X	15.50
PAD-56	Metals	Lead	MG/KG	X	45.20
PAD-56	Metals	Mercury	MG/KG	X	0.04
PAD-56	Metals	Selenium	MG/KG	X	1.20
PAD-56	Metals	Silver	MG/KG	D	
PAD-56	Metals	Zinc	MG/KG	X	58.10
PAD-58	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-58	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-58	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	125.00
PAD-58	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-58	Explosives	2,6-Dinitrotoluene	UG/KG	D	143.30
PAD-58	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-58	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-58	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-58	Explosives	HMX	UG/KG	D	2993.00
PAD-58	Explosives	Nitrobenzene	UG/KG	D	143.30
PAD-58	Explosives	Nitrocellulose as N	UG/KG	D	
PAD-58	Explosives	Nitroglycerin	UG/KG	D	
PAD-58	Explosives	RDX	UG/KG	D	1164.00
PAD-58	Explosives	Tetryl	UG/KG	D	325.00
PAD-58	Metals	Aluminum	MG/KG	L	16090.00
PAD-58	Metals	Antimony	MG/KG	L	12.90
PAD-58	Metals	Arsenic	MG/KG	L	20.95
PAD-58	Metals	Barium	MG/KG	L	204.00
PAD-58	Metals	Beryllium	MG/KG	D	0.54
PAD-58	Metals	Cadmium	MG/KG	L	80.00
PAD-58	Metals	Calcium	MG/KG	N	15250.00
PAD-58	Metals	Chromium	MG/KG	L	189.00
PAD-58	Metals	Cobalt	MG/KG	N	12.24
PAD-58	Metals	Copper	MG/KG	L	653.00
PAD-58	Metals	Cyanide	MG/KG	D	0.06
PAD-58	Metals	Iron	MG/KG	N	31270.00
PAD-58	Metals	Lead	MG/KG	L	1020.00
PAD-58	Metals	Magnesium	MG/KG	X	5042.00
PAD-58	Metals	Mercury	MG/KG	L	1.10

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-58	Metals	Nickel	MG/KG	L	36.18
PAD-58	Metals	Potassium	MG/KG	L	2612.00
PAD-58	Metals	Selenium	MG/KG	D	0.82
PAD-58	Metals	Silver	MG/KG	L	6.40
PAD-58	Metals	Sodium	MG/KG	L	223.00
PAD-58	Metals	Thallium	MG/KG	D	0.42
PAD-58	Metals	Zinc	MG/KG	N	771.70
PAD-59	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-59	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-59	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	33000.00
PAD-59	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-59	Explosives	2,6-Dinitrotoluene	UG/KG	D	133.20
PAD-59	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-59	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-59	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-59	Explosives	HMX	UG/KG	D	120.00
PAD-59	Explosives	Nitrobenzene	UG/KG	D	133.20
PAD-59	Explosives	Nitrocellulose as N	UG/KG	D	
PAD-59	Explosives	Nitroglycerin	UG/KG	D	
PAD-59	Explosives	RDX	UG/KG	D	660.00
PAD-59	Explosives	Tetryl	UG/KG	D	325.00
PAD-59	Metals	Aluminum	MG/KG	N	14180.00
PAD-59	Metals	Antimony	MG/KG	L	27.90
PAD-59	Metals	Arsenic	MG/KG	N	12.69
PAD-59	Metals	Barium	MG/KG	L	137.90
PAD-59	Metals	Beryllium	MG/KG	D	0.19
PAD-59	Metals	Cadmium	MG/KG	D	2.29
PAD-59	Metals	Calcium	MG/KG	L	2810.00
PAD-59	Metals	Chromium	MG/KG	X	59.81
PAD-59	Metals	Cobalt	MG/KG	L	10.22
PAD-59	Metals	Copper	MG/KG	L	105.00
PAD-59	Metals	Cyanide	MG/KG	D	0.33
PAD-59	Metals	Iron	MG/KG	N	24800.00
PAD-59	Metals	Lead	MG/KG	X	881.20
PAD-59	Metals	Magnesium	MG/KG	L	3360.00
PAD-59	Metals	Mercury	MG/KG	D	0.05
PAD-59	Metals	Nickel	MG/KG	L	26.54
PAD-59	Metals	Potassium	MG/KG	L	1983.00
PAD-59	Metals	Selenium	MG/KG	D	1.01
PAD-59	Metals	Silver	MG/KG	D	2.12
PAD-59	Metals	Sodium	MG/KG	D	149.20
PAD-59	Metals	Thallium	MG/KG	D	0.33
PAD-59	Metals	Zinc	MG/KG	L	1040.00
PAD-60	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	130.00
PAD-60	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-60	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	300.00
PAD-60	Explosives	2,4-Dinitrotoluene	UG/KG	D	65.00
PAD-60	Explosives	2,6-Dinitrotoluene	UG/KG	D	133.20
PAD-60	Explosives	2-Nitrotoluene	UG/KG	D	170.00
PAD-60	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-60	Explosives	4-Nitrotoluene	UG/KG	D	125.00

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-60	Explosives	HMX	UG/KG	D	240.00
PAD-60	Explosives	Nitrobenzene	UG/KG	D	133.20
PAD-60	Explosives	Nitrocellulose as N	UG/KG	X	5800.00
PAD-60	Explosives	Nitroglycerin	UG/KG	D	
PAD-60	Explosives	RDX	UG/KG	D	660.00
PAD-60	Explosives	Tetryl	UG/KG	D	480.00
PAD-60	Metals	Aluminum	MG/KG	L	32740.00
PAD-60	Metals	Antimony	MG/KG	N	17.23
PAD-60	Metals	Arsenic	MG/KG	L	13.62
PAD-60	Metals	Barium	MG/KG	L	379.20
PAD-60	Metals	Beryllium	MG/KG	D	0.24
PAD-60	Metals	Cadmium	MG/KG	L	42.80
PAD-60	Metals	Calcium	MG/KG	N	5113.00
PAD-60	Metals	Chromium	MG/KG	N	41.10
PAD-60	Metals	Cobalt	MG/KG	N	9.80
PAD-60	Metals	Copper	MG/KG	L	4100.00
PAD-60	Metals	Cyanide	MG/KG	D	0.32
PAD-60	Metals	Iron	MG/KG	L	37380.00
PAD-60	Metals	Lead	MG/KG	L	2150.00
PAD-60	Metals	Magnesium	MG/KG	N	3124.00
PAD-60	Metals	Mercury	MG/KG	L	0.10
PAD-60	Metals	Nickel	MG/KG	N	37.31
PAD-60	Metals	Potassium	MG/KG	L	3050.00
PAD-60	Metals	Selenium	MG/KG	N	1.89
PAD-60	Metals	Silver	MG/KG	N	5.14
PAD-60	Metals	Sodium	MG/KG	L	1080.00
PAD-60	Metals	Thallium	MG/KG	D	0.32
PAD-60	Metals	Zinc	MG/KG	L	3600.00
PAD-60	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	X	150.00
PAD-60	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-60	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-60	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	X	43.00
PAD-60	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	X	60.00
PAD-60	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	X	93.00
PAD-60	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-60	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-60	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-60	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-60	Organics-Semivolatile	Chrysene	UG/KG	X	50.00
PAD-60	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-60	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-60	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-60	Organics-Semivolatile	Fluoranthene	UG/KG	X	88.00
PAD-60	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-60	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-60	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-60	Organics-Semivolatile	Phenanthrene	UG/KG	X	140.00
PAD-60	Organics-Semivolatile	Pyrene	UG/KG	X	110.00
PAD-61	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	55.00
PAD-61	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-61	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	338.80

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-61	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-61	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.90
PAD-61	Explosives	2-Nitrotoluene	UG/KG	D	120.00
PAD-61	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-61	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-61	Explosives	HMX	UG/KG	L	140.00
PAD-61	Explosives	Nitrobenzene	UG/KG	D	130.90
PAD-61	Explosives	Nitrocellulose as N	UG/KG	D	1000.00
PAD-61	Explosives	Nitroglycerin	UG/KG	D	1250.00
PAD-61	Explosives	RDX	UG/KG	D	544.80
PAD-61	Explosives	Tetryl	UG/KG	D	325.00
PAD-61	Metals	Aluminum	MG/KG	L	11690.00
PAD-61	Metals	Antimony	MG/KG	D	0.60
PAD-61	Metals	Arsenic	MG/KG	L	14.08
PAD-61	Metals	Barium	MG/KG	L	254.80
PAD-61	Metals	Beryllium	MG/KG	D	0.27
PAD-61	Metals	Cadmium	MG/KG	L	52.60
PAD-61	Metals	Calcium	MG/KG	L	10100.00
PAD-61	Metals	Chromium	MG/KG	X	29.06
PAD-61	Metals	Cobalt	MG/KG	L	9.75
PAD-61	Metals	Copper	MG/KG	L	487.00
PAD-61	Metals	Cyanide	MG/KG	D	0.32
PAD-61	Metals	Iron	MG/KG	N	26160.00
PAD-61	Metals	Lead	MG/KG	L	393.00
PAD-61	Metals	Magnesium	MG/KG	L	3358.00
PAD-61	Metals	Mercury	MG/KG	L	0.07
PAD-61	Metals	Nickel	MG/KG	X	75.78
PAD-61	Metals	Potassium	MG/KG	L	1400.00
PAD-61	Metals	Selenium	MG/KG	X	2.39
PAD-61	Metals	Silver	MG/KG	D	0.69
PAD-61	Metals	Sodium	MG/KG	L	108.00
PAD-61	Metals	Thallium	MG/KG	D	0.32
PAD-61	Metals	Zinc	MG/KG	L	1920.00
PAD-62	Explosives	1,3,5-Trinitrobenzene	UG/KG	L	490.00
PAD-62	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-62	Explosives	2,4,6-Trinitrotoluene	UG/KG	X	30210.00
PAD-62	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-62	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.90
PAD-62	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-62	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-62	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-62	Explosives	HMX	UG/KG	L	38000.00
PAD-62	Explosives	Nitrobenzene	UG/KG	D	130.90
PAD-62	Explosives	Nitrocellulose as N	UG/KG	D	1000.00
PAD-62	Explosives	Nitroglycerin	UG/KG	D	1250.00
PAD-62	Explosives	RDX	UG/KG	X	226400.00
PAD-62	Explosives	Tetryl	UG/KG	N	230.00
PAD-62	Metals	Aluminum	MG/KG	N	12460.00
PAD-62	Metals	Antimony	MG/KG	D	1.36
PAD-62	Metals	Arsenic	MG/KG	N	12.21
PAD-62	Metals	Barium	MG/KG	N	262.70

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-62	Metals	Beryllium	MG/KG	L	0.97
PAD-62	Metals	Cadmium	MG/KG	L	7.80
PAD-62	Metals	Calcium	MG/KG	L	41000.00
PAD-62	Metals	Chromium	MG/KG	L	22.03
PAD-62	Metals	Cobalt	MG/KG	X	8.60
PAD-62	Metals	Copper	MG/KG	L	132.00
PAD-62	Metals	Cyanide	MG/KG	D	0.34
PAD-62	Metals	Iron	MG/KG	N	25000.00
PAD-62	Metals	Lead	MG/KG	L	481.00
PAD-62	Metals	Magnesium	MG/KG	L	4798.00
PAD-62	Metals	Mercury	MG/KG	N	0.07
PAD-62	Metals	Nickel	MG/KG	N	22.32
PAD-62	Metals	Potassium	MG/KG	X	1582.00
PAD-62	Metals	Selenium	MG/KG	X	1.18
PAD-62	Metals	Silver	MG/KG	D	0.58
PAD-62	Metals	Sodium	MG/KG	L	272.00
PAD-62	Metals	Thallium	MG/KG	D	0.34
PAD-62	Metals	Zinc	MG/KG	L	1189.00
PAD-63	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-63	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-63	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	125.00
PAD-63	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-63	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.00
PAD-63	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-63	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-63	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-63	Explosives	HMX	UG/KG	D	1000.00
PAD-63	Explosives	Nitrobenzene	UG/KG	D	130.00
PAD-63	Explosives	RDX	UG/KG	D	500.00
PAD-63	Explosives	Tetryl	UG/KG	D	325.00
PAD-63	Metals	Aluminum	MG/KG	N	14300.00
PAD-63	Metals	Arsenic	MG/KG	N	14.90
PAD-63	Metals	Barium	MG/KG	N	79.70
PAD-63	Metals	Cadmium	MG/KG	N	0.50
PAD-63	Metals	Chromium	MG/KG	N	20.00
PAD-63	Metals	Lead	MG/KG	N	57.70
PAD-63	Metals	Mercury	MG/KG	N	0.05
PAD-63	Metals	Selenium	MG/KG	N	1.80
PAD-63	Metals	Silver	MG/KG	D	0.12
PAD-63	Metals	Zinc	MG/KG	N	288.00
PAD-64	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	125.00
PAD-64	Explosives	1,3-Dinitrobenzene	UG/KG	D	125.00
PAD-64	Explosives	2,4,6-Trinitrotoluene	UG/KG	N	420.00
PAD-64	Explosives	2,4-Dinitrotoluene	UG/KG	D	125.00
PAD-64	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.00
PAD-64	Explosives	2-Nitrotoluene	UG/KG	D	125.00
PAD-64	Explosives	3-Nitrotoluene	UG/KG	D	125.00
PAD-64	Explosives	4-Nitrotoluene	UG/KG	D	125.00
PAD-64	Explosives	HMX	UG/KG	D	1000.00
PAD-64	Explosives	Nitrobenzene	UG/KG	D	130.00
PAD-64	Explosives	RDX	UG/KG	D	500.00

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-64	Explosives	Tetryl	UG/KG	D	325.00
PAD-64	Metals	Aluminum	MG/KG	N	11300.00
PAD-64	Metals	Antimony	MG/KG	D	
PAD-64	Metals	Arsenic	MG/KG	N	14.80
PAD-64	Metals	Barium	MG/KG	N	180.00
PAD-64	Metals	Beryllium	MG/KG	X	0.55
PAD-64	Metals	Cadmium	MG/KG	N	0.23
PAD-64	Metals	Calcium	MG/KG	X	1310.00
PAD-64	Metals	Chromium	MG/KG	N	13.30
PAD-64	Metals	Cobalt	MG/KG	X	8.70
PAD-64	Metals	Copper	MG/KG	X	9.90
PAD-64	Metals	Cyanide	MG/KG	D	
PAD-64	Metals	Iron	MG/KG	X	18500.00
PAD-64	Metals	Lead	MG/KG	N	31.90
PAD-64	Metals	Magnesium	MG/KG	X	1660.00
PAD-64	Metals	Mercury	MG/KG	D	0.03
PAD-64	Metals	Nickel	MG/KG	X	11.00
PAD-64	Metals	Potassium	MG/KG	X	622.00
PAD-64	Metals	Selenium	MG/KG	N	0.50
PAD-64	Metals	Silver	MG/KG	D	0.15
PAD-64	Metals	Sodium	MG/KG	X	169.00
PAD-64	Metals	Thallium	MG/KG	X	1.90
PAD-64	Metals	Zinc	MG/KG	N	68.50
PAD-64	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-64	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-64	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-64	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-64	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	
PAD-64	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	
PAD-64	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-64	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-64	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-64	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-64	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-64	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-64	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-64	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-64	Organics-Semivolatile	Fluoranthene	UG/KG	X	40.00
PAD-64	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-64	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-64	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-64	Organics-Semivolatile	Phenanthrene	UG/KG	D	
PAD-64	Organics-Semivolatile	Pyrene	UG/KG	X	36.00
PAD-64	Organics-Volatile	Chloroform	UG/KG	D	
PAD-64	Organics-Volatile	Methylene Chloride	UG/KG	D	
PAD-64	Organics-Volatile	Toluene	UG/KG	X	19.00
PAD-65	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-65	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-65	Explosives	2,4,6-Trinitrotoluene	UG/KG	X	530.00
PAD-65	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-65	Explosives	2,6-Dinitrotoluene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-65	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-65	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-65	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-65	Explosives	HMX	UG/KG	D	
PAD-65	Explosives	Nitrobenzene	UG/KG	D	
PAD-65	Explosives	RDX	UG/KG	D	
PAD-65	Explosives	Tetryl	UG/KG	D	
PAD-65	Metals	Aluminum	MG/KG	X	17500.00
PAD-65	Metals	Arsenic	MG/KG	X	17.20
PAD-65	Metals	Barium	MG/KG	X	170.00
PAD-65	Metals	Cadmium	MG/KG	X	0.12
PAD-65	Metals	Chromium	MG/KG	X	23.00
PAD-65	Metals	Lead	MG/KG	X	49.20
PAD-65	Metals	Mercury	MG/KG	D	
PAD-65	Metals	Selenium	MG/KG	D	
PAD-65	Metals	Silver	MG/KG	X	0.27
PAD-65	Metals	Zinc	MG/KG	X	170.00
PAD-66	Explosives	1,3,5-Trinitrobenzene	UG/KG	N	68180.00
PAD-66	Explosives	1,3-Dinitrobenzene	UG/KG	D	26680.00
PAD-66	Explosives	2,4,6-Trinitrotoluene	UG/KG	L	3800000.00
PAD-66	Explosives	2,4-Dinitrotoluene	UG/KG	D	550.00
PAD-66	Explosives	2,6-Dinitrotoluene	UG/KG	L	620.00
PAD-66	Explosives	2-Nitrotoluene	UG/KG	D	26680.00
PAD-66	Explosives	3-Nitrotoluene	UG/KG	D	18460.00
PAD-66	Explosives	4-Nitrotoluene	UG/KG	D	26680.00
PAD-66	Explosives	HMX	UG/KG	D	40000.00
PAD-66	Explosives	Nitrobenzene	UG/KG	D	26720.00
PAD-66	Explosives	Nitrocellulose as N	UG/KG	N	32200.00
PAD-66	Explosives	Nitroglycerin	UG/KG	D	1250.00
PAD-66	Explosives	RDX	UG/KG	L	80000.00
PAD-66	Explosives	Tetryl	UG/KG	D	160.00
PAD-66	Metals	Aluminum	MG/KG	L	14160.00
PAD-66	Metals	Antimony	MG/KG	D	6.60
PAD-66	Metals	Arsenic	MG/KG	L	14.26
PAD-66	Metals	Barium	MG/KG	L	7780.00
PAD-66	Metals	Beryllium	MG/KG	D	0.25
PAD-66	Metals	Cadmium	MG/KG	L	4.80
PAD-66	Metals	Calcium	MG/KG	L	46600.00
PAD-66	Metals	Chromium	MG/KG	L	21.09
PAD-66	Metals	Cobalt	MG/KG	N	8.13
PAD-66	Metals	Copper	MG/KG	L	1920.00
PAD-66	Metals	Cyanide	MG/KG	D	0.55
PAD-66	Metals	Iron	MG/KG	N	25840.00
PAD-66	Metals	Lead	MG/KG	L	1010.00
PAD-66	Metals	Magnesium	MG/KG	N	3659.00
PAD-66	Metals	Mercury	MG/KG	L	0.28
PAD-66	Metals	Nickel	MG/KG	N	20.60
PAD-66	Metals	Potassium	MG/KG	N	1728.00
PAD-66	Metals	Selenium	MG/KG	N	1.10
PAD-66	Metals	Silver	MG/KG	D	1.01
PAD-66	Metals	Sodium	MG/KG	L	187.00

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-66	Metals	Thallium	MG/KG	D	0.50
PAD-66	Metals	Zinc	MG/KG	L	1050.00
PAD-66	Organics-Semivolatile	2,4-Dinitrotoluene	UG/KG	D	
PAD-66	Organics-Semivolatile	2,6-Dinitrotoluene	UG/KG	D	
PAD-66	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-66	Organics-Semivolatile	Acenaphthene	UG/KG	X	140.00
PAD-66	Organics-Semivolatile	Anthracene	UG/KG	X	440.00
PAD-66	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	X	630.00
PAD-66	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	X	530.00
PAD-66	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	X	690.00
PAD-66	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	X	170.00
PAD-66	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	X	350.00
PAD-66	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-66	Organics-Semivolatile	Carbazole	UG/KG	X	200.00
PAD-66	Organics-Semivolatile	Chrysene	UG/KG	X	620.00
PAD-66	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-66	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	X	54.00
PAD-66	Organics-Semivolatile	Dibenzofuran	UG/KG	X	110.00
PAD-66	Organics-Semivolatile	Fluoranthene	UG/KG	X	2000.00
PAD-66	Organics-Semivolatile	Fluorene	UG/KG	X	180.00
PAD-66	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	X	210.00
PAD-66	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-66	Organics-Semivolatile	Nitrobenzene	UG/KG	D	
PAD-66	Organics-Semivolatile	Phenanthrene	UG/KG	X	1400.00
PAD-66	Organics-Semivolatile	Pyrene	UG/KG	X	1300.00
PAD-67	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	308200.00
PAD-67	Explosives	1,3-Dinitrobenzene	UG/KG	D	7876.00
PAD-67	Explosives	2,4,6-Trinitrotoluene	UG/KG	L	3400000.00
PAD-67	Explosives	2,4-Dinitrotoluene	UG/KG	D	184.50
PAD-67	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.60
PAD-67	Explosives	2-Nitrotoluene	UG/KG	D	7876.00
PAD-67	Explosives	3-Nitrotoluene	UG/KG	D	7876.00
PAD-67	Explosives	4-Nitrotoluene	UG/KG	D	7876.00
PAD-67	Explosives	HMX	UG/KG	D	1067000.00
PAD-67	Explosives	Nitrobenzene	UG/KG	D	35.00
PAD-67	Explosives	Nitrocellulose as N	UG/KG	N	2500.00
PAD-67	Explosives	Nitroglycerin	UG/KG	D	1250.00
PAD-67	Explosives	RDX	UG/KG	D	5953000.00
PAD-67	Explosives	Tetryl	UG/KG	D	93.00
PAD-67	Metals	Aluminum	MG/KG	N	12840.00
PAD-67	Metals	Antimony	MG/KG	D	1.64
PAD-67	Metals	Arsenic	MG/KG	L	13.84
PAD-67	Metals	Barium	MG/KG	L	2260.00
PAD-67	Metals	Beryllium	MG/KG	D	0.26
PAD-67	Metals	Cadmium	MG/KG	D	0.49
PAD-67	Metals	Calcium	MG/KG	L	2287.00
PAD-67	Metals	Chromium	MG/KG	N	17.22
PAD-67	Metals	Cobalt	MG/KG	N	10.14
PAD-67	Metals	Copper	MG/KG	N	52.39
PAD-67	Metals	Cyanide	MG/KG	D	0.34
PAD-67	Metals	Iron	MG/KG	L	28230.00

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-67	Metals	Lead	MG/KG	L	40.61
PAD-67	Metals	Magnesium	MG/KG	N	2562.00
PAD-67	Metals	Mercury	MG/KG	N	0.11
PAD-67	Metals	Nickel	MG/KG	N	15.72
PAD-67	Metals	Potassium	MG/KG	N	1353.00
PAD-67	Metals	Selenium	MG/KG	L	1.31
PAD-67	Metals	Silver	MG/KG	D	0.65
PAD-67	Metals	Sodium	MG/KG	L	63.13
PAD-67	Metals	Thallium	MG/KG	D	0.34
PAD-67	Metals	Zinc	MG/KG	N	136.70
PAD-68	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	620.00
PAD-68	Explosives	1,3-Dinitrobenzene	UG/KG	D	84.00
PAD-68	Explosives	2,4,6-Trinitrotoluene	UG/KG	L	17000.00
PAD-68	Explosives	2,4-Dinitrotoluene	UG/KG	X	321.80
PAD-68	Explosives	2,6-Dinitrotoluene	UG/KG	D	130.90
PAD-68	Explosives	2-Nitrotoluene	UG/KG	D	2619.00
PAD-68	Explosives	3-Nitrotoluene	UG/KG	D	2619.00
PAD-68	Explosives	4-Nitrotoluene	UG/KG	D	130.00
PAD-68	Explosives	HMX	UG/KG	D	240.00
PAD-68	Explosives	Nitrobenzene	UG/KG	D	2620.00
PAD-68	Explosives	Nitrocellulose as N	UG/KG	N	11000.00
PAD-68	Explosives	Nitroglycerin	UG/KG	D	6187.00
PAD-68	Explosives	RDX	UG/KG	D	340.00
PAD-68	Explosives	Tetryl	UG/KG	D	6759.00
PAD-68	Metals	Aluminum	MG/KG	L	12940.00
PAD-68	Metals	Antimony	MG/KG	L	22.30
PAD-68	Metals	Arsenic	MG/KG	L	16.23
PAD-68	Metals	Barium	MG/KG	L	10400.00
PAD-68	Metals	Beryllium	MG/KG	D	1.14
PAD-68	Metals	Cadmium	MG/KG	L	4.20
PAD-68	Metals	Calcium	MG/KG	L	17800.00
PAD-68	Metals	Chromium	MG/KG	L	28.93
PAD-68	Metals	Cobalt	MG/KG	N	6.90
PAD-68	Metals	Copper	MG/KG	L	183.00
PAD-68	Metals	Cyanide	MG/KG	D	0.87
PAD-68	Metals	Iron	MG/KG	N	21480.00
PAD-68	Metals	Lead	MG/KG	L	640.00
PAD-68	Metals	Magnesium	MG/KG	L	5470.00
PAD-68	Metals	Mercury	MG/KG	L	1.20
PAD-68	Metals	Nickel	MG/KG	L	16.16
PAD-68	Metals	Potassium	MG/KG	L	1300.00
PAD-68	Metals	Selenium	MG/KG	L	1.20
PAD-68	Metals	Silver	MG/KG	D	0.66
PAD-68	Metals	Sodium	MG/KG	L	280.00
PAD-68	Metals	Thallium	MG/KG	D	1.11
PAD-68	Metals	Zinc	MG/KG	L	1040.00
PAD-68	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	
PAD-68	Organics-Semivolatile	Acenaphthene	UG/KG	D	
PAD-68	Organics-Semivolatile	Anthracene	UG/KG	D	
PAD-68	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	D	
PAD-68	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-68	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	D	
PAD-68	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	D	
PAD-68	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	D	
PAD-68	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	
PAD-68	Organics-Semivolatile	Carbazole	UG/KG	D	
PAD-68	Organics-Semivolatile	Chrysene	UG/KG	D	
PAD-68	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	
PAD-68	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	
PAD-68	Organics-Semivolatile	Dibenzofuran	UG/KG	D	
PAD-68	Organics-Semivolatile	Fluoranthene	UG/KG	D	
PAD-68	Organics-Semivolatile	Fluorene	UG/KG	D	
PAD-68	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	D	
PAD-68	Organics-Semivolatile	Naphthalene	UG/KG	D	
PAD-68	Organics-Semivolatile	Phenanthrene	UG/KG	D	
PAD-68	Organics-Semivolatile	Pyrene	UG/KG	D	
PAD-68	Organics-Volatile	Chloroform	UG/KG	D	
PAD-68	Organics-Volatile	Methylene Chloride	UG/KG	D	
PAD-68	Organics-Volatile	Toluene	UG/KG	X	81.00
PAD-69	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-69	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-69	Explosives	2,4,6-Trinitrotoluene	UG/KG	X	480.00
PAD-69	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-69	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-69	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-69	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-69	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-69	Explosives	HMX	UG/KG	X	1900.00
PAD-69	Explosives	Nitrobenzene	UG/KG	D	
PAD-69	Explosives	RDX	UG/KG	D	
PAD-69	Explosives	Tetryl	UG/KG	D	
PAD-69	Metals	Aluminum	MG/KG	N	7420.00
PAD-69	Metals	Arsenic	MG/KG	N	11.70
PAD-69	Metals	Barium	MG/KG	N	38.10
PAD-69	Metals	Cadmium	MG/KG	X	0.16
PAD-69	Metals	Chromium	MG/KG	N	10.20
PAD-69	Metals	Lead	MG/KG	N	19.70
PAD-69	Metals	Mercury	MG/KG	N	0.04
PAD-69	Metals	Selenium	MG/KG	N	0.34
PAD-69	Metals	Silver	MG/KG	D	0.11
PAD-69	Metals	Zinc	MG/KG	N	59.30
PAD-70	Explosives	1,3,5-Trinitrobenzene	UG/KG	D	
PAD-70	Explosives	1,3-Dinitrobenzene	UG/KG	D	
PAD-70	Explosives	2,4,6-Trinitrotoluene	UG/KG	D	
PAD-70	Explosives	2,4-Dinitrotoluene	UG/KG	D	
PAD-70	Explosives	2,6-Dinitrotoluene	UG/KG	D	
PAD-70	Explosives	2-Nitrotoluene	UG/KG	D	
PAD-70	Explosives	3-Nitrotoluene	UG/KG	D	
PAD-70	Explosives	4-Nitrotoluene	UG/KG	D	
PAD-70	Explosives	HMX	UG/KG	D	
PAD-70	Explosives	Nitrobenzene	UG/KG	D	
PAD-70	Explosives	RDX	UG/KG	D	

L-2 RVAAP Surface Soil Data Summarized By Pad

PAD-70	Explosives	Tetryl	UG/KG	D	
PAD-70	Metals	Aluminum	MG/KG	N	14000.00
PAD-70	Metals	Antimony	MG/KG	D	0.42
PAD-70	Metals	Arsenic	MG/KG	N	12.30
PAD-70	Metals	Barium	MG/KG	X	88.40
PAD-70	Metals	Beryllium	MG/KG	N	0.63
PAD-70	Metals	Cadmium	MG/KG	D	0.10
PAD-70	Metals	Calcium	MG/KG	N	13500.00
PAD-70	Metals	Chromium	MG/KG	N	20.40
PAD-70	Metals	Cobalt	MG/KG	X	9.80
PAD-70	Metals	Copper	MG/KG	N	19.90
PAD-70	Metals	Cyanide	MG/KG	D	0.47
PAD-70	Metals	Iron	MG/KG	N	25300.00
PAD-70	Metals	Lead	MG/KG	N	22.90
PAD-70	Metals	Magnesium	MG/KG	N	4180.00
PAD-70	Metals	Mercury	MG/KG	D	0.03
PAD-70	Metals	Nickel	MG/KG	N	23.60
PAD-70	Metals	Potassium	MG/KG	N	1990.00
PAD-70	Metals	Selenium	MG/KG	D	0.60
PAD-70	Metals	Silver	MG/KG	D	0.97
PAD-70	Metals	Sodium	MG/KG	D	77.80
PAD-70	Metals	Thallium	MG/KG	D	1.90
PAD-70	Metals	Zinc	MG/KG	L	85.70
PAD-70	Organics-Semivolatile	2,4-Dinitrotoluene	UG/KG	D	214.20
PAD-70	Organics-Semivolatile	2,6-Dinitrotoluene	UG/KG	D	214.20
PAD-70	Organics-Semivolatile	2-Methylnaphthalene	UG/KG	D	47.00
PAD-70	Organics-Semivolatile	Acenaphthene	UG/KG	D	150.00
PAD-70	Organics-Semivolatile	Anthracene	UG/KG	D	432.90
PAD-70	Organics-Semivolatile	Benzo(a)anthracene	UG/KG	X	866.00
PAD-70	Organics-Semivolatile	Benzo(a)pyrene	UG/KG	X	698.40
PAD-70	Organics-Semivolatile	Benzo(b)fluoranthene	UG/KG	L	1100.00
PAD-70	Organics-Semivolatile	Benzo(g,h,i)perylene	UG/KG	L	390.00
PAD-70	Organics-Semivolatile	Benzo(k)fluoranthene	UG/KG	L	500.00
PAD-70	Organics-Semivolatile	Bis(2-ethylhexyl)phthalate	UG/KG	D	209.90
PAD-70	Organics-Semivolatile	Carbazole	UG/KG	D	258.70
PAD-70	Organics-Semivolatile	Chrysene	UG/KG	X	867.00
PAD-70	Organics-Semivolatile	Di-n-butyl Phthalate	UG/KG	D	209.90
PAD-70	Organics-Semivolatile	Dibenzo(a,h)anthracene	UG/KG	D	110.00
PAD-70	Organics-Semivolatile	Dibenzofuran	UG/KG	D	160.00
PAD-70	Organics-Semivolatile	Fluoranthene	UG/KG	L	2700.00
PAD-70	Organics-Semivolatile	Fluorene	UG/KG	D	234.90
PAD-70	Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	UG/KG	L	480.00
PAD-70	Organics-Semivolatile	Naphthalene	UG/KG	D	209.90
PAD-70	Organics-Semivolatile	Nitrobenzene	UG/KG	D	214.20
PAD-70	Organics-Semivolatile	Phenanthrene	UG/KG	X	2040.00
PAD-70	Organics-Semivolatile	Pyrene	UG/KG	L	2100.00
PAD-70	Organics-Volatile	Chloroform	UG/KG	D	2.00
PAD-70	Organics-Volatile	Methylene Chloride	UG/KG	D	5.52
PAD-70	Organics-Volatile	Toluene	UG/KG	X	142.70

Appendix Table L-3. Soil-to-Plant Transfer Factors for Ecological Constituents of Potential Concern

Ecological constituent of potential concern	Soil-to-plant (SP _v)				Soil-to-plant (SP _r)			
	C _t /C _s (kg _{soil} /kg _{tissue})	Reference	CF	SP _v C _t /C _s x CF	C _t /C _s (kg _{soil} /kg _{tissue})	Reference	CF	SP _r C _t /C _s x CF
Inorganics								
Aluminum	4.00E-03	Baes et al. (1986)	0.2	8.00E-04	6.50E-04	Baes et al. (1986)	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. (1986)	0.2	4.00E-02	3.00E-02	Baes et al. (1986)	0.2	6.00E-03
Arsenic	4.00E-02	Baes et al. (1986)	0.2	8.00E-03	6.00E-03	Baes et al. (1986)	0.2	1.20E-03
Barium	1.50E-01	Baes et al. (1986)	0.2	3.00E-02	1.50E-02	Baes et al. (1986)	0.2	3.00E-03
Beryllium	1.00E-02	Baes et al. (1986)	0.2	2.00E-03	1.50E-03	Baes et al. (1986)	0.2	3.00E-04
Boron	4.00E+00	Baes et al. (1986)	0.2	8.00E-01	2.00E+00	Baes et al. (1986)	0.2	4.00E-01
Cadmium	5.50E-01	Baes et al. (1986)	0.2	1.10E-01	1.50E-01	Baes et al. (1986)	0.2	3.00E-02
Calcium	3.50E+00	Baes et al. (1986)	0.2	7.00E-01	3.50E-01	Baes et al. (1986)	0.2	7.00E-02
Chromium	7.50E-03	Baes et al. (1986)	0.2	1.50E-03	4.50E-03	Baes et al. (1986)	0.2	9.00E-04
Cobalt	2.00E-02	Baes et al. (1986)	0.2	4.00E-03	7.00E-03	Baes et al. (1986)	0.2	1.40E-03
Copper	4.00E-01	Baes et al. (1986)	0.2	8.00E-02	2.50E-01	Baes et al. (1986)	0.2	5.00E-02
Cyanide	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. (1986)	0.2	8.00E-04	1.00E-03	Baes et al. (1986)	0.2	2.00E-04
Lead	4.50E-02	Baes et al. (1986)	0.2	9.00E-03	9.00E-03	Baes et al. (1986)	0.2	1.80E-03
Magnesium	1.00E+00	Baes et al. (1986)	0.2	2.00E-01	5.50E-01	Baes et al. (1986)	0.2	1.10E-01
Manganese	2.50E-01	Baes et al. (1986)	0.2	5.00E-02	5.00E-02	Baes et al. (1986)	0.2	1.00E-02
Mercury	9.00E-01	Baes et al. (1986)	0.2	1.80E-01	2.00E-01	Baes et al. (1986)	0.2	4.00E-02
Molybdenum	2.50E-01	Baes et al. (1986)	0.2	5.00E-02	6.00E-02	Baes et al. (1986)	0.2	1.20E-02
Nickel	6.00E-02	Baes et al. (1986)	0.2	1.20E-02	6.00E-02	Baes et al. (1986)	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. (1986)	0.2	7.00E-01	3.50E+00	Baes et al. (1986)	0.2	7.00E-01
Potassium	1.00E+00	Baes et al. (1986)	0.2	2.00E-01	5.50E-01	Baes et al. (1986)	0.2	1.10E-01
Selenium	2.50E-02	Baes et al. (1986)	0.2	5.00E-03	2.50E-02	Baes et al. (1986)	0.2	5.00E-03
Silver	4.00E-01	Baes et al. (1986)	0.2	8.00E-02	1.00E-01	Baes et al. (1986)	0.2	2.00E-02
Sodium	7.50E-02	Baes et al. (1986)	0.2	1.50E-02	5.50E-02	Baes et al. (1986)	0.2	1.10E-02
Thallium	4.00E-03	Baes et al. (1986)	0.2	8.00E-04	4.00E-04	Baes et al. (1986)	0.2	8.00E-05
Vanadium	5.50E-03	Baes et al. (1986)	0.2	1.10E-03	3.00E-03	Baes et al. (1986)	0.2	6.00E-04
Zinc	1.50E+00	Baes et al. (1986)	0.2	3.00E-01	9.00E-01	Baes et al. (1986)	0.2	1.80E-01

Appendix Table L-3. (Continued)

Ecological constituent of potential concern	Soil-to-plant (SP _v)				Soil-to-plant (SP _r)			
	C _t /C _s (kg _{soil} /kg _{tissue})	Reference	CF	SP _v C _t /C _s x CF	C _t /C _s (kg _{soil} /kg _{tissue})	Reference	CF	SP _r C _t /C _s x CF
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 L-3. (Continued)

Ecological constituent of potential concern	Soil-to-plant (SP _v)				Soil-to-plant (SP _r)			
	C _t /C _s (kg _{soil} /kg _{tissue})	Reference	CF	SP _v C _t /C _s x CF	C _t /C _s (kg _{soil} /kg _{tissue})	Reference	CF	SP _r 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
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-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
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
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
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

Appendix Table L-3. (Continued)

Ecological constituent of potential concern	Soil-to-plant (SP _v)				Soil-to-plant (SP _r)			
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	SP _v C _t / C _s x CF	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	SP _r C _t / C _s x CF
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
MCCP	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
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
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 L-3. (Continued)

Ecological constituent of potential concern	Soil-to-plant (SP _v)				Soil-to-plant (SP _r)			
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	SP _v C _t / C _s x CF	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	SP _r 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
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
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

Appendix Table L-3. (Continued)

Ecological constituent of potential concern	Soil-to-plant (SP _v)				Soil-to-plant (SP _r)			
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	SP _v C _t / C _s x CF	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	SP _r C _t / C _s x CF
4-Amino-2,6-dinitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
HMX	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
Nitrocellulose	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
Nitroglycerin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
2-Nitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
3-Nitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
4-Nitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
RDX	1.00E+00	default value	1	1.00E+00	1.00E+00	default value	1	1.00E+00
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 L-4. Terrestrial Bioaccumulation Factors for Ecological Constituents of Potential Concern

Ecological constituent of potential concern	Soil-to-animal (BAF _i)				Animal-to-animal (BAF _v)	
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	BAF _i C _t / C _s x CF	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
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)
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)
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
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)

Appendix Table L-4. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF _i)				Animal-to-animal (BAF _v)	
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	BAF _i C _t / C _s x CF	BAF _v	Reference
Organics						
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)
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)

Appendix Table L-4. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF _i)				Animal-to-animal (BAF _v)	
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	BAF _i C _t / C _s x CF	BAF _v	Reference
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-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
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)
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)
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)

Appendix Table L-4. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF _i)				Animal-to-animal (BAF _v)	
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	BAF _i C _t / C _s x CF	BAF _v	Reference
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)
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)
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)
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

Appendix Table L-4. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF _i)				Animal-to-animal (BAF _v)	
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	BAF _i C _t / C _s x CF	BAF _v	Reference
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
1,2,3,4,6,7,8-Heptachlorodibenzofuran	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)
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
HMX	1.00E+00	default value	1	1.00E+00	1.00E+00	default value

Appendix Table L-4. (Continued)

Ecological constituent of potential concern	Soil-to-animal (BAF _i)				Animal-to-animal (BAF _v)	
	C _t / C _s (kg _{soil} / kg _{tissue})	Reference	CF	BAF _i C _t / C _s x CF	BAF _v	Reference
2-Nitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
3-Nitrotoluene	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
4-Nitrotoluene	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)
Nitrocellulose	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Nitroglycerin	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
RDX	1.00E+00	default value	1	1.00E+00	1.00E+00	default value
Tetryl	1.00E+00	default value	1	1.00E+00	1.00E+00	default value

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 L-5. Toxicity Reference Values (TRVs) for Plants Exposed to Soil

Ecological constituent of potential concern	Plant TRV ^a (mg/kg)	Reference
Inorganics		
Aluminum	5.00E+01	??
Antimony	5.00E+00	??
Arsenic	1.00E+01	??
Barium	5.00E+02	??
Beryllium	1.00E+01	??
Cadmium	5.00E-01	??
Calcium	No TRV	None
Chromium	1.00E+00	??
Chromium VI	No TRV	None
Cobalt	2.00E+01	??
Copper	1.00E+02	??
Cyanide	No TRV	None
Fluoride	2.00E+02	??
Iron	No TRV	None
Lead	5.00E+01	??
Lithium	2.00E+00	??
Magnesium	No TRV	None
Manganese	5.00E+02	??
Mercury	3.00E-01	??
Molybdenum	2.00E+00	??
Nickel	3.00E+01	??
Potassium	No TRV	None
Selenium	1.00E+00	??
Silver	2.00E+00	??
Sodium	No TRV	None
Thallium	1.00E+00	??
Tin	5.00E+01	??
Uranium	5.00E+00	??
Vanadium	2.00E+00	??
Zinc	5.00E+01	??
Organics		
2,2,5-Trimethylhexane	No TRV	None
Acenaphthene	2.00E+01	??
Acetone	No TRV	None
Aldrin	No TRV	None
alpha-Chlordane	No TRV	None
Anthracene	No TRV	None
Aroclor 1260	No TRV	None
Aroclor 1254	No TRV	None
2-Butanone	No TRV	None
Benzo(a)anthracene	No TRV	None
Benzo(a)pyrene	No TRV	None

Appendix Table L-5. Toxicity Reference Values (TRVs) for Plants Exposed to Soil

Ecological constituent of potential concern	Plant TRV^a (mg/kg)	Reference
Benzo(b)fluoranthene	No TRV	None
Benzo(g,h,i)perylene	No TRV	None
Benzo(k)fluoranthene	No TRV	None
Bis(2-ethylhexyl)phthalate	No TRV	None
Butyl benzyl phthalate	No TRV	None
Carbazole	No TRV	None
Carbon disulfide	No TRV	None
Chlorobenzene	No TRV	None
Chloroform	No TRV	None
Chloromethane	No TRV	None
Chrysene	No TRV	None
delta-BHC	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
1,1-Dichloroethane	No TRV	None
1,2-Dichloroethene	No TRV	None
Diethylphthalate	1.00E+02	??
Dimethylphthalate	No TRV	None
Dieldrin	No TRV	None
2,4-Dimethylphenol	No TRV	None
Dimethylbenzene	No TRV	None
Di-n-butyl phthalate	2.00E+02	??
Di-n-octylphthalate	No TRV	None
Endosulfan	No TRV	None
Endosulfan sulfate	No TRV	None
Endrin aldehyde	No TRV	None
Endrin ketone	No TRV	None
Ethylbenzene	No TRV	None
Fluoranthene	No TRV	None
Fluorene	No TRV	None
gamma-Chlordane	No TRV	None
Heptachlor epoxide	No TRV	None
Indeno(1,2,3-cd)pyrene	No TRV	None
Isophorone	No TRV	None
2-Methylnaphthalene	No TRV	None
2-Methylphenol	No TRV	None
4-Methyl-2-pentanone	No TRV	None
Methoxychlor	No TRV	None
Methylene chloride	No TRV	None
N-Nitrosodiphenylamine	No TRV	None
Naphthalene	No TRV	None
Phenanthrene	No TRV	None

Appendix Table L-5. Toxicity Reference Values (TRVs) for Plants Exposed to Soil

Ecological constituent of potential concern	Plant TRV^a (mg/kg)	Reference
Phenol	No TRV	None
Pyrene	3.00E+01	??
Styrene	No TRV	None
Tetrachloroethene	No TRV	None
Toluene	No TRV	None
Trichloroethene	No TRV	None
1,1,1-Trichloroethane	No TRV	None
1,1,2-Trichloroethane	No TRV	None
Explosives		
2,4,6-Trinitrotoluene	3.00E+01	Cataldo et al (1989) in [1]
RDX	1.00E+02	Simini et al (1992) in [1]
Tetryl	2.50E+01	Fellows et al (1992) in [1]

^a Lowest Observed Adverse Effect Level
 [1] Talmage et al (in press)

Appendix Table L-6. 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	Will and Suter (1995)
Barium	No TRV	None
Beryllium	No TRV	None
Cadmium	2.00E+01	Will and Suter (1995)
Calcium	No TRV	None
Chromium	4.00E-01	Will and Suter (1995)
Chromium VI	No TRV	None
Cobalt	No TRV	None
Copper	5.00E+01	Will and Suter (1995)
Cyanide	No TRV	None
Iron	No TRV	None
Lead	5.00E+02	Will and Suter (1995)
Magnesium	No TRV	None
Manganese	No TRV	None
Mercury	No TRV	None
Nickel	2.00E+02	Will and Suter (1995)
Potassium	No TRV	None
Selenium	No TRV	None
Silver	No TRV	None
Sodium	No TRV	None
Thallium	No TRV	None
Vanadium	No TRV	None
Zinc	2.00E+02	Will and Suter (1995)
Organics		
2,2,5-Trimethylhexane	No TRV	None
Acenaphthene	No TRV	None
Acetone	No TRV	None
Aldrin	No TRV	None
alpha-Chlordane	No TRV	None
Anthracene	No TRV	None
Aroclor 1260	No TRV	None
Aroclor 1254	No TRV	None
2-Butanone	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
Bis(2-ethylhexyl)phthalate	No TRV	None
Butyl benzyl phthalate	No TRV	None

Appendix Table L-6. Toxicity Reference Values (TRVs) for Earthworms Exposed to Soil

Ecological constituent of potential concern	Earthworm TRV ^a (mg/kg)	Reference
Carbazole	No TRV	None
Carbon disulfide	No TRV	None
Chlorobenzene	No TRV	None
Chloroform	No TRV	None
Chloromethane	No TRV	None
Chrysene	No TRV	None
delta-BHC	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
1,1-Dichloroethane	No TRV	None
1,2-Dichloroethene	No TRV	None
Diethylphthalate	No TRV	None
Dimethylphthalate	No TRV	None
Dieldrin	No TRV	None
2,4-Dimethylphenol	No TRV	None
Dimethylbenzene	No TRV	None
Di-n-butyl phthalate	No TRV	None
Di-n-octylphthalate	No TRV	None
Endosulfan	No TRV	None
Endosulfan sulfate	No TRV	None
Endrin aldehyde	No TRV	None
Endrin ketone	No TRV	None
Ethylbenzene	No TRV	None
Fluoranthene	No TRV	None
Fluorene	No TRV	None
gamma-Chlordane	No TRV	None
Heptachlor epoxide	No TRV	None
Indeno(1,2,3-cd)pyrene	No TRV	None
Isophorone	No TRV	None
2-Methylnaphthalene	No TRV	None
2-Methylphenol	No TRV	None
4-Methyl-2-pentanone	No TRV	None
Methoxychlor	No TRV	None
Methylene chloride	No TRV	None
N-Nitrosodiphenylamine	No TRV	None
Naphthalene	No TRV	None
Phenanthrene	No TRV	None
Phenol	No TRV	None
Pyrene	3.00E+01	Will and Suter (1995)
Styrene	No TRV	None
Tetrachloroethene	No TRV	None
Toluene	No TRV	None

Appendix Table L-6. Toxicity Reference Values (TRVs) for Earthworms Exposed to Soil

Ecological constituent of potential concern	Earthworm TRV^a (mg/kg)	Reference
Trichloroethene	No TRV	None
1,1,1-Trichloroethane	No TRV	None
1,1,2-Trichloroethane	No TRV	None
Explosives		
2,4,6-Trinitrotoluene	1.40E+02	Phillips et al (193) in [1]
HMX	No TRV	None

^a Lowest Observed Adverse Effect Level

[1] Talmage et al (in press)

Appendix Table L-7. Derivation of Toxicity Reference Values (TRVs) for Mammal Test Species

Ecological constituent of potential concern	Test species	Test species body weight	Benchmark	Test	Endpoint	Effect	Source	Duration	Endpoint	TRV
		(kg) BW _t	(mg/kgBW/d)	duration				conversion factor DCF	conversion factor ECF	(mg/kgBW/d) benchmarkx 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
delta-BHC	none	none	none	none	none	none	none	none	none	No TRV
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
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
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
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
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
Chloromethane	none	none	none	none	none	none	none	none	none	No TRV
2-Chlorophenol	none	none	none	none	none	none	none	none	none	No TRV
Chrysene	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
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
Dalapon	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
1,4-Dichlorobenzene	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-Dichloroethane	Mouse	3.50E-02	5.00E+01	chronic	NOAEL	Reproduction	Lane et al. (1982) in [1]	1.0	1.0	5.00E+01
1,1-Dichloroethene	Rat	3.50E-01	3.00E+01	chronic	NOAEL	Mortality	Quast et al. (1983) in [1]	1.0	1.0	3.00E+01
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
2,4-Dimethylphenol	none	none	none	none	none	none	none	none	none	No TRV
Dichloropropr	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
Dimethylbenzene	none	none	none	none	none	none	none	none	none	No TRV
Dimethylphthalate	none	none	none	none	none	none	none	none	none	No TRV
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

Appendix Table L-7. Derivation of Toxicity Reference Values (TRVs) for Mammal Test Species

Ecological constituent of potential concern	Test species	Test species body weight	Benchmark	Test duration	Endpoint	Effect	Source	Duration conversion factor	Endpoint conversion factor	TRV (mg/kgBW/d)
		(kg) BW _t	(mg/kgBW/d)					DCF	ECF	benchmarkx DCF x ECF
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
1,2,3,7,8,9-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
2,3,4,6,7,8-Hexachlorodibenzofuran	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
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
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
Octachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
Octachlorodibenzofuran	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
2,3,7,8-Tetrachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
Explosives										
1,3,5-Trinitrobenzene	Mouse	1.85E-02	6.74E+01	subchronic	NOAEL	Reproduction	Pathology Associates Inc. (1994) in [4]	0.1	none	6.70E+00
1,3-Dinitrobenzene	Rat	4.50E-01	1.13E+00	subchronic	NOAEL	Reproduction	Cody et al. (1981) in [4]	0.1	none	1.10E-01
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
HMX	Mouse	2.40E-02	3.00E+01	subchronic	NOAEL	Mortality	Everett & Maddock (1985) in [4]	0.1	none	3.00E+00
Nitrocellulose	none	none	none	none	none	none	none	none	none	No TRV
Nitroglycerin	none	none	none	none	none	none	none	none	none	No TRV
2-Nitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
3-Nitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
4-Nitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
Nitrobenzene	none	none	none	chronic	none	none	none	none	none	No TRV
RDX	Mouse	3.59E-02	7.00E+00	chronic	NOAEL	Organ wt.	Lish et al. (1984) in [4]	none	none	7.00E+00
Tetryl	Rat	2.58E-01	1.30E+01	subchronic	NOAEL	Reprod.	Reddy et al. (1994) in [4]	0.1	none	1.30E+00

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 L-8. Derivation of Toxicity Reference Values (TRVs) for Bird Test Species

Ecological constituent of potential concern	Test species	Test species body weight	Benchmark	Test duration	Endpoint	Effect	Source	Duration conversion factor	Endpoint conversion factor	TRV (mg/kgBW/d) benchmark x DCF x ECF
		(kg) BW _t	(mg/kgBW/d)					DCF	ECF	
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
Benzyl alcohol	none	none	none	none	none	none	none	none	none	No TRV
delta-BHC	none	none	none	none	none	none	none	none	none	No TRV
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
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
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
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
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
Chloromethane	none	none	none	none	none	none	none	none	none	No TRV
2-Chlorophenol	none	none	none	none	none	none	none	none	none	No TRV
Chrysene	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
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
Dalapon	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
1,4-Dichlorobenzene	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-Dichloroethane	Chicken	1.60E+00	1.72E+01	chronic	NOAEL	Reproduction	Alumot et al. (1976b) in [1]	1.0	1.0	1.72E+01
1,1-Dichloroethene	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
2,4-Dimethylphenol	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
Dimethylbenzene	none	none	none	none	none	none	none	none	none	No TRV
Dimethylphthalate	none	none	none	none	none	none	none	none	none	No TRV
Di-n-butylphthalate	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
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

Appendix Table L-8. 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	Endpoint conversion	TRV
								DCF	ECF	(mg/kgBW/d) benchmark x DCF x ECF
2,3,4,6,7,8-Hexachlorodibenzofuran	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
1,2,3,7,8-Pentachlorodibenzofuran	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
Octachlorodibenzo-p-dioxin	none	none	none	none	none	none	none	none	none	No TRV
Octachlorodibenzofuran	none	none	none	none	none	none	none	none	none	No TRV
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
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
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
HMX	none	none	none	none	none	none	none	none	none	No TRV
Nitrocellulose	none	none	none	none	none	none	none	none	none	No TRV
Nitroglycerin	none	none	none	none	none	none	none	none	none	No TRV
2-Nitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
3-Nitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
4-Nitrotoluene	none	none	none	none	none	none	none	none	none	No TRV
Nitrobenzene	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)

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	White-tailed deer		Short-tailed shrew		Raccoon	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
Inorganics									
Aluminum	Mouse	3.00E-02	1.93E+00	1.52E-01	2.93E-01	1.15E+00	2.22E+00	2.66E-01	5.14E-01
Ammonia	none	none	No TRV	none	none	none	none	none	none
Antimony	Mouse	3.00E-02	1.25E-01	1.52E-01	1.90E-02	1.15E+00	1.44E-01	2.66E-01	3.33E-02
Arsenic	Mouse	3.00E-02	1.26E-01	1.52E-01	1.91E-02	1.15E+00	1.45E-01	2.66E-01	3.35E-02
Barium	Rat	4.35E-01	5.06E+00	2.96E-01	1.50E+00	2.25E+00	1.14E+01	5.19E-01	2.63E+00
Beryllium	Rat	3.50E-01	6.60E-01	2.81E-01	1.85E-01	2.13E+00	1.41E+00	4.92E-01	3.25E-01
Boron	Rat	3.50E-01	2.80E+01	2.81E-01	7.86E+00	2.13E+00	5.96E+01	4.92E-01	1.38E+01
Cadmium	Rat	3.03E-01	1.00E+00	2.71E-01	2.71E-01	2.05E+00	2.05E+00	4.74E-01	4.74E-01
Calcium	none	none	No TRV	none	none	none	none	none	none
Chromium	Rat	3.50E-01	2.74E+03	2.81E-01	7.68E+02	2.13E+00	5.83E+03	4.92E-01	1.35E+03
Cobalt	Rat	none	1.00E-01	none	none	none	none	none	none
Copper	Mink	1.00E+00	1.17E+01	3.65E-01	4.27E+00	2.77E+00	3.24E+01	6.39E-01	7.49E+00
Cyanide	Rat	2.73E-01	6.87E+01	2.64E-01	1.81E+01	2.00E+00	1.38E+02	4.62E-01	3.18E+01
Iron	none	none	No TRV	none	none	none	none	none	none
Lead	Rat	3.50E-01	8.00E+00	2.81E-01	2.24E+00	2.13E+00	1.70E+01	4.92E-01	3.93E+00
Magnesium	none	none	No TRV	none	none	none	none	none	none
Manganese	Rat	3.50E-01	8.80E+01	2.81E-01	2.47E+01	2.13E+00	1.87E+02	4.92E-01	4.33E+01
Mercury	Mink	1.00E+00	1.01E+00	3.65E-01	3.68E-01	2.77E+00	2.80E+00	6.39E-01	6.46E-01
Molybdenum	Mouse	3.00E-02	2.58E-01	1.52E-01	3.92E-02	1.15E+00	2.98E-01	2.66E-01	6.87E-02
Nickel	Rat	3.50E-01	4.00E+01	2.81E-01	1.12E+01	2.13E+00	8.52E+01	4.92E-01	1.97E+01
Nitrate	none	none	No TRV	none	none	none	none	none	none
Phosphorus	none	none	No TRV	none	none	none	none	none	none
Potassium	none	none	No TRV	none	none	none	none	none	none
Selenium	Rat	3.50E-01	2.00E-01	2.81E-01	5.61E-02	2.13E+00	4.26E-01	4.92E-01	9.84E-02
Silver	none	none	No TRV	none	none	none	none	none	none
Sodium	none	none	No TRV	none	none	none	none	none	none
Thallium	Rat	3.65E-01	7.40E-03	2.84E-01	2.10E-03	2.15E+00	1.59E-02	4.97E-01	3.68E-03
Vanadium	Rat	2.60E-01	2.10E-01	2.60E-01	5.47E-02	1.98E+00	4.15E-01	4.57E-01	9.59E-02
Zinc	Rat	3.50E-01	1.60E+02	2.81E-01	4.49E+01	2.13E+00	3.41E+02	4.92E-01	7.87E+01
	0	0	0.00E+00	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	0.00E+00
2,2,5-Trimethylhexane	none	none	No TRV	none	none	none	none	none	none
2-Methylnaphthalene	none	none	No TRV	none	none	none	none	none	none
2-Methylphenol	none	none	No TRV	none	none	none	none	none	none
4-Methylphenol	none	none	No TRV	none	none	none	none	none	none
Acenaphthene	none	none	No TRV	none	none	none	none	none	none
Acenaphthylene	none	none	No TRV	none	none	none	none	none	none
Acetone	Rat	3.50E-01	1.00E+01	2.81E-01	2.81E+00	2.13E+00	2.13E+01	4.92E-01	4.92E+00

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	White-tailed deer		Short-tailed shrew		Raccoon	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,Δ2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,Δ2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,Δ2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
Aldrin	Rat	3.50E-01	2.00E-01	2.81E-01	5.61E-02	2.13E+00	4.26E-01	4.92E-01	9.84E-02
Anthracene	none	none	No TRV	none	none	none	none	none	none
Aroclor-1242	Mink	1.00E+00	6.85E-02	3.65E-01	2.50E-02	2.77E+00	1.90E-01	6.39E-01	4.38E-02
Aroclor-1248	Rhesus monkey	5.00E+00	1.00E-02	5.45E-01	5.45E-03	4.14E+00	4.14E-02	9.56E-01	9.56E-03
Aroclor-1254	Oldfield mouse	1.40E-02	6.80E-02	1.25E-01	8.53E-02	9.53E-01	6.48E-02	2.20E-01	1.50E-02
Aroclor-1260	none	none	No TRV	none	none	none	none	none	none
Benzene	Mouse	3.00E-02	2.64E+01	1.52E-01	4.00E+00	1.15E+00	3.04E+01	2.66E-01	7.02E+00
Benzo(a)anthracene	none	none	No TRV	none	none	none	none	none	none
Benzo(a)pyrene	Mouse	3.00E-02	1.00E+00	1.52E-01	1.52E-01	1.15E+00	1.15E+00	2.66E-01	2.66E-01
Benzo(b)fluoranthene	none	none	No TRV	none	none	none	none	none	none
Benzo(g,h,i)perylene	none	none	No TRV	none	none	none	none	none	none
Benzo(k)fluoranthene	none	none	No TRV	none	none	none	none	none	none
Benzoic acid	Mouse	3.00E-02	4.00E+00	1.52E-01	6.07E-01	1.15E+00	4.61E+00	2.66E-01	1.06E+00
Benzyl alcohol	none	none	No TRV	none	none	none	none	none	none
delta-BHC	none	none	No TRV	none	none	none	none	none	none
gamma-BHC (Lindane)	Rat	3.50E-01	8.00E+00	2.81E-01	2.24E+00	2.13E+00	1.70E+01	4.92E-01	3.93E+00
Bis(2-chloroisopropyl)ether	none	none	No TRV	none	none	none	none	none	none
Bis(2-ethylhexyl)phthalate	Mouse	3.00E-02	1.83E+01	1.52E-01	2.78E+00	1.15E+00	2.11E+01	2.66E-01	4.87E+00
Butylbenzylphthalate	none	none	No TRV	none	none	none	none	none	none
Carbazole	none	none	No TRV	none	none	none	none	none	none
Carbon disulfide	none	none	No TRV	none	none	none	none	none	none
Chlordane	Mouse	3.00E-02	4.58E+00	1.52E-01	6.95E-01	1.15E+00	5.28E+00	2.66E-01	1.22E+00
alpha-Chlordane	Mouse	3.00E-02	4.58E+00	1.52E-01	6.95E-01	1.15E+00	5.28E+00	2.66E-01	1.22E+00
gamma-Chlordane	Mouse	3.00E-02	4.58E+00	1.52E-01	6.95E-01	1.15E+00	5.28E+00	2.66E-01	1.22E+00
Chlorobenzene	none	none	No TRV	none	none	none	none	none	none
Chloroethane	none	none	No TRV	none	none	none	none	none	none
Chloroform	Rat	3.50E-01	1.50E+01	2.81E-01	4.21E+00	2.13E+00	3.20E+01	4.92E-01	7.38E+00
Chloromethane	none	none	No TRV	none	none	none	none	none	none
2-Chlorophenol	none	none	No TRV	none	none	none	none	none	none
Chrysene	none	none	No TRV	none	none	none	none	none	none
2,4-D	none	none	No TRV	none	none	none	none	none	none
4,4'-DDD	none	none	No TRV	none	none	none	none	none	none
4,4'-DDE	none	none	No TRV	none	none	none	none	none	none
4,4'-DDT	Rat	3.50E-01	8.00E-01	2.81E-01	2.24E-01	2.13E+00	1.70E+00	4.92E-01	3.93E-01
Dalapon	none	none	No TRV	none	none	none	none	none	none
Dibenzo(a,h)anthracene	none	none	No TRV	none	none	none	none	none	none
Dibenzofuran	none	none	No TRV	none	none	none	none	none	none
Dicamba	none	none	No TRV	none	none	none	none	none	none
1,4-Dichlorobenzene	none	none	No TRV	none	none	none	none	none	none
1,1-Dichloroethane	none	none	No TRV	none	none	none	none	none	none

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	White-tailed deer		Short-tailed shrew		Raccoon	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	1.58E-01	7.89E+00	1.20E+00	5.99E+01	2.77E-01	1.38E+01
1,1-Dichloroethene	Rat	3.50E-01	3.00E+01	2.81E-01	8.42E+00	2.13E+00	6.39E+01	4.92E-01	1.48E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+01	1.52E-01	6.86E+00	1.15E+00	5.21E+01	2.66E-01	1.20E+01
2,4-Dimethylphenol	none	none	No TRV	none	none	none	none	none	none
Dichloroprop	none	none	No TRV	none	none	none	none	none	none
Dieldrin	Rat	3.50E-01	2.00E-02	2.81E-01	5.61E-03	2.13E+00	4.26E-02	4.92E-01	9.84E-03
Diethylphthalate	Mouse	3.00E-02	4.58E+03	1.52E-01	6.96E+02	1.15E+00	5.28E+03	2.66E-01	1.22E+03
Dimethylbenzene	none	none	No TRV	none	none	none	none	none	none
Dimethylphthalate	none	none	No TRV	none	none	none	none	none	none
Di-n-butylphthalate	Mouse	3.00E-02	5.50E+02	1.52E-01	8.35E+01	1.15E+00	6.34E+02	2.66E-01	1.46E+02
Di-n-octylphthalate	none	none	No TRV	none	none	none	none	none	none
Endosulfan	Rat	3.50E-01	1.50E-01	2.81E-01	4.21E-02	2.13E+00	3.20E-01	4.92E-01	7.38E-02
Endosulfan sulfate	none	none	No TRV	none	none	none	none	none	none
Endrin	Mouse	3.00E-02	9.20E-02	1.52E-01	1.40E-02	1.15E+00	1.06E-01	2.66E-01	2.45E-02
Endrin ketone	none	none	No TRV	none	none	none	none	none	none
Ethylbenzene	none	none	No TRV	none	none	none	none	none	none
Fluoranthene	none	none	No TRV	none	none	none	none	none	none
Fluorene	none	none	No TRV	none	none	none	none	none	none
Heptachlor	Mink	1.00E+00	1.00E-01	3.65E-01	3.65E-02	2.77E+00	2.77E-01	6.39E-01	6.39E-02
Heptachlor epoxide	none	none	No TRV	none	none	none	none	none	none
2-Hexanone	none	none	No TRV	none	none	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	No TRV	none	none	none	none	none	none
Isophorone	none	none	No TRV	none	none	none	none	none	none
MCPA	none	none	No TRV	none	none	none	none	none	none
MCCP	none	none	No TRV	none	none	none	none	none	none
Methyl bromide	none	none	No TRV	none	none	none	none	none	none
Methylene chloride	Rat	3.50E-01	5.85E+00	2.81E-01	1.64E+00	2.13E+00	1.25E+01	4.92E-01	2.88E+00
Methyl ethyl ketone	Rat	3.50E-01	1.77E+03	2.81E-01	4.97E+02	2.13E+00	3.77E+03	4.92E-01	8.71E+02
Methyl mercury chloride	Rat	3.50E-01	3.20E-02	2.81E-01	8.98E-03	2.13E+00	6.82E-02	4.92E-01	1.57E-02
Methoxychlor	none	none	No TRV	none	none	none	none	none	none
4-Methyl-2-pentanone	Rat	3.50E-01	2.50E+01	2.81E-01	7.01E+00	2.13E+00	5.33E+01	4.92E-01	1.23E+01
4-Chloro-3-methylphenol	none	none	No TRV	none	none	none	none	none	none
Naphthalene	none	none	No TRV	none	none	none	none	none	none
N-Nitroso-di-N-propylamine	none	none	No TRV	none	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	No TRV	none	none	none	none	none	none
4-Nitrophenol	none	none	No TRV	none	none	none	none	none	none
Pentachlorophenol	Rat	3.50E-01	2.40E-01	2.81E-01	6.73E-02	2.13E+00	5.11E-01	4.92E-01	1.18E-01
Phenanthrene	none	none	No TRV	none	none	none	none	none	none
Phenol	none	none	No TRV	none	none	none	none	none	none
Pyrene	none	none	No TRV	none	none	none	none	none	none

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	White-tailed deer		Short-tailed shrew		Raccoon	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,Δ2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,Δ2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,Δ2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
2-Nitrotoluene	none	none	No TRV	none	none	none	none	none	none
3-Nitrotoluene	none	none	No TRV	none	none	none	none	none	none
4-Nitrotoluene	none	none	No TRV	none	none	none	none	none	none
Nitrobenzene	none	none	No TRV	none	none	none	none	none	none
RDX	Mouse	3.59E-02	7.00E+00	1.59E-01	1.11E+00	1.21E+00	8.44E+00	2.78E-01	1.95E+00
Tetryl	Rat	2.58E-01	1.30E+00	2.60E-01	3.38E-01	1.97E+00	2.57E+00	4.56E-01	5.92E-01

BW(kg) Short-tailed shrew = 0.017

BW(kg) Eastern cottontail = 1.23

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	Red Fox		Eastern cottontail	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,23}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,23}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
Inorganics							
Aluminum	Mouse	3.00E-02	1.93E+00	2.83E-01	5.46E-01	3.95E-01	7.63E-01
Ammonia	none	none	No TRV	none	none	none	none
Antimony	Mouse	3.00E-02	1.25E-01	2.83E-01	3.54E-02	3.95E-01	4.94E-02
Arsenic	Mouse	3.00E-02	1.26E-01	2.83E-01	3.56E-02	3.95E-01	4.98E-02
Barium	Rat	4.35E-01	5.06E+00	5.52E-01	2.79E+00	7.71E-01	3.90E+00
Beryllium	Rat	3.50E-01	6.60E-01	5.23E-01	3.45E-01	7.30E-01	4.82E-01
Boron	Rat	3.50E-01	2.80E+01	5.23E-01	1.46E+01	7.30E-01	2.05E+01
Cadmium	Rat	3.03E-01	1.00E+00	5.04E-01	5.04E-01	7.05E-01	7.05E-01
Calcium	none	none	No TRV	none	none	none	none
Chromium	Rat	3.50E-01	2.74E+03	5.23E-01	1.43E+03	7.30E-01	2.00E+03
Cobalt	Rat	none	1.00E-01	none	none	none	none
Copper	Mink	1.00E+00	1.17E+01	6.80E-01	7.96E+00	9.50E-01	1.11E+01
Cyanide	Rat	2.73E-01	6.87E+01	4.91E-01	3.37E+01	6.86E-01	4.72E+01
Iron	none	none	No TRV	none	none	none	none
Lead	Rat	3.50E-01	8.00E+00	5.23E-01	4.18E+00	7.30E-01	5.84E+00
Magnesium	none	none	No TRV	none	none	none	none
Manganese	Rat	3.50E-01	8.80E+01	5.23E-01	4.60E+01	7.30E-01	6.43E+01
Mercury	Mink	1.00E+00	1.01E+00	6.80E-01	6.86E-01	9.50E-01	9.59E-01
Molybdenum	Mouse	3.00E-02	2.58E-01	2.83E-01	7.30E-02	3.95E-01	1.02E-01
Nickel	Rat	3.50E-01	4.00E+01	5.23E-01	2.09E+01	7.30E-01	2.92E+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	5.23E-01	1.05E-01	7.30E-01	1.46E-01
Silver	none	none	No TRV	none	none	none	none
Sodium	none	none	No TRV	none	none	none	none
Thallium	Rat	3.65E-01	7.40E-03	5.28E-01	3.91E-03	7.38E-01	5.46E-03
Vanadium	Rat	2.60E-01	2.10E-01	4.85E-01	1.02E-01	6.78E-01	1.42E-01
Zinc	Rat	3.50E-01	1.60E+02	5.23E-01	8.36E+01	7.30E-01	1.17E+02
	0	0	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
2,2,5-Trimethylhexane	none	none	No TRV	none	none	none	none
2-Methylnaphthalene	none	none	No TRV	none	none	none	none
2-Methylphenol	none	none	No TRV	none	none	none	none
4-Methylphenol	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	5.23E-01	5.23E+00	7.30E-01	7.30E+00

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	Red Fox		Eastern cottontail	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,23}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,23}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
Aldrin	Rat	3.50E-01	2.00E-01	5.23E-01	1.05E-01	7.30E-01	1.46E-01
Anthracene	none	none	No TRV	none	none	none	none
Aroclor-1242	Mink	1.00E+00	6.85E-02	6.80E-01	4.65E-02	9.50E-01	6.50E-02
Aroclor-1248	Rhesus monkey	5.00E+00	1.00E-02	1.02E+00	1.02E-02	1.42E+00	1.42E-02
Aroclor-1254	Oldfield mouse	1.40E-02	6.80E-02	2.34E-01	1.59E-02	3.27E-01	2.22E-02
Aroclor-1260	none	none	No TRV	none	none	none	none
Benzene	Mouse	3.00E-02	2.64E+01	2.83E-01	7.45E+00	3.95E-01	1.04E+01
Benzo(a)anthracene	none	none	No TRV	none	none	none	none
Benzo(a)pyrene	Mouse	3.00E-02	1.00E+00	2.83E-01	2.83E-01	3.95E-01	3.95E-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	2.83E-01	1.13E+00	3.95E-01	1.58E+00
Benzyl alcohol	none	none	No TRV	none	none	none	none
delta-BHC	none	none	No TRV	none	none	none	none
gamma-BHC (Lindane)	Rat	3.50E-01	8.00E+00	5.23E-01	4.18E+00	7.30E-01	5.84E+00
Bis(2-chloroisopropyl)ether	none	none	No TRV	none	none	none	none
Bis(2-ethylhexyl)phthalate	Mouse	3.00E-02	1.83E+01	2.83E-01	5.18E+00	3.95E-01	7.23E+00
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	2.83E-01	1.30E+00	3.95E-01	1.81E+00
alpha-Chlordane	Mouse	3.00E-02	4.58E+00	2.83E-01	1.30E+00	3.95E-01	1.81E+00
gamma-Chlordane	Mouse	3.00E-02	4.58E+00	2.83E-01	1.30E+00	3.95E-01	1.81E+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	5.23E-01	7.84E+00	7.30E-01	1.10E+01
Chloromethane	none	none	No TRV	none	none	none	none
2-Chlorophenol	none	none	No TRV	none	none	none	none
Chrysene	none	none	No TRV	none	none	none	none
2,4-D	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	5.23E-01	4.18E-01	7.30E-01	5.84E-01
Dalapon	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
1,4-Dichlorobenzene	none	none	No TRV	none	none	none	none
1,1-Dichloroethane	none	none	No TRV	none	none	none	none

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	Red Fox		Eastern cottontail	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U,2,3}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
1,2-Dichloroethane	Mouse	3.50E-02	5.00E+01	2.94E-01	1.47E+01	4.11E-01	2.05E+01
1,1-Dichloroethene	Rat	3.50E-01	3.00E+01	5.23E-01	1.57E+01	7.30E-01	2.19E+01
1,2-Dichloroethene	Mouse	3.00E-02	4.52E+01	2.83E-01	1.28E+01	3.95E-01	1.79E+01
2,4-Dimethylphenol	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	5.23E-01	1.05E-02	7.30E-01	1.46E-02
Diethylphthalate	Mouse	3.00E-02	4.58E+03	2.83E-01	1.30E+03	3.95E-01	1.81E+03
Dimethylbenzene	none	none	No TRV	none	none	none	none
Dimethylphthalate	none	none	No TRV	none	none	none	none
Di-n-butylphthalate	Mouse	3.00E-02	5.50E+02	2.83E-01	1.56E+02	3.95E-01	2.17E+02
Di-n-octylphthalate	none	none	No TRV	none	none	none	none
Endosulfan	Rat	3.50E-01	1.50E-01	5.23E-01	7.84E-02	7.30E-01	1.10E-01
Endosulfan sulfate	none	none	No TRV	none	none	none	none
Endrin	Mouse	3.00E-02	9.20E-02	2.83E-01	2.60E-02	3.95E-01	3.64E-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
Heptachlor	Mink	1.00E+00	1.00E-01	6.80E-01	6.80E-02	9.50E-01	9.50E-02
Heptachlor epoxide	none	none	No TRV	none	none	none	none
2-Hexanone	none	none	No TRV	none	none	none	none
Indeno(1,2,3-cd)pyrene	none	none	No TRV	none	none	none	none
Isophorone	none	none	No TRV	none	none	none	none
MCPA	none	none	No TRV	none	none	none	none
MCPP	none	none	No TRV	none	none	none	none
Methyl bromide	none	none	No TRV	none	none	none	none
Methylene chloride	Rat	3.50E-01	5.85E+00	5.23E-01	3.06E+00	7.30E-01	4.27E+00
Methyl ethyl ketone	Rat	3.50E-01	1.77E+03	5.23E-01	9.26E+02	7.30E-01	1.29E+03
Methyl mercury chloride	Rat	3.50E-01	3.20E-02	5.23E-01	1.67E-02	7.30E-01	2.34E-02
Methoxychlor	none	none	No TRV	none	none	none	none
4-Methyl-2-pentanone	Rat	3.50E-01	2.50E+01	5.23E-01	1.31E+01	7.30E-01	1.83E+01
4-Chloro-3-methylphenol	none	none	No TRV	none	none	none	none
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
4-Nitrophenol	none	none	No TRV	none	none	none	none
Pentachlorophenol	Rat	3.50E-01	2.40E-01	5.23E-01	1.25E-01	7.30E-01	1.75E-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

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW _t	TRV _t (mg/kgBW/d)	Red Fox		Eastern cottontail	
				Body-weight conversion factor BW _{conv} (BW _t /BW) ^{U,Δ2}	TRV (mg/kgBW/d) TRV _{t,x} BW _{conv}	Body-weight conversion factor BW _{conv} (BW _t /BW) ^{U,Δ2}	TRV (mg/kgBW/d) TRV _{t,x} BW _{conv}
Styrene	Dog	1.00E+01	2.00E+02	1.21E+00	2.42E+02	1.69E+00	3.38E+02
Tetrachloroethene	Mouse	3.00E-02	1.40E+00	2.83E-01	3.96E-01	3.95E-01	5.53E-01
Toluene	Mouse	3.00E-02	2.60E+01	2.83E-01	7.35E+00	3.95E-01	1.03E+01
1,2,4-trichlorobenzene	none	none	No TRV	none	none	none	none
1,1,1-Trichloroethane	none	none	No TRV	none	none	none	none
1,1,2-Trichloroethane	none	none	No TRV	none	none	none	none
Trichloroethene	Mouse	3.00E-02	7.00E-01	2.83E-01	1.98E-01	3.95E-01	2.77E-01
Vinyl chloride	Rat	3.50E-01	1.70E-01	5.23E-01	8.89E-02	7.30E-01	1.24E-01
Xylenes	Mouse	3.00E-02	2.06E+00	2.83E-01	5.83E-01	3.95E-01	8.14E-01
	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Dioxins and Furans	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,3,4,6,7,8-Heptachlorodibenzo-	none	none	No TRV	none	none	none	none
1,2,3,4,6,7,8-Heptachlorodibenzo-	none	none	No TRV	none	none	none	none
1,2,3,4,7,8,9-Heptachlorodibenzo-	none	none	No TRV	none	none	none	none
1,2,3,4,7,8-Hexachlorodibenzo-p-	none	none	No TRV	none	none	none	none
1,2,3,4,7,8-Hexachlorodibenzofur	none	none	No TRV	none	none	none	none
1,2,3,6,7,8-Hexachlorodibenzo-p-	none	none	No TRV	none	none	none	none
1,2,3,6,7,8-Hexachlorodibenzofur	Rat	3.50E-01	1.60E-04	5.23E-01	8.36E-05	7.30E-01	1.17E-04
1,2,3,7,8,9-Hexachlorodibenzo-p-	none	none	No TRV	none	none	none	none
1,2,3,7,8,9-Hexachlorodibenzofur	none	none	No TRV	none	none	none	none
2,3,4,6,7,8-Hexachlorodibenzofur	none	none	No TRV	none	none	none	none
1,2,3,7,8-Pentachlorodibenzo-p-di	none	none	No TRV	none	none	none	none
1,2,3,7,8-Pentachlorodibenzofur	Rat	3.50E-01	1.60E-04	5.23E-01	8.36E-05	7.30E-01	1.17E-04
2,3,4,7,8-Pentachlorodibenzofur	Rat	3.50E-01	1.60E-05	5.23E-01	8.36E-06	7.30E-01	1.17E-05
Octachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none
Octachlorodibenzofuran	none	none	No TRV	none	none	none	none
2,3,7,8-Tetrachlorodibenzo-p-dio	Rat	3.50E-01	1.00E-06	5.23E-01	5.23E-07	7.30E-01	7.30E-07
2,3,7,8-Tetrachlorodibenzofuran	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
Explosives	0	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,3,5-Trinitrobenzene	Mouse	1.85E-02	6.70E+00	2.51E-01	1.68E+00	3.50E-01	2.35E+00
1,3-Dinitrobenzene	Rat	4.50E-01	1.10E-01	5.57E-01	6.12E-02	7.78E-01	8.55E-02
2,4,6-Trinitrotoluene	Rat	3.50E-01	1.60E+00	5.23E-01	8.36E-01	7.30E-01	1.17E+00
2,4-Dinitrotoluene	Mouse	3.00E-02	1.35E+01	2.83E-01	3.82E+00	3.95E-01	5.34E+00
2,6-Dinitrotoluene	Rat	3.50E-01	7.00E-01	5.23E-01	3.66E-01	7.30E-01	5.11E-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
HMX	Mouse	2.40E-02	3.00E+00	2.67E-01	8.02E-01	3.74E-01	1.12E+00
Nitrocellulose	none	none	No TRV	none	none	none	none
Nitroglycerin	none	none	No TRV	none	none	none	none

Appendix Table L-9 Toxicity Reference Value (TRV) Derivation for Mammal Receptors

Ecological constituent of potential concern	Test species	Test species body weight BW_t	TRV_t (mg/kgBW/d)	Red Fox		Eastern cottontail	
				Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U, L2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$	Body-weight conversion factor BW_{conv} (BW_t / BW) ^{U, L2}	TRV (mg/kgBW/d) $TRV_t \times BW_{conv}$
2-Nitrotoluene	none	none	No TRV	none	none	none	none
3-Nitrotoluene	none	none	No TRV	none	none	none	none
4-Nitrotoluene	none	none	No TRV	none	none	none	none
Nitrobenzene	none	none	No TRV	none	none	none	none
RDX	Mouse	3.59E-02	7.00E+00	2.96E-01	2.07E+00	4.13E-01	2.89E+00
Tetryl	Rat	2.58E-01	1.30E+00	4.84E-01	6.30E-01	6.77E-01	8.80E-01

BW(kg) Short-tailed shrew = 0.017

BW(kg) Eastern cottontail = 1.23

Appendix Table L-10. Derivation of Toxicity Reference Values (TRVs) for Bird Receptors

Ecological constituent of potential concern	Test species	Test species body weight (kg)	TRV ₁ (mg/kgBW/d)	Red-tailed hawk		Great Blue Heron		Barn Owl		American Robin	
				Body-weight conversion factor	TRV	Body-weight conversion factor	TRV	Body-weight conversion factor	TRV	Body-weight conversion factor	TRV
				BW _{const} (mg/kgBW/d)	TRV ₁ × BW _{const} ^{2/3}	BW _{const} (mg/kgBW/d)	TRV ₁ × BW _{const} ^{2/3}	BW _{const} (mg/kgBW/d)	TRV ₁ × BW _{const} ^{2/3}	BW _{const} (mg/kgBW/d)	TRV ₁ × BW _{const} ^{2/3}
Endrin ketone	none	none	No TRV	none	none	none	none	none	none	none	none
Endosulfan sulfate	none	none	No TRV	none	none	none	none	none	none	none	none
Ethylbenzene	none	none	No TRV	none	none	none	none	none	none	none	none
Fluoranthene	none	none	No TRV	none	none	none	none	none	none	none	none
Fluorene	none	none	No TRV	none	none	none	none	none	none	none	none
Heptachlor	none	none	No TRV	none	none	none	none	none	none	none	none
Heptachlor epoxide	none	none	No TRV	none	none	none	none	none	none	none	none
2-Hexanone	none	none	No TRV	none	none	none	none	none	none	none	none
Indeno[1,2,3-cd]pyrene	none	none	No TRV	none	none	none	none	none	none	none	none
Isophenone	none	none	No TRV	none	none	none	none	none	none	none	none
MCPA	none	none	No TRV	none	none	none	none	none	none	none	none
MCPP	none	none	No TRV	none	none	none	none	none	none	none	none
Methyl bromide	none	none	No TRV	none	none	none	none	none	none	none	none
Methylene chloride	none	none	No TRV	none	none	none	none	none	none	none	none
Methyl ethyl ketone	none	none	No TRV	none	none	none	none	none	none	none	none
Methoxychlor	none	none	No TRV	none	none	none	none	none	none	none	none
Methyl mercury dicyanamide	Mallard duck	1.00E+00	6.40E-03	9.70E-01	6.21E-03	8.04E-01	5.15E-03	1.21E+00	7.75E-03	1.88E+00	1.20E-02
4-Methyl-2-pentanone	none	none	No TRV	none	none	none	none	none	none	none	none
4-Chloro-3-methylphenol	none	none	No TRV	none	none	none	none	none	none	none	none
Naphthalene	none	none	No TRV	none	none	none	none	none	none	none	none
N-Nitroso-di-N-propylamine	none	none	No TRV	none	none	none	none	none	none	none	none
N-Nitrosodiphenylamine	none	none	No TRV	none	none	none	none	none	none	none	none
8-Nitrophenol	none	none	No TRV	none	none	none	none	none	none	none	none
Pentachlorophenol	none	none	No TRV	none	none	none	none	none	none	none	none
Phenanthrene	none	none	No TRV	none	none	none	none	none	none	none	none
Phenol	none	none	No TRV	none	none	none	none	none	none	none	none
Pyrene	none	none	No TRV	none	none	none	none	none	none	none	none
Styrene	none	none	No TRV	none	none	none	none	none	none	none	none
Tetrachloroethene	none	none	No TRV	none	none	none	none	none	none	none	none
Toluene	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,4-trichlorobenzene	none	none	No TRV	none	none	none	none	none	none	none	none
Trichloroethene	none	none	No TRV	none	none	none	none	none	none	none	none
1,1,1-Trichloroethane	none	none	No TRV	none	none	none	none	none	none	none	none
1,1,2-Trichloroethane	none	none	No TRV	none	none	none	none	none	none	none	none
Vinyl chloride	none	none	No TRV	none	none	none	none	none	none	none	none
Xylenes	none	none	No TRV	none	none	none	none	none	none	none	none
Dioxins and Furans											
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxine	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,4,7,8,9-Heptachlorodibenzo-furan	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,4,7,8,9-Hexachlorodibenzo-p-dioximone	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,6,7,8-Hexachlorodibenzo-p-dioximone	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,6,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,7,8,9-Hexachlorodibenzo-p-dioximone	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,7,8,9-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,6,7,8-Hexachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none	none	none	none	none
1,2,3,7,8-Pentachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
2,3,4,7,8-Pentachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
Octachlorodibenzo-p-dioxin	none	none	No TRV	none	none	none	none	none	none	none	none
Octachlorodibenzofuran	none	none	No TRV	none	none	none	none	none	none	none	none
2,3,7,8-Tetrachlorodibenzo-p-dioxin	Ring-necked Pheasant	1.00E+00	1.40E-05	9.70E-01	1.36E-05	8.04E-01	1.13E-05	1.21E+00	1.69E-05	1.88E+00	2.63E-05
2,3,7,8-Tetrachlorodibenzofuran	Chick (1 day old)	1.21E-01	1.00E-06	5.72E-01	5.72E-07	4.74E-01	4.74E-07	7.14E-01	7.14E-07	1.11E+00	1.11E-06
Explosives											
1,3,5-Trinitrobenzene	none	none	No TRV	none	none	none	none	none	none	none	none
1,3-Dinitrobenzene	none	none	No TRV	none	none	none	none	none	none	none	none
2,4,6-Trinitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
2,4-Dinitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
2,6-Dinitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
2-Amino-4,6-dinitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
4-Amino-2,6-dinitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
HMX	none	none	No TRV	none	none	none	none	none	none	none	none
Nitrocellulose	none	none	No TRV	none	none	none	none	none	none	none	none
Nitroglycerin	none	none	No TRV	none	none	none	none	none	none	none	none
2-Nitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
3-Nitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
4-Nitrotoluene	none	none	No TRV	none	none	none	none	none	none	none	none
Nitrobenzene	none	none	No TRV	none	none	none	none	none	none	none	none
RDX	none	none	No TRV	none	none	none	none	none	none	none	none
Tetryl	none	none	No TRV	none	none	none	none	none	none	none	none

BW(kg) American robin = 0.08
 BW(kg) Great blue heron = 2.39
 BW(kg) Red-tailed hawk = 1.13

Appendix Table L-11. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Sitewide

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ RME / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.31E+04	5.00E+01	2.61E+02	68.8%
Antimony	4.54E+00	5.00E+00	9.08E-01	0.2%
Arsenic	1.37E+01	1.00E+01	1.37E+00	0.4%
Barium	5.47E+02	5.00E+02	1.09E+00	0.3%
Beryllium	5.24E-01	1.00E+01	5.24E-02	0.0%
Cadmium	2.14E+01	5.00E-01	4.29E+01	11.3%
Calcium	1.37E+04	No TRV	No TRV	No HQ
Chromium	2.16E+01	1.00E+00	2.16E+01	5.7%
Cobalt	8.27E+00	2.00E+01	4.13E-01	0.1%
Copper	7.92E+02	1.00E+02	7.92E+00	2.1%
Cyanide	3.58E-01	No TRV	No TRV	No HQ
Iron	2.35E+04	No TRV	No TRV	No HQ
Lead	2.19E+02	5.00E+01	4.38E+00	1.2%
Magnesium	3.63E+03	No TRV	No TRV	No HQ
Manganese	6.02E+02	5.00E+02	1.20E+00	0.3%
Mercury	9.43E-02	3.00E-01	3.14E-01	0.1%
Nickel	2.36E+01	3.00E+01	7.86E-01	0.2%
Potassium	1.34E+03	No TRV	No TRV	No HQ
Selenium	9.56E-01	1.00E+00	9.56E-01	0.3%
Silver	1.29E+00	2.00E+00	6.45E-01	0.2%
Sodium	1.66E+02	No TRV	No TRV	No HQ
Thallium	5.89E-01	1.00E+00	5.89E-01	0.2%
Vanadium	2.19E+01	2.00E+00	1.10E+01	2.9%
Zinc	7.04E+02	5.00E+01	1.41E+01	3.7%
Organics				
2-Methylnaphthalene	1.50E-01	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E+01	7.50E-03	0.0%
Anthracene	2.84E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	3.87E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	3.40E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	4.19E-01	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	2.36E-01	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	2.70E-01	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	3.40E-02	No TRV	No TRV	No HQ
Carbazole	2.24E-01	No TRV	No TRV	No HQ
Chrysene	3.87E-01	No TRV	No TRV	No HQ
Di-n-butylphthalate	5.30E-02	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	1.10E-01	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	No TRV	No TRV	No HQ
Fluoranthene	8.78E-01	No TRV	No TRV	No HQ
Fluorene	2.20E-01	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.55E-01	No TRV	No TRV	No HQ

Appendix Table L-11. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Sitewide

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ RME / TRV	%HI HQ / HI x 100
Naphthalene	7.60E-02	No TRV	No TRV	No HQ
Phenanthrene	7.25E-01	No TRV	No TRV	No HQ
Pyrene	6.74E-01	3.00E+01	2.25E-02	0.0%
Chloroform	2.00E-03	No TRV	No TRV	No HQ
Methylene Chloride	6.89E-03	No TRV	No TRV	No HQ
Toluene	1.70E-01	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	1.46E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.65E+02	3.00E+01	5.49E+00	1.4%
2,4-Dinitrotoluene	3.01E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	3.05E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.70E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	9.71E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.90E-01	No TRV	No TRV	No HQ
HMX	4.81E+01	No TRV	No TRV	No HQ
Nitrobenzene	5.40E-02	No TRV	No TRV	No HQ
Nitrocellulose	5.83E+01	No TRV	No TRV	No HQ
Nitroglycerin	2.96E+00	No TRV	No TRV	No HQ
RDX	2.60E+02	1.00E+02	2.60E+00	0.7%
Tetryl	4.80E-01	2.50E+01	1.92E-02	0.0%
HI =				3.80E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-12. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Sitewide**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ RME / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.31E+04	No TRV	No TRV	No HQ
Antimony	4.54E+00	No TRV	No TRV	No HQ
Arsenic	1.37E+01	6.00E+01	2.28E-01	0.3%
Barium	5.47E+02	No TRV	No TRV	No HQ
Beryllium	5.24E-01	No TRV	No TRV	No HQ
Cadmium	2.14E+01	2.00E+01	1.07E+00	1.4%
Calcium	1.37E+04	No TRV	No TRV	No HQ
Chromium	2.16E+01	4.00E-01	5.40E+01	70.7%
Cobalt	8.27E+00	No TRV	No TRV	No HQ
Copper	7.92E+02	5.00E+01	1.58E+01	20.7%
Cyanide	3.58E-01	No TRV	No TRV	No HQ
Iron	2.35E+04	No TRV	No TRV	No HQ
Lead	2.19E+02	5.00E+02	4.38E-01	0.6%
Magnesium	3.63E+03	No TRV	No TRV	No HQ
Manganese	6.02E+02	No TRV	No TRV	No HQ
Mercury	9.43E-02	No TRV	No TRV	No HQ
Nickel	2.36E+01	2.00E+02	1.18E-01	0.2%
Potassium	1.34E+03	No TRV	No TRV	No HQ
Selenium	9.56E-01	No TRV	No TRV	No HQ
Silver	1.29E+00	No TRV	No TRV	No HQ
Sodium	1.66E+02	No TRV	No TRV	No HQ
Thallium	5.89E-01	No TRV	No TRV	No HQ
Vanadium	2.19E+01	No TRV	No TRV	No HQ
Zinc	7.04E+02	2.00E+02	3.52E+00	4.6%
Organics				
2-Methylnaphthalene	1.50E-01	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	No TRV	No TRV	No HQ
Anthracene	2.84E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	3.87E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	3.40E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	4.19E-01	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	2.36E-01	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	2.70E-01	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	3.40E-02	No TRV	No TRV	No HQ
Carbazole	2.24E-01	No TRV	No TRV	No HQ
Chrysene	3.87E-01	No TRV	No TRV	No HQ
Di-n-butylphthalate	5.30E-02	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	1.10E-01	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	No TRV	No TRV	No HQ
Fluoranthene	8.78E-01	No TRV	No TRV	No HQ
Fluorene	2.20E-01	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.55E-01	No TRV	No TRV	No HQ

**Appendix Table L-12. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Sitewide**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ RME / TRV	%HI HQ / HI x 100
Naphthalene	7.60E-02	No TRV	No TRV	No HQ
Phenanthrene	7.25E-01	No TRV	No TRV	No HQ
Pyrene	6.74E-01	3.00E+01	2.25E-02	0.0%
Chloroform	2.00E-03	No TRV	No TRV	No HQ
Methylene Chloride	6.89E-03	No TRV	No TRV	No HQ
Toluene	1.70E-01	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	1.46E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.65E+02	1.40E+02	1.18E+00	1.5%
2,4-Dinitrotoluene	3.01E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	3.05E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.70E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	9.71E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.90E-01	No TRV	No TRV	No HQ
HMX	4.81E+01	No TRV	No TRV	No HQ
Nitrobenzene	5.40E-02	No TRV	No TRV	No HQ
Nitrocellulose	5.83E+01	No TRV	No TRV	No HQ
Nitroglycerin	2.96E+00	No TRV	No TRV	No HQ
RDX	2.60E+02	No TRV	No TRV	No HQ
Tetryl	4.80E-01	No TRV	No TRV	No HQ
HI = 7.64E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-14. Hazard Quotients for American Robin in Surface Soil at RVAAP - Sitewide

Analyte	EPC (mg/kg)	SP ₁	ADD ₁ (mg/kgBW/d) RME x SP, xUF	BAF ₁	ADD ₁ (mg/kgBW/d) RME x BAF, xUF	ADD ₁ (mg/kgBW/d) RME x L ₁ x UF	ADD _{sum} (mg/kgBW/d) ADD ₁ + ADD ₂	TRV (mg/kgBW/d)	Site HQ ADD _{sum} / TRV	%HI HQ/Hi x 100
Inorganics										
Aluminum	1.31E+04	1.30E-04	1.29E+00	7.50E-02	7.45E+02	2.07E+03	2.81E+03	1.29E+02	2.17E+01	5.3%
Antimony	4.54E+00	6.00E-03	2.07E-02	5.00E-02	1.72E-01	7.17E-01	9.11E-01	No TRV	No TRV	No HQ
Arsenic	1.37E+01	1.20E-03	1.25E-02	6.60E-03	6.87E-02	2.17E+00	2.25E+00	9.66E+00	2.33E-01	0.1%
Barium	5.47E+02	3.00E-03	1.25E+00	7.50E-03	3.12E+00	8.65E+01	9.09E+01	2.31E+01	3.92E+00	1.0%
Beryllium	5.24E-01	3.00E-04	1.19E-04	5.00E-02	1.99E-02	8.28E-02	1.05E-01	No TRV	No TRV	No HQ
Cadmium	2.14E+01	3.00E-02	4.89E-01	1.10E+01	1.79E+02	3.39E+00	1.83E+02	2.83E+00	6.48E+01	15.7%
Calcium	1.37E+04	7.00E-02	7.26E+02	1.00E+00	1.04E+04	2.16E+03	1.33E+04	No TRV	No TRV	No HQ
Chromium	2.16E+01	9.00E-04	1.48E-02	1.60E-01	2.63E+00	3.42E+00	6.06E+00	1.99E+00	3.05E+00	0.7%
Cobalt	8.27E+00	1.40E-03	8.79E-03	1.00E+00	6.28E+00	1.31E+00	7.60E+00	No TRV	No TRV	No HQ
Copper	7.92E+02	5.00E-02	3.01E+01	1.60E-01	9.63E+01	1.25E+02	2.52E+02	7.55E+01	3.33E+00	0.8%
Cyanide	3.58E-01	1.00E+00	2.72E-01	0.00E+00	0.00E+00	5.66E-02	3.29E-01	No TRV	No TRV	No HQ
Iron	2.35E+04	2.00E-04	3.56E+00	1.00E+00	1.78E+04	3.71E+03	2.15E+04	No TRV	No TRV	No HQ
Lead	2.19E+02	1.80E-03	3.00E-01	2.00E+00	3.33E+02	3.46E+01	3.68E+02	1.32E+00	2.78E+02	67.4%
Magnesium	3.63E+03	1.10E-01	3.03E+02	1.00E+00	2.76E+03	5.74E+02	3.63E+03	No TRV	No TRV	No HQ
Manganese	6.02E+02	1.00E-02	4.58E+00	2.00E-02	9.15E+00	9.52E+01	1.09E+02	9.52E+02	1.14E-01	0.0%
Mercury	9.43E-02	4.00E-02	2.87E-03	3.40E-01	2.44E-02	1.49E-02	4.21E-02	5.27E-01	8.00E-02	0.0%
Nickel	2.36E+01	1.20E-02	2.15E-01	2.30E-01	4.12E+00	3.73E+00	8.06E+00	1.37E+02	5.89E-02	0.0%
Potassium	1.34E+03	1.10E-01	1.12E+02	1.00E+00	1.02E+03	2.12E+02	1.34E+03	No TRV	No TRV	No HQ
Selenium	9.56E-01	5.00E-03	3.63E-03	7.60E-01	5.52E-01	1.51E-01	7.07E-01	9.40E-01	7.52E-01	0.2%
Silver	1.29E+00	2.00E-02	1.96E-02	1.50E-01	1.47E-01	2.04E-01	3.71E-01	No TRV	No TRV	No HQ
Sodium	1.66E+02	1.10E-02	1.39E+00	1.00E+00	1.26E+02	2.63E+01	1.54E+02	No TRV	No TRV	No HQ
Thallium	5.89E-01	8.00E-05	3.58E-05	1.00E+00	4.48E-01	9.31E-02	5.41E-01	No TRV	No TRV	No HQ
Vanadium	2.19E+01	6.00E-04	1.00E-02	1.30E-01	2.17E+00	3.47E+00	5.64E+00	2.23E+01	2.54E-01	0.1%
Zinc	7.04E+02	1.80E-01	9.63E+01	1.80E+00	9.63E+02	1.11E+02	1.17E+03	3.21E+01	3.64E+01	8.8%
Organics										
2-Methylnaphthalene	1.50E-01	2.00E-02	2.28E-03	5.00E-02	5.70E-03	2.37E-02	3.17E-02	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E-02	2.28E-03	5.00E-02	5.70E-03	2.37E-02	3.17E-02	No TRV	No TRV	No HQ
Anthracene	2.84E-01	2.00E-02	4.31E-03	5.00E-02	1.08E-02	4.48E-02	5.99E-02	No TRV	No TRV	No HQ
Benzo(a)anthracene	3.87E-01	3.90E-03	1.15E-03	5.00E-02	1.47E-02	6.12E-02	7.70E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	3.40E-01	2.60E-03	6.72E-04	5.00E-02	1.29E-02	5.37E-02	6.73E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	4.19E-01	2.30E-03	7.32E-04	5.00E-02	1.59E-02	6.62E-02	8.28E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	2.36E-01	1.20E-03	2.15E-04	5.00E-02	8.97E-03	3.73E-02	4.65E-02	No TRV	No TRV	No HQ
Benzo(ghi)perylene	2.70E-01	2.30E-03	4.72E-04	5.00E-02	1.03E-02	4.27E-02	5.35E-02	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	2.25E-04	5.00E-02	1.29E-03	5.37E-03	6.89E-03	1.30E+00	5.31E-03	0.0%
Carbazole	2.24E-01	2.00E-02	3.41E-03	5.00E-02	8.53E-03	3.55E-02	4.74E-02	No TRV	No TRV	No HQ
Chrysene	3.87E-01	3.90E-03	1.15E-03	5.00E-02	1.47E-02	6.12E-02	7.71E-02	No TRV	No TRV	No HQ
Di-n-butylphthalate	5.30E-02	7.60E-03	3.06E-04	5.00E-02	2.01E-03	8.38E-03	1.07E-02	1.31E-01	8.17E-02	0.0%
Dibenzof(a,h)anthracene	1.10E-01	1.40E-03	1.17E-04	5.00E-02	4.18E-03	1.74E-02	2.17E-02	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	2.00E-02	2.43E-03	5.00E-02	6.08E-03	2.53E-02	3.38E-02	No TRV	No TRV	No HQ
Fluoranthene	8.78E-01	2.00E-02	1.33E-02	5.00E-02	3.33E-02	1.39E-01	1.85E-01	No TRV	No TRV	No HQ
Fluorene	2.20E-01	2.00E-02	3.34E-03	5.00E-02	8.35E-03	3.47E-02	4.64E-02	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.55E-01	1.20E-03	2.32E-04	5.00E-02	9.68E-03	4.03E-02	5.02E-02	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	2.00E-02	1.16E-03	5.00E-02	2.89E-03	1.20E-02	1.61E-02	No TRV	No TRV	No HQ
Phenanthrene	7.25E-01	2.00E-02	1.10E-02	5.00E-02	2.75E-02	1.15E-01	1.53E-01	No TRV	No TRV	No HQ
Pyrene	6.74E-01	6.70E-03	3.43E-03	5.00E-02	2.56E-02	1.06E-01	1.36E-01	No TRV	No TRV	No HQ
Chloroforn	2.00E-03	2.00E-02	3.04E-05	5.00E-02	7.60E-05	3.16E-04	4.23E-04	No TRV	No TRV	No HQ
Methylene Chloride	6.89E-03	2.00E-02	1.05E-04	5.00E-02	2.62E-04	1.09E-03	1.45E-03	No TRV	No TRV	No HQ
Toluene	1.70E-01	2.00E-02	2.58E-03	5.00E-02	6.46E-03	2.69E-02	3.59E-02	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	1.46E+01	1.00E+00	1.11E+01	1.00E+00	1.11E+01	2.31E+00	2.45E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	1.00E+00	6.38E-02	1.00E+00	6.38E-02	1.33E-02	1.41E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.65E+02	1.00E+00	1.25E+02	1.00E+00	1.25E+02	2.61E+01	2.77E+02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	3.01E-01	1.00E+00	2.28E+01	1.00E+00	2.28E+01	4.75E-02	5.04E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	3.05E-01	2.00E-02	4.63E-03	5.00E-02	1.16E-02	4.81E-02	6.43E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.70E-01	1.00E+00	1.29E-01	1.00E+00	1.29E-01	2.69E-02	2.85E-01	No TRV	No TRV	No HQ
1-Nitrotoluene	9.71E-01	1.00E+00	7.38E-01	1.00E+00	7.38E-01	1.54E-01	1.63E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.90E-01	1.00E+00	1.44E-01	1.00E+00	1.44E-01	3.00E-02	3.19E-01	No TRV	No TRV	No HQ
HNX	4.81E+01	1.00E+00	3.66E+01	1.00E+00	3.66E+01	7.60E+00	8.07E+01	No TRV	No TRV	No HQ
Nitrobenzene	5.40E-02	2.00E-02	8.21E-04	5.00E-02	2.05E-03	8.54E-03	1.14E-02	No TRV	No TRV	No HQ
Nitrocellulose	5.83E+01	1.00E+00	4.43E+01	1.00E+00	4.43E+01	9.21E+00	9.78E+01	No TRV	No TRV	No HQ
Nitroglycerin	2.96E+00	1.00E+00	2.25E+00	1.00E+00	2.25E+00	4.68E-01	4.97E+00	No TRV	No TRV	No HQ
RDX	2.60E+02	1.00E+00	1.98E+02	1.00E+00	1.98E+02	4.11E+01	4.36E+02	No TRV	No TRV	No HQ
Tetryl	4.80E-01	1.00E+00	3.65E-01	1.00E+00	3.65E-01	7.59E-02	8.05E-01	No TRV	No TRV	No HQ

HI = 4.13E-02

EPC = Exposure point concentration
 SP₁ = Soil-to-plant; reproductive
 ADD₁ = Average daily dose; plant
 I₁ (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF₁ = Soil-to-animal; invertebrates
 ADD₁ = Average daily dose; animal

I₁(kg/kgBW)/7.60E-01
 ADD₁ = Average daily dose; soil
 I₁(kg/kgBW)/1.58E-01
 ADD_{sum} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-15. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Sitewide

Analyte	EPC (mg/kg)	SP _v	ADD _p (mg/kgBW/d) RME x SP _v x I _p x AUF	BAF _v	ADD _A (mg/kgBW/d) RME 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	%HI HQ/HI x 100
Inorganics										
Aluminum	1.31E+04	8.00E-04	2.14E+00	7.50E-02	0.00E+00	1.69E+02	1.71E+02	7.63E-01	2.24E+02	74.6%
Antimony	4.54E+00	4.00E-02	3.72E-02	5.00E-02	0.00E+00	5.86E-02	9.58E-02	4.94E-02	1.94E+00	0.6%
Arsenic	1.37E+01	8.00E-03	2.25E-02	6.60E-03	0.00E+00	1.77E-01	1.99E-01	4.98E-02	4.00E+00	1.3%
Barium	5.47E+02	3.00E-02	3.36E+00	7.50E-03	0.00E+00	7.07E+00	1.04E+01	3.90E+00	2.67E+00	0.9%
Beryllium	5.24E-01	2.00E-03	2.15E-04	5.00E-02	0.00E+00	6.76E-03	6.98E-03	4.82E-01	1.45E-02	0.0%
Cadmium	2.14E+01	1.10E-01	4.83E-01	1.10E+01	0.00E+00	2.77E-01	7.60E-01	7.05E-01	1.08E+00	0.4%
Calcium	1.37E+04	7.00E-01	1.96E+03	1.00E+00	0.00E+00	1.76E+02	2.14E+03	No TRV	No TRV	No HQ
Chromium	2.16E+01	1.50E-03	6.65E-03	1.60E-01	0.00E+00	2.79E-01	2.86E-01	2.00E+03	1.43E-04	0.0%
Cobalt	8.27E+00	4.00E-03	6.78E-03	1.00E+00	0.00E+00	1.07E-01	1.14E-01	No TRV	No TRV	No HQ
Copper	7.92E+02	8.00E-02	1.30E+01	1.60E-01	0.00E+00	1.02E+01	2.32E+01	1.11E+01	2.09E+00	0.7%
Cyanide	3.58E-01	1.00E+00	7.34E-02	0.00E+00	0.00E+00	4.63E-03	7.81E-02	4.72E+01	1.66E-03	0.0%
Iron	2.35E+04	8.00E-04	3.85E+00	1.00E+00	0.00E+00	3.03E+02	3.07E+02	No TRV	No TRV	No HQ
Lead	2.19E+02	9.00E-03	4.04E-01	2.00E+00	0.00E+00	2.83E+00	3.23E+00	5.84E+00	5.53E-01	0.2%
Magnesium	3.63E+03	2.00E-01	1.49E+02	1.00E+00	0.00E+00	4.69E+01	1.96E+02	No TRV	No TRV	No HQ
Manganese	6.02E+02	5.00E-02	6.17E+00	2.00E-02	0.00E+00	7.78E+00	1.39E+01	6.43E+01	2.17E-01	0.1%
Mercury	9.43E-02	1.80E-01	3.48E-03	3.40E-01	0.00E+00	1.22E-03	4.70E-03	9.59E-01	4.90E-03	0.0%
Nickel	2.36E+01	1.20E-02	5.80E-02	2.30E-01	0.00E+00	3.05E-01	3.63E-01	2.92E+01	1.24E-02	0.0%
Potassium	1.34E+03	2.00E-01	5.49E+01	1.00E+00	0.00E+00	1.73E+01	7.21E+01	No TRV	No TRV	No HQ
Selenium	9.56E-01	5.00E-03	9.80E-04	7.60E-01	0.00E+00	1.23E-02	1.33E-02	1.46E-01	9.13E-02	0.0%
Silver	1.29E+00	8.00E-02	2.12E-02	1.50E-01	0.00E+00	1.67E-02	3.78E-02	No TRV	No TRV	No HQ
Sodium	1.66E+02	1.50E-02	5.11E-01	1.00E+00	0.00E+00	2.15E+00	2.66E+00	No TRV	No TRV	No HQ
Thallium	5.89E-01	8.00E-04	9.66E-05	1.00E+00	0.00E+00	7.61E-03	7.71E-03	5.46E-03	1.41E+00	0.5%
Vanadium	2.19E+01	1.10E-03	4.95E-03	1.30E-01	0.00E+00	2.83E-01	2.88E-01	1.42E-01	2.02E+00	0.7%
Zinc	7.04E+02	3.00E-01	4.33E+01	1.80E+00	0.00E+00	9.10E+00	5.24E+01	1.17E+02	4.48E-01	0.1%
Organics										
2-Methylnaphthalene	1.50E-01	2.00E-02	6.15E-04	5.00E-02	0.00E+00	1.94E-03	2.55E-03	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E-02	6.15E-04	5.00E-02	0.00E+00	1.94E-03	2.55E-03	No TRV	No TRV	No HQ
Anthracene	2.84E-01	2.00E-02	1.16E-03	5.00E-02	0.00E+00	3.66E-03	4.82E-03	No TRV	No TRV	No HQ
Benzo(a)anthracene	3.87E-01	3.90E-03	3.09E-04	5.00E-02	0.00E+00	5.00E-03	5.31E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	3.40E-01	2.60E-03	1.81E-04	5.00E-02	0.00E+00	4.39E-03	4.57E-03	3.95E-01	1.16E-02	0.0%
Benzo(b)fluoranthene	4.19E-01	2.30E-03	1.97E-04	5.00E-02	0.00E+00	5.41E-03	5.60E-03	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	2.36E-01	1.20E-03	5.81E-05	5.00E-02	0.00E+00	3.05E-03	3.11E-03	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	2.70E-01	2.30E-03	1.27E-04	5.00E-02	0.00E+00	3.49E-03	3.62E-03	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	6.06E-05	5.00E-02	0.00E+00	4.39E-04	5.00E-04	7.23E+00	6.91E-05	0.0%
Carbazole	2.24E-01	2.00E-02	9.20E-04	5.00E-02	0.00E+00	2.90E-03	3.82E-03	No TRV	No TRV	No HQ
Chrysene	3.87E-01	3.90E-03	3.10E-04	5.00E-02	0.00E+00	5.00E-03	5.31E-03	No TRV	No TRV	No HQ
Di-n-butylphthalate	5.30E-02	7.60E-03	8.26E-05	5.00E-02	0.00E+00	6.84E-04	7.67E-04	2.17E+02	3.53E-06	0.0%
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	3.16E-05	5.00E-02	0.00E+00	1.42E-03	1.45E-03	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	2.00E-02	6.56E-04	5.00E-02	0.00E+00	2.07E-03	2.72E-03	No TRV	No TRV	No HQ

Appendix Table L-15. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Sitewide

Analyte	EPC (mg/kg)	SP _v	ADD _p (mg/kgBW/d) RME x SP _v x I _p x AUF	BAF _v	ADD _A (mg/kgBW/d) RME 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	%HI HQ/HI x 100
Fluoranthene	8.78E-01	2.00E-02	3.60E-03	5.00E-02	0.00E+00	1.13E-02	1.49E-02	No TRV	No TRV	No HQ
Fluorene	2.20E-01	2.00E-02	9.01E-04	5.00E-02	0.00E+00	2.84E-03	3.74E-03	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.55E-01	1.20E-03	6.27E-05	5.00E-02	0.00E+00	3.29E-03	3.35E-03	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	2.00E-02	3.12E-04	5.00E-02	0.00E+00	9.82E-04	1.29E-03	No TRV	No TRV	No HQ
Phenanthrene	7.25E-01	2.00E-02	2.97E-03	5.00E-02	0.00E+00	9.36E-03	1.23E-02	No TRV	No TRV	No HQ
Pyrene	6.74E-01	6.70E-03	9.25E-04	5.00E-02	0.00E+00	8.70E-03	9.62E-03	No TRV	No TRV	No HQ
Chloroform	2.00E-03	2.00E-02	8.20E-06	5.00E-02	0.00E+00	2.58E-05	3.40E-05	1.10E+01	3.11E-06	0.0%
Methylene Chloride	6.89E-03	2.00E-02	2.82E-05	5.00E-02	0.00E+00	8.89E-05	1.17E-04	4.27E+00	2.74E-05	0.0%
Toluene	1.70E-01	2.00E-02	6.97E-04	5.00E-02	0.00E+00	2.20E-03	2.89E-03	1.03E+01	2.82E-04	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.46E+01	1.00E+00	2.99E+00	1.00E+00	0.00E+00	1.88E-01	3.18E+00	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	1.00E+00	1.72E-02	1.00E+00	0.00E+00	1.08E-03	1.83E-02	8.55E-02	2.14E-01	0.1%
2,4,6-Trinitrotoluene	1.65E+02	1.00E+00	3.38E+01	1.00E+00	0.00E+00	2.13E+00	3.59E+01	1.17E+00	3.07E+01	10.2%
2,4-Dinitrotoluene	3.01E-01	1.00E+00	6.16E-02	1.00E+00	0.00E+00	3.88E-03	6.55E-02	5.34E+00	1.23E-02	0.0%
2,6-Dinitrotoluene	3.05E-01	2.00E-02	1.25E-03	5.00E-02	0.00E+00	3.93E-03	5.18E-03	5.11E-01	1.01E-02	0.0%
2-Nitrotoluene	1.70E-01	1.00E+00	3.49E-02	1.00E+00	0.00E+00	2.20E-03	3.70E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	9.71E-01	1.00E+00	1.99E-01	1.00E+00	0.00E+00	1.25E-02	2.12E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.90E-01	1.00E+00	3.90E-02	1.00E+00	0.00E+00	2.45E-03	4.14E-02	No TRV	No TRV	No HQ
HMX	4.81E+01	1.00E+00	9.86E+00	1.00E+00	0.00E+00	6.21E-01	1.05E+01	1.12E+00	9.35E+00	3.1%
Nitrobenzene	5.40E-02	2.00E-02	2.21E-04	5.00E-02	0.00E+00	6.97E-04	9.19E-04	No TRV	No TRV	No HQ
Nitrocellulose	5.83E+01	1.00E+00	1.19E+01	1.00E+00	0.00E+00	7.53E-01	1.27E+01	No TRV	No TRV	No HQ
Nitroglycerin	2.96E+00	1.00E+00	6.07E-01	1.00E+00	0.00E+00	3.82E-02	6.45E-01	No TRV	No TRV	No HQ
RDX	2.60E+02	1.00E+00	5.33E+01	1.00E+00	0.00E+00	3.36E+00	5.66E+01	2.89E+00	1.96E+01	6.5%
Tetryl	4.80E-01	1.00E+00	9.84E-02	1.00E+00	0.00E+00	6.20E-03	1.05E-01	8.80E-01	1.19E-01	0.0%
									HI =	3.01E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_v = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-16. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Sitewide

Analyte	EPC (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	%HI HQ/HI x 100
Inorganics										
Aluminum	1.31E+04	8.00E-04	3.24E-01	7.50E-02	0.00E+00	8.10E+00	8.43E+00	2.93E-01	2.88E+01	52.6%
Antimony	4.54E+00	4.00E-02	5.63E-03	5.00E-02	0.00E+00	2.81E-03	8.44E-03	1.90E-02	4.45E-01	0.8%
Arsenic	1.37E+01	8.00E-03	3.40E-03	6.60E-03	0.00E+00	8.49E-03	1.19E-02	1.91E-02	6.22E-01	1.1%
Barium	5.47E+02	3.00E-02	5.09E-01	7.50E-03	0.00E+00	3.39E-01	8.48E-01	1.50E+00	5.66E-01	1.0%
Beryllium	5.24E-01	2.00E-03	3.25E-05	5.00E-02	0.00E+00	3.25E-04	3.57E-04	1.85E-01	1.93E-03	0.0%
Cadmium	2.14E+01	1.10E-01	7.31E-02	1.10E+01	0.00E+00	1.33E-02	8.64E-02	2.71E-01	3.19E-01	0.6%
Calcium	1.37E+04	7.00E-01	2.96E+02	1.00E+00	0.00E+00	8.46E+00	3.05E+02	No TRV	No TRV	No HQ
Chromium	2.16E+01	1.50E-03	1.00E-03	1.60E-01	0.00E+00	1.34E-02	1.44E-02	7.68E+02	1.88E-05	0.0%
Cobalt	8.27E+00	4.00E-03	1.02E-03	1.00E+00	0.00E+00	5.12E-03	6.15E-03	No TRV	No TRV	No HQ
Copper	7.92E+02	8.00E-02	1.96E+00	1.60E-01	0.00E+00	4.91E-01	2.46E+00	4.27E+00	5.75E-01	1.1%
Cyanide	3.58E-01	1.00E+00	1.11E-02	0.00E+00	0.00E+00	2.22E-04	1.13E-02	1.81E+01	6.25E-04	0.0%
Iron	2.35E+04	8.00E-04	5.82E-01	1.00E+00	0.00E+00	1.45E+01	1.51E+01	No TRV	No TRV	No HQ
Lead	2.19E+02	9.00E-03	6.11E-02	2.00E+00	0.00E+00	1.36E-01	1.97E-01	2.24E+00	8.78E-02	0.2%
Magnesium	3.63E+03	2.00E-01	2.25E+01	1.00E+00	0.00E+00	2.25E+00	2.47E+01	No TRV	No TRV	No HQ
Manganese	6.02E+02	5.00E-02	9.33E-01	2.00E-02	0.00E+00	3.73E-01	1.31E+00	2.47E+01	5.29E-02	0.1%
Mercury	9.43E-02	1.80E-01	5.26E-04	3.40E-01	0.00E+00	5.85E-05	5.85E-04	3.68E-01	1.59E-03	0.0%
Nickel	2.36E+01	1.20E-02	8.77E-03	2.30E-01	0.00E+00	1.46E-02	2.34E-02	1.12E+01	2.08E-03	0.0%
Potassium	1.34E+03	2.00E-01	8.30E+00	1.00E+00	0.00E+00	8.30E-01	9.13E+00	No TRV	No TRV	No HQ
Selenium	9.56E-01	5.00E-03	1.48E-04	7.60E-01	0.00E+00	5.93E-04	7.41E-04	5.61E-02	1.32E-02	0.0%
Silver	1.29E+00	8.00E-02	3.20E-03	1.50E-01	0.00E+00	8.00E-04	4.00E-03	No TRV	No TRV	No HQ
Sodium	1.66E+02	1.50E-02	7.72E-02	1.00E+00	0.00E+00	1.03E-01	1.80E-01	No TRV	No TRV	No HQ
Thallium	5.89E-01	8.00E-04	1.46E-05	1.00E+00	0.00E+00	3.65E-04	3.80E-04	2.10E-03	1.81E-01	0.3%
Vanadium	2.19E+01	1.10E-03	7.48E-04	1.30E-01	0.00E+00	1.36E-02	1.43E-02	5.47E-02	2.62E-01	0.5%
Zinc	7.04E+02	3.00E-01	6.55E+00	1.80E+00	0.00E+00	4.37E-01	6.99E+00	4.49E+01	1.56E-01	0.3%
Organics										
2-Methylnaphthalene	1.50E-01	2.00E-02	9.30E-05	5.00E-02	0.00E+00	9.30E-05	1.86E-04	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E-02	9.30E-05	5.00E-02	0.00E+00	9.30E-05	1.86E-04	No TRV	No TRV	No HQ
Anthracene	2.84E-01	2.00E-02	1.76E-04	5.00E-02	0.00E+00	1.76E-04	3.52E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	3.87E-01	3.90E-03	4.68E-05	5.00E-02	0.00E+00	2.40E-04	2.87E-04	No TRV	No TRV	No HQ
Benzo(a)pyrene	3.40E-01	2.60E-03	2.74E-05	5.00E-02	0.00E+00	2.11E-04	2.38E-04	1.52E-01	1.57E-03	0.0%
Benzo(b)fluoranthene	4.19E-01	2.30E-03	2.99E-05	5.00E-02	0.00E+00	2.60E-04	2.89E-04	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	2.36E-01	1.20E-03	8.78E-06	5.00E-02	0.00E+00	1.46E-04	1.55E-04	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	2.70E-01	2.30E-03	1.93E-05	5.00E-02	0.00E+00	1.68E-04	1.87E-04	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	9.17E-06	5.00E-02	0.00E+00	2.11E-05	3.02E-05	2.78E+00	1.09E-05	0.0%
Carbazole	2.24E-01	2.00E-02	1.39E-04	5.00E-02	0.00E+00	1.39E-04	2.78E-04	No TRV	No TRV	No HQ
Chrysene	3.87E-01	3.90E-03	4.68E-05	5.00E-02	0.00E+00	2.40E-04	2.87E-04	No TRV	No TRV	No HQ
Di-n-butylphthalate	5.30E-02	7.60E-03	1.25E-05	5.00E-02	0.00E+00	3.29E-05	4.53E-05	8.35E+01	5.43E-07	0.0%
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	4.77E-06	5.00E-02	0.00E+00	6.82E-05	7.30E-05	No TRV	No TRV	No HQ

Dibenzofuran	1.60E-01	2.00E-02	9.92E-05	5.00E-02	0.00E+00	9.92E-05	1.98E-04	No TRV	No TRV	No HQ
Fluoranthene	8.78E-01	2.00E-02	5.44E-04	5.00E-02	0.00E+00	5.44E-04	1.09E-03	No TRV	No TRV	No HQ
Fluorene	2.20E-01	2.00E-02	1.36E-04	5.00E-02	0.00E+00	1.36E-04	2.72E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.55E-01	1.20E-03	9.48E-06	5.00E-02	0.00E+00	1.58E-04	1.67E-04	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	2.00E-02	4.71E-05	5.00E-02	0.00E+00	4.71E-05	9.42E-05	No TRV	No TRV	No HQ
Phenanthrene	7.25E-01	2.00E-02	4.49E-04	5.00E-02	0.00E+00	4.49E-04	8.99E-04	No TRV	No TRV	No HQ
Pyrene	6.74E-01	6.70E-03	1.40E-04	5.00E-02	0.00E+00	4.18E-04	5.58E-04	No TRV	No TRV	No HQ
Chloroform	2.00E-03	2.00E-02	1.24E-06	5.00E-02	0.00E+00	1.24E-06	2.48E-06	4.21E+00	5.89E-07	0.0%
Methylene Chloride	6.89E-03	2.00E-02	4.27E-06	5.00E-02	0.00E+00	4.27E-06	8.54E-06	1.64E+00	5.20E-06	0.0%
Toluene	1.70E-01	2.00E-02	1.05E-04	5.00E-02	0.00E+00	1.05E-04	2.11E-04	3.94E+00	5.35E-05	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.46E+01	1.00E+00	4.52E-01	1.00E+00	0.00E+00	9.05E-03	4.61E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	1.00E+00	2.60E-03	1.00E+00	0.00E+00	5.21E-05	2.66E-03	3.29E-02	8.08E-02	0.1%
2,4,6-Trinitrotoluene	1.65E+02	1.00E+00	5.11E+00	1.00E+00	0.00E+00	1.02E-01	5.21E+00	4.49E-01	1.16E+01	21.2%
2,4-Dinitrotoluene	3.01E-01	1.00E+00	9.32E-03	1.00E+00	0.00E+00	1.86E-04	9.50E-03	2.05E+00	4.64E-03	0.0%
2,6-Dinitrotoluene	3.05E-01	2.00E-02	1.89E-04	5.00E-02	0.00E+00	1.89E-04	3.78E-04	1.96E-01	1.92E-03	0.0%
2-Nitrotoluene	1.70E-01	1.00E+00	5.27E-03	1.00E+00	0.00E+00	1.05E-04	5.38E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	9.71E-01	1.00E+00	3.01E-02	1.00E+00	0.00E+00	6.02E-04	3.07E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.90E-01	1.00E+00	5.89E-03	1.00E+00	0.00E+00	1.18E-04	6.01E-03	No TRV	No TRV	No HQ
HMX	4.81E+01	1.00E+00	1.49E+00	1.00E+00	0.00E+00	2.98E-02	1.52E+00	4.31E-01	3.53E+00	6.5%
Nitrobenzene	5.40E-02	2.00E-02	3.35E-05	5.00E-02	0.00E+00	3.35E-05	6.70E-05	No TRV	No TRV	No HQ
Nitrocellulose	5.83E+01	1.00E+00	1.81E+00	1.00E+00	0.00E+00	3.61E-02	1.84E+00	No TRV	No TRV	No HQ
Nitroglycerin	2.96E+00	1.00E+00	9.18E-02	1.00E+00	0.00E+00	1.84E-03	9.36E-02	No TRV	No TRV	No HQ
RDX	2.60E+02	1.00E+00	8.06E+00	1.00E+00	0.00E+00	1.61E-01	8.22E+00	1.11E+00	7.39E+00	13.5%
Tetryl	4.80E-01	1.00E+00	1.49E-02	1.00E+00	0.00E+00	2.98E-04	1.52E-02	3.38E-01	4.49E-02	0.1%
								HI =	5.47E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-19. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Sitewide

Analyte	EPC (mg/kg)	SP _p	ADD _d (mg/kgBW/d) RME x SP _p x I _p x AUF		Prey P-ADD _d (mg/kgBW/d) RME x SP _p x IP _p x AUF _p		BAF _p	Prey P-ADD _d (mg/kgBW/d) RME x BAF _p x I _p x AUF _p		Prey P-ADD _d (mg/kgBW/d) RME x I _p x AUF _p	Prey ADD _{int} (mg/kgBW/d) ADD _d + ADD _s
			SP _p	SP _p	SP _p	SP _p		BAF _p	BAF _p		
Inorganics											
Aluminum	1.31E+04	1.30E-04	5.39E-03	8.00E-04	7.61E-01	7.50E-02	4.78E+02	9.51E+02	1.43E+03		
Antimony	4.54E+00	6.00E-03	8.64E-05	4.00E-02	1.32E-02	5.00E-02	1.11E-01	3.30E-01	4.54E-01		
Arsenic	1.37E+01	1.20E-03	5.22E-05	8.00E-03	7.98E-03	6.60E-03	4.41E-02	9.97E-01	1.05E+00		
Barium	5.47E+02	3.00E-03	5.21E-03	3.00E-02	1.19E+00	7.50E-03	2.00E+00	3.98E+01	4.30E+01		
Beryllium	5.24E-01	3.00E-04	4.99E-07	2.00E-03	7.63E-05	5.00E-02	1.28E-02	3.81E-02	5.10E-02		
Cadmium	2.14E+01	3.00E-02	2.04E-03	1.10E-01	1.72E-01	1.10E-01	1.35E+02	1.56E+00	1.77E+02		
Calcium	1.37E+04	7.00E-02	3.03E+00	7.00E-01	6.96E-02	1.00E+00	6.65E+03	9.94E+02	8.34E+03		
Chromium	2.16E+01	9.00E-04	6.17E-05	1.50E-03	2.36E-03	1.60E-01	1.68E+00	1.57E+00	3.26E+00		
Cobalt	8.27E+00	1.40E-03	3.67E-05	4.00E-03	2.41E-03	1.00E+00	4.03E+00	6.02E-01	4.63E+00		
Copper	7.92E+02	5.00E-02	1.26E-01	8.00E-02	4.61E+00	1.60E-01	6.18E+01	5.77E+01	1.24E+02		
Cyanide	3.58E-01	1.00E+00	1.14E-03	1.00E+00	2.61E-02	0.00E+00	0.00E+00	2.61E-02	5.22E-02		
Iron	2.35E+04	2.00E-00	1.49E-02	8.00E-04	1.37E+00	1.00E+00	1.14E+04	1.71E+03	1.31E+04		
Lead	2.19E+02	1.80E-03	1.25E-03	9.00E-03	1.44E-01	2.00E+00	2.13E+02	1.60E+01	2.30E+02		
Magnesium	3.63E+03	1.10E-01	1.27E+00	2.00E-01	5.28E+01	1.00E+00	1.77E+03	2.64E+02	2.08E+03		
Manganese	6.02E+02	1.00E-02	1.91E-02	5.00E-02	2.19E+00	2.00E-02	5.87E+00	4.38E-01	5.19E+01		
Nickel	9.43E+02	4.00E-02	1.20E-05	1.80E-01	1.24E-03	3.40E-01	1.56E-02	6.87E-03	2.37E-02		
Mercury	2.36E+01	1.20E-02	8.98E-04	1.20E-02	2.06E-02	2.30E-01	2.64E+00	1.72E+00	4.38E+00		
Potassium	1.34E+03	1.10E-01	4.67E-01	2.00E-01	1.95E+01	1.00E+00	6.52E+02	9.74E+01	7.69E+02		
Selenium	9.56E-01	5.00E-03	1.52E-05	5.00E-03	3.48E-04	7.60E-01	3.54E-01	6.96E-02	4.24E-01		
Silver	1.29E+00	2.00E-02	8.19E-05	8.00E-02	7.51E-03	1.50E-01	9.43E-02	9.39E-02	1.96E-01		
Sodium	1.66E+02	1.10E-02	5.80E-03	1.50E-02	1.81E-01	1.00E+00	8.09E+01	1.21E+01	9.32E+01		
Thallium	5.89E-01	8.00E-05	1.50E-07	8.00E-04	3.43E-05	1.00E+00	2.87E-01	4.29E-02	3.30E-01		
Vanadium	2.19E+01	6.00E-04	4.18E-05	1.10E-03	1.76E-03	1.30E-01	1.39E+00	1.60E+00	2.99E+00		
Zinc	7.04E+02	1.80E-01	4.02E-01	3.00E-01	1.54E+01	1.80E+00	6.18E+02	5.13E+01	6.84E+02		
Organics											
2-Methylnaphthalene	1.50E-01	2.00E-02	9.52E-06	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02		
Acenaphthene	1.50E-01	2.00E-02	9.52E-06	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02		
Anthracene	2.84E-01	2.00E-02	1.80E-05	2.00E-02	4.13E-04	5.00E-02	6.91E-03	2.06E-02	2.80E-02		
Benzo(a)anthracene	3.87E-01	3.90E-03	4.79E-06	3.90E-03	1.10E-04	5.00E-02	9.43E-03	2.82E-02	3.77E-02		
Benzo(a)pyrene	3.40E-01	2.60E-03	2.81E-06	2.60E-03	6.44E-05	5.00E-02	8.28E-03	2.48E-02	3.31E-02		
Benzo(b)fluoranthene	4.19E-01	2.30E-03	3.06E-06	2.30E-03	7.01E-05	5.00E-02	1.02E-02	3.05E-02	4.08E-02		
Benzo(g,h,i)perylene	3.34E-01	1.20E-03	8.99E-07	1.20E-03	2.06E-05	5.00E-02	5.75E-03	1.72E-02	2.30E-02		
Benzo(k)fluoranthene	2.70E-01	2.30E-03	1.97E-06	2.30E-03	4.53E-05	5.00E-02	6.58E-03	1.97E-02	2.63E-02		
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	9.39E-07	8.70E-03	2.15E-05	5.00E-02	8.28E-04	2.48E-03	3.32E-03		
Carbazole	2.24E-01	2.00E-02	1.42E-05	2.00E-02	3.27E-04	5.00E-02	5.47E-03	1.63E-02	2.21E-02		
Chrysene	3.87E-01	3.90E-03	4.79E-06	3.90E-03	1.10E-04	5.00E-02	9.43E-03	2.82E-02	3.77E-02		
Di-n-butylphthalate	5.30E-02	7.60E-03	1.28E-06	7.60E-03	2.93E-05	5.00E-02	1.29E-03	3.86E-03	5.18E-03		
Dibenz(a,h)anthracene	1.10E-01	1.40E-03	4.89E-07	1.40E-03	1.12E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02		
Dibenzofuran	1.60E-01	2.00E-02	1.02E-05	2.00E-02	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02		
Fluoranthene	8.78E-01	2.00E-02	5.57E-05	2.00E-02	1.28E-03	5.00E-02	2.14E-02	6.39E-02	8.65E-02		
Fluorene	2.20E-01	2.00E-02	1.39E-05	2.00E-02	3.20E-04	5.00E-02	5.35E-03	1.60E-02	2.17E-02		
Indeno(1,2,3-cd)pyrene	2.55E-01	1.20E-03	9.70E-07	1.20E-03	2.23E-05	5.00E-02	6.21E-03	1.85E-02	2.48E-02		
Naphthalene	7.60E-02	2.00E-02	4.82E-06	2.00E-02	1.11E-04	5.00E-02	1.85E-03	5.53E-03	7.49E-03		
Phenanthrene	7.25E-01	2.00E-02	4.60E-05	2.00E-02	1.06E-03	5.00E-02	1.77E-02	5.28E-02	7.15E-02		
Pyrene	6.74E-01	6.70E-03	1.43E-05	6.70E-03	3.29E-04	5.00E-02	1.64E-02	4.90E-02	6.58E-02		
Chloroform	2.00E-03	2.00E-02	1.27E-07	2.00E-02	2.91E-06	5.00E-02	4.87E-05	1.46E-04	1.97E-04		
Methylene Chloride	6.89E-03	2.00E-02	4.37E-07	2.00E-02	1.00E-05	5.00E-02	1.68E-04	5.01E-04	6.79E-04		
Toluene	1.70E-01	2.00E-02	1.08E-05	2.00E-02	2.48E-04	5.00E-02	4.14E-03	1.24E-02	1.68E-02		
Explosives											
1,3,5-Trinitrobenzene	1.46E+01	1.00E+00	4.63E-02	1.00E+00	1.06E+00	1.00E+00	7.11E+00	1.06E+00	9.23E+00		
1,3-Dinitrobenzene	8.40E-02	1.00E+00	2.67E-04	1.00E+00	6.12E-03	1.00E+00	4.09E-02	6.12E-03	5.32E-02		
2,4,6-Trinitrotoluene	1.65E-02	1.00E+00	5.23E-01	1.00E+00	1.20E-01	1.00E+00	8.03E-01	1.20E-01	1.04E-02		
2,4-Dinitrotoluene	3.01E-01	1.00E+00	9.54E-04	1.00E+00	2.19E-02	1.00E+00	1.46E-01	2.19E-02	1.90E-01		
2,6-Dinitrotoluene	3.05E-01	2.00E-02	1.93E-05	2.00E-02	4.43E-04	5.00E-02	7.42E-03	2.22E-02	3.00E-02		
2-Nitrotoluene	1.70E-01	1.00E+00	5.40E-04	1.00E+00	1.24E-02	1.00E+00	8.28E-02	1.24E-02	1.08E-01		
3-Nitrotoluene	9.71E-01	1.00E+00	3.08E-03	1.00E+00	7.07E-02	1.00E+00	4.73E-01	7.07E-02	6.15E-01		
4-Nitrotoluene	1.90E-01	1.00E+00	6.03E-04	1.00E+00	1.38E-02	1.00E+00	9.26E-02	1.38E-02	1.20E-01		
RDX	4.81E+01	1.00E+00	1.53E-01	1.00E+00	3.50E+00	1.00E+00	2.34E+01	3.50E+00	3.04E+01		
Nitrobenzene	5.40E-02	2.00E-02	3.43E-06	2.00E-02	7.86E-05	5.00E-02	1.32E-03	3.93E-03	5.33E-03		
Nitrocellulose	5.83E+01	1.00E+00	1.85E-01	1.00E+00	4.24E+00	1.00E+00	2.84E+01	4.24E+00	3.69E+01		
Nitroglycerin	2.96E+00	1.00E+00	9.40E-03	1.00E+00	2.16E-01	1.00E+00	1.44E+00	2.16E-01	1.87E+00		
RDX	2.60E+02	1.00E+00	8.25E-01	1.00E+00	1.89E+01	1.00E+00	1.27E+02	1.89E+01	1.64E+02		
Tetryl	4.80E-01	1.00E+00	1.52E-03	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01		

EPC = Exposure point concentration

SP_p = Soil-to-plant, reproductiveADD_d = Average daily dose; plantI_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant, vegetativeI_p = Shrew I_p (kg/kgBW/d) = 7.28E-02AUF_p = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_p = Soil-to-animal; invertebratesADD_s = Average daily dose; animalI_a-s = Shrew IA (kg/kgBW/d) = 4.87E-01IA_s (kg/kgBW/d) = 6.58E-02ADD_s = Average daily dose; soilI_p = Shrew I_p (kg/kgBW/d) = 7.28E-02ADD_{int} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-19. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{int} x BAF _v /IR _v	ADD _v (mg/kgBW/d) Cs x I _a x AUF	ADD _v (mg/kgBW/d) RME x I _a x AUF	ADD _{int} (mg/kgBW/d) ADD _v + ADD _{int} + ADD _v	TRV (mg/kgBW/d)	Site HQ ADD _{int} / TRV	%HI HQ/Hi x 100
Inorganics								
Aluminum	7.50E-02	1.91E+02	1.26E+01	2.53E+01	3.79E+01	5.46E-01	6.94E+01	57.3%
Antimony	5.00E-02	4.05E-02	2.67E-03	8.77E-03	1.15E-02	3.54E-02	3.26E-01	0.3%
Arsenic	1.00E-01	1.87E-01	1.23E-02	2.65E-02	3.89E-02	3.56E-02	1.09E+00	0.9%
Barium	7.50E-03	5.76E-01	3.79E-02	1.06E+00	1.10E+00	2.79E+00	3.94E-01	0.3%
Beryllium	5.00E-02	4.55E-03	3.00E-04	1.01E-03	1.31E-03	3.45E-01	3.80E-03	0.0%
Cadmium	2.80E-02	5.83E+00	3.84E-01	4.14E-02	4.27E-01	5.04E-01	8.48E-01	0.7%
Calcium	1.00E+00	1.49E+04	9.80E+02	2.64E+01	1.01E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.63E+00	1.07E-01	4.18E-02	1.49E-01	1.43E-03	1.04E-04	0.0%
Cobalt	1.00E+00	8.27E+00	5.44E-01	1.60E-02	5.60E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.11E+02	7.29E+00	1.53E+00	8.95E+00	7.96E+00	1.12E+00	0.9%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.92E-04	1.83E-03	3.37E+01	5.42E-05	0.0%
Iron	1.00E+00	2.35E+04	1.54E+03	4.53E+01	1.59E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	6.15E+00	4.05E-01	4.23E-01	8.29E-01	4.18E+00	1.98E-01	0.2%
Magnesium	1.00E+00	3.72E+03	2.45E+02	7.01E+00	2.53E+02	No TRV	No TRV	No HQ
Manganese	2.00E-02	1.85E+00	1.22E-01	1.16E+00	1.30E+00	4.60E+01	2.84E-02	0.0%
Mercury	1.30E-01	5.51E-01	3.63E-02	1.82E-04	3.64E-02	6.86E-01	5.31E-02	0.0%
Nickel	3.00E-01	2.35E+00	1.54E-01	4.56E-02	2.01E-01	2.09E+01	9.61E-03	0.0%
Potassium	1.00E+00	1.37E-03	9.04E+01	2.59E+00	9.34E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	5.68E-01	3.74E-02	1.85E-03	3.92E-02	1.05E-01	3.75E-01	0.3%
Silver	1.50E-01	5.24E-02	3.45E-03	2.49E-03	6.02E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.66E+02	1.10E+01	3.21E-01	1.13E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	5.89E-01	3.88E-02	1.14E-03	3.99E-02	3.91E-03	1.02E+01	8.4%
Vanadium	1.30E-01	6.93E-01	4.56E-02	4.24E-02	8.81E-02	1.02E-01	8.64E-01	0.7%
Zinc	5.00E+00	6.11E+03	4.02E+02	1.36E+00	4.04E+02	8.36E+01	4.83E+00	4.0%
2-Methylnaphthalene								
Acenaphthene	1.90E-08	5.02E-10	3.30E-11	2.90E-04	2.99E-04	No TRV	No TRV	No HQ
Anthracene	4.80E-02	2.40E-03	1.58E-04	5.48E-04	7.23E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	5.12E-02	3.37E-03	7.48E-04	4.12E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	8.87E-02	5.84E-03	6.57E-04	6.50E-03	2.83E-01	2.30E-02	0.0%
Benzo(b)fluoranthene	1.90E+00	1.38E-01	9.10E-03	8.09E-04	9.91E-03	No TRV	No TRV	No HQ
Benzo(b)jopsylene	6.00E+00	2.46E-01	1.62E-02	4.56E-04	1.67E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	1.90E+00	8.93E-02	5.88E-03	5.22E-04	6.40E-03	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	1.90E-01	1.13E-03	7.43E-05	6.57E-05	1.41E-04	5.18E+00	2.72E-05	0.0%
Carbazole	8.70E-03	3.44E-04	2.26E-05	4.34E-04	4.70E-04	No TRV	No TRV	No HQ
Chrysene	7.60E-01	5.12E-02	3.37E-03	7.48E-04	4.12E-03	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.40E-01	2.22E-03	1.46E-04	1.02E-04	2.50E-04	1.56E+02	1.61E-06	0.0%
Dibenz(o,h)anthracene	4.80E+00	9.17E-02	6.04E-03	2.13E-04	6.25E-03	No TRV	No TRV	No HQ
Dibenzofuran	1.90E-02	5.35E-04	3.52E-05	3.09E-04	3.55E-04	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	2.01E-02	1.32E-03	1.70E-03	3.07E-03	No TRV	No TRV	No HQ
Fluorene	2.40E-02	9.29E-04	6.11E-05	4.24E-04	5.00E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	6.00E+00	2.65E-01	1.75E-02	4.92E-04	1.80E-02	No TRV	No TRV	No HQ
Naphthalene	6.00E-03	8.03E-05	5.29E-06	1.47E-04	1.57E-04	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	6.12E-03	4.03E-04	1.40E-03	1.85E-03	No TRV	No TRV	No HQ
Pyrene	3.00E-01	3.52E-02	2.32E-03	1.30E-03	3.64E-03	No TRV	No TRV	No HQ
Chloroform	1.50E-04	5.28E-08	3.48E-09	3.86E-06	3.99E-06	7.84E+00	5.09E-07	0.0%
Methylene Chloride	3.00E-05	3.64E-08	2.39E-09	1.33E-05	1.37E-05	3.06E+00	4.49E-06	0.0%
Toluene	7.60E-04	2.28E-05	1.50E-06	3.28E-04	3.41E-04	7.35E+00	4.64E-05	0.0%
1,3,5-Trinitrobenzene								
1,3-Dinitrobenzene	1.00E+00	1.65E+01	1.09E+00	2.82E-02	1.16E+00	1.68E+00	6.91E-01	0.6%
2,4,6-Trinitrotoluene	1.00E+00	9.49E-02	6.25E-03	1.62E-04	6.68E-03	6.12E-02	1.09E-01	0.1%
2,4-Dinitrotoluene	1.00E+00	1.86E-02	1.23E+01	3.18E-01	1.31E+01	8.34E-01	1.57E+01	12.9%
2,6-Dinitrotoluene	1.00E+00	3.40E-01	2.24E-02	5.81E-04	2.39E-02	3.82E+00	6.26E-03	0.0%
3-Nitrotoluene	1.00E+00	1.02E-05	6.71E-07	5.88E-04	6.08E-04	3.66E-01	1.66E-03	0.0%
4-Nitrotoluene	1.00E+00	1.92E-01	1.26E-02	3.28E-04	1.35E-02	No TRV	No TRV	No HQ
5-Nitrotoluene	1.00E+00	1.10E+00	7.22E-02	1.88E-03	7.72E-02	No TRV	No TRV	No HQ
4-Nitrofluorene	1.00E+00	2.15E-01	1.41E-02	3.67E-04	1.51E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	5.44E+01	3.88E+00	9.29E-02	3.82E+00	8.02E-01	4.77E+00	3.9%
Nitrobenzene	1.20E-04	1.14E-06	7.51E-08	1.04E-04	1.08E-04	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	6.59E+01	4.34E+00	1.13E-01	4.63E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	3.35E+00	2.20E-01	5.72E-03	2.35E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	2.94E+02	1.93E+01	5.02E-01	2.07E+01	2.07E+00	9.98E+00	8.2%
Tetryl	1.00E+00	5.42E-01	3.57E-02	9.27E-04	3.82E-02	6.30E-01	6.06E-02	0.1%

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_v = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01I_a (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

HI = 1.21E+02

Appendix Table L-20. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.01E+04	5.00E+01	2.02E+02	92.5%
Arsenic	1.10E+01	1.00E+01	1.10E+00	0.5%
Barium	4.85E+01	5.00E+02	9.70E-02	0.0%
Chromium	1.32E+01	1.00E+00	1.32E+01	6.0%
Lead	1.10E+01	5.00E+01	2.20E-01	0.1%
Selenium	8.20E-01	1.00E+00	8.20E-01	0.4%
Zinc	4.66E+01	5.00E+01	9.32E-01	0.4%
HI =				2.18E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-21. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 1**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.01E+04	No TRV	No TRV	No HQ
Arsenic	1.10E+01	6.00E+01	1.83E-01	0.5%
Barium	4.85E+01	No TRV	No TRV	No HQ
Chromium	1.32E+01	4.00E-01	3.30E+01	98.7%
Lead	1.10E+01	5.00E+02	2.20E-02	0.1%
Selenium	8.20E-01	No TRV	No TRV	No HQ
Zinc	4.66E+01	2.00E+02	2.33E-01	0.7%
HI =				3.34E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-22. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03	2.22E+00	4.97E+02	98.5%
Arsenic	1.10E+01	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01	1.45E-01	5.80E+00	1.1%
Barium	4.85E+01	3.00E-02	1.06E-01	7.50E-03	1.77E-01	3.53E+00	3.81E+00	1.14E+01	3.35E-01	0.1%
Chromium	1.32E+01	1.50E-03	1.44E-03	1.60E-01	1.03E+00	9.61E-01	1.99E+00	5.83E+03	3.42E-04	0.0%
Lead	1.10E+01	9.00E-03	7.21E-03	2.00E+00	1.07E+01	8.01E-01	1.15E+01	1.70E+01	6.76E-01	0.1%
Selenium	8.20E-01	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01	4.26E-01	8.54E-01	0.2%
Zinc	4.66E+01	3.00E-01	1.02E+00	1.80E+00	4.09E+01	3.39E+00	4.53E+01	3.41E+02	1.33E-01	0.0%
									HI =	5.05E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-23. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	1.30E-04	9.98E-01	7.50E-02	5.76E+02	1.60E+03	2.17E+03	1.29E+02	1.68E+01	46.4%
Arsenic	1.10E+01	1.20E-03	1.00E-02	6.60E-03	5.52E-02	1.74E+00	1.80E+00	9.66E+00	1.87E-01	0.5%
Barium	4.85E+01	3.00E-03	1.11E-01	7.50E-03	2.76E-01	7.67E+00	8.05E+00	2.31E+01	3.49E-01	1.0%
Chromium	1.32E+01	9.00E-04	9.03E-03	1.60E-01	1.61E+00	2.09E+00	3.70E+00	1.99E+00	1.86E+00	5.1%
Lead	1.10E+01	1.80E-03	1.50E-02	2.00E+00	1.67E+01	1.74E+00	1.85E+01	1.32E+00	1.40E+01	38.6%
Selenium	8.20E-01	5.00E-03	3.12E-03	7.60E-01	4.74E-01	1.30E-01	6.06E-01	9.40E-01	6.45E-01	1.8%
Zinc	4.66E+01	1.80E-01	6.37E+00	1.80E+00	6.37E+01	7.37E+00	7.75E+01	3.21E+01	2.41E+00	6.7%
									HI =	3.62E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW)/7.60E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW) 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-24. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	8.00E-04	1.66E+00	7.50E-02	0.00E+00	1.30E+02	1.32E+02	7.63E-01	1.73E+02	98.0%
Arsenic	1.10E+01	8.00E-03	1.80E-02	6.60E-03	0.00E+00	1.42E-01	1.60E-01	4.98E-02	3.22E+00	1.8%
Barium	4.85E+01	3.00E-02	2.98E-01	7.50E-03	0.00E+00	6.26E-01	9.25E-01	3.90E+00	2.37E-01	0.1%
Chromium	1.32E+01	1.50E-03	4.06E-03	1.60E-01	0.00E+00	1.70E-01	1.75E-01	2.00E+03	8.73E-05	0.0%
Lead	1.10E+01	9.00E-03	2.03E-02	2.00E+00	0.00E+00	1.42E-01	1.62E-01	5.84E+00	2.78E-02	0.0%
Selenium	8.20E-01	5.00E-03	8.41E-04	7.60E-01	0.00E+00	1.06E-02	1.14E-02	1.46E-01	7.83E-02	0.0%
Zinc	4.66E+01	3.00E-01	2.87E+00	1.80E+00	0.00E+00	6.02E-01	3.47E+00	1.17E+02	2.97E-02	0.0%
									HI =	1.77E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-25. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	8.00E-04	2.50E-01	7.50E-02	0.00E+00	6.26E+00	6.51E+00	2.93E-01	2.22E+01	97.5%
Arsenic	1.10E+01	8.00E-03	2.73E-03	6.60E-03	0.00E+00	6.82E-03	9.55E-03	1.91E-02	4.99E-01	2.2%
Barium	4.85E+01	3.00E-02	4.51E-02	7.50E-03	0.00E+00	3.01E-02	7.52E-02	1.50E+00	5.02E-02	0.2%
Chromium	1.32E+01	1.50E-03	6.14E-04	1.60E-01	0.00E+00	8.18E-03	8.80E-03	7.68E+02	1.15E-05	0.0%
Lead	1.10E+01	9.00E-03	3.07E-03	2.00E+00	0.00E+00	6.82E-03	9.89E-03	2.24E+00	4.41E-03	0.0%
Selenium	8.20E-01	5.00E-03	1.27E-04	7.60E-01	0.00E+00	5.08E-04	6.36E-04	5.61E-02	1.13E-02	0.0%
Zinc	4.66E+01	3.00E-01	4.33E-01	1.80E+00	0.00E+00	2.89E-02	4.62E-01	4.49E+01	1.03E-02	0.0%
HI =									2.28E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-26. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.01E+04	1.30E-04	0.00E+00	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03
Arsenic	1.10E+01	1.20E-03	0.00E+00	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01
Barium	4.85E+01	3.00E-03	0.00E+00	3.00E-02	1.06E-01	7.50E-03	1.77E-01	3.53E+00	3.81E+00
Chromium	1.32E+01	9.00E-04	0.00E+00	1.50E-03	1.44E-03	1.60E-01	1.03E+00	9.61E-01	1.99E+00
Lead	1.10E+01	1.80E-03	0.00E+00	9.00E-03	7.21E-03	2.00E+00	1.07E+01	8.01E-01	1.15E+01
Selenium	8.20E-01	5.00E-03	0.00E+00	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01
Zinc	4.66E+01	1.80E-01	0.00E+00	3.00E-01	1.02E+00	1.80E+00	4.09E+01	3.39E+00	4.53E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-26. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _s x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Aluminum	7.50E-02	1.48E+02	1.63E+01	0.00E+00	1.63E+01	6.68E+01	2.44E-01	7.6%
Arsenic	1.00E-01	1.50E-01	1.66E-02	0.00E+00	1.66E-02	4.98E+00	3.32E-03	0.1%
Barium	7.50E-03	5.11E-02	5.62E-03	0.00E+00	5.62E-03	1.19E+01	4.72E-04	0.0%
Chromium	2.80E-01	9.96E-01	1.10E-01	0.00E+00	1.10E-01	1.03E+00	1.07E-01	3.3%
Lead	1.50E-02	3.09E-01	3.40E-02	0.00E+00	3.40E-02	6.82E-01	4.98E-02	1.6%
Selenium	7.50E-01	4.87E-01	5.36E-02	0.00E+00	5.36E-02	4.85E-01	1.10E-01	3.5%
Zinc	5.00E+00	4.04E+02	4.45E+01	0.00E+00	4.45E+01	1.66E+01	2.68E+00	83.9%
HI =							3.20E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-27. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.01E+04	1.30E-04	0.00E+00	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03
Arsenic	1.10E+01	1.20E-03	0.00E+00	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01
Barium	4.85E+01	3.00E-03	0.00E+00	3.00E-02	1.06E-01	7.50E-03	1.77E-01	3.53E+00	3.81E+00
Chromium	1.32E+01	9.00E-04	0.00E+00	1.50E-03	1.44E-03	1.60E-01	1.03E+00	9.61E-01	1.99E+00
Lead	1.10E+01	1.80E-03	0.00E+00	9.00E-03	7.21E-03	2.00E+00	1.07E+01	8.01E-01	1.15E+01
Selenium	8.20E-01	5.00E-03	0.00E+00	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01
Zinc	4.66E+01	1.80E-01	0.00E+00	3.00E-01	1.02E+00	1.80E+00	4.09E+01	3.39E+00	4.53E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgξ 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-27. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Aluminum	7.50E-02	1.48E+02	1.85E+01	0.00E+00	1.85E+01	8.33E+01	2.22E-01	7.6%
Arsenic	1.00E-01	1.50E-01	1.88E-02	0.00E+00	1.88E-02	6.22E+00	3.03E-03	0.1%
Barium	7.50E-03	5.11E-02	6.38E-03	0.00E+00	6.38E-03	1.49E+01	4.29E-04	0.0%
Chromium	2.80E-01	9.96E-01	1.24E-01	0.00E+00	1.24E-01	1.28E+00	9.73E-02	3.3%
Lead	1.50E-02	3.09E-01	3.86E-02	0.00E+00	3.86E-02	8.51E-01	4.53E-02	1.6%
Selenium	7.50E-01	4.87E-01	6.09E-02	0.00E+00	6.09E-02	6.05E-01	1.01E-01	3.5%
Zinc	5.00E+00	4.04E+02	5.05E+01	0.00E+00	5.05E+01	2.07E+01	2.44E+00	83.9%
							HI =	2.91E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-28. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 1

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.01E+04	1.30E-04	4.17E-03	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03
Arsenic	1.10E+01	1.20E-03	4.19E-05	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01
Barium	4.85E+01	3.00E-03	4.62E-04	3.00E-02	1.06E-01	7.50E-03	1.77E-01	3.53E+00	3.81E+00
Chromium	1.32E+01	9.00E-04	3.77E-05	1.50E-03	1.44E-03	1.60E-01	1.03E+00	9.61E-01	1.99E+00
Lead	1.10E+01	1.80E-03	6.28E-05	9.00E-03	7.21E-03	2.00E+00	1.07E+01	8.01E-01	1.15E+01
Selenium	8.20E-01	5.00E-03	1.30E-05	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01
Zinc	4.66E+01	1.80E-01	2.66E-02	3.00E-01	1.02E+00	1.80E+00	4.09E+01	3.39E+00	4.53E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-28. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Aluminum	7.50E-02	1.48E+02	9.74E+00	1.95E+01	2.93E+01	5.46E-01	5.36E+01	97.2%
Arsenic	1.00E-01	1.50E-01	9.90E-03	2.13E-02	3.12E-02	3.56E-02	8.76E-01	1.6%
Barium	7.50E-03	5.11E-02	3.36E-03	9.37E-02	9.75E-02	2.79E+00	3.49E-02	0.1%
Chromium	2.80E-01	9.96E-01	6.55E-02	2.55E-02	9.11E-02	1.43E+03	6.37E-05	0.0%
Lead	1.50E-02	3.09E-01	2.03E-02	2.13E-02	4.16E-02	4.18E+00	9.96E-03	0.0%
Selenium	7.50E-01	4.87E-01	3.21E-02	1.58E-03	3.37E-02	1.05E-01	3.22E-01	0.6%
Zinc	5.00E+00	4.04E+02	2.66E+01	9.00E-02	2.67E+01	8.36E+01	3.20E-01	0.6%
							HI = 5.52E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-29. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.06E+04	5.00E+01	2.12E+02	92.0%
Arsenic	1.42E+01	1.00E+01	1.42E+00	0.6%
Barium	5.34E+01	5.00E+02	1.07E-01	0.0%
Chromium	1.44E+01	1.00E+00	1.44E+01	6.3%
Lead	1.47E+01	5.00E+01	2.94E-01	0.1%
Selenium	1.00E+00	1.00E+00	1.00E+00	0.4%
Zinc	5.75E+01	5.00E+01	1.15E+00	0.5%
HI =				2.30E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-30. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 2**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.06E+04	No TRV	No TRV	No HQ
Arsenic	1.42E+01	6.00E+01	2.37E-01	0.6%
Barium	5.34E+01	No TRV	No TRV	No HQ
Chromium	1.44E+01	4.00E-01	3.60E+01	98.5%
Lead	1.47E+01	5.00E+02	2.94E-02	0.1%
Selenium	1.00E+00	No TRV	No TRV	No HQ
Zinc	5.75E+01	2.00E+02	2.88E-01	0.8%
HI = 3.66E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-31. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.06E+04	8.00E-04	6.17E-01	7.50E-02	3.87E+02	7.72E+02	1.16E+03	2.22E+00	5.21E+02	98.1%
Arsenic	1.42E+01	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00	1.45E-01	7.49E+00	1.4%
Barium	5.34E+01	3.00E-02	1.17E-01	7.50E-03	1.95E-01	3.89E+00	4.20E+00	1.14E+01	3.69E-01	0.1%
Chromium	1.44E+01	1.50E-03	1.57E-03	1.60E-01	1.12E+00	1.05E+00	2.17E+00	5.83E+03	3.73E-04	0.0%
Lead	1.47E+01	9.00E-03	9.63E-03	2.00E+00	1.43E+01	1.07E+00	1.54E+01	1.70E+01	9.04E-01	0.2%
Selenium	1.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01	4.26E-01	1.04E+00	0.2%
Zinc	5.75E+01	3.00E-01	1.26E+00	1.80E+00	5.04E+01	4.19E+00	5.59E+01	3.41E+02	1.64E-01	0.0%
									HI =	5.31E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-32. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.06E+04	1.30E-04	1.05E+00	7.50E-02	6.04E+02	1.68E+03	2.28E+03	1.29E+02	1.76E+01	41.3%
Arsenic	1.42E+01	1.20E-03	1.30E-02	6.60E-03	7.12E-02	2.24E+00	2.33E+00	9.66E+00	2.41E-01	0.6%
Barium	5.34E+01	3.00E-03	1.22E-01	7.50E-03	3.04E-01	8.44E+00	8.87E+00	2.31E+01	3.84E-01	0.9%
Chromium	1.44E+01	9.00E-04	9.85E-03	1.60E-01	1.75E+00	2.28E+00	4.04E+00	1.99E+00	2.03E+00	4.8%
Lead	1.47E+01	1.80E-03	2.01E-02	2.00E+00	2.23E+01	2.32E+00	2.47E+01	1.32E+00	1.87E+01	43.7%
Selenium	1.00E+00	5.00E-03	3.80E-03	7.60E-01	5.78E-01	1.58E-01	7.39E-01	9.40E-01	7.87E-01	1.8%
Zinc	5.75E+01	1.80E-01	7.87E+00	1.80E+00	7.87E+01	9.09E+00	9.56E+01	3.21E+01	2.98E+00	7.0%
									HI =	4.27E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW)/7.60E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW) 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-33. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.06E+04	8.00E-04	1.74E+00	7.50E-02	0.00E+00	1.37E+02	1.39E+02	7.63E-01	1.82E+02	97.5%
Arsenic	1.42E+01	8.00E-03	2.33E-02	6.60E-03	0.00E+00	1.83E-01	2.07E-01	4.98E-02	4.15E+00	2.2%
Barium	5.34E+01	3.00E-02	3.28E-01	7.50E-03	0.00E+00	6.90E-01	1.02E+00	3.90E+00	2.61E-01	0.1%
Chromium	1.44E+01	1.50E-03	4.43E-03	1.60E-01	0.00E+00	1.86E-01	1.90E-01	2.00E+03	9.52E-05	0.0%
Lead	1.47E+01	9.00E-03	2.71E-02	2.00E+00	0.00E+00	1.90E-01	2.17E-01	5.84E+00	3.71E-02	0.0%
Selenium	1.00E+00	5.00E-03	1.03E-03	7.60E-01	0.00E+00	1.29E-02	1.39E-02	1.46E-01	9.54E-02	0.1%
Zinc	5.75E+01	3.00E-01	3.54E+00	1.80E+00	0.00E+00	7.43E-01	4.28E+00	1.17E+02	3.66E-02	0.0%
									HI =	1.86E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-34. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.06E+04	8.00E-04	2.63E-01	7.50E-02	0.00E+00	6.57E+00	6.83E+00	2.93E-01	2.33E+01	97.0%
Arsenic	1.42E+01	8.00E-03	3.52E-03	6.60E-03	0.00E+00	8.80E-03	1.23E-02	1.91E-02	6.44E-01	2.7%
Barium	5.34E+01	3.00E-02	4.97E-02	7.50E-03	0.00E+00	3.31E-02	8.28E-02	1.50E+00	5.52E-02	0.2%
Chromium	1.44E+01	1.50E-03	6.70E-04	1.60E-01	0.00E+00	8.93E-03	9.60E-03	7.68E+02	1.25E-05	0.0%
Lead	1.47E+01	9.00E-03	4.10E-03	2.00E+00	0.00E+00	9.11E-03	1.32E-02	2.24E+00	5.89E-03	0.0%
Selenium	1.00E+00	5.00E-03	1.55E-04	7.60E-01	0.00E+00	6.20E-04	7.75E-04	5.61E-02	1.38E-02	0.1%
Zinc	5.75E+01	3.00E-01	5.35E-01	1.80E+00	0.00E+00	3.57E-02	5.70E-01	4.49E+01	1.27E-02	0.1%
HI =									2.41E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-35. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.06E+04	1.30E-04	0.00E+00	8.00E-04	6.17E-01	7.50E-02	3.87E+02	7.72E+02	1.16E+03
Arsenic	1.42E+01	1.20E-03	0.00E+00	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00
Barium	5.34E+01	3.00E-03	0.00E+00	3.00E-02	1.17E-01	7.50E-03	1.95E-01	3.89E+00	4.20E+00
Chromium	1.44E+01	9.00E-04	0.00E+00	1.50E-03	1.57E-03	1.60E-01	1.12E+00	1.05E+00	2.17E+00
Lead	1.47E+01	1.80E-03	0.00E+00	9.00E-03	9.63E-03	2.00E+00	1.43E+01	1.07E+00	1.54E+01
Selenium	1.00E+00	5.00E-03	0.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Zinc	5.75E+01	1.80E-01	0.00E+00	3.00E-01	1.26E+00	1.80E+00	5.04E+01	4.19E+00	5.59E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-35. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _s x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.55E+02	1.71E+01	0.00E+00	1.71E+01	6.68E+01	2.56E-01	6.6%
Arsenic	1.00E-01	1.94E-01	2.14E-02	0.00E+00	2.14E-02	4.98E+00	4.29E-03	0.1%
Barium	7.50E-03	5.62E-02	6.19E-03	0.00E+00	6.19E-03	1.19E+01	5.19E-04	0.0%
Chromium	2.80E-01	1.09E+00	1.19E-01	0.00E+00	1.19E-01	1.03E+00	1.17E-01	3.0%
Lead	1.50E-02	4.13E-01	4.54E-02	0.00E+00	4.54E-02	6.82E-01	6.65E-02	1.7%
Selenium	7.50E-01	5.94E-01	6.53E-02	0.00E+00	6.53E-02	4.85E-01	1.35E-01	3.5%
Zinc	5.00E+00	4.99E+02	5.49E+01	0.00E+00	5.49E+01	1.66E+01	3.31E+00	85.1%
HI =							3.89E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-36. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.06E+04	1.30E-04	0.00E+00	8.00E-04	6.17E-01	7.50E-02	3.87E+02	7.72E+02	1.16E+03
Arsenic	1.42E+01	1.20E-03	0.00E+00	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00
Barium	5.34E+01	3.00E-03	0.00E+00	3.00E-02	1.17E-01	7.50E-03	1.95E-01	3.89E+00	4.20E+00
Chromium	1.44E+01	9.00E-04	0.00E+00	1.50E-03	1.57E-03	1.60E-01	1.12E+00	1.05E+00	2.17E+00
Lead	1.47E+01	1.80E-03	0.00E+00	9.00E-03	9.63E-03	2.00E+00	1.43E+01	1.07E+00	1.54E+01
Selenium	1.00E+00	5.00E-03	0.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Zinc	5.75E+01	1.80E-01	0.00E+00	3.00E-01	1.26E+00	1.80E+00	5.04E+01	4.19E+00	5.59E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kg) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-36. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.55E+02	1.94E+01	0.00E+00	1.94E+01	8.33E+01	2.33E-01	6.6%
Arsenic	1.00E-01	1.94E-01	2.43E-02	0.00E+00	2.43E-02	6.22E+00	3.91E-03	0.1%
Barium	7.50E-03	5.62E-02	7.03E-03	0.00E+00	7.03E-03	1.49E+01	4.73E-04	0.0%
Chromium	2.80E-01	1.09E+00	1.36E-01	0.00E+00	1.36E-01	1.28E+00	1.06E-01	3.0%
Lead	1.50E-02	4.13E-01	5.16E-02	0.00E+00	5.16E-02	8.51E-01	6.06E-02	1.7%
Selenium	7.50E-01	5.94E-01	7.42E-02	0.00E+00	7.42E-02	6.05E-01	1.23E-01	3.5%
Zinc	5.00E+00	4.99E+02	6.24E+01	0.00E+00	6.24E+01	2.07E+01	3.01E+00	85.1%
HI =							3.54E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-37. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 2

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP _s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.06E+04	1.30E-04	4.37E-03	8.00E-04	6.17E-01	7.50E-02	3.87E+02	7.72E+02	1.16E+03
Arsenic	1.42E+01	1.20E-03	5.41E-05	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00
Barium	5.34E+01	3.00E-03	5.08E-04	3.00E-02	1.17E-01	7.50E-03	1.95E-01	3.89E+00	4.20E+00
Chromium	1.44E+01	9.00E-04	4.11E-05	1.50E-03	1.57E-03	1.60E-01	1.12E+00	1.05E+00	2.17E+00
Lead	1.47E+01	1.80E-03	8.40E-05	9.00E-03	9.63E-03	2.00E+00	1.43E+01	1.07E+00	1.54E+01
Selenium	1.00E+00	5.00E-03	1.59E-05	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Zinc	5.75E+01	1.80E-01	3.29E-02	3.00E-01	1.26E+00	1.80E+00	5.04E+01	4.19E+00	5.59E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-37. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.55E+02	1.02E+01	2.05E+01	3.07E+01	5.46E-01	5.63E+01	96.6%
Arsenic	1.00E-01	1.94E-01	1.28E-02	2.74E-02	4.03E-02	3.56E-02	1.13E+00	1.9%
Barium	7.50E-03	5.62E-02	3.70E-03	1.03E-01	1.07E-01	2.79E+00	3.85E-02	0.1%
Chromium	2.80E-01	1.09E+00	7.15E-02	2.78E-02	9.94E-02	1.43E+03	6.95E-05	0.0%
Lead	1.50E-02	4.13E-01	2.72E-02	2.84E-02	5.56E-02	4.18E+00	1.33E-02	0.0%
Selenium	7.50E-01	5.94E-01	3.91E-02	1.93E-03	4.10E-02	1.05E-01	3.93E-01	0.7%
Zinc	5.00E+00	4.99E+02	3.28E+01	1.11E-01	3.30E+01	8.36E+01	3.94E-01	0.7%
							HI = 5.82E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-38. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI <i>x 100</i>
Inorganics				
Aluminum	9.00E+03	5.00E+01	1.80E+02	92.6%
Arsenic	1.64E+01	1.00E+01	1.64E+00	0.8%
Barium	3.00E+01	5.00E+02	6.00E-02	0.0%
Chromium	1.04E+01	1.00E+00	1.04E+01	5.4%
Lead	1.28E+01	5.00E+01	2.56E-01	0.1%
Selenium	7.90E-01	1.00E+00	7.90E-01	0.4%
Zinc	5.67E+01	5.00E+01	1.13E+00	0.6%
HI =				1.94E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-39. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 3**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.00E+03	No TRV	No TRV	No HQ
Arsenic	1.64E+01	6.00E+01	2.73E-01	1.0%
Barium	3.00E+01	No TRV	No TRV	No HQ
Chromium	1.04E+01	4.00E-01	2.60E+01	97.8%
Lead	1.28E+01	5.00E+02	2.56E-02	0.1%
Selenium	7.90E-01	No TRV	No TRV	No HQ
Zinc	5.67E+01	2.00E+02	2.84E-01	1.1%
HI = 2.66E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-40. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.00E+03	8.00E-04	5.24E-01	7.50E-02	3.29E+02	6.55E+02	9.85E+02	2.22E+00	4.43E+02	97.7%
Arsenic	1.64E+01	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00	1.45E-01	8.65E+00	1.9%
Barium	3.00E+01	3.00E-02	6.55E-02	7.50E-03	1.10E-01	2.18E+00	2.36E+00	1.14E+01	2.07E-01	0.0%
Chromium	1.04E+01	1.50E-03	1.14E-03	1.60E-01	8.11E-01	7.57E-01	1.57E+00	5.83E+03	2.69E-04	0.0%
Lead	1.28E+01	9.00E-03	8.39E-03	2.00E+00	1.25E+01	9.32E-01	1.34E+01	1.70E+01	7.87E-01	0.2%
Selenium	7.90E-01	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01	4.26E-01	8.22E-01	0.2%
Zinc	5.67E+01	3.00E-01	1.24E+00	1.80E+00	4.97E+01	4.13E+00	5.51E+01	3.41E+02	1.62E-01	0.0%
									HI =	4.53E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-41. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.00E+03	1.30E-04	8.89E-01	7.50E-02	5.13E+02	1.42E+03	1.94E+03	1.29E+02	1.50E+01	40.7%
Arsenic	1.64E+01	1.20E-03	1.50E-02	6.60E-03	8.23E-02	2.59E+00	2.69E+00	9.66E+00	2.79E-01	0.8%
Barium	3.00E+01	3.00E-03	6.84E-02	7.50E-03	1.71E-01	4.74E+00	4.98E+00	2.31E+01	2.16E-01	0.6%
Chromium	1.04E+01	9.00E-04	7.11E-03	1.60E-01	1.26E+00	1.64E+00	2.92E+00	1.99E+00	1.47E+00	4.0%
Lead	1.28E+01	1.80E-03	1.75E-02	2.00E+00	1.95E+01	2.02E+00	2.15E+01	1.32E+00	1.63E+01	44.3%
Selenium	7.90E-01	5.00E-03	3.00E-03	7.60E-01	4.56E-01	1.25E-01	5.84E-01	9.40E-01	6.21E-01	1.7%
Zinc	5.67E+01	1.80E-01	7.76E+00	1.80E+00	7.76E+01	8.96E+00	9.43E+01	3.21E+01	2.93E+00	8.0%
HI =									3.67E+01	

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW)/7.60E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW) 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-42. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.00E+03	8.00E-04	1.48E+00	7.50E-02	0.00E+00	1.16E+02	1.18E+02	7.63E-01	1.54E+02	96.8%
Arsenic	1.64E+01	8.00E-03	2.69E-02	6.60E-03	0.00E+00	2.12E-01	2.39E-01	4.98E-02	4.79E+00	3.0%
Barium	3.00E+01	3.00E-02	1.85E-01	7.50E-03	0.00E+00	3.87E-01	5.72E-01	3.90E+00	1.47E-01	0.1%
Chromium	1.04E+01	1.50E-03	3.20E-03	1.60E-01	0.00E+00	1.34E-01	1.38E-01	2.00E+03	6.88E-05	0.0%
Lead	1.28E+01	9.00E-03	2.36E-02	2.00E+00	0.00E+00	1.65E-01	1.89E-01	5.84E+00	3.23E-02	0.0%
Selenium	7.90E-01	5.00E-03	8.10E-04	7.60E-01	0.00E+00	1.02E-02	1.10E-02	1.46E-01	7.54E-02	0.0%
Zinc	5.67E+01	3.00E-01	3.49E+00	1.80E+00	0.00E+00	7.32E-01	4.22E+00	1.17E+02	3.61E-02	0.0%
									HI =	1.59E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-43. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.00E+03	8.00E-04	2.23E-01	7.50E-02	0.00E+00	5.58E+00	5.80E+00	2.93E-01	1.98E+01	96.1%
Arsenic	1.64E+01	8.00E-03	4.07E-03	6.60E-03	0.00E+00	1.02E-02	1.42E-02	1.91E-02	7.44E-01	3.6%
Barium	3.00E+01	3.00E-02	2.79E-02	7.50E-03	0.00E+00	1.86E-02	4.65E-02	1.50E+00	3.10E-02	0.2%
Chromium	1.04E+01	1.50E-03	4.84E-04	1.60E-01	0.00E+00	6.45E-03	6.93E-03	7.68E+02	9.03E-06	0.0%
Lead	1.28E+01	9.00E-03	3.57E-03	2.00E+00	0.00E+00	7.94E-03	1.15E-02	2.24E+00	5.13E-03	0.0%
Selenium	7.90E-01	5.00E-03	1.22E-04	7.60E-01	0.00E+00	4.90E-04	6.12E-04	5.61E-02	1.09E-02	0.1%
Zinc	5.67E+01	3.00E-01	5.27E-01	1.80E+00	0.00E+00	3.52E-02	5.62E-01	4.49E+01	1.25E-02	0.1%
HI =									2.06E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-44. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	9.00E+03	1.30E-04	0.00E+00	8.00E-04	5.24E-01	7.50E-02	3.29E+02	6.55E+02	9.85E+02
Arsenic	1.64E+01	1.20E-03	0.00E+00	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00
Barium	3.00E+01	3.00E-03	0.00E+00	3.00E-02	6.55E-02	7.50E-03	1.10E-01	2.18E+00	2.36E+00
Chromium	1.04E+01	9.00E-04	0.00E+00	1.50E-03	1.14E-03	1.60E-01	8.11E-01	7.57E-01	1.57E+00
Lead	1.28E+01	1.80E-03	0.00E+00	9.00E-03	8.39E-03	2.00E+00	1.25E+01	9.32E-01	1.34E+01
Selenium	7.90E-01	5.00E-03	0.00E+00	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Zinc	5.67E+01	1.80E-01	0.00E+00	3.00E-01	1.24E+00	1.80E+00	4.97E+01	4.13E+00	5.51E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-44. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.32E+02	1.45E+01	0.00E+00	1.45E+01	6.68E+01	2.17E-01	5.8%	
Arsenic	1.00E-01	2.24E-01	2.47E-02	0.00E+00	2.47E-02	4.98E+00	4.95E-03	0.1%	
Barium	7.50E-03	3.16E-02	3.48E-03	0.00E+00	3.48E-03	1.19E+01	2.92E-04	0.0%	
Chromium	2.80E-01	7.84E-01	8.63E-02	0.00E+00	8.63E-02	1.03E+00	8.41E-02	2.3%	
Lead	1.50E-02	3.59E-01	3.95E-02	0.00E+00	3.95E-02	6.82E-01	5.79E-02	1.6%	
Selenium	7.50E-01	4.69E-01	5.16E-02	0.00E+00	5.16E-02	4.85E-01	1.06E-01	2.8%	
Zinc	5.00E+00	4.92E+02	5.41E+01	0.00E+00	5.41E+01	1.66E+01	3.26E+00	87.4%	
HI =							3.74E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-45. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	9.00E+03	1.30E-04	0.00E+00	8.00E-04	5.24E-01	7.50E-02	3.29E+02	6.55E+02	9.85E+02
Arsenic	1.64E+01	1.20E-03	0.00E+00	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00
Barium	3.00E+01	3.00E-03	0.00E+00	3.00E-02	6.55E-02	7.50E-03	1.10E-01	2.18E+00	2.36E+00
Chromium	1.04E+01	9.00E-04	0.00E+00	1.50E-03	1.14E-03	1.60E-01	8.11E-01	7.57E-01	1.57E+00
Lead	1.28E+01	1.80E-03	0.00E+00	9.00E-03	8.39E-03	2.00E+00	1.25E+01	9.32E-01	1.34E+01
Selenium	7.90E-01	5.00E-03	0.00E+00	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Zinc	5.67E+01	1.80E-01	0.00E+00	3.00E-01	1.24E+00	1.80E+00	4.97E+01	4.13E+00	5.51E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgξ) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-45. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _s x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.32E+02	1.65E+01	0.00E+00	1.65E+01	8.33E+01	1.98E-01	5.8%	
Arsenic	1.00E-01	2.24E-01	2.80E-02	0.00E+00	2.80E-02	6.22E+00	4.51E-03	0.1%	
Barium	7.50E-03	3.16E-02	3.95E-03	0.00E+00	3.95E-03	1.49E+01	2.66E-04	0.0%	
Chromium	2.80E-01	7.84E-01	9.81E-02	0.00E+00	9.81E-02	1.28E+00	7.66E-02	2.3%	
Lead	1.50E-02	3.59E-01	4.49E-02	0.00E+00	4.49E-02	8.51E-01	5.28E-02	1.6%	
Selenium	7.50E-01	4.69E-01	5.86E-02	0.00E+00	5.86E-02	6.05E-01	9.69E-02	2.8%	
Zinc	5.00E+00	4.92E+02	6.15E+01	0.00E+00	6.15E+01	2.07E+01	2.97E+00	87.4%	
HI =							3.40E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-46. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 3

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP _s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	9.00E+03	1.30E-04	3.71E-03	8.00E-04	5.24E-01	7.50E-02	3.29E+02	6.55E+02	9.85E+02
Arsenic	1.64E+01	1.20E-03	6.25E-05	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00
Barium	3.00E+01	3.00E-03	2.86E-04	3.00E-02	6.55E-02	7.50E-03	1.10E-01	2.18E+00	2.36E+00
Chromium	1.04E+01	9.00E-04	2.97E-05	1.50E-03	1.14E-03	1.60E-01	8.11E-01	7.57E-01	1.57E+00
Lead	1.28E+01	1.80E-03	7.31E-05	9.00E-03	8.39E-03	2.00E+00	1.25E+01	9.32E-01	1.34E+01
Selenium	7.90E-01	5.00E-03	1.25E-05	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Zinc	5.67E+01	1.80E-01	3.24E-02	3.00E-01	1.24E+00	1.80E+00	4.97E+01	4.13E+00	5.51E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

IP (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

IP_s = Shrew IP (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

IS-s = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-46. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.32E+02	8.68E+00	1.74E+01	2.61E+01	5.46E-01	4.78E+01	95.9%
Arsenic	1.00E-01	2.24E-01	1.48E-02	3.17E-02	4.65E-02	3.56E-02	1.31E+00	2.6%
Barium	7.50E-03	3.16E-02	2.08E-03	5.80E-02	6.03E-02	2.79E+00	2.16E-02	0.0%
Chromium	2.80E-01	7.84E-01	5.16E-02	2.01E-02	7.18E-02	1.43E+03	5.02E-05	0.0%
Lead	1.50E-02	3.59E-01	2.36E-02	2.47E-02	4.85E-02	4.18E+00	1.16E-02	0.0%
Selenium	7.50E-01	4.69E-01	3.09E-02	1.53E-03	3.24E-02	1.05E-01	3.10E-01	0.6%
Zinc	5.00E+00	4.92E+02	3.24E+01	1.10E-01	3.25E+01	8.36E+01	3.89E-01	0.8%
HI = 4.98E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-47. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.41E+03	5.00E+01	2.82E+01	74.1%
Arsenic	2.13E+01	1.00E+01	2.13E+00	5.6%
Barium	1.17E+01	5.00E+02	2.34E-02	0.1%
Cadmium	1.50E-01	5.00E-01	3.00E-01	0.8%
Chromium	5.40E+00	1.00E+00	5.40E+00	14.2%
Lead	2.11E+01	5.00E+01	4.22E-01	1.1%
Selenium	1.00E+00	1.00E+00	1.00E+00	2.6%
Zinc	2.86E+01	5.00E+01	5.72E-01	1.5%
Explosives				
2,4,6-Trinitrotoluene	2.30E-01	3.00E+01	7.67E-03	0.0%
			HI =	3.81E+01

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-48. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 4**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.41E+03	No TRV	No TRV	No HQ
Arsenic	2.13E+01	6.00E+01	3.55E-01	2.5%
Barium	1.17E+01	No TRV	No TRV	No HQ
Cadmium	1.50E-01	2.00E+01	7.50E-03	0.1%
Chromium	5.40E+00	4.00E-01	1.35E+01	96.1%
Lead	2.11E+01	5.00E+02	4.22E-02	0.3%
Selenium	1.00E+00	No TRV	No TRV	No HQ
Zinc	2.86E+01	2.00E+02	1.43E-01	1.0%
Explosives				
2,4,6-Trinitrotoluene	2.30E-01	1.40E+02	1.64E-03	0.0%
			HI =	1.40E+01

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-49. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.41E+03	8.00E-04	8.21E-02	7.50E-02	5.15E+01	1.03E+02	1.54E+02	2.22E+00	6.93E+01	83.0%
Arsenic	2.13E+01	8.00E-03	1.24E-02	6.60E-03	6.85E-02	1.55E+00	1.63E+00	1.45E-01	1.12E+01	13.5%
Barium	1.17E+01	3.00E-02	2.56E-02	7.50E-03	4.28E-02	8.52E-01	9.20E-01	1.14E+01	8.08E-02	0.1%
Cadmium	1.50E-01	1.10E-01	1.20E-03	1.10E+01	8.04E-01	1.09E-02	8.16E-01	2.05E+00	3.97E-01	0.5%
Chromium	5.40E+00	1.50E-03	5.90E-04	1.60E-01	4.21E-01	3.93E-01	8.15E-01	5.83E+03	1.40E-04	0.0%
Lead	2.11E+01	9.00E-03	1.38E-02	2.00E+00	2.06E+01	1.54E+00	2.21E+01	1.70E+01	1.30E+00	1.6%
Selenium	1.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01	4.26E-01	1.04E+00	1.2%
Zinc	2.86E+01	3.00E-01	6.25E-01	1.80E+00	2.51E+01	2.08E+00	2.78E+01	3.41E+02	8.15E-02	0.1%
Explosives										
2,4,6-Trinitrotoluene	2.30E-01	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01	3.41E+00	4.27E-02	0.1%
									HI =	8.35E+01

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-50. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.41E+03	1.30E-04	1.39E-01	7.50E-02	8.04E+01	2.23E+02	3.03E+02	1.29E+02	2.34E+00	7.1%
Arsenic	2.13E+01	1.20E-03	1.94E-02	6.60E-03	1.07E-01	3.37E+00	3.49E+00	9.66E+00	3.62E-01	1.1%
Barium	1.17E+01	3.00E-03	2.67E-02	7.50E-03	6.67E-02	1.85E+00	1.94E+00	2.31E+01	8.41E-02	0.3%
Cadmium	1.50E-01	3.00E-02	3.42E-03	1.10E+01	1.25E+00	2.37E-02	1.28E+00	2.83E+00	4.53E-01	1.4%
Chromium	5.40E+00	9.00E-04	3.69E-03	1.60E-01	6.57E-01	8.54E-01	1.51E+00	1.99E+00	7.61E-01	2.3%
Lead	2.11E+01	1.80E-03	2.89E-02	2.00E+00	3.21E+01	3.34E+00	3.54E+01	1.32E+00	2.68E+01	81.0%
Selenium	1.00E+00	5.00E-03	3.80E-03	7.60E-01	5.78E-01	1.58E-01	7.39E-01	9.40E-01	7.87E-01	2.4%
Zinc	2.86E+01	1.80E-01	3.91E+00	1.80E+00	3.91E+01	4.52E+00	4.76E+01	3.21E+01	1.48E+00	4.5%
Explosives										
2,4,6-Trinitrotoluene	2.30E-01	1.00E+00	1.75E-01	1.00E+00	1.75E-01	3.64E-02	3.86E-01	No TRV	No TRV	No HQ
									HI =	3.31E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-51. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.41E+03	8.00E-04	2.31E-01	7.50E-02	0.00E+00	1.82E+01	1.84E+01	7.63E-01	2.42E+01	78.8%
Arsenic	2.13E+01	8.00E-03	3.49E-02	6.60E-03	0.00E+00	2.75E-01	3.10E-01	4.98E-02	6.23E+00	20.3%
Barium	1.17E+01	3.00E-02	7.20E-02	7.50E-03	0.00E+00	1.51E-01	2.23E-01	3.90E+00	5.72E-02	0.2%
Cadmium	1.50E-01	1.10E-01	3.38E-03	1.10E+01	0.00E+00	1.94E-03	5.32E-03	7.05E-01	7.55E-03	0.0%
Chromium	5.40E+00	1.50E-03	1.66E-03	1.60E-01	0.00E+00	6.97E-02	7.14E-02	2.00E+03	3.57E-05	0.0%
Lead	2.11E+01	9.00E-03	3.89E-02	2.00E+00	0.00E+00	2.73E-01	3.11E-01	5.84E+00	5.33E-02	0.2%
Selenium	1.00E+00	5.00E-03	1.03E-03	7.60E-01	0.00E+00	1.29E-02	1.39E-02	1.46E-01	9.54E-02	0.3%
Zinc	2.86E+01	3.00E-01	1.76E+00	1.80E+00	0.00E+00	3.69E-01	2.13E+00	1.17E+02	1.82E-02	0.1%
Explosives										
2,4,6-Trinitrotoluene	2.30E-01	1.00E+00	4.72E-02	1.00E+00	0.00E+00	2.97E-03	5.01E-02	1.17E+00	4.29E-02	0.1%
									HI =	3.07E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-52. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.41E+03	8.00E-04	3.50E-02	7.50E-02	0.00E+00	8.74E-01	9.09E-01	2.93E-01	3.10E+00	75.2%
Arsenic	2.13E+01	8.00E-03	5.28E-03	6.60E-03	0.00E+00	1.32E-02	1.85E-02	1.91E-02	9.67E-01	23.4%
Barium	1.17E+01	3.00E-02	1.09E-02	7.50E-03	0.00E+00	7.25E-03	1.81E-02	1.50E+00	1.21E-02	0.3%
Cadmium	1.50E-01	1.10E-01	5.12E-04	1.10E+01	0.00E+00	9.30E-05	6.05E-04	2.71E-01	2.23E-03	0.1%
Chromium	5.40E+00	1.50E-03	2.51E-04	1.60E-01	0.00E+00	3.35E-03	3.60E-03	7.68E+02	4.69E-06	0.0%
Lead	2.11E+01	9.00E-03	5.89E-03	2.00E+00	0.00E+00	1.31E-02	1.90E-02	2.24E+00	8.45E-03	0.2%
Selenium	1.00E+00	5.00E-03	1.55E-04	7.60E-01	0.00E+00	6.20E-04	7.75E-04	5.61E-02	1.38E-02	0.3%
Zinc	2.86E+01	3.00E-01	2.66E-01	1.80E+00	0.00E+00	1.77E-02	2.84E-01	4.49E+01	6.32E-03	0.2%
Explosives										
2,4,6-Trinitrotoluene	2.30E-01	1.00E+00	7.13E-03	1.00E+00	0.00E+00	1.43E-04	7.27E-03	4.49E-01	1.62E-02	0.4%
									HI =	4.13E+00

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-53. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.41E+03	1.30E-04	0.00E+00	8.00E-04	8.21E-02	7.50E-02	5.15E+01	1.03E+02	1.54E+02
Arsenic	2.13E+01	1.20E-03	0.00E+00	8.00E-03	1.24E-02	6.60E-03	6.85E-02	1.55E+00	1.63E+00
Barium	1.17E+01	3.00E-03	0.00E+00	3.00E-02	2.56E-02	7.50E-03	4.28E-02	8.52E-01	9.20E-01
Cadmium	1.50E-01	3.00E-02	0.00E+00	1.10E-01	1.20E-03	1.10E+01	8.04E-01	1.09E-02	8.16E-01
Chromium	5.40E+00	9.00E-04	0.00E+00	1.50E-03	5.90E-04	1.60E-01	4.21E-01	3.93E-01	8.15E-01
Lead	2.11E+01	1.80E-03	0.00E+00	9.00E-03	1.38E-02	2.00E+00	2.06E+01	1.54E+00	2.21E+01
Selenium	1.00E+00	5.00E-03	0.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Zinc	2.86E+01	1.80E-01	0.00E+00	3.00E-01	6.25E-01	1.80E+00	2.51E+01	2.08E+00	2.78E+01
Explosives									
2,4,6-Trinitrotoluene	2.30E-01	1.00E+00	0.00E+00	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-53. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.07E+01	2.27E+00	0.00E+00	2.27E+00	6.68E+01	3.40E-02	1.7%
Arsenic	1.00E-01	2.91E-01	3.20E-02	0.00E+00	3.20E-02	4.98E+00	6.43E-03	0.3%
Barium	7.50E-03	1.23E-02	1.36E-03	0.00E+00	1.36E-03	1.19E+01	1.14E-04	0.0%
Cadmium	2.80E-02	4.08E-02	4.49E-03	0.00E+00	4.49E-03	1.46E+00	3.08E-03	0.2%
Chromium	2.80E-01	4.07E-01	4.48E-02	0.00E+00	4.48E-02	1.03E+00	4.37E-02	2.2%
Lead	1.50E-02	5.92E-01	6.51E-02	0.00E+00	6.51E-02	6.82E-01	9.55E-02	4.9%
Selenium	7.50E-01	5.94E-01	6.53E-02	0.00E+00	6.53E-02	4.85E-01	1.35E-01	6.9%
Zinc	5.00E+00	2.48E+02	2.73E+01	0.00E+00	2.73E+01	1.66E+01	1.65E+00	83.8%
2,4,6-Trinitrotoluene	1.00E+00	2.60E-01	2.86E-02	0.00E+00	2.86E-02	No TRV	No TRV	No HQ
						HI =	1.96E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-54. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.41E+03	1.30E-04	0.00E+00	8.00E-04	8.21E-02	7.50E-02	5.15E+01	1.03E+02	1.54E+02
Arsenic	2.13E+01	1.20E-03	0.00E+00	8.00E-03	1.24E-02	6.60E-03	6.85E-02	1.55E+00	1.63E+00
Barium	1.17E+01	3.00E-03	0.00E+00	3.00E-02	2.56E-02	7.50E-03	4.28E-02	8.52E-01	9.20E-01
Cadmium	1.50E-01	3.00E-02	0.00E+00	1.10E-01	1.20E-03	1.10E+01	8.04E-01	1.09E-02	8.16E-01
Chromium	5.40E+00	9.00E-04	0.00E+00	1.50E-03	5.90E-04	1.60E-01	4.21E-01	3.93E-01	8.15E-01
Lead	2.11E+01	1.80E-03	0.00E+00	9.00E-03	1.38E-02	2.00E+00	2.06E+01	1.54E+00	2.21E+01
Selenium	1.00E+00	5.00E-03	0.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Zinc	2.86E+01	1.80E-01	0.00E+00	3.00E-01	6.25E-01	1.80E+00	2.51E+01	2.08E+00	2.78E+01
Explosives									
2,4,6-Trinitrotoluene	2.30E-01	1.00E+00	0.00E+00	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgB 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-54. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A ^x x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.07E+01	2.58E+00	0.00E+00	2.58E+00	8.33E+01	3.10E-02	1.7%
Arsenic	1.00E-01	2.91E-01	3.64E-02	0.00E+00	3.64E-02	6.22E+00	5.86E-03	0.3%
Barium	7.50E-03	1.23E-02	1.54E-03	0.00E+00	1.54E-03	1.49E+01	1.04E-04	0.0%
Cadmium	2.80E-02	4.08E-02	5.10E-03	0.00E+00	5.10E-03	1.82E+00	2.80E-03	0.2%
Chromium	2.80E-01	4.07E-01	5.09E-02	0.00E+00	5.09E-02	1.28E+00	3.98E-02	2.2%
Lead	1.50E-02	5.92E-01	7.40E-02	0.00E+00	7.40E-02	8.51E-01	8.70E-02	4.9%
Selenium	7.50E-01	5.94E-01	7.42E-02	0.00E+00	7.42E-02	6.05E-01	1.23E-01	6.9%
Zinc	5.00E+00	2.48E+02	3.10E+01	0.00E+00	3.10E+01	2.07E+01	1.50E+00	83.8%
2,4,6-Trinitrotoluene	1.00E+00	2.60E-01	3.25E-02	0.00E+00	3.25E-02	No TRV	No TRV	No HQ
HI =							1.79E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-55. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 4

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.41E+03	1.30E-04	5.82E-04	8.00E-04	8.21E-02	7.50E-02	5.15E+01	1.03E+02	1.54E+02
Arsenic	2.13E+01	1.20E-03	8.11E-05	8.00E-03	1.24E-02	6.60E-03	6.85E-02	1.55E+00	1.63E+00
Barium	1.17E+01	3.00E-03	1.11E-04	3.00E-02	2.56E-02	7.50E-03	4.28E-02	8.52E-01	9.20E-01
Cadmium	1.50E-01	3.00E-02	1.43E-05	1.10E-01	1.20E-03	1.10E+01	8.04E-01	1.09E-02	8.16E-01
Chromium	5.40E+00	9.00E-04	1.54E-05	1.50E-03	5.90E-04	1.60E-01	4.21E-01	3.93E-01	8.15E-01
Lead	2.11E+01	1.80E-03	1.21E-04	9.00E-03	1.38E-02	2.00E+00	2.06E+01	1.54E+00	2.21E+01
Selenium	1.00E+00	5.00E-03	1.59E-05	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Zinc	2.86E+01	1.80E-01	1.63E-02	3.00E-01	6.25E-01	1.80E+00	2.51E+01	2.08E+00	2.78E+01
Explosives									
2,4,6-Trinitrotoluene	2.30E-01	1.00E+00	7.30E-04	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-55. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.07E+01	1.36E+00	2.72E+00	4.08E+00	5.46E-01	7.48E+00	76.2%
Arsenic	1.00E-01	2.91E-01	1.92E-02	4.12E-02	6.04E-02	3.56E-02	1.70E+00	17.3%
Barium	7.50E-03	1.23E-02	8.11E-04	2.26E-02	2.35E-02	2.79E+00	8.43E-03	0.1%
Cadmium	2.80E-02	4.08E-02	2.69E-03	2.90E-04	2.99E-03	5.04E-01	5.93E-03	0.1%
Chromium	2.80E-01	4.07E-01	2.68E-02	1.04E-02	3.73E-02	1.43E+03	2.60E-05	0.0%
Lead	1.50E-02	5.92E-01	3.90E-02	4.08E-02	7.99E-02	4.18E+00	1.91E-02	0.2%
Selenium	7.50E-01	5.94E-01	3.91E-02	1.93E-03	4.10E-02	1.05E-01	3.93E-01	4.0%
Zinc	5.00E+00	2.48E+02	1.63E+01	5.53E-02	1.64E+01	8.36E+01	1.96E-01	2.0%
2,4,6-Trinitrotoluene	1.00E+00	2.60E-01	1.71E-02	4.44E-04	1.83E-02	8.36E-01	2.19E-02	0.2%
							HI = 9.82E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-56. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.26E+04	5.00E+01	2.52E+02	90.9%
Antimony	3.28E-01	5.00E+00	6.56E-02	0.0%
Arsenic	2.04E+01	1.00E+01	2.04E+00	0.7%
Barium	7.68E+01	5.00E+02	1.54E-01	0.1%
Beryllium	4.10E-01	1.00E+01	4.10E-02	0.0%
Cadmium	6.00E-02	5.00E-01	1.20E-01	0.0%
Calcium	1.29E+04	No TRV	No TRV	No HQ
Chromium	1.74E+01	1.00E+00	1.74E+01	6.3%
Cobalt	8.50E+00	2.00E+01	4.25E-01	0.2%
Copper	2.25E+01	1.00E+02	2.25E-01	0.1%
Cyanide	3.28E-01	No TRV	No TRV	No HQ
Iron	2.56E+04	No TRV	No TRV	No HQ
Lead	2.05E+01	5.00E+01	4.10E-01	0.1%
Magnesium	2.53E+03	No TRV	No TRV	No HQ
Mercury	3.60E-02	3.00E-01	1.20E-01	0.0%
Nickel	2.23E+01	3.00E+01	7.43E-01	0.3%
Potassium	1.36E+03	No TRV	No TRV	No HQ
Selenium	1.39E+00	1.00E+00	1.39E+00	0.5%
Silver	8.13E-01	2.00E+00	4.07E-01	0.1%
Sodium	3.48E+01	No TRV	No TRV	No HQ
Thallium	3.28E-01	1.00E+00	3.28E-01	0.1%
Zinc	6.67E+01	5.00E+01	1.33E+00	0.5%
Explosives				
1,3,5-Trinitrobenzene	8.50E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.10E+00	3.00E+01	3.67E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	7.40E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	9.10E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+02	1.16E-02	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =				2.77E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-57. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 5**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.26E+04	No TRV	No TRV	No HQ
Antimony	3.28E-01	No TRV	No TRV	No HQ
Arsenic	2.04E+01	6.00E+01	3.40E-01	0.8%
Barium	7.68E+01	No TRV	No TRV	No HQ
Beryllium	4.10E-01	No TRV	No TRV	No HQ
Cadmium	6.00E-02	2.00E+01	3.00E-03	0.0%
Calcium	1.29E+04	No TRV	No TRV	No HQ
Chromium	1.74E+01	4.00E-01	4.35E+01	97.1%
Cobalt	8.50E+00	No TRV	No TRV	No HQ
Copper	2.25E+01	5.00E+01	4.50E-01	1.0%
Cyanide	3.28E-01	No TRV	No TRV	No HQ
Iron	2.56E+04	No TRV	No TRV	No HQ
Lead	2.05E+01	5.00E+02	4.10E-02	0.1%
Magnesium	2.53E+03	No TRV	No TRV	No HQ
Mercury	3.60E-02	No TRV	No TRV	No HQ
Nickel	2.23E+01	2.00E+02	1.12E-01	0.2%
Potassium	1.36E+03	No TRV	No TRV	No HQ
Selenium	1.39E+00	No TRV	No TRV	No HQ
Silver	8.13E-01	No TRV	No TRV	No HQ
Sodium	3.48E+01	No TRV	No TRV	No HQ
Thallium	3.28E-01	No TRV	No TRV	No HQ
Zinc	6.67E+01	2.00E+02	3.34E-01	0.7%
Explosives				
1,3,5-Trinitrobenzene	8.50E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.10E+00	1.40E+02	7.86E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	7.40E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	9.10E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				4.48E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-58. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _s + ADD _a	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03	2.22E+00	6.20E+02	95.7%
Antimony	3.28E-01	4.00E-02	9.55E-04	5.00E-02	7.99E-03	2.39E-02	3.28E-02	1.44E-01	2.28E-01	0.0%
Arsenic	2.04E+01	8.00E-03	1.19E-02	6.60E-03	6.56E-02	1.49E+00	1.56E+00	1.45E-01	1.08E+01	1.7%
Barium	7.68E+01	3.00E-02	1.68E-01	7.50E-03	2.81E-01	5.59E+00	6.04E+00	1.14E+01	5.31E-01	0.1%
Beryllium	4.10E-01	2.00E-03	5.97E-05	5.00E-02	9.99E-03	2.98E-02	3.99E-02	1.41E+00	2.84E-02	0.0%
Cadmium	6.00E-02	1.10E-01	4.80E-04	1.10E+01	3.22E-01	4.37E-03	3.26E-01	2.05E+00	1.59E-01	0.0%
Calcium	1.29E+04	7.00E-01	6.57E+02	1.00E+00	6.28E+03	9.39E+02	7.88E+03	No TRV	No TRV	No HQ
Chromium	1.74E+01	1.50E-03	1.90E-03	1.60E-01	1.36E+00	1.27E+00	2.62E+00	5.83E+03	4.50E-04	0.0%
Cobalt	8.50E+00	4.00E-03	2.48E-03	1.00E+00	4.14E+00	6.19E-01	4.76E+00	No TRV	No TRV	No HQ
Copper	2.25E+01	8.00E-02	1.31E-01	1.60E-01	1.75E+00	1.64E+00	3.52E+00	3.24E+01	1.09E-01	0.0%
Cyanide	3.28E-01	1.00E+00	2.39E-02	0.00E+00	0.00E+00	2.39E-02	4.77E-02	1.38E+02	3.47E-04	0.0%
Iron	2.56E+04	8.00E-04	1.49E+00	1.00E+00	1.25E+04	1.86E+03	1.43E+04	No TRV	No TRV	No HQ
Lead	2.05E+01	9.00E-03	1.34E-02	2.00E+00	2.00E+01	1.49E+00	2.15E+01	1.70E+01	1.26E+00	0.2%
Magnesium	2.53E+03	2.00E-01	3.68E+01	1.00E+00	1.23E+03	1.84E+02	1.45E+03	No TRV	No TRV	No HQ
Mercury	3.60E-02	1.80E-01	4.72E-04	3.40E-01	5.96E-03	2.62E-03	9.06E-03	2.80E+00	3.24E-03	0.0%
Nickel	2.23E+01	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00	8.52E+01	4.86E-02	0.0%
Potassium	1.36E+03	2.00E-01	1.98E+01	1.00E+00	6.63E+02	9.90E+01	7.81E+02	No TRV	No TRV	No HQ
Selenium	1.39E+00	5.00E-03	5.06E-04	7.60E-01	5.15E-01	1.01E-01	6.17E-01	4.26E-01	1.45E+00	0.2%
Silver	8.13E-01	8.00E-02	4.74E-03	1.50E-01	5.94E-02	5.92E-02	1.23E-01	No TRV	No TRV	No HQ
Sodium	3.48E+01	1.50E-02	3.79E-02	1.00E+00	1.69E+01	2.53E+00	1.95E+01	No TRV	No TRV	No HQ
Thallium	3.28E-01	8.00E-04	1.91E-05	1.00E+00	1.60E-01	2.39E-02	1.84E-01	1.59E-02	1.15E+01	1.8%
Zinc	6.67E+01	3.00E-01	1.46E+00	1.80E+00	5.85E+01	4.86E+00	6.48E+01	3.41E+02	1.90E-01	0.0%
Explosives										
1,3,5-Trinitrobenzene	8.50E-02	1.00E+00	6.19E-03	1.00E+00	4.14E-02	6.19E-03	5.38E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	1.10E+00	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01	3.41E+00	2.04E-01	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	1.49E+00	9.46E-03	0.0%
2-Nitrotoluene	7.40E-02	1.00E+00	5.39E-03	1.00E+00	3.61E-02	5.39E-03	4.68E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	9.10E-02	1.00E+00	6.62E-03	1.00E+00	4.43E-02	6.62E-03	5.76E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00	3.27E+00	5.79E-01	0.1%
Nitrobenzene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01	8.44E+00	8.70E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	6.47E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_a = Average daily dose; animal

I_a(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-59. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	1.30E-04	1.24E+00	7.50E-02	7.18E+02	1.99E+03	2.71E+03	1.29E+02	2.09E+01	37.9%
Antimony	3.28E-01	6.00E-03	1.49E-03	5.00E-02	1.25E-02	5.18E-02	6.58E-02	No TRV	No TRV	No HQ
Arsenic	2.04E+01	1.20E-03	1.86E-02	6.60E-03	1.02E-01	3.22E+00	3.35E+00	9.66E+00	3.47E-01	0.6%
Barium	7.68E+01	3.00E-03	1.75E-01	7.50E-03	4.38E-01	1.21E+01	1.28E+01	2.31E+01	5.52E-01	1.0%
Beryllium	4.10E-01	3.00E-04	9.35E-05	5.00E-02	1.56E-02	6.48E-02	8.05E-02	No TRV	No TRV	No HQ
Cadmium	6.00E-02	3.00E-02	1.37E-03	1.10E+01	5.02E-01	9.48E-03	5.12E-01	2.83E+00	1.81E-01	0.3%
Calcium	1.29E+04	7.00E-02	6.86E+02	1.00E+00	9.80E+03	2.04E+03	1.25E+04	No TRV	No TRV	No HQ
Chromium	1.74E+01	9.00E-04	1.19E-02	1.60E-01	2.12E+00	2.75E+00	4.88E+00	1.99E+00	2.45E+00	4.4%
Cobalt	8.50E+00	1.40E-03	9.04E-03	1.00E+00	6.46E+00	1.34E+00	7.81E+00	No TRV	No TRV	No HQ
Copper	2.25E+01	5.00E-02	8.55E-01	1.60E-01	2.74E+00	3.56E+00	7.15E+00	7.55E+01	9.47E-02	0.2%
Cyanide	3.28E-01	1.00E+00	2.49E-01	0.00E+00	0.00E+00	5.18E-02	3.01E-01	No TRV	No TRV	No HQ
Iron	2.56E+04	2.00E-04	3.89E+00	1.00E+00	1.95E+04	4.05E+03	2.35E+04	No TRV	No TRV	No HQ
Lead	2.05E+01	1.80E-03	2.80E-02	2.00E+00	3.12E+01	3.24E+00	3.44E+01	1.32E+00	2.60E+01	47.1%
Magnesium	2.53E+03	1.10E-01	2.12E+02	1.00E+00	1.92E+03	4.00E+02	2.53E+03	No TRV	No TRV	No HQ
Mercury	3.60E-02	4.00E-02	1.09E-03	3.40E-01	9.30E-03	5.69E-03	1.61E-02	5.27E-01	3.06E-02	0.1%
Nickel	2.23E+01	1.20E-02	2.03E-01	2.30E-01	3.90E+00	3.53E+00	7.63E+00	1.37E+02	5.57E-02	0.1%
Potassium	1.36E+03	1.10E-01	1.14E+02	1.00E+00	1.03E+03	2.15E+02	1.36E+03	No TRV	No TRV	No HQ
Selenium	1.39E+00	5.00E-03	5.29E-03	7.60E-01	8.03E-01	2.20E-01	1.03E+00	9.40E-01	1.09E+00	2.0%
Silver	8.13E-01	2.00E-02	1.24E-02	1.50E-01	9.27E-02	1.29E-01	2.34E-01	No TRV	No TRV	No HQ
Sodium	3.48E+01	1.10E-02	2.91E-01	1.00E+00	2.64E+01	5.49E+00	3.22E+01	No TRV	No TRV	No HQ
Thallium	3.28E-01	8.00E-05	1.99E-05	1.00E+00	2.49E-01	5.18E-02	3.01E-01	No TRV	No TRV	No HQ
Zinc	6.67E+01	1.80E-01	9.12E+00	1.80E+00	9.12E+01	1.05E+01	1.11E+02	3.21E+01	3.45E+00	6.2%
Explosives										
1,3,5-Trinitrobenzene	8.50E-02	1.00E+00	6.46E-02	1.00E+00	6.46E-02	1.34E-02	1.43E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.10E+00	1.00E+00	8.36E-01	1.00E+00	8.36E-01	1.74E-01	1.85E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	7.40E-02	1.00E+00	5.62E-02	1.00E+00	5.62E-02	1.17E-02	1.24E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	9.10E-02	1.00E+00	6.92E-02	1.00E+00	6.92E-02	1.44E-02	1.53E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.27E+00	1.00E+00	2.27E+00	4.73E-01	5.02E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.82E-01	1.00E+00	8.82E-01	1.83E-01	1.95E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ

HI = 5.52E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/ 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-60. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	2.07E+00	7.50E-02	0.00E+00	1.63E+02	1.65E+02	7.63E-01	2.16E+02	96.1%
Antimony	3.28E-01	4.00E-02	2.69E-03	5.00E-02	0.00E+00	4.23E-03	6.92E-03	4.94E-02	1.40E-01	0.1%
Arsenic	2.04E+01	8.00E-03	3.35E-02	6.60E-03	0.00E+00	2.63E-01	2.97E-01	4.98E-02	5.96E+00	2.7%
Barium	7.68E+01	3.00E-02	4.72E-01	7.50E-03	0.00E+00	9.92E-01	1.46E+00	3.90E+00	3.75E-01	0.2%
Beryllium	4.10E-01	2.00E-03	1.68E-04	5.00E-02	0.00E+00	5.30E-03	5.46E-03	4.82E-01	1.13E-02	0.0%
Cadmium	6.00E-02	1.10E-01	1.35E-03	1.10E+01	0.00E+00	7.75E-04	2.13E-03	7.05E-01	3.02E-03	0.0%
Calcium	1.29E+04	7.00E-01	1.85E+03	1.00E+00	0.00E+00	1.67E+02	2.02E+03	No TRV	No TRV	No HQ
Chromium	1.74E+01	1.50E-03	5.35E-03	1.60E-01	0.00E+00	2.25E-01	2.30E-01	2.00E+03	1.15E-04	0.0%
Cobalt	8.50E+00	4.00E-03	6.97E-03	1.00E+00	0.00E+00	1.10E-01	1.17E-01	No TRV	No TRV	No HQ
Copper	2.25E+01	8.00E-02	3.69E-01	1.60E-01	0.00E+00	2.91E-01	6.60E-01	1.11E+01	5.93E-02	0.0%
Cyanide	3.28E-01	1.00E+00	6.72E-02	0.00E+00	0.00E+00	4.23E-03	7.14E-02	4.72E+01	1.51E-03	0.0%
Iron	2.56E+04	8.00E-04	4.20E+00	1.00E+00	0.00E+00	3.31E+02	3.35E+02	No TRV	No TRV	No HQ
Lead	2.05E+01	9.00E-03	3.78E-02	2.00E+00	0.00E+00	2.65E-01	3.03E-01	5.84E+00	5.18E-02	0.0%
Magnesium	2.53E+03	2.00E-01	1.04E+02	1.00E+00	0.00E+00	3.27E+01	1.36E+02	No TRV	No TRV	No HQ
Mercury	3.60E-02	1.80E-01	1.33E-03	3.40E-01	0.00E+00	4.65E-04	1.79E-03	9.59E-01	1.87E-03	0.0%
Nickel	2.23E+01	1.20E-02	5.49E-02	2.30E-01	0.00E+00	2.88E-01	3.43E-01	2.92E+01	1.17E-02	0.0%
Potassium	1.36E+03	2.00E-01	5.58E+01	1.00E+00	0.00E+00	1.76E+01	7.33E+01	No TRV	No TRV	No HQ
Selenium	1.39E+00	5.00E-03	1.43E-03	7.60E-01	0.00E+00	1.80E-02	1.94E-02	1.46E-01	1.33E-01	0.1%
Silver	8.13E-01	8.00E-02	1.33E-02	1.50E-01	0.00E+00	1.05E-02	2.38E-02	No TRV	No TRV	No HQ
Sodium	3.48E+01	1.50E-02	1.07E-01	1.00E+00	0.00E+00	4.49E-01	5.56E-01	No TRV	No TRV	No HQ
Thallium	3.28E-01	8.00E-04	5.38E-05	1.00E+00	0.00E+00	4.23E-03	4.29E-03	5.46E-03	7.85E-01	0.3%
Zinc	6.67E+01	3.00E-01	4.10E+00	1.80E+00	0.00E+00	8.61E-01	4.96E+00	1.17E+02	4.25E-02	0.0%
Explosives										
1,3,5-Trinitrobenz	8.50E-02	1.00E+00	1.74E-02	1.00E+00	0.00E+00	1.10E-03	1.85E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzen	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotolu	1.10E+00	1.00E+00	2.26E-01	1.00E+00	0.00E+00	1.42E-02	2.40E-01	1.17E+00	2.05E-01	0.1%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	5.11E-01	4.76E-03	0.0%
2-Nitrotoluene	7.40E-02	1.00E+00	1.52E-02	1.00E+00	0.00E+00	9.56E-04	1.61E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	9.10E-02	1.00E+00	1.87E-02	1.00E+00	0.00E+00	1.18E-03	1.98E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	6.13E-01	1.00E+00	0.00E+00	3.86E-02	6.52E-01	1.12E+00	5.81E-01	0.3%
Nitrobenzene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	2.38E-01	1.00E+00	0.00E+00	1.50E-02	2.53E-01	2.89E+00	8.74E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%

Appendix Table L-60. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
HI =									2.25E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-61. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	3.12E-01	7.50E-02	0.00E+00	7.81E+00	8.12E+00	2.93E-01	2.77E+01	94.3%
Antimony	3.28E-01	4.00E-02	4.06E-04	5.00E-02	0.00E+00	2.03E-04	6.10E-04	1.90E-02	3.21E-02	0.1%
Arsenic	2.04E+01	8.00E-03	5.06E-03	6.60E-03	0.00E+00	1.26E-02	1.77E-02	1.91E-02	9.26E-01	3.1%
Barium	7.68E+01	3.00E-02	7.14E-02	7.50E-03	0.00E+00	4.76E-02	1.19E-01	1.50E+00	7.94E-02	0.3%
Beryllium	4.10E-01	2.00E-03	2.54E-05	5.00E-02	0.00E+00	2.54E-04	2.80E-04	1.85E-01	1.51E-03	0.0%
Cadmium	6.00E-02	1.10E-01	2.05E-04	1.10E+01	0.00E+00	3.72E-05	2.42E-04	2.71E-01	8.94E-04	0.0%
Calcium	1.29E+04	7.00E-01	2.80E+02	1.00E+00	0.00E+00	8.00E+00	2.88E+02	No TRV	No TRV	No HQ
Chromium	1.74E+01	1.50E-03	8.09E-04	1.60E-01	0.00E+00	1.08E-02	1.16E-02	7.68E+02	1.51E-05	0.0%
Cobalt	8.50E+00	4.00E-03	1.05E-03	1.00E+00	0.00E+00	5.27E-03	6.32E-03	No TRV	No TRV	No HQ
Copper	2.25E+01	8.00E-02	5.58E-02	1.60E-01	0.00E+00	1.40E-02	6.98E-02	4.27E+00	1.63E-02	0.1%
Cyanide	3.28E-01	1.00E+00	1.02E-02	0.00E+00	0.00E+00	2.03E-04	1.04E-02	1.81E+01	5.72E-04	0.0%
Iron	2.56E+04	8.00E-04	6.35E-01	1.00E+00	0.00E+00	1.59E+01	1.65E+01	No TRV	No TRV	No HQ
Lead	2.05E+01	9.00E-03	5.72E-03	2.00E+00	0.00E+00	1.27E-02	1.84E-02	2.24E+00	8.21E-03	0.0%
Magnesium	2.53E+03	2.00E-01	1.57E+01	1.00E+00	0.00E+00	1.57E+00	1.73E+01	No TRV	No TRV	No HQ
Mercury	3.60E-02	1.80E-01	2.01E-04	3.40E-01	0.00E+00	2.23E-05	2.23E-04	3.68E-01	6.06E-04	0.0%
Nickel	2.23E+01	1.20E-02	8.30E-03	2.30E-01	0.00E+00	1.38E-02	2.21E-02	1.12E+01	1.97E-03	0.0%
Potassium	1.36E+03	2.00E-01	8.43E+00	1.00E+00	0.00E+00	8.43E-01	9.28E+00	No TRV	No TRV	No HQ
Selenium	1.39E+00	5.00E-03	2.16E-04	7.60E-01	0.00E+00	8.62E-04	1.08E-03	5.61E-02	1.92E-02	0.1%
Silver	8.13E-01	8.00E-02	2.02E-03	1.50E-01	0.00E+00	5.04E-04	2.52E-03	No TRV	No TRV	No HQ
Sodium	3.48E+01	1.50E-02	1.62E-02	1.00E+00	0.00E+00	2.15E-02	3.77E-02	No TRV	No TRV	No HQ
Thallium	3.28E-01	8.00E-04	8.13E-06	1.00E+00	0.00E+00	2.03E-04	2.11E-04	2.10E-03	1.01E-01	0.3%
Zinc	6.67E+01	3.00E-01	6.20E-01	1.80E+00	0.00E+00	4.14E-02	6.62E-01	4.49E+01	1.47E-02	0.1%
Explosives										
1,3,5-Trinitrobenzene	8.50E-02	1.00E+00	2.64E-03	1.00E+00	0.00E+00	5.27E-05	2.69E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.4%
2,4,6-Trinitrotoluene	1.10E+00	1.00E+00	3.41E-02	1.00E+00	0.00E+00	6.82E-04	3.48E-02	4.49E-01	7.75E-02	0.3%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	1.96E-01	9.03E-04	0.0%
2-Nitrotoluene	7.40E-02	1.00E+00	2.29E-03	1.00E+00	0.00E+00	4.59E-05	2.34E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	9.10E-02	1.00E+00	2.82E-03	1.00E+00	0.00E+00	5.64E-05	2.88E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	9.27E-02	1.00E+00	0.00E+00	1.85E-03	9.45E-02	4.31E-01	2.20E-01	0.7%
Nitrobenzene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	3.60E-02	1.00E+00	0.00E+00	7.19E-04	3.67E-02	1.11E+00	3.30E-02	0.1%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
								HI =	2.94E+01	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-62. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.26E+04	1.30E-04	0.00E+00	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Antimony	3.28E-01	6.00E-03	0.00E+00	4.00E-02	9.55E-04	5.00E-02	7.99E-03	2.39E-02	3.28E-02
Arsenic	2.04E+01	1.20E-03	0.00E+00	8.00E-03	1.19E-02	6.60E-03	6.56E-02	1.49E+00	1.56E+00
Barium	7.68E+01	3.00E-03	0.00E+00	3.00E-02	1.68E-01	7.50E-03	2.81E-01	5.59E+00	6.04E+00
Beryllium	4.10E-01	3.00E-04	0.00E+00	2.00E-03	5.97E-05	5.00E-02	9.99E-03	2.98E-02	3.99E-02
Cadmium	6.00E-02	3.00E-02	0.00E+00	1.10E-01	4.80E-04	1.10E+01	3.22E-01	4.37E-03	3.26E-01
Calcium	1.29E+04	7.00E-02	0.00E+00	7.00E-01	6.57E+02	1.00E+00	6.28E+03	9.39E+02	7.88E+03
Chromium	1.74E+01	9.00E-04	0.00E+00	1.50E-03	1.90E-03	1.60E-01	1.36E+00	1.27E+00	2.62E+00
Cobalt	8.50E+00	1.40E-03	0.00E+00	4.00E-03	2.48E-03	1.00E+00	4.14E+00	6.19E-01	4.76E+00
Copper	2.25E+01	5.00E-02	0.00E+00	8.00E-02	1.31E-01	1.60E-01	1.75E+00	1.64E+00	3.52E+00
Cyanide	3.28E-01	1.00E+00	0.00E+00	1.00E+00	2.39E-02	0.00E+00	0.00E+00	2.39E-02	4.77E-02
Iron	2.56E+04	2.00E-04	0.00E+00	8.00E-04	1.49E+00	1.00E+00	1.25E+04	1.86E+03	1.43E+04
Lead	2.05E+01	1.80E-03	0.00E+00	9.00E-03	1.34E-02	2.00E+00	2.00E+01	1.49E+00	2.15E+01
Magnesium	2.53E+03	1.10E-01	0.00E+00	2.00E-01	3.68E+01	1.00E+00	1.23E+03	1.84E+02	1.45E+03
Mercury	3.60E-02	4.00E-02	0.00E+00	1.80E-01	4.72E-04	3.40E-01	5.96E-03	2.62E-03	9.06E-03
Nickel	2.23E+01	1.20E-02	0.00E+00	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00
Potassium	1.36E+03	1.10E-01	0.00E+00	2.00E-01	1.98E+01	1.00E+00	6.63E+02	9.90E+01	7.81E+02
Selenium	1.39E+00	5.00E-03	0.00E+00	5.00E-03	5.06E-04	7.60E-01	5.15E-01	1.01E-01	6.17E-01
Silver	8.13E-01	2.00E-02	0.00E+00	8.00E-02	4.74E-03	1.50E-01	5.94E-02	5.92E-02	1.23E-01
Sodium	3.48E+01	1.10E-02	0.00E+00	1.50E-02	3.79E-02	1.00E+00	1.69E+01	2.53E+00	1.95E+01
Thallium	3.28E-01	8.00E-05	0.00E+00	8.00E-04	1.91E-05	1.00E+00	1.60E-01	2.39E-02	1.84E-01
Zinc	6.67E+01	1.80E-01	0.00E+00	3.00E-01	1.46E+00	1.80E+00	5.85E+01	4.86E+00	6.48E+01
Explosives									
1,3,5-Trinitrobenzene	8.50E-02	1.00E+00	0.00E+00	1.00E+00	6.19E-03	1.00E+00	4.14E-02	6.19E-03	5.38E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.10E+00	1.00E+00	0.00E+00	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	7.40E-02	1.00E+00	0.00E+00	1.00E+00	5.39E-03	1.00E+00	3.61E-02	5.39E-03	4.68E-02
3-Nitrotoluene	9.10E-02	1.00E+00	0.00E+00	1.00E+00	6.62E-03	1.00E+00	4.43E-02	6.62E-03	5.76E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-62. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	2.03E+01	0.00E+00	2.03E+01	6.68E+01	3.04E-01	6.5%
Antimony	5.00E-02	2.93E-03	3.22E-04	0.00E+00	3.22E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.79E-01	3.07E-02	0.00E+00	3.07E-02	4.98E+00	6.16E-03	0.1%
Barium	7.50E-03	8.09E-02	8.90E-03	0.00E+00	8.90E-03	1.19E+01	7.47E-04	0.0%
Beryllium	5.00E-02	3.56E-03	3.92E-04	0.00E+00	3.92E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.63E-02	1.80E-03	0.00E+00	1.80E-03	1.46E+00	1.23E-03	0.0%
Calcium	1.00E+00	1.41E+04	1.55E+03	0.00E+00	1.55E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.31E+00	1.44E-01	0.00E+00	1.44E-01	1.03E+00	1.41E-01	3.0%
Cobalt	1.00E+00	8.50E+00	9.35E-01	0.00E+00	9.35E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	3.15E+00	3.46E-01	0.00E+00	3.46E-01	3.89E+01	8.88E-03	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.56E+04	2.82E+03	0.00E+00	2.82E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.75E-01	6.33E-02	0.00E+00	6.33E-02	6.82E-01	9.28E-02	2.0%
Magnesium	1.00E+00	2.60E+03	2.86E+02	0.00E+00	2.86E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	2.10E-01	2.31E-02	0.00E+00	2.31E-02	2.72E-01	8.51E-02	1.8%
Nickel	3.00E-01	2.22E+00	2.44E-01	0.00E+00	2.44E-01	7.06E+01	3.46E-03	0.1%
Potassium	1.00E+00	1.40E+03	1.53E+02	0.00E+00	1.53E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	8.26E-01	9.09E-02	0.00E+00	9.09E-02	4.85E-01	1.87E-01	4.0%
Silver	1.50E-01	3.30E-02	3.64E-03	0.00E+00	3.64E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.48E+01	3.83E+00	0.00E+00	3.83E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.28E-01	3.61E-02	0.00E+00	3.61E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.79E+02	6.36E+01	0.00E+00	6.36E+01	1.66E+01	3.84E+00	82.2%
1,3,5-Trinitrobenzene	1.00E+00	9.61E-02	1.06E-02	0.00E+00	1.06E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.24E+00	1.37E-01	0.00E+00	1.37E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.26E-07	0.00E+00	5.26E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	8.36E-02	9.20E-03	0.00E+00	9.20E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.03E-01	1.13E-02	0.00E+00	1.13E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	3.72E-01	0.00E+00	3.72E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.32E-07	0.00E+00	3.32E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.44E-01	0.00E+00	1.44E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	4.67E+00	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-62. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
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SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

AUF-s = Shrew AUF =

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

1.00E+00

4.87E-01

1.10E-01

7.28E-02

Appendix Table L-62. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-63. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.26E+04	1.30E-04	0.00E+00	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Antimony	3.28E-01	6.00E-03	0.00E+00	4.00E-02	9.55E-04	5.00E-02	7.99E-03	2.39E-02	3.28E-02
Arsenic	2.04E+01	1.20E-03	0.00E+00	8.00E-03	1.19E-02	6.60E-03	6.56E-02	1.49E+00	1.56E+00
Barium	7.68E+01	3.00E-03	0.00E+00	3.00E-02	1.68E-01	7.50E-03	2.81E-01	5.59E+00	6.04E+00
Beryllium	4.10E-01	3.00E-04	0.00E+00	2.00E-03	5.97E-05	5.00E-02	9.99E-03	2.98E-02	3.99E-02
Cadmium	6.00E-02	3.00E-02	0.00E+00	1.10E-01	4.80E-04	1.10E+01	3.22E-01	4.37E-03	3.26E-01
Calcium	1.29E+04	7.00E-02	0.00E+00	7.00E-01	6.57E+02	1.00E+00	6.28E+03	9.39E+02	7.88E+03
Chromium	1.74E+01	9.00E-04	0.00E+00	1.50E-03	1.90E-03	1.60E-01	1.36E+00	1.27E+00	2.62E+00
Cobalt	8.50E+00	1.40E-03	0.00E+00	4.00E-03	2.48E-03	1.00E+00	4.14E+00	6.19E-01	4.76E+00
Copper	2.25E+01	5.00E-02	0.00E+00	8.00E-02	1.31E-01	1.60E-01	1.75E+00	1.64E+00	3.52E+00
Cyanide	3.28E-01	1.00E+00	0.00E+00	1.00E+00	2.39E-02	0.00E+00	0.00E+00	2.39E-02	4.77E-02
Iron	2.56E+04	2.00E-04	0.00E+00	8.00E-04	1.49E+00	1.00E+00	1.25E+04	1.86E+03	1.43E+04
Lead	2.05E+01	1.80E-03	0.00E+00	9.00E-03	1.34E-02	2.00E+00	2.00E+01	1.49E+00	2.15E+01
Magnesium	2.53E+03	1.10E-01	0.00E+00	2.00E-01	3.68E+01	1.00E+00	1.23E+03	1.84E+02	1.45E+03
Mercury	3.60E-02	4.00E-02	0.00E+00	1.80E-01	4.72E-04	3.40E-01	5.96E-03	2.62E-03	9.06E-03
Nickel	2.23E+01	1.20E-02	0.00E+00	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00
Potassium	1.36E+03	1.10E-01	0.00E+00	2.00E-01	1.98E+01	1.00E+00	6.63E+02	9.90E+01	7.81E+02
Selenium	1.39E+00	5.00E-03	0.00E+00	5.00E-03	5.06E-04	7.60E-01	5.15E-01	1.01E-01	6.17E-01
Silver	8.13E-01	2.00E-02	0.00E+00	8.00E-02	4.74E-03	1.50E-01	5.94E-02	5.92E-02	1.23E-01
Sodium	3.48E+01	1.10E-02	0.00E+00	1.50E-02	3.79E-02	1.00E+00	1.69E+01	2.53E+00	1.95E+01
Thallium	3.28E-01	8.00E-05	0.00E+00	8.00E-04	1.91E-05	1.00E+00	1.60E-01	2.39E-02	1.84E-01
Zinc	6.67E+01	1.80E-01	0.00E+00	3.00E-01	1.46E+00	1.80E+00	5.85E+01	4.86E+00	6.48E+01
Explosives									
1,3,5-Trinitrobenzen	8.50E-02	1.00E+00	0.00E+00	1.00E+00	6.19E-03	1.00E+00	4.14E-02	6.19E-03	5.38E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.10E+00	1.00E+00	0.00E+00	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	7.40E-02	1.00E+00	0.00E+00	1.00E+00	5.39E-03	1.00E+00	3.61E-02	5.39E-03	4.68E-02
3-Nitrotoluene	9.10E-02	1.00E+00	0.00E+00	1.00E+00	6.62E-03	1.00E+00	4.43E-02	6.62E-03	5.76E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

Appendix Table L-63. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	2.31E+01	0.00E+00	2.31E+01	8.33E+01	2.77E-01	6.5%
Antimony	5.00E-02	2.93E-03	3.66E-04	0.00E+00	3.66E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.79E-01	3.49E-02	0.00E+00	3.49E-02	6.22E+00	5.61E-03	0.1%
Barium	7.50E-03	8.09E-02	1.01E-02	0.00E+00	1.01E-02	1.49E+01	6.80E-04	0.0%
Beryllium	5.00E-02	3.56E-03	4.45E-04	0.00E+00	4.45E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.63E-02	2.04E-03	0.00E+00	2.04E-03	1.82E+00	1.12E-03	0.0%
Calcium	1.00E+00	1.41E+04	1.76E+03	0.00E+00	1.76E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.31E+00	1.64E-01	0.00E+00	1.64E-01	1.28E+00	1.28E-01	3.0%
Cobalt	1.00E+00	8.50E+00	1.06E+00	0.00E+00	1.06E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	3.15E+00	3.93E-01	0.00E+00	3.93E-01	4.86E+01	8.09E-03	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.56E+04	3.20E+03	0.00E+00	3.20E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.75E-01	7.19E-02	0.00E+00	7.19E-02	8.51E-01	8.45E-02	2.0%
Magnesium	1.00E+00	2.60E+03	3.24E+02	0.00E+00	3.24E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	2.10E-01	2.63E-02	0.00E+00	2.63E-02	3.39E-01	7.75E-02	1.8%
Nickel	3.00E-01	2.22E+00	2.77E-01	0.00E+00	2.77E-01	8.81E+01	3.15E-03	0.1%
Potassium	1.00E+00	1.40E+03	1.74E+02	0.00E+00	1.74E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	8.26E-01	1.03E-01	0.00E+00	1.03E-01	6.05E-01	1.71E-01	4.0%
Silver	1.50E-01	3.30E-02	4.13E-03	0.00E+00	4.13E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.48E+01	4.35E+00	0.00E+00	4.35E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.28E-01	4.10E-02	0.00E+00	4.10E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.79E+02	7.23E+01	0.00E+00	7.23E+01	2.07E+01	3.50E+00	82.2%
1,3,5-Trinitrobenzene	1.00E+00	9.61E-02	1.20E-02	0.00E+00	1.20E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.24E+00	1.55E-01	0.00E+00	1.55E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.98E-07	0.00E+00	5.98E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	8.36E-02	1.05E-02	0.00E+00	1.05E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.03E-01	1.29E-02	0.00E+00	1.29E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	4.22E-01	0.00E+00	4.22E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.78E-07	0.00E+00	3.78E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.64E-01	0.00E+00	1.64E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ

Appendix Table L-63. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kg) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-63. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} × BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs × I _A × AUF	ADDS (mg/kgBW/d) EPC × IS × AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H × 100
HI = 4.25E+00								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-64. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.26E+04	1.30E-04	5.20E-03	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Antimony	3.28E-01	6.00E-03	6.24E-06	4.00E-02	9.55E-04	5.00E-02	7.99E-03	2.39E-02	3.28E-02
Arsenic	2.04E+01	1.20E-03	7.77E-05	8.00E-03	1.19E-02	6.60E-03	6.56E-02	1.49E+00	1.56E+00
Barium	7.68E+01	3.00E-03	7.31E-04	3.00E-02	1.68E-01	7.50E-03	2.81E-01	5.59E+00	6.04E+00
Beryllium	4.10E-01	3.00E-04	3.90E-07	2.00E-03	5.97E-05	5.00E-02	9.99E-03	2.98E-02	3.99E-02
Cadmium	6.00E-02	3.00E-02	5.71E-06	1.10E-01	4.80E-04	1.10E+01	3.22E-01	4.37E-03	3.26E-01
Calcium	1.29E+04	7.00E-02	2.87E+00	7.00E-01	6.57E+02	1.00E+00	6.28E+03	9.39E+02	7.88E+03
Chromium	1.74E+01	9.00E-04	4.97E-05	1.50E-03	1.90E-03	1.60E-01	1.36E+00	1.27E+00	2.62E+00
Cobalt	8.50E+00	1.40E-03	3.78E-05	4.00E-03	2.48E-03	1.00E+00	4.14E+00	6.19E-01	4.76E+00
Copper	2.25E+01	5.00E-02	3.57E-03	8.00E-02	1.31E-01	1.60E-01	1.75E+00	1.64E+00	3.52E+00
Cyanide	3.28E-01	1.00E+00	1.04E-03	1.00E+00	2.39E-02	0.00E+00	0.00E+00	2.39E-02	4.77E-02
Iron	2.56E+04	2.00E-04	1.63E-02	8.00E-04	1.49E+00	1.00E+00	1.25E+04	1.86E+03	1.43E+04
Lead	2.05E+01	1.80E-03	1.17E-04	9.00E-03	1.34E-02	2.00E+00	2.00E+01	1.49E+00	2.15E+01
Magnesium	2.53E+03	1.10E-01	8.83E-01	2.00E-01	3.68E+01	1.00E+00	1.23E+03	1.84E+02	1.45E+03
Mercury	3.60E-02	4.00E-02	4.57E-06	1.80E-01	4.72E-04	3.40E-01	5.96E-03	2.62E-03	9.06E-03
Nickel	2.23E+01	1.20E-02	8.49E-04	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00
Potassium	1.36E+03	1.10E-01	4.75E-01	2.00E-01	1.98E+01	1.00E+00	6.63E+02	9.90E+01	7.81E+02
Selenium	1.39E+00	5.00E-03	2.21E-05	5.00E-03	5.06E-04	7.60E-01	5.15E-01	1.01E-01	6.17E-01
Silver	8.13E-01	2.00E-02	5.16E-05	8.00E-02	4.74E-03	1.50E-01	5.94E-02	5.92E-02	1.23E-01
Sodium	3.48E+01	1.10E-02	1.21E-03	1.50E-02	3.79E-02	1.00E+00	1.69E+01	2.53E+00	1.95E+01
Thallium	3.28E-01	8.00E-05	8.32E-08	8.00E-04	1.91E-05	1.00E+00	1.60E-01	2.39E-02	1.84E-01
Zinc	6.67E+01	1.80E-01	3.81E-02	3.00E-01	1.46E+00	1.80E+00	5.85E+01	4.86E+00	6.48E+01
Explosives									
1,3,5-Trinitrobenzene	8.50E-02	1.00E+00	2.70E-04	1.00E+00	6.19E-03	1.00E+00	4.14E-02	6.19E-03	5.38E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.10E+00	1.00E+00	3.49E-03	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	7.40E-02	1.00E+00	2.35E-04	1.00E+00	5.39E-03	1.00E+00	3.61E-02	5.39E-03	4.68E-02
3-Nitrotoluene	9.10E-02	1.00E+00	2.89E-04	1.00E+00	6.62E-03	1.00E+00	4.43E-02	6.62E-03	5.76E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	9.49E-03	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	3.68E-03	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01

Appendix Table L-64. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	1.22E+01	2.43E+01	3.65E+01	5.46E-01	6.69E+01	88.0%
Antimony	5.00E-02	2.93E-03	1.93E-04	6.33E-04	8.32E-04	3.54E-02	2.35E-02	0.0%
Arsenic	1.00E-01	2.79E-01	1.84E-02	3.94E-02	5.79E-02	3.56E-02	1.62E+00	2.1%
Barium	7.50E-03	8.09E-02	5.32E-03	1.48E-01	1.54E-01	2.79E+00	5.53E-02	0.1%
Beryllium	5.00E-02	3.56E-03	2.34E-04	7.92E-04	1.03E-03	3.45E-01	2.98E-03	0.0%
Cadmium	2.80E-02	1.63E-02	1.07E-03	1.16E-04	1.20E-03	5.04E-01	2.37E-03	0.0%
Calcium	1.00E+00	1.41E+04	9.26E+02	2.49E+01	9.54E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.31E+00	8.64E-02	3.36E-02	1.20E-01	1.43E+03	8.39E-05	0.0%
Cobalt	1.00E+00	8.50E+00	5.60E-01	1.64E-02	5.76E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	3.15E+00	2.07E-01	4.35E-02	2.54E-01	7.96E+00	3.19E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.33E-04	1.67E-03	3.37E+01	4.96E-05	0.0%
Iron	1.00E+00	2.56E+04	1.69E+03	4.95E+01	1.73E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.75E-01	3.79E-02	3.96E-02	7.76E-02	4.18E+00	1.86E-02	0.0%
Magnesium	1.00E+00	2.60E+03	1.71E+02	4.89E+00	1.77E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	2.10E-01	1.38E-02	6.96E-05	1.39E-02	6.86E-01	2.03E-02	0.0%
Nickel	3.00E-01	2.22E+00	1.46E-01	4.31E-02	1.90E-01	2.09E+01	9.09E-03	0.0%
Potassium	1.00E+00	1.40E+03	9.19E+01	2.63E+00	9.50E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	8.26E-01	5.44E-02	2.69E-03	5.71E-02	1.05E-01	5.46E-01	0.7%
Silver	1.50E-01	3.30E-02	2.18E-03	1.57E-03	3.80E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.48E+01	2.29E+00	6.71E-02	2.36E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.28E-01	2.16E-02	6.33E-04	2.22E-02	3.91E-03	5.68E+00	7.5%
Zinc	5.00E+00	5.79E+02	3.81E+01	1.29E-01	3.83E+01	8.36E+01	4.57E-01	0.6%
1,3,5-Trinitrobenzene	1.00E+00	9.61E-02	6.32E-03	1.64E-04	6.76E-03	1.68E+00	4.02E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	1.24E+00	8.18E-02	2.13E-03	8.74E-02	8.36E-01	1.05E-01	0.1%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.78E-06	3.15E-07	2.76E-04	2.86E-04	3.66E-01	7.81E-04	0.0%
2-Nitrotoluene	1.00E+00	8.36E-02	5.50E-03	1.43E-04	5.88E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.03E-01	6.77E-03	1.76E-04	7.23E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	2.22E-01	5.78E-03	2.38E-01	8.02E-01	2.96E-01	0.4%
Nitrobenzene	1.20E-04	3.02E-06	1.99E-07	2.76E-04	2.86E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	8.63E-02	2.24E-03	9.22E-02	2.07E+00	4.45E-02	0.1%

Appendix Table L-64. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 5

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 6.58E-02

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-64. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.1%
HI = 7.60E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-65. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.26E+04	5.00E+01	2.52E+02	91.0%
Antimony	3.21E-01	5.00E+00	6.43E-02	0.0%
Arsenic	1.65E+01	1.00E+01	1.65E+00	0.6%
Barium	7.55E+01	5.00E+02	1.51E-01	0.1%
Beryllium	2.93E-01	1.00E+01	2.93E-02	0.0%
Cadmium	4.11E-01	5.00E-01	8.22E-01	0.3%
Calcium	4.66E+03	No TRV	No TRV	No HQ
Chromium	1.61E+01	1.00E+00	1.61E+01	5.8%
Cobalt	8.90E+00	2.00E+01	4.45E-01	0.2%
Copper	1.73E+01	1.00E+02	1.73E-01	0.1%
Cyanide	3.21E-01	No TRV	No TRV	No HQ
Iron	2.12E+04	No TRV	No TRV	No HQ
Lead	1.95E+01	5.00E+01	3.90E-01	0.1%
Magnesium	2.34E+03	No TRV	No TRV	No HQ
Mercury	2.50E-01	3.00E-01	8.33E-01	0.3%
Nickel	1.97E+01	3.00E+01	6.57E-01	0.2%
Potassium	1.04E+03	No TRV	No TRV	No HQ
Selenium	1.31E+00	1.00E+00	1.31E+00	0.5%
Silver	8.12E-01	2.00E+00	4.06E-01	0.1%
Sodium	2.45E+01	No TRV	No TRV	No HQ
Thallium	3.21E-01	1.00E+00	3.21E-01	0.1%
Zinc	6.72E+01	5.00E+01	1.34E+00	0.5%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	2.70E+00	3.00E+01	9.00E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+02	1.16E-02	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI = 2.77E+02				

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-66. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 6**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.26E+04	No TRV	No TRV	No HQ
Antimony	3.21E-01	No TRV	No TRV	No HQ
Arsenic	1.65E+01	6.00E+01	2.75E-01	0.7%
Barium	7.55E+01	No TRV	No TRV	No HQ
Beryllium	2.93E-01	No TRV	No TRV	No HQ
Cadmium	4.11E-01	2.00E+01	2.06E-02	0.0%
Calcium	4.66E+03	No TRV	No TRV	No HQ
Chromium	1.61E+01	4.00E-01	4.03E+01	97.3%
Cobalt	8.90E+00	No TRV	No TRV	No HQ
Copper	1.73E+01	5.00E+01	3.46E-01	0.8%
Cyanide	3.21E-01	No TRV	No TRV	No HQ
Iron	2.12E+04	No TRV	No TRV	No HQ
Lead	1.95E+01	5.00E+02	3.90E-02	0.1%
Magnesium	2.34E+03	No TRV	No TRV	No HQ
Mercury	2.50E-01	No TRV	No TRV	No HQ
Nickel	1.97E+01	2.00E+02	9.85E-02	0.2%
Potassium	1.04E+03	No TRV	No TRV	No HQ
Selenium	1.31E+00	No TRV	No TRV	No HQ
Silver	8.12E-01	No TRV	No TRV	No HQ
Sodium	2.45E+01	No TRV	No TRV	No HQ
Thallium	3.21E-01	No TRV	No TRV	No HQ
Zinc	6.72E+01	2.00E+02	3.36E-01	0.8%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	2.70E+00	1.40E+02	1.93E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				4.14E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-67. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03	2.22E+00	6.20E+02	95.9%
Antimony	3.21E-01	4.00E-02	9.36E-04	5.00E-02	7.83E-03	2.34E-02	3.22E-02	1.44E-01	2.23E-01	0.0%
Arsenic	1.65E+01	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00	1.45E-01	8.70E+00	1.3%
Barium	7.55E+01	3.00E-02	1.65E-01	7.50E-03	2.76E-01	5.50E+00	5.94E+00	1.14E+01	5.22E-01	0.1%
Beryllium	2.93E-01	2.00E-03	4.26E-05	5.00E-02	7.14E-03	2.13E-02	2.85E-02	1.41E+00	2.03E-02	0.0%
Cadmium	4.11E-01	1.10E-01	3.29E-03	1.10E+01	2.20E+00	2.99E-02	2.24E+00	2.05E+00	1.09E+00	0.2%
Calcium	4.66E+03	7.00E-01	2.37E+02	1.00E+00	2.27E+03	3.39E+02	2.85E+03	No TRV	No TRV	No HQ
Chromium	1.61E+01	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00	5.83E+03	4.17E-04	0.0%
Cobalt	8.90E+00	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00	No TRV	No TRV	No HQ
Copper	1.73E+01	8.00E-02	1.01E-01	1.60E-01	1.35E+00	1.26E+00	2.71E+00	3.24E+01	8.35E-02	0.0%
Cyanide	3.21E-01	1.00E+00	2.34E-02	0.00E+00	0.00E+00	2.34E-02	4.68E-02	1.38E+02	3.40E-04	0.0%
Iron	2.12E+04	8.00E-04	1.23E+00	1.00E+00	1.03E+04	1.54E+03	1.19E+04	No TRV	No TRV	No HQ
Lead	1.95E+01	9.00E-03	1.28E-02	2.00E+00	1.90E+01	1.42E+00	2.04E+01	1.70E+01	1.20E+00	0.2%
Magnesium	2.34E+03	2.00E-01	3.41E+01	1.00E+00	1.14E+03	1.70E+02	1.34E+03	No TRV	No TRV	No HQ
Mercury	2.50E-01	1.80E-01	3.28E-03	3.40E-01	4.14E-02	1.82E-02	6.29E-02	2.80E+00	2.25E-02	0.0%
Nickel	1.97E+01	1.20E-02	1.72E-02	2.30E-01	2.21E+00	1.43E+00	3.66E+00	8.52E+01	4.29E-02	0.0%
Potassium	1.04E+03	2.00E-01	1.51E+01	1.00E+00	5.07E+02	7.57E+01	5.98E+02	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	4.76E-04	7.60E-01	4.84E-01	9.52E-02	5.80E-01	4.26E-01	1.36E+00	0.2%
Silver	8.12E-01	8.00E-02	4.73E-03	1.50E-01	5.93E-02	5.91E-02	1.23E-01	No TRV	No TRV	No HQ
Sodium	2.45E+01	1.50E-02	2.68E-02	1.00E+00	1.19E+01	1.78E+00	1.37E+01	No TRV	No TRV	No HQ
Thallium	3.21E-01	8.00E-04	1.87E-05	1.00E+00	1.57E-01	2.34E-02	1.80E-01	1.59E-02	1.13E+01	1.7%
Zinc	6.72E+01	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01	3.41E+02	1.91E-01	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	2.70E+00	1.00E+00	1.97E-01	1.00E+00	1.32E+00	1.97E-01	1.71E+00	3.41E+00	5.01E-01	0.1%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	1.49E+00	9.46E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00	3.27E+00	5.79E-01	0.1%
Nitrobenzene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01	8.44E+00	8.70E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	6.46E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADDP = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-68. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _p	ADDP (mg/kgBW/d) EPC x SP _p x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	1.30E-04	1.24E+00	7.50E-02	7.18E+02	1.99E+03	2.71E+03	1.29E+02	2.09E+01	38.2%
Antimony	3.21E-01	6.00E-03	1.47E-03	5.00E-02	1.22E-02	5.08E-02	6.45E-02	No TRV	No TRV	No HQ
Arsenic	1.65E+01	1.20E-03	1.50E-02	6.60E-03	8.28E-02	2.61E+00	2.71E+00	9.66E+00	2.80E-01	0.5%
Barium	7.55E+01	3.00E-03	1.72E-01	7.50E-03	4.30E-01	1.19E+01	1.25E+01	2.31E+01	5.43E-01	1.0%
Beryllium	2.93E-01	3.00E-04	6.68E-05	5.00E-02	1.11E-02	4.63E-02	5.75E-02	No TRV	No TRV	No HQ
Cadmium	4.11E-01	3.00E-02	9.37E-03	1.10E+01	3.44E+00	6.50E-02	3.51E+00	2.83E+00	1.24E+00	2.3%
Calcium	4.66E+03	7.00E-02	2.48E+02	1.00E+00	3.54E+03	7.37E+02	4.53E+03	No TRV	No TRV	No HQ
Chromium	1.61E+01	9.00E-04	1.10E-02	1.60E-01	1.96E+00	2.55E+00	4.51E+00	1.99E+00	2.27E+00	4.1%
Cobalt	8.90E+00	1.40E-03	9.47E-03	1.00E+00	6.76E+00	1.41E+00	8.18E+00	No TRV	No TRV	No HQ
Copper	1.73E+01	5.00E-02	6.57E-01	1.60E-01	2.10E+00	2.73E+00	5.50E+00	7.55E+01	7.28E-02	0.1%
Cyanide	3.21E-01	1.00E+00	2.44E-01	0.00E+00	0.00E+00	5.08E-02	2.95E-01	No TRV	No TRV	No HQ
Iron	2.12E+04	2.00E-04	3.22E+00	1.00E+00	1.61E+04	3.35E+03	1.95E+04	No TRV	No TRV	No HQ
Lead	1.95E+01	1.80E-03	2.67E-02	2.00E+00	2.96E+01	3.08E+00	3.27E+01	1.32E+00	2.48E+01	45.1%
Magnesium	2.34E+03	1.10E-01	1.96E+02	1.00E+00	1.78E+03	3.70E+02	2.34E+03	No TRV	No TRV	No HQ
Mercury	2.50E-01	4.00E-02	7.60E-03	3.40E-01	6.46E-02	3.95E-02	1.12E-01	5.27E-01	1.21E-01	0.4%
Nickel	1.97E+01	1.20E-02	1.80E-01	2.30E-01	3.44E+00	3.11E+00	6.74E+00	1.37E+02	4.92E-02	0.1%
Potassium	1.04E+03	1.10E-01	8.69E+01	1.00E+00	7.90E+02	1.64E+02	1.04E+03	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	4.97E-03	7.60E-01	7.56E-01	2.07E-01	9.67E-01	9.40E-01	1.03E+00	1.9%
Silver	8.12E-01	2.00E-02	1.23E-02	1.50E-01	9.25E-02	1.28E-01	2.33E-01	No TRV	No TRV	No HQ
Sodium	2.45E+01	1.10E-02	2.05E-01	1.00E+00	1.86E+01	3.87E+00	2.27E+01	No TRV	No TRV	No HQ
Thallium	3.21E-01	8.00E-05	1.95E-05	1.00E+00	2.44E-01	5.08E-02	2.95E-01	No TRV	No TRV	No HQ
Zinc	6.72E+01	1.80E-01	9.19E+00	1.80E+00	9.19E+01	1.06E+01	1.12E+02	3.21E+01	3.48E+00	6.3%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	2.70E+00	1.00E+00	2.05E+00	1.00E+00	2.05E+00	4.27E-01	4.53E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.27E+00	1.00E+00	2.27E+00	4.73E-01	5.02E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.82E-01	1.00E+00	8.82E-01	1.83E-01	1.95E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
									HI =	5.49E+01

EPC = Exposure point concentration
 SP_p = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/ 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-69. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	2.07E+00	7.50E-02	0.00E+00	1.63E+02	1.65E+02	7.63E-01	2.16E+02	96.4%
Antimony	3.21E-01	4.00E-02	2.64E-03	5.00E-02	0.00E+00	4.15E-03	6.79E-03	4.94E-02	1.37E-01	0.1%
Arsenic	1.65E+01	8.00E-03	2.71E-02	6.60E-03	0.00E+00	2.13E-01	2.40E-01	4.98E-02	4.82E+00	2.2%
Barium	7.55E+01	3.00E-02	4.64E-01	7.50E-03	0.00E+00	9.75E-01	1.44E+00	3.90E+00	3.69E-01	0.2%
Beryllium	2.93E-01	2.00E-03	1.20E-04	5.00E-02	0.00E+00	3.78E-03	3.90E-03	4.82E-01	8.10E-03	0.0%
Cadmium	4.11E-01	1.10E-01	9.27E-03	1.10E+01	0.00E+00	5.31E-03	1.46E-02	7.05E-01	2.07E-02	0.0%
Calcium	4.66E+03	7.00E-01	6.69E+02	1.00E+00	0.00E+00	6.02E+01	7.29E+02	No TRV	No TRV	No HQ
Chromium	1.61E+01	1.50E-03	4.95E-03	1.60E-01	0.00E+00	2.08E-01	2.13E-01	2.00E+03	1.06E-04	0.0%
Cobalt	8.90E+00	4.00E-03	7.30E-03	1.00E+00	0.00E+00	1.15E-01	1.22E-01	No TRV	No TRV	No HQ
Copper	1.73E+01	8.00E-02	2.84E-01	1.60E-01	0.00E+00	2.23E-01	5.07E-01	1.11E+01	4.56E-02	0.0%
Cyanide	3.21E-01	1.00E+00	6.59E-02	0.00E+00	0.00E+00	4.15E-03	7.00E-02	4.72E+01	1.49E-03	0.0%
Iron	2.12E+04	8.00E-04	3.48E+00	1.00E+00	0.00E+00	2.74E+02	2.77E+02	No TRV	No TRV	No HQ
Lead	1.95E+01	9.00E-03	3.60E-02	2.00E+00	0.00E+00	2.52E-01	2.88E-01	5.84E+00	4.93E-02	0.0%
Magnesium	2.34E+03	2.00E-01	9.59E+01	1.00E+00	0.00E+00	3.02E+01	1.26E+02	No TRV	No TRV	No HQ
Mercury	2.50E-01	1.80E-01	9.23E-03	3.40E-01	0.00E+00	3.23E-03	1.25E-02	9.59E-01	1.30E-02	0.0%
Nickel	1.97E+01	1.20E-02	4.85E-02	2.30E-01	0.00E+00	2.54E-01	3.03E-01	2.92E+01	1.04E-02	0.0%
Potassium	1.04E+03	2.00E-01	4.26E+01	1.00E+00	0.00E+00	1.34E+01	5.61E+01	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	1.34E-03	7.60E-01	0.00E+00	1.69E-02	1.82E-02	1.46E-01	1.25E-01	0.1%
Silver	8.12E-01	8.00E-02	1.33E-02	1.50E-01	0.00E+00	1.05E-02	2.38E-02	No TRV	No TRV	No HQ
Sodium	2.45E+01	1.50E-02	7.53E-02	1.00E+00	0.00E+00	3.16E-01	3.92E-01	No TRV	No TRV	No HQ
Thallium	3.21E-01	8.00E-04	5.27E-05	1.00E+00	0.00E+00	4.15E-03	4.20E-03	5.46E-03	7.70E-01	0.3%
Zinc	6.72E+01	3.00E-01	4.13E+00	1.80E+00	0.00E+00	8.67E-01	5.00E+00	1.17E+02	4.28E-02	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	2.70E+00	1.00E+00	5.54E-01	1.00E+00	0.00E+00	3.49E-02	5.88E-01	1.17E+00	5.03E-01	0.2%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	5.11E-01	4.76E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	6.13E-01	1.00E+00	0.00E+00	3.86E-02	6.52E-01	1.12E+00	5.81E-01	0.3%
Nitrobenzene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	2.38E-01	1.00E+00	0.00E+00	1.50E-02	2.53E-01	2.89E+00	8.74E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	2.24E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-70. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	3.12E-01	7.50E-02	0.00E+00	7.81E+00	8.12E+00	2.93E-01	2.77E+01	94.5%
Antimony	3.21E-01	4.00E-02	3.99E-04	5.00E-02	0.00E+00	1.99E-04	5.98E-04	1.90E-02	3.15E-02	0.1%
Arsenic	1.65E+01	8.00E-03	4.09E-03	6.60E-03	0.00E+00	1.02E-02	1.43E-02	1.91E-02	7.49E-01	2.6%
Barium	7.55E+01	3.00E-02	7.02E-02	7.50E-03	0.00E+00	4.68E-02	1.17E-01	1.50E+00	7.81E-02	0.3%
Beryllium	2.93E-01	2.00E-03	1.82E-05	5.00E-02	0.00E+00	1.82E-04	2.00E-04	1.85E-01	1.08E-03	0.0%
Cadmium	4.11E-01	1.10E-01	1.40E-03	1.10E+01	0.00E+00	2.55E-04	1.66E-03	2.71E-01	6.12E-03	0.0%
Calcium	4.66E+03	7.00E-01	1.01E+02	1.00E+00	0.00E+00	2.89E+00	1.04E+02	No TRV	No TRV	No HQ
Chromium	1.61E+01	1.50E-03	7.49E-04	1.60E-01	0.00E+00	9.98E-03	1.07E-02	7.68E+02	1.40E-05	0.0%
Cobalt	8.90E+00	4.00E-03	1.10E-03	1.00E+00	0.00E+00	5.52E-03	6.62E-03	No TRV	No TRV	No HQ
Copper	1.73E+01	8.00E-02	4.29E-02	1.60E-01	0.00E+00	1.07E-02	5.36E-02	4.27E+00	1.26E-02	0.0%
Cyanide	3.21E-01	1.00E+00	9.96E-03	0.00E+00	0.00E+00	1.99E-06	1.02E-02	1.81E+01	5.61E-04	0.0%
Iron	2.12E+04	8.00E-04	5.26E-01	1.00E+00	0.00E+00	1.31E+01	1.37E+01	No TRV	No TRV	No HQ
Lead	1.95E+01	9.00E-03	5.44E-03	2.00E+00	0.00E+00	1.21E-02	1.75E-02	2.24E+00	7.81E-03	0.0%
Magnesium	2.34E+03	2.00E-01	1.45E+01	1.00E+00	0.00E+00	1.45E+00	1.60E+01	No TRV	No TRV	No HQ
Mercury	2.50E-01	1.80E-01	1.40E-03	3.40E-01	0.00E+00	1.55E-04	1.55E-03	3.68E-01	4.21E-03	0.0%
Nickel	1.97E+01	1.20E-02	7.33E-03	2.30E-01	0.00E+00	1.22E-02	1.95E-02	1.12E+01	1.74E-03	0.0%
Potassium	1.04E+03	2.00E-01	6.45E+00	1.00E+00	0.00E+00	6.45E-01	7.09E+00	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	2.03E-04	7.60E-01	0.00E+00	8.11E-04	1.01E-03	5.61E-02	1.81E-02	0.1%
Silver	8.12E-01	8.00E-02	2.01E-03	1.50E-01	0.00E+00	5.03E-04	2.52E-03	No TRV	No TRV	No HQ
Sodium	2.45E+01	1.50E-02	1.14E-02	1.00E+00	0.00E+00	1.52E-02	2.66E-02	No TRV	No TRV	No HQ
Thallium	3.21E-01	8.00E-04	7.97E-06	1.00E+00	0.00E+00	1.99E-04	2.07E-04	2.10E-03	9.88E-02	0.3%
Zinc	6.72E+01	3.00E-01	6.25E-01	1.80E+00	0.00E+00	4.16E-02	6.66E-01	4.49E+01	1.48E-02	0.1%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.4%
2,4,6-Trinitrotoluene	2.70E+00	1.00E+00	8.37E-02	1.00E+00	0.00E+00	1.67E-03	8.54E-02	4.49E-01	1.90E-01	0.6%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	1.96E-01	9.03E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	9.27E-02	1.00E+00	0.00E+00	1.85E-03	9.45E-02	4.31E-01	2.20E-01	0.7%
Nitrobenzene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	3.60E-02	1.00E+00	0.00E+00	7.19E-04	3.67E-02	1.11E+00	3.30E-02	0.1%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
								HI = 2.94E+01		

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-71. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.26E+04	1.30E-04	0.00E+00	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Antimony	3.21E-01	6.00E-03	0.00E+00	4.00E-02	9.36E-04	5.00E-02	7.83E-03	2.34E-02	3.22E-02
Arsenic	1.65E+01	1.20E-03	0.00E+00	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00
Barium	7.55E+01	3.00E-03	0.00E+00	3.00E-02	1.65E-01	7.50E-03	2.76E-01	5.50E+00	5.94E+00
Beryllium	2.93E-01	3.00E-04	0.00E+00	2.00E-03	4.26E-05	5.00E-02	7.14E-03	2.13E-02	2.85E-02
Cadmium	4.11E-01	3.00E-02	0.00E+00	1.10E-01	3.29E-03	1.10E+01	2.20E+00	2.99E-02	2.24E+00
Calcium	4.66E+03	7.00E-02	0.00E+00	7.00E-01	2.37E+02	1.00E+00	2.27E+03	3.39E+02	2.85E+03
Chromium	1.61E+01	9.00E-04	0.00E+00	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00
Cobalt	8.90E+00	1.40E-03	0.00E+00	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00
Copper	1.73E+01	5.00E-02	0.00E+00	8.00E-02	1.01E-01	1.60E-01	1.35E+00	1.26E+00	2.71E+00
Cyanide	3.21E-01	1.00E+00	0.00E+00	1.00E+00	2.34E-02	0.00E+00	0.00E+00	2.34E-02	4.68E-02
Iron	2.12E+04	2.00E-04	0.00E+00	8.00E-04	1.23E+00	1.00E+00	1.03E+04	1.54E+03	1.19E+04
Lead	1.95E+01	1.80E-03	0.00E+00	9.00E-03	1.28E-02	2.00E+00	1.90E+01	1.42E+00	2.04E+01
Magnesium	2.34E+03	1.10E-01	0.00E+00	2.00E-01	3.41E+01	1.00E+00	1.14E+03	1.70E+02	1.34E+03
Mercury	2.50E-01	4.00E-02	0.00E+00	1.80E-01	3.28E-03	3.40E-01	4.14E-02	1.82E-02	6.29E-02
Nickel	1.97E+01	1.20E-02	0.00E+00	1.20E-02	1.72E-02	2.30E-01	2.21E+00	1.43E+00	3.66E+00
Potassium	1.04E+03	1.10E-01	0.00E+00	2.00E-01	1.51E+01	1.00E+00	5.07E+02	7.57E+01	5.98E+02
Selenium	1.31E+00	5.00E-03	0.00E+00	5.00E-03	4.76E-04	7.60E-01	4.84E-01	9.52E-02	5.80E-01
Silver	8.12E-01	2.00E-02	0.00E+00	8.00E-02	4.73E-03	1.50E-01	5.93E-02	5.91E-02	1.23E-01
Sodium	2.45E+01	1.10E-02	0.00E+00	1.50E-02	2.68E-02	1.00E+00	1.19E+01	1.78E+00	1.37E+01
Thallium	3.21E-01	8.00E-05	0.00E+00	8.00E-04	1.87E-05	1.00E+00	1.57E-01	2.34E-02	1.80E-01
Zinc	6.72E+01	1.80E-01	0.00E+00	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	2.70E+00	1.00E+00	0.00E+00	1.00E+00	1.97E-01	1.00E+00	1.32E+00	1.97E-01	1.71E+00
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-71. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	2.03E+01	0.00E+00	2.03E+01	6.68E+01	3.04E-01	5.9%
Antimony	5.00E-02	2.87E-03	3.16E-04	0.00E+00	3.16E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.26E-01	2.48E-02	0.00E+00	2.48E-02	4.98E+00	4.98E-03	0.1%
Barium	7.50E-03	7.95E-02	8.75E-03	0.00E+00	8.75E-03	1.19E+01	7.34E-04	0.0%
Beryllium	5.00E-02	2.54E-03	2.80E-04	0.00E+00	2.80E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.12E-01	1.23E-02	0.00E+00	1.23E-02	1.46E+00	8.44E-03	0.2%
Calcium	1.00E+00	5.08E+03	5.59E+02	0.00E+00	5.59E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.21E+00	1.34E-01	0.00E+00	1.34E-01	1.03E+00	1.30E-01	2.5%
Cobalt	1.00E+00	8.90E+00	9.80E-01	0.00E+00	9.80E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.42E+00	2.66E-01	0.00E+00	2.66E-01	3.89E+01	6.83E-03	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.12E+04	2.33E+03	0.00E+00	2.33E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.47E-01	6.02E-02	0.00E+00	6.02E-02	6.82E-01	8.83E-02	1.7%
Magnesium	1.00E+00	2.40E+03	2.64E+02	0.00E+00	2.64E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.46E+00	1.61E-01	0.00E+00	1.61E-01	2.72E-01	5.91E-01	11.4%
Nickel	3.00E-01	1.96E+00	2.16E-01	0.00E+00	2.16E-01	7.06E+01	3.05E-03	0.1%
Potassium	1.00E+00	1.07E+03	1.17E+02	0.00E+00	1.17E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.77E-01	8.54E-02	0.00E+00	8.54E-02	4.85E-01	1.76E-01	3.4%
Silver	1.50E-01	3.30E-02	3.63E-03	0.00E+00	3.63E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.45E+01	2.70E+00	0.00E+00	2.70E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.21E-01	3.54E-02	0.00E+00	3.54E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.83E+02	6.41E+01	0.00E+00	6.41E+01	1.66E+01	3.87E+00	74.6%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.05E+00	3.36E-01	0.00E+00	3.36E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.26E-07	0.00E+00	5.26E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	3.72E-01	0.00E+00	3.72E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.32E-07	0.00E+00	3.32E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.44E-01	0.00E+00	1.44E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	5.18E+00	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-71. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
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SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-71. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-72. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.26E+04	1.30E-04	0.00E+00	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Antimony	3.21E-01	6.00E-03	0.00E+00	4.00E-02	9.36E-04	5.00E-02	7.83E-03	2.34E-02	3.22E-02
Arsenic	1.65E+01	1.20E-03	0.00E+00	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00
Barium	7.55E+01	3.00E-03	0.00E+00	3.00E-02	1.65E-01	7.50E-03	2.76E-01	5.50E+00	5.94E+00
Beryllium	2.93E-01	3.00E-04	0.00E+00	2.00E-03	4.26E-05	5.00E-02	7.14E-03	2.13E-02	2.85E-02
Cadmium	4.11E-01	3.00E-02	0.00E+00	1.10E-01	3.29E-03	1.10E+01	2.20E+00	2.99E-02	2.24E+00
Calcium	4.66E+03	7.00E-02	0.00E+00	7.00E-01	2.37E+02	1.00E+00	2.27E+03	3.39E+02	2.85E+03
Chromium	1.61E+01	9.00E-04	0.00E+00	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00
Cobalt	8.90E+00	1.40E-03	0.00E+00	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00
Copper	1.73E+01	5.00E-02	0.00E+00	8.00E-02	1.01E-01	1.60E-01	1.35E+00	1.26E+00	2.71E+00
Cyanide	3.21E-01	1.00E+00	0.00E+00	1.00E+00	2.34E-02	0.00E+00	0.00E+00	2.34E-02	4.68E-02
Iron	2.12E+04	2.00E-04	0.00E+00	8.00E-04	1.23E+00	1.00E+00	1.03E+04	1.54E+03	1.19E+04
Lead	1.95E+01	1.80E-03	0.00E+00	9.00E-03	1.28E-02	2.00E+00	1.90E+01	1.42E+00	2.04E+01
Magnesium	2.34E+03	1.10E-01	0.00E+00	2.00E-01	3.41E+01	1.00E+00	1.14E+03	1.70E+02	1.34E+03
Mercury	2.50E-01	4.00E-02	0.00E+00	1.80E-01	3.28E-03	3.40E-01	4.14E-02	1.82E-02	6.29E-02
Nickel	1.97E+01	1.20E-02	0.00E+00	1.20E-02	1.72E-02	2.30E-01	2.21E+00	1.43E+00	3.66E+00
Potassium	1.04E+03	1.10E-01	0.00E+00	2.00E-01	1.51E+01	1.00E+00	5.07E+02	7.57E+01	5.98E+02
Selenium	1.31E+00	5.00E-03	0.00E+00	5.00E-03	4.76E-04	7.60E-01	4.84E-01	9.52E-02	5.80E-01
Silver	8.12E-01	2.00E-02	0.00E+00	8.00E-02	4.73E-03	1.50E-01	5.93E-02	5.91E-02	1.23E-01
Sodium	2.45E+01	1.10E-02	0.00E+00	1.50E-02	2.68E-02	1.00E+00	1.19E+01	1.78E+00	1.37E+01
Thallium	3.21E-01	8.00E-05	0.00E+00	8.00E-04	1.87E-05	1.00E+00	1.57E-01	2.34E-02	1.80E-01
Zinc	6.72E+01	1.80E-01	0.00E+00	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01
Explosives									
1,3,5-Trinitrobenzen	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	2.70E+00	1.00E+00	0.00E+00	1.00E+00	1.97E-01	1.00E+00	1.32E+00	1.97E-01	1.71E+00
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

Appendix Table L-72. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	2.31E+01	0.00E+00	2.31E+01	8.33E+01	2.77E-01	5.9%
Antimony	5.00E-02	2.87E-03	3.59E-04	0.00E+00	3.59E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.26E-01	2.82E-02	0.00E+00	2.82E-02	6.22E+00	4.54E-03	0.1%
Barium	7.50E-03	7.95E-02	9.94E-03	0.00E+00	9.94E-03	1.49E+01	6.69E-04	0.0%
Beryllium	5.00E-02	2.54E-03	3.18E-04	0.00E+00	3.18E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.12E-01	1.40E-02	0.00E+00	1.40E-02	1.82E+00	7.69E-03	0.2%
Calcium	1.00E+00	5.08E+03	6.36E+02	0.00E+00	6.36E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.21E+00	1.52E-01	0.00E+00	1.52E-01	1.28E+00	1.19E-01	2.5%
Cobalt	1.00E+00	8.90E+00	1.11E+00	0.00E+00	1.11E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	2.42E+00	3.02E-01	0.00E+00	3.02E-01	4.86E+01	6.22E-03	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.12E+04	2.65E+03	0.00E+00	2.65E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.47E-01	6.84E-02	0.00E+00	6.84E-02	8.51E-01	8.04E-02	1.7%
Magnesium	1.00E+00	2.40E+03	3.00E+02	0.00E+00	3.00E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.46E+00	1.82E-01	0.00E+00	1.82E-01	3.39E-01	5.38E-01	11.4%
Nickel	3.00E-01	1.96E+00	2.45E-01	0.00E+00	2.45E-01	8.81E+01	2.78E-03	0.1%
Potassium	1.00E+00	1.07E+03	1.33E+02	0.00E+00	1.33E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.77E-01	9.71E-02	0.00E+00	9.71E-02	6.05E-01	1.60E-01	3.4%
Silver	1.50E-01	3.30E-02	4.12E-03	0.00E+00	4.12E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.45E+01	3.07E+00	0.00E+00	3.07E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.21E-01	4.02E-02	0.00E+00	4.02E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.83E+02	7.28E+01	0.00E+00	7.28E+01	2.07E+01	3.52E+00	74.6%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.05E+00	3.81E-01	0.00E+00	3.81E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.98E-07	0.00E+00	5.98E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	4.22E-01	0.00E+00	4.22E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.78E-07	0.00E+00	3.78E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.64E-01	0.00E+00	1.64E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ

Appendix Table L-72. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kg) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-72. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
HI = 4.72E+00								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-73. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.26E+04	1.30E-04	5.20E-03	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Antimony	3.21E-01	6.00E-03	6.12E-06	4.00E-02	9.36E-04	5.00E-02	7.83E-03	2.34E-02	3.22E-02
Arsenic	1.65E+01	1.20E-03	6.28E-05	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00
Barium	7.55E+01	3.00E-03	7.19E-04	3.00E-02	1.65E-01	7.50E-03	2.76E-01	5.50E+00	5.94E+00
Beryllium	2.93E-01	3.00E-04	2.79E-07	2.00E-03	4.26E-05	5.00E-02	7.14E-03	2.13E-02	2.85E-02
Cadmium	4.11E-01	3.00E-02	3.91E-05	1.10E-01	3.29E-03	1.10E+01	2.20E+00	2.99E-02	2.24E+00
Calcium	4.66E+03	7.00E-02	1.04E+00	7.00E-01	2.37E+02	1.00E+00	2.27E+03	3.39E+02	2.85E+03
Chromium	1.61E+01	9.00E-04	4.60E-05	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00
Cobalt	8.90E+00	1.40E-03	3.95E-05	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00
Copper	1.73E+01	5.00E-02	2.75E-03	8.00E-02	1.01E-01	1.60E-01	1.35E+00	1.26E+00	2.71E+00
Cyanide	3.21E-01	1.00E+00	1.02E-03	1.00E+00	2.34E-02	0.00E+00	0.00E+00	2.34E-02	4.68E-02
Iron	2.12E+04	2.00E-04	1.35E-02	8.00E-04	1.23E+00	1.00E+00	1.03E+04	1.54E+03	1.19E+04
Lead	1.95E+01	1.80E-03	1.11E-04	9.00E-03	1.28E-02	2.00E+00	1.90E+01	1.42E+00	2.04E+01
Magnesium	2.34E+03	1.10E-01	8.17E-01	2.00E-01	3.41E+01	1.00E+00	1.14E+03	1.70E+02	1.34E+03
Mercury	2.50E-01	4.00E-02	3.17E-05	1.80E-01	3.28E-03	3.40E-01	4.14E-02	1.82E-02	6.29E-02
Nickel	1.97E+01	1.20E-02	7.50E-04	1.20E-02	1.72E-02	2.30E-01	2.21E+00	1.43E+00	3.66E+00
Potassium	1.04E+03	1.10E-01	3.63E-01	2.00E-01	1.51E+01	1.00E+00	5.07E+02	7.57E+01	5.98E+02
Selenium	1.31E+00	5.00E-03	2.08E-05	5.00E-03	4.76E-04	7.60E-01	4.84E-01	9.52E-02	5.80E-01
Silver	8.12E-01	2.00E-02	5.15E-05	8.00E-02	4.73E-03	1.50E-01	5.93E-02	5.91E-02	1.23E-01
Sodium	2.45E+01	1.10E-02	8.55E-04	1.50E-02	2.68E-02	1.00E+00	1.19E+01	1.78E+00	1.37E+01
Thallium	3.21E-01	8.00E-05	8.16E-08	8.00E-04	1.87E-05	1.00E+00	1.57E-01	2.34E-02	1.80E-01
Zinc	6.72E+01	1.80E-01	3.84E-02	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	2.70E+00	1.00E+00	8.57E-03	1.00E+00	1.97E-01	1.00E+00	1.32E+00	1.97E-01	1.71E+00
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	9.49E-03	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	3.68E-03	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01

Appendix Table L-73. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	1.22E+01	2.43E+01	3.65E+01	5.46E-01	6.69E+01	88.2%
Antimony	5.00E-02	2.87E-03	1.89E-04	6.21E-04	8.16E-04	3.54E-02	2.31E-02	0.0%
Arsenic	1.00E-01	2.26E-01	1.49E-02	3.19E-02	4.68E-02	3.56E-02	1.31E+00	1.7%
Barium	7.50E-03	7.95E-02	5.23E-03	1.46E-01	1.52E-01	2.79E+00	5.44E-02	0.1%
Beryllium	5.00E-02	2.54E-03	1.68E-04	5.66E-04	7.34E-04	3.45E-01	2.13E-03	0.0%
Cadmium	2.80E-02	1.12E-01	7.36E-03	7.94E-04	8.19E-03	5.04E-01	1.63E-02	0.0%
Calcium	1.00E+00	5.08E+03	3.35E+02	9.00E+00	3.45E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.21E+00	7.99E-02	3.11E-02	1.11E-01	1.43E+03	7.77E-05	0.0%
Cobalt	1.00E+00	8.90E+00	5.86E-01	1.72E-02	6.03E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.42E+00	1.59E-01	3.34E-02	1.95E-01	7.96E+00	2.46E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.21E-04	1.64E-03	3.37E+01	4.86E-05	0.0%
Iron	1.00E+00	2.12E+04	1.40E+03	4.10E+01	1.44E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.47E-01	3.60E-02	3.77E-02	7.38E-02	4.18E+00	1.77E-02	0.0%
Magnesium	1.00E+00	2.40E+03	1.58E+02	4.52E+00	1.63E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.46E+00	9.61E-02	4.83E-04	9.66E-02	6.86E-01	1.41E-01	0.2%
Nickel	3.00E-01	1.96E+00	1.29E-01	3.81E-02	1.68E-01	2.09E+01	8.03E-03	0.0%
Potassium	1.00E+00	1.07E+03	7.02E+01	2.01E+00	7.26E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.77E-01	5.11E-02	2.53E-03	5.37E-02	1.05E-01	5.14E-01	0.7%
Silver	1.50E-01	3.30E-02	2.17E-03	1.57E-03	3.79E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.45E+01	1.62E+00	4.73E-02	1.66E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.21E-01	2.12E-02	6.21E-04	2.18E-02	3.91E-03	5.57E+00	7.3%
Zinc	5.00E+00	5.83E+02	3.84E+01	1.30E-01	3.85E+01	8.36E+01	4.61E-01	0.6%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	3.05E+00	2.01E-01	5.22E-03	2.15E-01	8.36E-01	2.57E-01	0.3%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.78E-06	3.15E-07	2.76E-04	2.86E-04	3.66E-01	7.81E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	2.22E-01	5.78E-03	2.38E-01	8.02E-01	2.96E-01	0.4%
Nitrobenzene	1.20E-04	3.02E-06	1.99E-07	2.76E-04	2.86E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	8.63E-02	2.24E-03	9.22E-02	2.07E+00	4.45E-02	0.1%

Appendix Table L-73. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 6

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-73. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.1%
HI = 7.58E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-74. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI <i>x 100</i>
Inorganics				
Aluminum	8.07E+03	5.00E+01	1.61E+02	92.1%
Arsenic	1.43E+01	1.00E+01	1.43E+00	0.8%
Barium	3.22E+01	5.00E+02	6.44E-02	0.0%
Cadmium	7.00E-02	5.00E-01	1.40E-01	0.1%
Chromium	9.50E+00	1.00E+00	9.50E+00	5.4%
Lead	1.40E+01	5.00E+01	2.80E-01	0.2%
Selenium	1.40E+00	1.00E+00	1.40E+00	0.8%
Zinc	4.87E+01	5.00E+01	9.74E-01	0.6%
Explosives				
2,4,6-Trinitrotoluene	3.40E-01	3.00E+01	1.13E-02	0.0%
			HI =	1.75E+02

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-75. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 7**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.07E+03	No TRV	No TRV	No HQ
Arsenic	1.43E+01	6.00E+01	2.38E-01	1.0%
Barium	3.22E+01	No TRV	No TRV	No HQ
Cadmium	7.00E-02	2.00E+01	3.50E-03	0.0%
Chromium	9.50E+00	4.00E-01	2.38E+01	97.9%
Lead	1.40E+01	5.00E+02	2.80E-02	0.1%
Selenium	1.40E+00	No TRV	No TRV	No HQ
Zinc	4.87E+01	2.00E+02	2.44E-01	1.0%
Explosives				
2,4,6-Trinitrotoluene	3.40E-01	1.40E+02	2.43E-03	0.0%
			HI =	2.43E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-76. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.07E+03	8.00E-04	4.70E-01	7.50E-02	2.95E+02	5.87E+02	8.83E+02	2.22E+00	3.97E+02	97.4%
Arsenic	1.43E+01	8.00E-03	8.33E-03	6.60E-03	4.60E-02	1.04E+00	1.10E+00	1.45E-01	7.54E+00	1.9%
Barium	3.22E+01	3.00E-02	7.03E-02	7.50E-03	1.18E-01	2.34E+00	2.53E+00	1.14E+01	2.22E-01	0.1%
Cadmium	7.00E-02	1.10E-01	5.61E-04	1.10E+01	3.75E-01	5.10E-03	3.81E-01	2.05E+00	1.85E-01	0.0%
Chromium	9.50E+00	1.50E-03	1.04E-03	1.60E-01	7.41E-01	6.92E-01	1.43E+00	5.83E+03	2.46E-04	0.0%
Lead	1.40E+01	9.00E-03	9.17E-03	2.00E+00	1.36E+01	1.02E+00	1.47E+01	1.70E+01	8.61E-01	0.2%
Selenium	1.40E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01	4.26E-01	1.46E+00	0.4%
Zinc	4.87E+01	3.00E-01	1.06E+00	1.80E+00	4.27E+01	3.55E+00	4.73E+01	3.41E+02	1.39E-01	0.0%
Explosives										
2,4,6-Trinitrotoluene	3.40E-01	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01	3.41E+00	6.31E-02	0.0%
									HI =	4.07E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-77. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.07E+03	1.30E-04	7.97E-01	7.50E-02	4.60E+02	1.28E+03	1.74E+03	1.29E+02	1.34E+01	36.4%
Arsenic	1.43E+01	1.20E-03	1.30E-02	6.60E-03	7.17E-02	2.26E+00	2.35E+00	9.66E+00	2.43E-01	0.7%
Barium	3.22E+01	3.00E-03	7.34E-02	7.50E-03	1.84E-01	5.09E+00	5.35E+00	2.31E+01	2.32E-01	0.6%
Cadmium	7.00E-02	3.00E-02	1.60E-03	1.10E+01	5.85E-01	1.11E-02	5.98E-01	2.83E+00	2.12E-01	0.6%
Chromium	9.50E+00	9.00E-04	6.50E-03	1.60E-01	1.16E+00	1.50E+00	2.66E+00	1.99E+00	1.34E+00	3.6%
Lead	1.40E+01	1.80E-03	1.92E-02	2.00E+00	2.13E+01	2.21E+00	2.35E+01	1.32E+00	1.78E+01	48.3%
Selenium	1.40E+00	5.00E-03	5.32E-03	7.60E-01	8.09E-01	2.21E-01	1.04E+00	9.40E-01	1.10E+00	3.0%
Zinc	4.87E+01	1.80E-01	6.66E+00	1.80E+00	6.66E+01	7.70E+00	8.10E+01	3.21E+01	2.52E+00	6.8%
Explosives										
2,4,6-Trinitrotoluene	3.40E-01	1.00E+00	2.58E-01	1.00E+00	2.58E-01	5.37E-02	5.71E-01	No TRV	No TRV	No HQ
									HI =	3.68E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-78. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.07E+03	8.00E-04	1.32E+00	7.50E-02	0.00E+00	1.04E+02	1.06E+02	7.63E-01	1.38E+02	96.8%
Arsenic	1.43E+01	8.00E-03	2.35E-02	6.60E-03	0.00E+00	1.85E-01	2.08E-01	4.98E-02	4.18E+00	2.9%
Barium	3.22E+01	3.00E-02	1.98E-01	7.50E-03	0.00E+00	4.16E-01	6.14E-01	3.90E+00	1.57E-01	0.1%
Cadmium	7.00E-02	1.10E-01	1.58E-03	1.10E+01	0.00E+00	9.04E-04	2.48E-03	7.05E-01	3.52E-03	0.0%
Chromium	9.50E+00	1.50E-03	2.92E-03	1.60E-01	0.00E+00	1.23E-01	1.26E-01	2.00E+03	6.28E-05	0.0%
Lead	1.40E+01	9.00E-03	2.58E-02	2.00E+00	0.00E+00	1.81E-01	2.07E-01	5.84E+00	3.54E-02	0.0%
Selenium	1.40E+00	5.00E-03	1.44E-03	7.60E-01	0.00E+00	1.81E-02	1.95E-02	1.46E-01	1.34E-01	0.1%
Zinc	4.87E+01	3.00E-01	3.00E+00	1.80E+00	0.00E+00	6.29E-01	3.62E+00	1.17E+02	3.10E-02	0.0%
Explosives										
2,4,6-Trinitrotoluene	3.40E-01	1.00E+00	6.97E-02	1.00E+00	0.00E+00	4.39E-03	7.41E-02	1.17E+00	6.34E-02	0.0%
								HI =	1.43E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-79. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.07E+03	8.00E-04	2.00E-01	7.50E-02	0.00E+00	5.00E+00	5.20E+00	2.93E-01	1.78E+01	96.0%
Arsenic	1.43E+01	8.00E-03	3.55E-03	6.60E-03	0.00E+00	8.87E-03	1.24E-02	1.91E-02	6.49E-01	3.5%
Barium	3.22E+01	3.00E-02	2.99E-02	7.50E-03	0.00E+00	2.00E-02	4.99E-02	1.50E+00	3.33E-02	0.2%
Cadmium	7.00E-02	1.10E-01	2.39E-04	1.10E+01	0.00E+00	4.34E-05	2.82E-04	2.71E-01	1.04E-03	0.0%
Chromium	9.50E+00	1.50E-03	4.42E-04	1.60E-01	0.00E+00	5.89E-03	6.33E-03	7.68E+02	8.25E-06	0.0%
Lead	1.40E+01	9.00E-03	3.91E-03	2.00E+00	0.00E+00	8.68E-03	1.26E-02	2.24E+00	5.61E-03	0.0%
Selenium	1.40E+00	5.00E-03	2.17E-04	7.60E-01	0.00E+00	8.68E-04	1.09E-03	5.61E-02	1.93E-02	0.1%
Zinc	4.87E+01	3.00E-01	4.53E-01	1.80E+00	0.00E+00	3.02E-02	4.83E-01	4.49E+01	1.08E-02	0.1%
Explosives										
2,4,6-Trinitrotoluene	3.40E-01	1.00E+00	1.05E-02	1.00E+00	0.00E+00	2.11E-04	1.08E-02	4.49E-01	2.40E-02	0.1%
									HI =	1.85E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-80. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.07E+03	1.30E-04	0.00E+00	8.00E-04	4.70E-01	7.50E-02	2.95E+02	5.87E+02	8.83E+02
Arsenic	1.43E+01	1.20E-03	0.00E+00	8.00E-03	8.33E-03	6.60E-03	4.60E-02	1.04E+00	1.10E+00
Barium	3.22E+01	3.00E-03	0.00E+00	3.00E-02	7.03E-02	7.50E-03	1.18E-01	2.34E+00	2.53E+00
Cadmium	7.00E-02	3.00E-02	0.00E+00	1.10E-01	5.61E-04	1.10E+01	3.75E-01	5.10E-03	3.81E-01
Chromium	9.50E+00	9.00E-04	0.00E+00	1.50E-03	1.04E-03	1.60E-01	7.41E-01	6.92E-01	1.43E+00
Lead	1.40E+01	1.80E-03	0.00E+00	9.00E-03	9.17E-03	2.00E+00	1.36E+01	1.02E+00	1.47E+01
Selenium	1.40E+00	5.00E-03	0.00E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	4.87E+01	1.80E-01	0.00E+00	3.00E-01	1.06E+00	1.80E+00	4.27E+01	3.55E+00	4.73E+01
Explosives									
2,4,6-Trinitrotoluene	3.40E-01	1.00E+00	0.00E+00	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-80. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.18E+02	1.30E+01	0.00E+00	1.30E+01	6.68E+01	1.95E-01	5.8%
Arsenic	1.00E-01	1.96E-01	2.15E-02	0.00E+00	2.15E-02	4.98E+00	4.32E-03	0.1%
Barium	7.50E-03	3.39E-02	3.73E-03	0.00E+00	3.73E-03	1.19E+01	3.13E-04	0.0%
Cadmium	2.80E-02	1.90E-02	2.09E-03	0.00E+00	2.09E-03	1.46E+00	1.44E-03	0.0%
Chromium	2.80E-01	7.17E-01	7.88E-02	0.00E+00	7.88E-02	1.03E+00	7.69E-02	2.3%
Lead	1.50E-02	3.93E-01	4.32E-02	0.00E+00	4.32E-02	6.82E-01	6.34E-02	1.9%
Selenium	7.50E-01	8.31E-01	9.15E-02	0.00E+00	9.15E-02	4.85E-01	1.89E-01	5.7%
Zinc	5.00E+00	4.22E+02	4.65E+01	0.00E+00	4.65E+01	1.66E+01	2.80E+00	84.1%
2,4,6-Trinitrotoluene	1.00E+00	3.84E-01	4.23E-02	0.00E+00	4.23E-02	No TRV	No TRV	No HQ
HI =							3.33E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-81. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.07E+03	1.30E-04	0.00E+00	8.00E-04	4.70E-01	7.50E-02	2.95E+02	5.87E+02	8.83E+02
Arsenic	1.43E+01	1.20E-03	0.00E+00	8.00E-03	8.33E-03	6.60E-03	4.60E-02	1.04E+00	1.10E+00
Barium	3.22E+01	3.00E-03	0.00E+00	3.00E-02	7.03E-02	7.50E-03	1.18E-01	2.34E+00	2.53E+00
Cadmium	7.00E-02	3.00E-02	0.00E+00	1.10E-01	5.61E-04	1.10E+01	3.75E-01	5.10E-03	3.81E-01
Chromium	9.50E+00	9.00E-04	0.00E+00	1.50E-03	1.04E-03	1.60E-01	7.41E-01	6.92E-01	1.43E+00
Lead	1.40E+01	1.80E-03	0.00E+00	9.00E-03	9.17E-03	2.00E+00	1.36E+01	1.02E+00	1.47E+01
Selenium	1.40E+00	5.00E-03	0.00E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	4.87E+01	1.80E-01	0.00E+00	3.00E-01	1.06E+00	1.80E+00	4.27E+01	3.55E+00	4.73E+01
Explosives									
2,4,6-Trinitrotoluene	3.40E-01	1.00E+00	0.00E+00	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-81. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.18E+02	1.48E+01	0.00E+00	1.48E+01	8.33E+01	1.77E-01	5.8%
Arsenic	1.00E-01	1.96E-01	2.44E-02	0.00E+00	2.44E-02	6.22E+00	3.93E-03	0.1%
Barium	7.50E-03	3.39E-02	4.24E-03	0.00E+00	4.24E-03	1.49E+01	2.85E-04	0.0%
Cadmium	2.80E-02	1.90E-02	2.38E-03	0.00E+00	2.38E-03	1.82E+00	1.31E-03	0.0%
Chromium	2.80E-01	7.17E-01	8.96E-02	0.00E+00	8.96E-02	1.28E+00	7.00E-02	2.3%
Lead	1.50E-02	3.93E-01	4.91E-02	0.00E+00	4.91E-02	8.51E-01	5.77E-02	1.9%
Selenium	7.50E-01	8.31E-01	1.04E-01	0.00E+00	1.04E-01	6.05E-01	1.72E-01	5.7%
Zinc	5.00E+00	4.22E+02	5.28E+01	0.00E+00	5.28E+01	2.07E+01	2.55E+00	84.1%
2,4,6-Trinitrotoluen	1.00E+00	3.84E-01	4.80E-02	0.00E+00	4.80E-02	No TRV	No TRV	No HQ
							HI =	3.04E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-82. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 7

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	8.07E+03	1.30E-04	3.33E-03	8.00E-04	4.70E-01	7.50E-02	2.95E+02	5.87E+02	8.83E+02
Arsenic	1.43E+01	1.20E-03	5.45E-05	8.00E-03	8.33E-03	6.60E-03	4.60E-02	1.04E+00	1.10E+00
Barium	3.22E+01	3.00E-03	3.07E-04	3.00E-02	7.03E-02	7.50E-03	1.18E-01	2.34E+00	2.53E+00
Cadmium	7.00E-02	3.00E-02	6.67E-06	1.10E-01	5.61E-04	1.10E+01	3.75E-01	5.10E-03	3.81E-01
Chromium	9.50E+00	9.00E-04	2.71E-05	1.50E-03	1.04E-03	1.60E-01	7.41E-01	6.92E-01	1.43E+00
Lead	1.40E+01	1.80E-03	8.00E-05	9.00E-03	9.17E-03	2.00E+00	1.36E+01	1.02E+00	1.47E+01
Selenium	1.40E+00	5.00E-03	2.22E-05	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	4.87E+01	1.80E-01	2.78E-02	3.00E-01	1.06E+00	1.80E+00	4.27E+01	3.55E+00	4.73E+01
Explosives									
2,4,6-Trinitrotoluene	3.40E-01	1.00E+00	1.08E-03	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 6.58E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 7.28E-02

1.70E-02

Appendix Table L-82. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.18E+02	7.78E+00	1.56E+01	2.34E+01	5.46E-01	4.28E+01	95.3%
Arsenic	1.00E-01	1.96E-01	1.29E-02	2.76E-02	4.06E-02	3.56E-02	1.14E+00	2.5%
Barium	7.50E-03	3.39E-02	2.23E-03	6.22E-02	6.47E-02	2.79E+00	2.32E-02	0.1%
Cadmium	2.80E-02	1.90E-02	1.25E-03	1.35E-04	1.40E-03	5.04E-01	2.77E-03	0.0%
Chromium	2.80E-01	7.17E-01	4.72E-02	1.84E-02	6.56E-02	1.43E+03	4.58E-05	0.0%
Lead	1.50E-02	3.93E-01	2.59E-02	2.70E-02	5.30E-02	4.18E+00	1.27E-02	0.0%
Selenium	7.50E-01	8.31E-01	5.47E-02	2.70E-03	5.75E-02	1.05E-01	5.50E-01	1.2%
Zinc	5.00E+00	4.22E+02	2.78E+01	9.41E-02	2.79E+01	8.36E+01	3.34E-01	0.7%
2,4,6-Trinitrotoluene	1.00E+00	3.84E-01	2.53E-02	6.57E-04	2.70E-02	8.36E-01	3.23E-02	0.1%
							HI = 4.49E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-83. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.42E+03	5.00E+01	1.68E+02	89.7%
Arsenic	1.67E+01	1.00E+01	1.67E+00	0.9%
Barium	4.52E+01	5.00E+02	9.04E-02	0.0%
Beryllium	6.50E-01	1.00E+01	6.50E-02	0.0%
Cadmium	1.30E-01	5.00E-01	2.60E-01	0.1%
Calcium	2.33E+03	No TRV	No TRV	No HQ
Chromium	9.80E+00	1.00E+00	9.80E+00	5.2%
Cobalt	8.90E+00	2.00E+01	4.45E-01	0.2%
Copper	1.44E+01	1.00E+02	1.44E-01	0.1%
Cyanide	5.90E-01	No TRV	No TRV	No HQ
Iron	2.26E+04	No TRV	No TRV	No HQ
Lead	1.57E+01	5.00E+01	3.14E-01	0.2%
Magnesium	1.48E+03	No TRV	No TRV	No HQ
Nickel	1.30E+01	3.00E+01	4.33E-01	0.2%
Potassium	4.93E+02	No TRV	No TRV	No HQ
Selenium	2.10E+00	1.00E+00	2.10E+00	1.1%
Sodium	1.68E+02	No TRV	No TRV	No HQ
Thallium	3.10E+00	1.00E+00	3.10E+00	1.7%
Zinc	4.18E+01	5.00E+01	8.36E-01	0.4%
Organics				
2-Methylnaphthalene	8.00E-02	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	No TRV	No TRV	No HQ
Phenanthrene	7.00E-02	No TRV	No TRV	No HQ
			HI =	1.88E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-84. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 8**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.42E+03	No TRV	No TRV	No HQ
Arsenic	1.67E+01	6.00E+01	2.78E-01	1.1%
Barium	4.52E+01	No TRV	No TRV	No HQ
Beryllium	6.50E-01	No TRV	No TRV	No HQ
Cadmium	1.30E-01	2.00E+01	6.50E-03	0.0%
Calcium	2.33E+03	No TRV	No TRV	No HQ
Chromium	9.80E+00	4.00E-01	2.45E+01	96.5%
Cobalt	8.90E+00	No TRV	No TRV	No HQ
Copper	1.44E+01	5.00E+01	2.88E-01	1.1%
Cyanide	5.90E-01	No TRV	No TRV	No HQ
Iron	2.26E+04	No TRV	No TRV	No HQ
Lead	1.57E+01	5.00E+02	3.14E-02	0.1%
Magnesium	1.48E+03	No TRV	No TRV	No HQ
Nickel	1.30E+01	2.00E+02	6.50E-02	0.3%
Potassium	4.93E+02	No TRV	No TRV	No HQ
Selenium	2.10E+00	No TRV	No TRV	No HQ
Sodium	1.68E+02	No TRV	No TRV	No HQ
Thallium	3.10E+00	No TRV	No TRV	No HQ
Zinc	4.18E+01	2.00E+02	2.09E-01	0.8%
Organics				
2-Methylnaphthalene	8.00E-02	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	No TRV	No TRV	No HQ
Phenanthrene	7.00E-02	No TRV	No TRV	No HQ
HI =			2.54E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-85. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.42E+03	8.00E-04	4.90E-01	7.50E-02	3.08E+02	6.13E+02	9.21E+02	2.22E+00	4.14E+02	77.3%
Arsenic	1.67E+01	8.00E-03	9.73E-03	6.60E-03	5.37E-02	1.22E+00	1.28E+00	1.45E-01	8.81E+00	1.6%
Barium	4.52E+01	3.00E-02	9.87E-02	7.50E-03	1.65E-01	3.29E+00	3.55E+00	1.14E+01	3.12E-01	0.1%
Beryllium	6.50E-01	2.00E-03	9.46E-05	5.00E-02	1.58E-02	4.73E-02	6.32E-02	1.41E+00	4.50E-02	0.0%
Cadmium	1.30E-01	1.10E-01	1.04E-03	1.10E+01	6.97E-01	9.46E-03	7.07E-01	2.05E+00	3.44E-01	0.1%
Calcium	2.33E+03	7.00E-01	1.19E+02	1.00E+00	1.14E+03	1.70E+02	1.42E+03	No TRV	No TRV	No HQ
Chromium	9.80E+00	1.50E-03	1.07E-03	1.60E-01	7.64E-01	7.13E-01	1.48E+00	5.83E+03	2.54E-04	0.0%
Cobalt	8.90E+00	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00	No TRV	No TRV	No HQ
Copper	1.44E+01	8.00E-02	8.39E-02	1.60E-01	1.12E+00	1.05E+00	2.25E+00	3.24E+01	6.95E-02	0.0%
Cyanide	5.90E-01	1.00E+00	4.30E-02	0.00E+00	0.00E+00	4.30E-02	8.59E-02	1.38E+02	6.25E-04	0.0%
Iron	2.26E+04	8.00E-04	1.32E+00	1.00E+00	1.10E+04	1.65E+03	1.27E+04	No TRV	No TRV	No HQ
Lead	1.57E+01	9.00E-03	1.03E-02	2.00E+00	1.53E+01	1.14E+00	1.65E+01	1.70E+01	9.65E-01	0.2%
Magnesium	1.48E+03	2.00E-01	2.15E+01	1.00E+00	7.21E+02	1.08E+02	8.50E+02	No TRV	No TRV	No HQ
Nickel	1.30E+01	1.20E-02	1.14E-02	2.30E-01	1.46E+00	9.46E-01	2.41E+00	8.52E+01	2.83E-02	0.0%
Potassium	4.93E+02	2.00E-01	7.18E+00	1.00E+00	2.40E+02	3.59E+01	2.83E+02	No TRV	No TRV	No HQ
Selenium	2.10E+00	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01	4.26E-01	2.19E+00	0.4%
Sodium	1.68E+02	1.50E-02	1.83E-01	1.00E+00	8.18E+01	1.22E+01	9.43E+01	No TRV	No TRV	No HQ
Thallium	3.10E+00	8.00E-04	1.81E-04	1.00E+00	1.51E+00	2.26E-01	1.74E+00	1.59E-02	1.09E+02	20.3%
Zinc	4.18E+01	3.00E-01	9.13E-01	1.80E+00	3.67E+01	3.04E+00	4.06E+01	3.41E+02	1.19E-01	0.0%
Organics										
2-Methylnaphthalene	8.00E-02	2.00E-02	1.16E-04	5.00E-02	1.95E-03	5.82E-03	7.89E-03	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	2.00E-02	1.11E-04	5.00E-02	1.85E-03	5.53E-03	7.49E-03	No TRV	No TRV	No HQ
Phenanthrene	7.00E-02	2.00E-02	1.02E-04	5.00E-02	1.71E-03	5.10E-03	6.90E-03	No TRV	No TRV	No HQ
								HI =	5.36E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plan
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; anima

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soi
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-86. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.42E+03	1.30E-04	8.32E-01	7.50E-02	4.80E+02	1.33E+03	1.81E+03	1.29E+02	1.40E+01	34.8%
Arsenic	1.67E+01	1.20E-03	1.52E-02	6.60E-03	8.38E-02	2.64E+00	2.74E+00	9.66E+00	2.84E-01	0.7%
Barium	4.52E+01	3.00E-03	1.03E-01	7.50E-03	2.58E-01	7.15E+00	7.51E+00	2.31E+01	3.25E-01	0.8%
Beryllium	6.50E-01	3.00E-04	1.48E-04	5.00E-02	2.47E-02	1.03E-01	1.28E-01	No TRV	No TRV	No HQ
Cadmium	1.30E-01	3.00E-02	2.96E-03	1.10E+01	1.09E+00	2.06E-02	1.11E+00	2.83E+00	3.93E-01	1.0%
Calcium	2.33E+03	7.00E-02	1.24E+02	1.00E+00	1.77E+03	3.68E+02	2.26E+03	No TRV	No TRV	No HQ
Chromium	9.80E+00	9.00E-04	6.70E-03	1.60E-01	1.19E+00	1.55E+00	2.75E+00	1.99E+00	1.38E+00	3.4%
Cobalt	8.90E+00	1.40E-03	9.47E-03	1.00E+00	6.76E+00	1.41E+00	8.18E+00	No TRV	No TRV	No HQ
Copper	1.44E+01	5.00E-02	5.47E-01	1.60E-01	1.75E+00	2.28E+00	4.57E+00	7.55E+01	6.06E-02	0.2%
Cyanide	5.90E-01	1.00E+00	4.48E-01	0.00E+00	0.00E+00	9.33E-02	5.42E-01	No TRV	No TRV	No HQ
Iron	2.26E+04	2.00E-04	3.44E+00	1.00E+00	1.72E+04	3.57E+03	2.08E+04	No TRV	No TRV	No HQ
Lead	1.57E+01	1.80E-03	2.15E-02	2.00E+00	2.39E+01	2.48E+00	2.64E+01	1.32E+00	1.99E+01	49.6%
Magnesium	1.48E+03	1.10E-01	1.24E+02	1.00E+00	1.12E+03	2.34E+02	1.48E+03	No TRV	No TRV	No HQ
Nickel	1.30E+01	1.20E-02	1.19E-01	2.30E-01	2.27E+00	2.06E+00	4.45E+00	1.37E+02	3.25E-02	0.1%
Potassium	4.93E+02	1.10E-01	4.12E+01	1.00E+00	3.75E+02	7.79E+01	4.94E+02	No TRV	No TRV	No HQ
Selenium	2.10E+00	5.00E-03	7.98E-03	7.60E-01	1.21E+00	3.32E-01	1.55E+00	9.40E-01	1.65E+00	4.1%
Sodium	1.68E+02	1.10E-02	1.40E+00	1.00E+00	1.28E+02	2.66E+01	1.56E+02	No TRV	No TRV	No HQ
Thallium	3.10E+00	8.00E-05	1.88E-04	1.00E+00	2.36E+00	4.90E-01	2.85E+00	No TRV	No TRV	No HQ
Zinc	4.18E+01	1.80E-01	5.72E+00	1.80E+00	5.72E+01	6.61E+00	6.95E+01	3.21E+01	2.16E+00	5.4%
Organics										
2-Methylnaphthalene	8.00E-02	2.00E-02	1.22E-03	5.00E-02	3.04E-03	1.26E-02	1.69E-02	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	2.00E-02	1.16E-03	5.00E-02	2.89E-03	1.20E-02	1.61E-02	No TRV	No TRV	No HQ
Phenanthrene	7.00E-02	2.00E-02	1.06E-03	5.00E-02	2.66E-03	1.11E-02	1.48E-02	No TRV	No TRV	No HQ
									HI =	4.02E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) 7.60E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-87. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.42E+03	8.00E-04	1.38E+00	7.50E-02	0.00E+00	1.09E+02	1.10E+02	7.63E-01	1.44E+02	91.8%
Arsenic	1.67E+01	8.00E-03	2.74E-02	6.60E-03	0.00E+00	2.16E-01	2.43E-01	4.98E-02	4.88E+00	3.1%
Barium	4.52E+01	3.00E-02	2.78E-01	7.50E-03	0.00E+00	5.84E-01	8.62E-01	3.90E+00	2.21E-01	0.1%
Beryllium	6.50E-01	2.00E-03	2.67E-04	5.00E-02	0.00E+00	8.39E-03	8.66E-03	4.82E-01	1.80E-02	0.0%
Cadmium	1.30E-01	1.10E-01	2.93E-03	1.10E+01	0.00E+00	1.68E-03	4.61E-03	7.05E-01	6.54E-03	0.0%
Calcium	2.33E+03	7.00E-01	3.34E+02	1.00E+00	0.00E+00	3.01E+01	3.64E+02	No TRV	No TRV	No HQ
Chromium	9.80E+00	1.50E-03	3.01E-03	1.60E-01	0.00E+00	1.27E-01	1.30E-01	2.00E+03	6.48E-05	0.0%
Cobalt	8.90E+00	4.00E-03	7.30E-03	1.00E+00	0.00E+00	1.15E-01	1.22E-01	No TRV	No TRV	No HQ
Copper	1.44E+01	8.00E-02	2.36E-01	1.60E-01	0.00E+00	1.86E-01	4.22E-01	1.11E+01	3.80E-02	0.0%
Cyanide	5.90E-01	1.00E+00	1.21E-01	0.00E+00	0.00E+00	7.62E-03	1.29E-01	4.72E+01	2.73E-03	0.0%
Iron	2.26E+04	8.00E-04	3.71E+00	1.00E+00	0.00E+00	2.92E+02	2.96E+02	No TRV	No TRV	No HQ
Lead	1.57E+01	9.00E-03	2.90E-02	2.00E+00	0.00E+00	2.03E-01	2.32E-01	5.84E+00	3.97E-02	0.0%
Magnesium	1.48E+03	2.00E-01	6.07E+01	1.00E+00	0.00E+00	1.91E+01	7.98E+01	No TRV	No TRV	No HQ
Nickel	1.30E+01	1.20E-02	3.20E-02	2.30E-01	0.00E+00	1.68E-01	2.00E-01	2.92E+01	6.84E-03	0.0%
Potassium	4.93E+02	2.00E-01	2.02E+01	1.00E+00	0.00E+00	6.37E+00	2.66E+01	No TRV	No TRV	No HQ
Selenium	2.10E+00	5.00E-03	2.15E-03	7.60E-01	0.00E+00	2.71E-02	2.93E-02	1.46E-01	2.00E-01	0.1%
Sodium	1.68E+02	1.50E-02	5.17E-01	1.00E+00	0.00E+00	2.17E+00	2.69E+00	No TRV	No TRV	No HQ
Thallium	3.10E+00	8.00E-04	5.08E-04	1.00E+00	0.00E+00	4.00E-02	4.05E-02	5.46E-03	7.42E+00	4.7%
Zinc	4.18E+01	3.00E-01	2.57E+00	1.80E+00	0.00E+00	5.40E-01	3.11E+00	1.17E+02	2.66E-02	0.0%
Organics										
2-Methylnaphthalene	8.00E-02	2.00E-02	3.28E-04	5.00E-02	0.00E+00	1.03E-03	1.36E-03	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	2.00E-02	3.12E-04	5.00E-02	0.00E+00	9.82E-04	1.29E-03	No TRV	No TRV	No HQ
Phenanthrene	7.00E-02	2.00E-02	2.87E-04	5.00E-02	0.00E+00	9.04E-04	1.19E-03	No TRV	No TRV	No HQ
									HI =	1.57E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-88. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.42E+03	8.00E-04	2.09E-01	7.50E-02	0.00E+00	5.22E+00	5.43E+00	2.93E-01	1.85E+01	91.1%
Arsenic	1.67E+01	8.00E-03	4.14E-03	6.60E-03	0.00E+00	1.04E-02	1.45E-02	1.91E-02	7.58E-01	3.7%
Barium	4.52E+01	3.00E-02	4.20E-02	7.50E-03	0.00E+00	2.80E-02	7.01E-02	1.50E+00	4.67E-02	0.2%
Beryllium	6.50E-01	2.00E-03	4.03E-05	5.00E-02	0.00E+00	4.03E-04	4.43E-04	1.85E-01	2.39E-03	0.0%
Cadmium	1.30E-01	1.10E-01	4.43E-04	1.10E+01	0.00E+00	8.06E-05	5.24E-04	2.71E-01	1.94E-03	0.0%
Calcium	2.33E+03	7.00E-01	5.06E+01	1.00E+00	0.00E+00	1.44E+00	5.20E+01	No TRV	No TRV	No HQ
Chromium	9.80E+00	1.50E-03	4.56E-04	1.60E-01	0.00E+00	6.08E-03	6.53E-03	7.68E+02	8.51E-06	0.0%
Cobalt	8.90E+00	4.00E-03	1.10E-03	1.00E+00	0.00E+00	5.52E-03	6.62E-03	No TRV	No TRV	No HQ
Copper	1.44E+01	8.00E-02	3.57E-02	1.60E-01	0.00E+00	8.93E-03	4.46E-02	4.27E+00	1.05E-02	0.1%
Cyanide	5.90E-01	1.00E+00	1.83E-02	0.00E+00	0.00E+00	3.66E-04	1.87E-02	1.81E+01	1.03E-03	0.0%
Iron	2.26E+04	8.00E-04	5.60E-01	1.00E+00	0.00E+00	1.40E+01	1.46E+01	No TRV	No TRV	No HQ
Lead	1.57E+01	9.00E-03	4.38E-03	2.00E+00	0.00E+00	9.73E-03	1.41E-02	2.24E+00	6.29E-03	0.0%
Magnesium	1.48E+03	2.00E-01	9.18E+00	1.00E+00	0.00E+00	9.18E-01	1.01E+01	No TRV	No TRV	No HQ
Nickel	1.30E+01	1.20E-02	4.84E-03	2.30E-01	0.00E+00	8.06E-03	1.29E-02	1.12E+01	1.15E-03	0.0%
Potassium	4.93E+02	2.00E-01	3.06E+00	1.00E+00	0.00E+00	3.06E-01	3.36E+00	No TRV	No TRV	No HQ
Selenium	2.10E+00	5.00E-03	3.26E-04	7.60E-01	0.00E+00	1.30E-03	1.63E-03	5.61E-02	2.90E-02	0.1%
Sodium	1.68E+02	1.50E-02	7.81E-02	1.00E+00	0.00E+00	1.04E-01	1.82E-01	No TRV	No TRV	No HQ
Thallium	3.10E+00	8.00E-04	7.69E-05	1.00E+00	0.00E+00	1.92E-03	2.00E-03	2.10E-03	9.53E-01	4.7%
Zinc	4.18E+01	3.00E-01	3.89E-01	1.80E+00	0.00E+00	2.59E-02	4.15E-01	4.49E+01	9.24E-03	0.0%
Organics										
2-Methylnaphthalene	8.00E-02	2.00E-02	4.96E-05	5.00E-02	0.00E+00	4.96E-05	9.92E-05	No TRV	No TRV	No HQ
Naphthalene	7.60E-02	2.00E-02	4.71E-05	5.00E-02	0.00E+00	4.71E-05	9.42E-05	No TRV	No TRV	No HQ
Phenanthrene	7.00E-02	2.00E-02	4.34E-05	5.00E-02	0.00E+00	4.34E-05	8.68E-05	No TRV	No TRV	No HQ
									HI =	2.04E+01

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-89. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _r x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.42E+03	1.30E-04	0.00E+00	8.00E-04	4.90E-01	7.50E-02	3.08E+02	6.13E+02	9.21E+02
Arsenic	1.67E+01	1.20E-03	0.00E+00	8.00E-03	9.73E-03	6.60E-03	5.37E-02	1.22E+00	1.28E+00
Barium	4.52E+01	3.00E-03	0.00E+00	3.00E-02	9.87E-02	7.50E-03	1.65E-01	3.29E+00	3.55E+00
Beryllium	6.50E-01	3.00E-04	0.00E+00	2.00E-03	9.46E-05	5.00E-02	1.58E-02	4.73E-02	6.32E-02
Cadmium	1.30E-01	3.00E-02	0.00E+00	1.10E-01	1.04E-03	1.10E+01	6.97E-01	9.46E-03	7.07E-01
Calcium	2.33E+03	7.00E-02	0.00E+00	7.00E-01	1.19E+02	1.00E+00	1.14E+03	1.70E+02	1.42E+03
Chromium	9.80E+00	9.00E-04	0.00E+00	1.50E-03	1.07E-03	1.60E-01	7.64E-01	7.13E-01	1.48E+00
Cobalt	8.90E+00	1.40E-03	0.00E+00	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00
Copper	1.44E+01	5.00E-02	0.00E+00	8.00E-02	8.39E-02	1.60E-01	1.12E+00	1.05E+00	2.25E+00
Cyanide	5.90E-01	1.00E+00	0.00E+00	1.00E+00	4.30E-02	0.00E+00	0.00E+00	4.30E-02	8.59E-02
Iron	2.26E+04	2.00E-04	0.00E+00	8.00E-04	1.32E+00	1.00E+00	1.10E+04	1.65E+03	1.27E+04
Lead	1.57E+01	1.80E-03	0.00E+00	9.00E-03	1.03E-02	2.00E+00	1.53E+01	1.14E+00	1.65E+01
Magnesium	1.48E+03	1.10E-01	0.00E+00	2.00E-01	2.15E+01	1.00E+00	7.21E+02	1.08E+02	8.50E+02
Nickel	1.30E+01	1.20E-02	0.00E+00	1.20E-02	1.14E-02	2.30E-01	1.46E+00	9.46E-01	2.41E+00
Potassium	4.93E+02	1.10E-01	0.00E+00	2.00E-01	7.18E+00	1.00E+00	2.40E+02	3.59E+01	2.83E+02
Selenium	2.10E+00	5.00E-03	0.00E+00	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01
Sodium	1.68E+02	1.10E-02	0.00E+00	1.50E-02	1.83E-01	1.00E+00	8.18E+01	1.22E+01	9.43E+01
Thallium	3.10E+00	8.00E-05	0.00E+00	8.00E-04	1.81E-04	1.00E+00	1.51E+00	2.26E-01	1.74E+00
Zinc	4.18E+01	1.80E-01	0.00E+00	3.00E-01	9.13E-01	1.80E+00	3.67E+01	3.04E+00	4.06E+01
Organics									
2-Methylnaphthalene	8.00E-02	2.00E-02	0.00E+00	2.00E-02	1.16E-04	5.00E-02	1.95E-03	5.82E-03	7.89E-03
Naphthalene	7.60E-02	2.00E-02	0.00E+00	2.00E-02	1.11E-04	5.00E-02	1.85E-03	5.53E-03	7.49E-03
Phenanthrene	7.00E-02	2.00E-02	0.00E+00	2.00E-02	1.02E-04	5.00E-02	1.71E-03	5.10E-03	6.90E-03

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-89. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	1.23E+02	1.36E+01	0.00E+00	1.36E+01	6.68E+01	2.03E-01	6.6%
Arsenic	1.00E-01	2.28E-01	2.51E-02	0.00E+00	2.51E-02	4.98E+00	5.05E-03	0.2%
Barium	7.50E-03	4.76E-02	5.24E-03	0.00E+00	5.24E-03	1.19E+01	4.40E-04	0.0%
Beryllium	5.00E-02	5.65E-03	6.21E-04	0.00E+00	6.21E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	3.54E-02	3.89E-03	0.00E+00	3.89E-03	1.46E+00	2.67E-03	0.1%
Calcium	1.00E+00	2.54E+03	2.80E+02	0.00E+00	2.80E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	7.39E-01	8.13E-02	0.00E+00	8.13E-02	1.03E+00	7.93E-02	2.6%
Cobalt	1.00E+00	8.90E+00	9.80E-01	0.00E+00	9.80E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.01E+00	2.21E-01	0.00E+00	2.21E-01	3.89E+01	5.69E-03	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.26E+04	2.49E+03	0.00E+00	2.49E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	4.41E-01	4.85E-02	0.00E+00	4.85E-02	6.82E-01	7.11E-02	2.3%
Magnesium	1.00E+00	1.52E+03	1.67E+02	0.00E+00	1.67E+02	No TRV	No TRV	No HQ
Nickel	3.00E-01	1.29E+00	1.42E-01	0.00E+00	1.42E-01	7.06E+01	2.02E-03	0.1%
Potassium	1.00E+00	5.06E+02	5.56E+01	0.00E+00	5.56E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.25E+00	1.37E-01	0.00E+00	1.37E-01	4.85E-01	2.83E-01	9.2%
Sodium	1.00E+00	1.68E+02	1.85E+01	0.00E+00	1.85E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.10E+00	3.41E-01	0.00E+00	3.41E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	3.63E+02	3.99E+01	0.00E+00	3.99E+01	1.66E+01	2.41E+00	78.7%
2-Methylnaphthalene	1.90E-08	2.68E-10	2.94E-11	0.00E+00	2.94E-11	No TRV	No TRV	No HQ
Naphthalene	6.00E-03	8.03E-05	8.83E-06	0.00E+00	8.83E-06	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	5.92E-04	6.51E-05	0.00E+00	6.51E-05	No TRV	No TRV	No HQ
							HI =	3.06E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-90. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.42E+03	1.30E-04	0.00E+00	8.00E-04	4.90E-01	7.50E-02	3.08E+02	6.13E+02	9.21E+02
Arsenic	1.67E+01	1.20E-03	0.00E+00	8.00E-03	9.73E-03	6.60E-03	5.37E-02	1.22E+00	1.28E+00
Barium	4.52E+01	3.00E-03	0.00E+00	3.00E-02	9.87E-02	7.50E-03	1.65E-01	3.29E+00	3.55E+00
Beryllium	6.50E-01	3.00E-04	0.00E+00	2.00E-03	9.46E-05	5.00E-02	1.58E-02	4.73E-02	6.32E-02
Cadmium	1.30E-01	3.00E-02	0.00E+00	1.10E-01	1.04E-03	1.10E+01	6.97E-01	9.46E-03	7.07E-01
Calcium	2.33E+03	7.00E-02	0.00E+00	7.00E-01	1.19E+02	1.00E+00	1.14E+03	1.70E+02	1.42E+03
Chromium	9.80E+00	9.00E-04	0.00E+00	1.50E-03	1.07E-03	1.60E-01	7.64E-01	7.13E-01	1.48E+00
Cobalt	8.90E+00	1.40E-03	0.00E+00	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00
Copper	1.44E+01	5.00E-02	0.00E+00	8.00E-02	8.39E-02	1.60E-01	1.12E+00	1.05E+00	2.25E+00
Cyanide	5.90E-01	1.00E+00	0.00E+00	1.00E+00	4.30E-02	0.00E+00	0.00E+00	4.30E-02	8.59E-02
Iron	2.26E+04	2.00E-04	0.00E+00	8.00E-04	1.32E+00	1.00E+00	1.10E+04	1.65E+03	1.27E+04
Lead	1.57E+01	1.80E-03	0.00E+00	9.00E-03	1.03E-02	2.00E+00	1.53E+01	1.14E+00	1.65E+01
Magnesium	1.48E+03	1.10E-01	0.00E+00	2.00E-01	2.15E+01	1.00E+00	7.21E+02	1.08E+02	8.50E+02
Nickel	1.30E+01	1.20E-02	0.00E+00	1.20E-02	1.14E-02	2.30E-01	1.46E+00	9.46E-01	2.41E+00
Potassium	4.93E+02	1.10E-01	0.00E+00	2.00E-01	7.18E+00	1.00E+00	2.40E+02	3.59E+01	2.83E+02
Selenium	2.10E+00	5.00E-03	0.00E+00	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01
Sodium	1.68E+02	1.10E-02	0.00E+00	1.50E-02	1.83E-01	1.00E+00	8.18E+01	1.22E+01	9.43E+01
Thallium	3.10E+00	8.00E-05	0.00E+00	8.00E-04	1.81E-04	1.00E+00	1.51E+00	2.26E-01	1.74E+00
Zinc	4.18E+01	1.80E-01	0.00E+00	3.00E-01	9.13E-01	1.80E+00	3.67E+01	3.04E+00	4.06E+01
Organics									
2-Methylnaphthalene	8.00E-02	2.00E-02	0.00E+00	2.00E-02	1.16E-04	5.00E-02	1.95E-03	5.82E-03	7.89E-03
Naphthalene	7.60E-02	2.00E-02	0.00E+00	2.00E-02	1.11E-04	5.00E-02	1.85E-03	5.53E-03	7.49E-03
Phenanthrene	7.00E-02	2.00E-02	0.00E+00	2.00E-02	1.02E-04	5.00E-02	1.71E-03	5.10E-03	6.90E-03

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-90. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _s x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	1.23E+02	1.54E+01	0.00E+00	1.54E+01	8.33E+01	1.85E-01	6.6%
Arsenic	1.00E-01	2.28E-01	2.86E-02	0.00E+00	2.86E-02	6.22E+00	4.59E-03	0.2%
Barium	7.50E-03	4.76E-02	5.95E-03	0.00E+00	5.95E-03	1.49E+01	4.00E-04	0.0%
Beryllium	5.00E-02	5.65E-03	7.06E-04	0.00E+00	7.06E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	3.54E-02	4.42E-03	0.00E+00	4.42E-03	1.82E+00	2.43E-03	0.1%
Calcium	1.00E+00	2.54E+03	3.18E+02	0.00E+00	3.18E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	7.39E-01	9.24E-02	0.00E+00	9.24E-02	1.28E+00	7.22E-02	2.6%
Cobalt	1.00E+00	8.90E+00	1.11E+00	0.00E+00	1.11E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	2.01E+00	2.52E-01	0.00E+00	2.52E-01	4.86E+01	5.18E-03	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.26E+04	2.83E+03	0.00E+00	2.83E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	4.41E-01	5.51E-02	0.00E+00	5.51E-02	8.51E-01	6.47E-02	2.3%
Magnesium	1.00E+00	1.52E+03	1.90E+02	0.00E+00	1.90E+02	No TRV	No TRV	No HQ
Nickel	3.00E-01	1.29E+00	1.62E-01	0.00E+00	1.62E-01	8.81E+01	1.84E-03	0.1%
Potassium	1.00E+00	5.06E+02	6.32E+01	0.00E+00	6.32E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.25E+00	1.56E-01	0.00E+00	1.56E-01	6.05E-01	2.58E-01	9.2%
Sodium	1.00E+00	1.68E+02	2.10E+01	0.00E+00	2.10E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.10E+00	3.88E-01	0.00E+00	3.88E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	3.63E+02	4.53E+01	0.00E+00	4.53E+01	2.07E+01	2.19E+00	78.7%
2-Methylnaphthalene	1.90E-08	2.68E-10	3.35E-11	0.00E+00	3.35E-11	No TRV	No TRV	No HQ
Naphthalene	6.00E-03	8.03E-05	1.00E-05	0.00E+00	1.00E-05	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	5.92E-04	7.40E-05	0.00E+00	7.40E-05	No TRV	No TRV	No HQ
						HI =	2.79E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-91. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 8

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.42E+03	1.30E-04	3.47E-03	8.00E-04	4.90E-01	7.50E-02	3.08E+02	6.13E+02	9.21E+02
Arsenic	1.67E+01	1.20E-03	6.36E-05	8.00E-03	9.73E-03	6.60E-03	5.37E-02	1.22E+00	1.28E+00
Barium	4.52E+01	3.00E-03	4.30E-04	3.00E-02	9.87E-02	7.50E-03	1.65E-01	3.29E+00	3.55E+00
Beryllium	6.50E-01	3.00E-04	6.19E-07	2.00E-03	9.46E-05	5.00E-02	1.58E-02	4.73E-02	6.32E-02
Cadmium	1.30E-01	3.00E-02	1.24E-05	1.10E-01	1.04E-03	1.10E+01	6.97E-01	9.46E-03	7.07E-01
Calcium	2.33E+03	7.00E-02	5.18E-01	7.00E-01	1.19E+02	1.00E+00	1.14E+03	1.70E+02	1.42E+03
Chromium	9.80E+00	9.00E-04	2.80E-05	1.50E-03	1.07E-03	1.60E-01	7.64E-01	7.13E-01	1.48E+00
Cobalt	8.90E+00	1.40E-03	3.95E-05	4.00E-03	2.59E-03	1.00E+00	4.34E+00	6.48E-01	4.99E+00
Copper	1.44E+01	5.00E-02	2.29E-03	8.00E-02	8.39E-02	1.60E-01	1.12E+00	1.05E+00	2.25E+00
Cyanide	5.90E-01	1.00E+00	1.87E-03	1.00E+00	4.30E-02	0.00E+00	0.00E+00	4.30E-02	8.59E-02
Iron	2.26E+04	2.00E-04	1.43E-02	8.00E-04	1.32E+00	1.00E+00	1.10E+04	1.65E+03	1.27E+04
Lead	1.57E+01	1.80E-03	8.97E-05	9.00E-03	1.03E-02	2.00E+00	1.53E+01	1.14E+00	1.65E+01
Magnesium	1.48E+03	1.10E-01	5.17E-01	2.00E-01	2.15E+01	1.00E+00	7.21E+02	1.08E+02	8.50E+02
Nickel	1.30E+01	1.20E-02	4.95E-04	1.20E-02	1.14E-02	2.30E-01	1.46E+00	9.46E-01	2.41E+00
Potassium	4.93E+02	1.10E-01	1.72E-01	2.00E-01	7.18E+00	1.00E+00	2.40E+02	3.59E+01	2.83E+02
Selenium	2.10E+00	5.00E-03	3.33E-05	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01
Sodium	1.68E+02	1.10E-02	5.87E-03	1.50E-02	1.83E-01	1.00E+00	8.18E+01	1.22E+01	9.43E+01
Thallium	3.10E+00	8.00E-05	7.87E-07	8.00E-04	1.81E-04	1.00E+00	1.51E+00	2.26E-01	1.74E+00
Zinc	4.18E+01	1.80E-01	2.39E-02	3.00E-01	9.13E-01	1.80E+00	3.67E+01	3.04E+00	4.06E+01
Organics									
2-Methylnaphthalene	8.00E-02	2.00E-02	5.08E-06	2.00E-02	1.16E-04	5.00E-02	1.95E-03	5.82E-03	7.89E-03
Naphthalene	7.60E-02	2.00E-02	4.82E-06	2.00E-02	1.11E-04	5.00E-02	1.85E-03	5.53E-03	7.49E-03
Phenanthrene	7.00E-02	2.00E-02	4.44E-06	2.00E-02	1.02E-04	5.00E-02	1.71E-03	5.10E-03	6.90E-03

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 6.58E-02

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-91. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.23E+02	8.12E+00	1.63E+01	2.44E+01	5.46E-01	4.47E+01	44.3%
Arsenic	1.00E-01	2.28E-01	1.50E-02	3.23E-02	4.74E-02	3.56E-02	1.33E+00	1.3%
Barium	7.50E-03	4.76E-02	3.13E-03	8.73E-02	9.09E-02	2.79E+00	3.25E-02	0.0%
Beryllium	5.00E-02	5.65E-03	3.72E-04	1.26E-03	1.63E-03	3.45E-01	4.72E-03	0.0%
Cadmium	2.80E-02	3.54E-02	2.33E-03	2.51E-04	2.59E-03	5.04E-01	5.14E-03	0.0%
Calcium	1.00E+00	2.54E+03	1.67E+02	4.50E+00	1.72E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	7.39E-01	4.87E-02	1.89E-02	6.76E-02	1.43E+03	4.73E-05	0.0%
Cobalt	1.00E+00	8.90E+00	5.86E-01	1.72E-02	6.03E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.01E+00	1.33E-01	2.78E-02	1.63E-01	7.96E+00	2.04E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	1.14E-03	3.01E-03	3.37E+01	8.93E-05	0.0%
Iron	1.00E+00	2.26E+04	1.49E+03	4.37E+01	1.53E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	4.41E-01	2.90E-02	3.03E-02	5.94E-02	4.18E+00	1.42E-02	0.0%
Magnesium	1.00E+00	1.52E+03	1.00E+02	2.86E+00	1.03E+02	No TRV	No TRV	No HQ
Nickel	3.00E-01	1.29E+00	8.51E-02	2.51E-02	1.11E-01	2.09E+01	5.30E-03	0.0%
Potassium	1.00E+00	5.06E+02	3.33E+01	9.52E-01	3.44E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.25E+00	8.21E-02	4.06E-03	8.62E-02	1.05E-01	8.24E-01	0.8%
Sodium	1.00E+00	1.68E+02	1.11E+01	3.25E-01	1.14E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.10E+00	2.04E-01	5.99E-03	2.10E-01	3.91E-03	5.37E+01	53.2%
Zinc	5.00E+00	3.63E+02	2.39E+01	8.08E-02	2.40E+01	8.36E+01	2.87E-01	0.3%
2-Methylnaphthalene	1.90E-08	2.68E-10	1.76E-11	1.55E-04	1.60E-04	No TRV	No TRV	No HQ
Naphthalene	6.00E-03	8.03E-05	5.29E-06	1.47E-04	1.57E-04	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	5.92E-04	3.89E-05	1.35E-04	1.79E-04	No TRV	No TRV	No HQ
HI = 1.01E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-92. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.88E+03	5.00E+01	1.98E+02	91.5%
Arsenic	1.26E+01	1.00E+01	1.26E+00	0.6%
Barium	5.26E+01	5.00E+02	1.05E-01	0.0%
Chromium	1.39E+01	1.00E+00	1.39E+01	6.4%
Lead	1.34E+01	5.00E+01	2.68E-01	0.1%
Selenium	1.70E+00	1.00E+00	1.70E+00	0.8%
Zinc	5.44E+01	5.00E+01	1.09E+00	0.5%
HI =				2.16E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-93. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 14**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.88E+03	No TRV	No TRV	No HQ
Arsenic	1.26E+01	6.00E+01	2.10E-01	0.6%
Barium	5.26E+01	No TRV	No TRV	No HQ
Chromium	1.39E+01	4.00E-01	3.48E+01	98.6%
Lead	1.34E+01	5.00E+02	2.68E-02	0.1%
Selenium	1.70E+00	No TRV	No TRV	No HQ
Zinc	5.44E+01	2.00E+02	2.72E-01	0.8%
HI = 3.53E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-94. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.88E+03	8.00E-04	5.75E-01	7.50E-02	3.61E+02	7.19E+02	1.08E+03	2.22E+00	4.86E+02	98.0%
Arsenic	1.26E+01	8.00E-03	7.34E-03	6.60E-03	4.05E-02	9.17E-01	9.65E-01	1.45E-01	6.65E+00	1.3%
Barium	5.26E+01	3.00E-02	1.15E-01	7.50E-03	1.92E-01	3.83E+00	4.14E+00	1.14E+01	3.63E-01	0.1%
Chromium	1.39E+01	1.50E-03	1.52E-03	1.60E-01	1.08E+00	1.01E+00	2.10E+00	5.83E+03	3.60E-04	0.0%
Lead	1.34E+01	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01	1.70E+01	8.24E-01	0.2%
Selenium	1.70E+00	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01	4.26E-01	1.77E+00	0.4%
Zinc	5.44E+01	3.00E-01	1.19E+00	1.80E+00	4.77E+01	3.96E+00	5.29E+01	3.41E+02	1.55E-01	0.0%
									HI =	4.96E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-95. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.88E+03	1.30E-04	9.76E-01	7.50E-02	5.63E+02	1.56E+03	2.13E+03	1.29E+02	1.64E+01	40.9%
Arsenic	1.26E+01	1.20E-03	1.15E-02	6.60E-03	6.32E-02	1.99E+00	2.07E+00	9.66E+00	2.14E-01	0.5%
Barium	5.26E+01	3.00E-03	1.20E-01	7.50E-03	3.00E-01	8.32E+00	8.73E+00	2.31E+01	3.78E-01	0.9%
Chromium	1.39E+01	9.00E-04	9.51E-03	1.60E-01	1.69E+00	2.20E+00	3.90E+00	1.99E+00	1.96E+00	4.9%
Lead	1.34E+01	1.80E-03	1.83E-02	2.00E+00	2.04E+01	2.12E+00	2.25E+01	1.32E+00	1.70E+01	42.4%
Selenium	1.70E+00	5.00E-03	6.46E-03	7.60E-01	9.82E-01	2.69E-01	1.26E+00	9.40E-01	1.34E+00	3.3%
Zinc	5.44E+01	1.80E-01	7.44E+00	1.80E+00	7.44E+01	8.60E+00	9.05E+01	3.21E+01	2.82E+00	7.0%
									HI =	4.02E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-96. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.88E+03	8.00E-04	1.62E+00	7.50E-02	0.00E+00	1.28E+02	1.29E+02	7.63E-01	1.69E+02	97.6%
Arsenic	1.26E+01	8.00E-03	2.07E-02	6.60E-03	0.00E+00	1.63E-01	1.83E-01	4.98E-02	3.68E+00	2.1%
Barium	5.26E+01	3.00E-02	3.23E-01	7.50E-03	0.00E+00	6.79E-01	1.00E+00	3.90E+00	2.57E-01	0.1%
Chromium	1.39E+01	1.50E-03	4.27E-03	1.60E-01	0.00E+00	1.80E-01	1.84E-01	2.00E+03	9.19E-05	0.0%
Lead	1.34E+01	9.00E-03	2.47E-02	2.00E+00	0.00E+00	1.73E-01	1.98E-01	5.84E+00	3.39E-02	0.0%
Selenium	1.70E+00	5.00E-03	1.74E-03	7.60E-01	0.00E+00	2.20E-02	2.37E-02	1.46E-01	1.62E-01	0.1%
Zinc	5.44E+01	3.00E-01	3.35E+00	1.80E+00	0.00E+00	7.03E-01	4.05E+00	1.17E+02	3.46E-02	0.0%
									HI =	1.74E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-97. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.88E+03	8.00E-04	2.45E-01	7.50E-02	0.00E+00	6.13E+00	6.37E+00	2.93E-01	2.17E+01	97.0%
Arsenic	1.26E+01	8.00E-03	3.12E-03	6.60E-03	0.00E+00	7.81E-03	1.09E-02	1.91E-02	5.72E-01	2.6%
Barium	5.26E+01	3.00E-02	4.89E-02	7.50E-03	0.00E+00	3.26E-02	8.15E-02	1.50E+00	5.44E-02	0.2%
Chromium	1.39E+01	1.50E-03	6.46E-04	1.60E-01	0.00E+00	8.62E-03	9.26E-03	7.68E+02	1.21E-05	0.0%
Lead	1.34E+01	9.00E-03	3.74E-03	2.00E+00	0.00E+00	8.31E-03	1.20E-02	2.24E+00	5.37E-03	0.0%
Selenium	1.70E+00	5.00E-03	2.64E-04	7.60E-01	0.00E+00	1.05E-03	1.32E-03	5.61E-02	2.35E-02	0.1%
Zinc	5.44E+01	3.00E-01	5.06E-01	1.80E+00	0.00E+00	3.37E-02	5.40E-01	4.49E+01	1.20E-02	0.1%
HI =									2.24E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-98. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.88E+03	1.30E-04	0.00E+00	8.00E-04	5.75E-01	7.50E-02	3.61E+02	7.19E+02	1.08E+03
Arsenic	1.26E+01	1.20E-03	0.00E+00	8.00E-03	7.34E-03	6.60E-03	4.05E-02	9.17E-01	9.65E-01
Barium	5.26E+01	3.00E-03	0.00E+00	3.00E-02	1.15E-01	7.50E-03	1.92E-01	3.83E+00	4.14E+00
Chromium	1.39E+01	9.00E-04	0.00E+00	1.50E-03	1.52E-03	1.60E-01	1.08E+00	1.01E+00	2.10E+00
Lead	1.34E+01	1.80E-03	0.00E+00	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01
Selenium	1.70E+00	5.00E-03	0.00E+00	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01
Zinc	5.44E+01	1.80E-01	0.00E+00	3.00E-01	1.19E+00	1.80E+00	4.77E+01	3.96E+00	5.29E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-98. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.45E+02	1.59E+01	0.00E+00	1.59E+01	6.68E+01	2.39E-01	6.3%
Arsenic	1.00E-01	1.72E-01	1.90E-02	0.00E+00	1.90E-02	4.98E+00	3.81E-03	0.1%
Barium	7.50E-03	5.54E-02	6.09E-03	0.00E+00	6.09E-03	1.19E+01	5.12E-04	0.0%
Chromium	2.80E-01	1.05E+00	1.15E-01	0.00E+00	1.15E-01	1.03E+00	1.12E-01	3.0%
Lead	1.50E-02	3.76E-01	4.14E-02	0.00E+00	4.14E-02	6.82E-01	6.07E-02	1.6%
Selenium	7.50E-01	1.01E+00	1.11E-01	0.00E+00	1.11E-01	4.85E-01	2.29E-01	6.1%
Zinc	5.00E+00	4.72E+02	5.19E+01	0.00E+00	5.19E+01	1.66E+01	3.13E+00	82.9%
HI =							3.78E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-99. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.88E+03	1.30E-04	0.00E+00	8.00E-04	5.75E-01	7.50E-02	3.61E+02	7.19E+02	1.08E+03
Arsenic	1.26E+01	1.20E-03	0.00E+00	8.00E-03	7.34E-03	6.60E-03	4.05E-02	9.17E-01	9.65E-01
Barium	5.26E+01	3.00E-03	0.00E+00	3.00E-02	1.15E-01	7.50E-03	1.92E-01	3.83E+00	4.14E+00
Chromium	1.39E+01	9.00E-04	0.00E+00	1.50E-03	1.52E-03	1.60E-01	1.08E+00	1.01E+00	2.10E+00
Lead	1.34E+01	1.80E-03	0.00E+00	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01
Selenium	1.70E+00	5.00E-03	0.00E+00	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01
Zinc	5.44E+01	1.80E-01	0.00E+00	3.00E-01	1.19E+00	1.80E+00	4.77E+01	3.96E+00	5.29E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-99. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.45E+02	1.81E+01	0.00E+00	1.81E+01	8.33E+01	2.17E-01	6.3%	
Arsenic	1.00E-01	1.72E-01	2.15E-02	0.00E+00	2.15E-02	6.22E+00	3.47E-03	0.1%	
Barium	7.50E-03	5.54E-02	6.92E-03	0.00E+00	6.92E-03	1.49E+01	4.66E-04	0.0%	
Chromium	2.80E-01	1.05E+00	1.31E-01	0.00E+00	1.31E-01	1.28E+00	1.02E-01	3.0%	
Lead	1.50E-02	3.76E-01	4.70E-02	0.00E+00	4.70E-02	8.51E-01	5.52E-02	1.6%	
Selenium	7.50E-01	1.01E+00	1.26E-01	0.00E+00	1.26E-01	6.05E-01	2.09E-01	6.1%	
Zinc	5.00E+00	4.72E+02	5.90E+01	0.00E+00	5.90E+01	2.07E+01	2.85E+00	82.9%	
							HI =	3.44E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-100. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 14

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	9.88E+03	1.30E-04	4.08E-03	8.00E-04	5.75E-01	7.50E-02	3.61E+02	7.19E+02	1.08E+03
Arsenic	1.26E+01	1.20E-03	4.80E-05	8.00E-03	7.34E-03	6.60E-03	4.05E-02	9.17E-01	9.65E-01
Barium	5.26E+01	3.00E-03	5.01E-04	3.00E-02	1.15E-01	7.50E-03	1.92E-01	3.83E+00	4.14E+00
Chromium	1.39E+01	9.00E-04	3.97E-05	1.50E-03	1.52E-03	1.60E-01	1.08E+00	1.01E+00	2.10E+00
Lead	1.34E+01	1.80E-03	7.66E-05	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01
Selenium	1.70E+00	5.00E-03	2.70E-05	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01
Zinc	5.44E+01	1.80E-01	3.11E-02	3.00E-01	1.19E+00	1.80E+00	4.77E+01	3.96E+00	5.29E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-100. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.45E+02	9.53E+00	1.91E+01	2.86E+01	5.46E-01	5.24E+01	96.2%
Arsenic	1.00E-01	1.72E-01	1.13E-02	2.43E-02	3.57E-02	3.56E-02	1.00E+00	1.8%
Barium	7.50E-03	5.54E-02	3.65E-03	1.02E-01	1.06E-01	2.79E+00	3.79E-02	0.1%
Chromium	2.80E-01	1.05E+00	6.90E-02	2.69E-02	9.59E-02	1.43E+03	6.70E-05	0.0%
Lead	1.50E-02	3.76E-01	2.48E-02	2.59E-02	5.07E-02	4.18E+00	1.21E-02	0.0%
Selenium	7.50E-01	1.01E+00	6.65E-02	3.28E-03	6.98E-02	1.05E-01	6.67E-01	1.2%
Zinc	5.00E+00	4.72E+02	3.11E+01	1.05E-01	3.12E+01	8.36E+01	3.73E-01	0.7%
							HI = 5.45E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-101. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics	1.53E+01	No TRV	No TRV	No HQ
Aluminum	9.03E+03	5.00E+01	1.81E+02	92.2%
Arsenic	1.53E+01	1.00E+01	1.53E+00	0.8%
Barium	5.30E+01	5.00E+02	1.06E-01	0.1%
Chromium	1.14E+01	1.00E+00	1.14E+01	5.8%
Lead	1.77E+01	5.00E+01	3.54E-01	0.2%
Selenium	1.10E+00	1.00E+00	1.10E+00	0.6%
Zinc	3.78E+01	5.00E+01	7.56E-01	0.4%
HI =				1.96E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-102. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 15**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics	1.53E+01	No TRV	No TRV	No HQ
Aluminum	9.03E+03	No TRV	No TRV	No HQ
Arsenic	1.53E+01	6.00E+01	2.55E-01	0.9%
Barium	5.30E+01	No TRV	No TRV	No HQ
Chromium	1.14E+01	4.00E-01	2.85E+01	98.3%
Lead	1.77E+01	5.00E+02	3.54E-02	0.1%
Selenium	1.10E+00	No TRV	No TRV	No HQ
Zinc	3.78E+01	2.00E+02	1.89E-01	0.7%
HI = 2.90E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-103. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.03E+03	8.00E-04	5.26E-01	7.50E-02	3.30E+02	6.57E+02	9.88E+02	2.22E+00	4.44E+02	97.6%
Arsenic	1.53E+01	8.00E-03	8.91E-03	6.60E-03	4.92E-02	1.11E+00	1.17E+00	1.45E-01	8.07E+00	1.8%
Barium	5.30E+01	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00	1.14E+01	3.66E-01	0.1%
Chromium	1.14E+01	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00	5.83E+03	2.95E-04	0.0%
Lead	1.77E+01	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01	1.70E+01	1.09E+00	0.2%
Selenium	1.10E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01	4.26E-01	1.14E+00	0.3%
Zinc	3.78E+01	3.00E-01	8.26E-01	1.80E+00	3.31E+01	2.75E+00	3.67E+01	3.41E+02	1.08E-01	0.0%
									HI =	4.55E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-104. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.03E+03	1.30E-04	8.92E-01	7.50E-02	5.15E+02	1.43E+03	1.94E+03	1.29E+02	1.50E+01	35.3%
Arsenic	1.53E+01	1.20E-03	1.40E-02	6.60E-03	7.67E-02	2.42E+00	2.51E+00	9.66E+00	2.60E-01	0.6%
Barium	5.30E+01	3.00E-03	1.21E-01	7.50E-03	3.02E-01	8.38E+00	8.80E+00	2.31E+01	3.81E-01	0.9%
Chromium	1.14E+01	9.00E-04	7.80E-03	1.60E-01	1.39E+00	1.80E+00	3.20E+00	1.99E+00	1.61E+00	3.8%
Lead	1.77E+01	1.80E-03	2.42E-02	2.00E+00	2.69E+01	2.80E+00	2.97E+01	1.32E+00	2.25E+01	52.8%
Selenium	1.10E+00	5.00E-03	4.18E-03	7.60E-01	6.35E-01	1.74E-01	8.13E-01	9.40E-01	8.65E-01	2.0%
Zinc	3.78E+01	1.80E-01	5.17E+00	1.80E+00	5.17E+01	5.98E+00	6.29E+01	3.21E+01	1.96E+00	4.6%
									HI =	4.26E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-105. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.03E+03	8.00E-04	1.48E+00	7.50E-02	0.00E+00	1.17E+02	1.18E+02	7.63E-01	1.55E+02	96.9%
Arsenic	1.53E+01	8.00E-03	2.51E-02	6.60E-03	0.00E+00	1.98E-01	2.23E-01	4.98E-02	4.47E+00	2.8%
Barium	5.30E+01	3.00E-02	3.26E-01	7.50E-03	0.00E+00	6.84E-01	1.01E+00	3.90E+00	2.59E-01	0.2%
Chromium	1.14E+01	1.50E-03	3.51E-03	1.60E-01	0.00E+00	1.47E-01	1.51E-01	2.00E+03	7.54E-05	0.0%
Lead	1.77E+01	9.00E-03	3.27E-02	2.00E+00	0.00E+00	2.29E-01	2.61E-01	5.84E+00	4.47E-02	0.0%
Selenium	1.10E+00	5.00E-03	1.13E-03	7.60E-01	0.00E+00	1.42E-02	1.53E-02	1.46E-01	1.05E-01	0.1%
Zinc	3.78E+01	3.00E-01	2.32E+00	1.80E+00	0.00E+00	4.88E-01	2.81E+00	1.17E+02	2.41E-02	0.0%
									HI =	1.60E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-106. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.03E+03	8.00E-04	2.24E-01	7.50E-02	0.00E+00	5.60E+00	5.82E+00	2.93E-01	1.99E+01	96.2%
Arsenic	1.53E+01	8.00E-03	3.79E-03	6.60E-03	0.00E+00	9.49E-03	1.33E-02	1.91E-02	6.94E-01	3.4%
Barium	5.30E+01	3.00E-02	4.93E-02	7.50E-03	0.00E+00	3.29E-02	8.22E-02	1.50E+00	5.48E-02	0.3%
Chromium	1.14E+01	1.50E-03	5.30E-04	1.60E-01	0.00E+00	7.07E-03	7.60E-03	7.68E+02	9.90E-06	0.0%
Lead	1.77E+01	9.00E-03	4.94E-03	2.00E+00	0.00E+00	1.10E-02	1.59E-02	2.24E+00	7.09E-03	0.0%
Selenium	1.10E+00	5.00E-03	1.71E-04	7.60E-01	0.00E+00	6.82E-04	8.53E-04	5.61E-02	1.52E-02	0.1%
Zinc	3.78E+01	3.00E-01	3.52E-01	1.80E+00	0.00E+00	2.34E-02	3.75E-01	4.49E+01	8.35E-03	0.0%
HI =									2.07E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-107. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	9.03E+03	1.30E-04	0.00E+00	8.00E-04	5.26E-01	7.50E-02	3.30E+02	6.57E+02	9.88E+02
Arsenic	1.53E+01	1.20E-03	0.00E+00	8.00E-03	8.91E-03	6.60E-03	4.92E-02	1.11E+00	1.17E+00
Barium	5.30E+01	3.00E-03	0.00E+00	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00
Chromium	1.14E+01	9.00E-04	0.00E+00	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00
Lead	1.77E+01	1.80E-03	0.00E+00	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	3.78E+01	1.80E-01	0.00E+00	3.00E-01	8.26E-01	1.80E+00	3.31E+01	2.75E+00	3.67E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-107. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.32E+02	1.46E+01	0.00E+00	1.46E+01	6.68E+01	2.18E-01	8.0%
Arsenic	1.00E-01	2.09E-01	2.30E-02	0.00E+00	2.30E-02	4.98E+00	4.62E-03	0.2%
Barium	7.50E-03	5.58E-02	6.14E-03	0.00E+00	6.14E-03	1.19E+01	5.15E-04	0.0%
Chromium	2.80E-01	8.60E-01	9.46E-02	0.00E+00	9.46E-02	1.03E+00	9.22E-02	3.4%
Lead	1.50E-02	4.97E-01	5.46E-02	0.00E+00	5.46E-02	6.82E-01	8.01E-02	2.9%
Selenium	7.50E-01	6.53E-01	7.19E-02	0.00E+00	7.19E-02	4.85E-01	1.48E-01	5.4%
Zinc	5.00E+00	3.28E+02	3.61E+01	0.00E+00	3.61E+01	1.66E+01	2.18E+00	80.0%
HI =							2.72E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-108. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.03E+03	1.30E-04	0.00E+00	8.00E-04	5.26E-01	7.50E-02	3.30E+02	6.57E+02	9.88E+02
Arsenic	1.53E+01	1.20E-03	0.00E+00	8.00E-03	8.91E-03	6.60E-03	4.92E-02	1.11E+00	1.17E+00
Barium	5.30E+01	3.00E-03	0.00E+00	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00
Chromium	1.14E+01	9.00E-04	0.00E+00	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00
Lead	1.77E+01	1.80E-03	0.00E+00	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	3.78E+01	1.80E-01	0.00E+00	3.00E-01	8.26E-01	1.80E+00	3.31E+01	2.75E+00	3.67E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-108. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.32E+02	1.65E+01	0.00E+00	1.65E+01	8.33E+01	1.99E-01	8.0%
Arsenic	1.00E-01	2.09E-01	2.62E-02	0.00E+00	2.62E-02	6.22E+00	4.21E-03	0.2%
Barium	7.50E-03	5.58E-02	6.98E-03	0.00E+00	6.98E-03	1.49E+01	4.69E-04	0.0%
Chromium	2.80E-01	8.60E-01	1.07E-01	0.00E+00	1.07E-01	1.28E+00	8.40E-02	3.4%
Lead	1.50E-02	4.97E-01	6.21E-02	0.00E+00	6.21E-02	8.51E-01	7.30E-02	2.9%
Selenium	7.50E-01	6.53E-01	8.17E-02	0.00E+00	8.17E-02	6.05E-01	1.35E-01	5.4%
Zinc	5.00E+00	3.28E+02	4.10E+01	0.00E+00	4.10E+01	2.07E+01	1.98E+00	80.0%
							HI =	2.48E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-109. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 15

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP _s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.03E+03	1.30E-04	3.73E-03	8.00E-04	5.26E-01	7.50E-02	3.30E+02	6.57E+02	9.88E+02
Arsenic	1.53E+01	1.20E-03	5.83E-05	8.00E-03	8.91E-03	6.60E-03	4.92E-02	1.11E+00	1.17E+00
Barium	5.30E+01	3.00E-03	5.05E-04	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00
Chromium	1.14E+01	9.00E-04	3.26E-05	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00
Lead	1.77E+01	1.80E-03	1.01E-04	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01
Selenium	1.10E+00	5.00E-03	1.75E-05	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	3.78E+01	1.80E-01	2.16E-02	3.00E-01	8.26E-01	1.80E+00	3.31E+01	2.75E+00	3.67E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-109. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.32E+02	8.71E+00	1.74E+01	2.62E+01	5.46E-01	4.79E+01	96.1%
Arsenic	1.00E-01	2.09E-01	1.38E-02	2.96E-02	4.34E-02	3.56E-02	1.22E+00	2.4%
Barium	7.50E-03	5.58E-02	3.67E-03	1.02E-01	1.07E-01	2.79E+00	3.82E-02	0.1%
Chromium	2.80E-01	8.60E-01	5.66E-02	2.20E-02	7.87E-02	1.43E+03	5.50E-05	0.0%
Lead	1.50E-02	4.97E-01	3.27E-02	3.42E-02	6.70E-02	4.18E+00	1.60E-02	0.0%
Selenium	7.50E-01	6.53E-01	4.30E-02	2.13E-03	4.51E-02	1.05E-01	4.32E-01	0.9%
Zinc	5.00E+00	3.28E+02	2.16E+01	7.30E-02	2.17E+01	8.36E+01	2.59E-01	0.5%
							HI =	4.99E+01

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-110. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.14E+04	5.00E+01	2.28E+02	93.0%
Arsenic	1.40E+01	1.00E+01	1.40E+00	0.6%
Barium	4.69E+01	5.00E+02	9.38E-02	0.0%
Chromium	1.33E+01	1.00E+00	1.33E+01	5.4%
Lead	1.71E+01	5.00E+01	3.42E-01	0.1%
Selenium	1.10E+00	1.00E+00	1.10E+00	0.4%
Zinc	5.10E+01	5.00E+01	1.02E+00	0.4%
HI =				2.45E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-111. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 16**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.14E+04	No TRV	No TRV	No HQ
Arsenic	1.40E+01	6.00E+01	2.33E-01	0.7%
Barium	4.69E+01	No TRV	No TRV	No HQ
Chromium	1.33E+01	4.00E-01	3.33E+01	98.5%
Lead	1.71E+01	5.00E+02	3.42E-02	0.1%
Selenium	1.10E+00	No TRV	No TRV	No HQ
Zinc	5.10E+01	2.00E+02	2.55E-01	0.8%
HI =				3.38E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-112. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03	2.22E+00	5.61E+02	98.2%
Arsenic	1.40E+01	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00	1.45E-01	7.38E+00	1.3%
Barium	4.69E+01	3.00E-02	1.02E-01	7.50E-03	1.71E-01	3.41E+00	3.69E+00	1.14E+01	3.24E-01	0.1%
Chromium	1.33E+01	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00	5.83E+03	3.44E-04	0.0%
Lead	1.71E+01	9.00E-03	1.12E-02	2.00E+00	1.67E+01	1.24E+00	1.79E+01	1.70E+01	1.05E+00	0.2%
Selenium	1.10E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01	4.26E-01	1.14E+00	0.2%
Zinc	5.10E+01	3.00E-01	1.11E+00	1.80E+00	4.47E+01	3.71E+00	4.96E+01	3.41E+02	1.45E-01	0.0%
									HI =	5.71E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-113. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	1.30E-04	1.13E+00	7.50E-02	6.50E+02	1.80E+03	2.45E+03	1.29E+02	1.90E+01	40.6%
Arsenic	1.40E+01	1.20E-03	1.28E-02	6.60E-03	7.02E-02	2.21E+00	2.30E+00	9.66E+00	2.38E-01	0.5%
Barium	4.69E+01	3.00E-03	1.07E-01	7.50E-03	2.67E-01	7.41E+00	7.79E+00	2.31E+01	3.37E-01	0.7%
Chromium	1.33E+01	9.00E-04	9.10E-03	1.60E-01	1.62E+00	2.10E+00	3.73E+00	1.99E+00	1.88E+00	4.0%
Lead	1.71E+01	1.80E-03	2.34E-02	2.00E+00	2.60E+01	2.70E+00	2.87E+01	1.32E+00	2.17E+01	46.6%
Selenium	1.10E+00	5.00E-03	4.18E-03	7.60E-01	6.35E-01	1.74E-01	8.13E-01	9.40E-01	8.65E-01	1.9%
Zinc	5.10E+01	1.80E-01	6.98E+00	1.80E+00	6.98E+01	8.06E+00	8.48E+01	3.21E+01	2.64E+00	5.7%
HI =									4.66E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-114. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	8.00E-04	1.87E+00	7.50E-02	0.00E+00	1.47E+02	1.49E+02	7.63E-01	1.95E+02	97.7%
Arsenic	1.40E+01	8.00E-03	2.30E-02	6.60E-03	0.00E+00	1.81E-01	2.04E-01	4.98E-02	4.09E+00	2.0%
Barium	4.69E+01	3.00E-02	2.88E-01	7.50E-03	0.00E+00	6.06E-01	8.94E-01	3.90E+00	2.29E-01	0.1%
Chromium	1.33E+01	1.50E-03	4.09E-03	1.60E-01	0.00E+00	1.72E-01	1.76E-01	2.00E+03	8.80E-05	0.0%
Lead	1.71E+01	9.00E-03	3.15E-02	2.00E+00	0.00E+00	2.21E-01	2.52E-01	5.84E+00	4.32E-02	0.0%
Selenium	1.10E+00	5.00E-03	1.13E-03	7.60E-01	0.00E+00	1.42E-02	1.53E-02	1.46E-01	1.05E-01	0.1%
Zinc	5.10E+01	3.00E-01	3.14E+00	1.80E+00	0.00E+00	6.59E-01	3.80E+00	1.17E+02	3.25E-02	0.0%
									HI =	2.00E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-115. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	8.00E-04	2.83E-01	7.50E-02	0.00E+00	7.07E+00	7.35E+00	2.93E-01	2.51E+01	97.2%
Arsenic	1.40E+01	8.00E-03	3.47E-03	6.60E-03	0.00E+00	8.68E-03	1.22E-02	1.91E-02	6.35E-01	2.5%
Barium	4.69E+01	3.00E-02	4.36E-02	7.50E-03	0.00E+00	2.91E-02	7.27E-02	1.50E+00	4.85E-02	0.2%
Chromium	1.33E+01	1.50E-03	6.18E-04	1.60E-01	0.00E+00	8.25E-03	8.86E-03	7.68E+02	1.15E-05	0.0%
Lead	1.71E+01	9.00E-03	4.77E-03	2.00E+00	0.00E+00	1.06E-02	1.54E-02	2.24E+00	6.85E-03	0.0%
Selenium	1.10E+00	5.00E-03	1.71E-04	7.60E-01	0.00E+00	6.82E-04	8.53E-04	5.61E-02	1.52E-02	0.1%
Zinc	5.10E+01	3.00E-01	4.74E-01	1.80E+00	0.00E+00	3.16E-02	5.06E-01	4.49E+01	1.13E-02	0.0%
									HI =	2.58E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-116. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.14E+04	1.30E-04	0.00E+00	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03
Arsenic	1.40E+01	1.20E-03	0.00E+00	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	4.69E+01	3.00E-03	0.00E+00	3.00E-02	1.02E-01	7.50E-03	1.71E-01	3.41E+00	3.69E+00
Chromium	1.33E+01	9.00E-04	0.00E+00	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00
Lead	1.71E+01	1.80E-03	0.00E+00	9.00E-03	1.12E-02	2.00E+00	1.67E+01	1.24E+00	1.79E+01
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	5.10E+01	1.80E-01	0.00E+00	3.00E-01	1.11E+00	1.80E+00	4.47E+01	3.71E+00	4.96E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-116. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.67E+02	1.84E+01	0.00E+00	1.84E+01	6.68E+01	2.75E-01	7.8%
Arsenic	1.00E-01	1.91E-01	2.11E-02	0.00E+00	2.11E-02	4.98E+00	4.23E-03	0.1%
Barium	7.50E-03	4.94E-02	5.43E-03	0.00E+00	5.43E-03	1.19E+01	4.56E-04	0.0%
Chromium	2.80E-01	1.00E+00	1.10E-01	0.00E+00	1.10E-01	1.03E+00	1.08E-01	3.0%
Lead	1.50E-02	4.80E-01	5.28E-02	0.00E+00	5.28E-02	6.82E-01	7.74E-02	2.2%
Selenium	7.50E-01	6.53E-01	7.19E-02	0.00E+00	7.19E-02	4.85E-01	1.48E-01	4.2%
Zinc	5.00E+00	4.42E+02	4.87E+01	0.00E+00	4.87E+01	1.66E+01	2.94E+00	82.7%
HI =							3.55E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-117. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.14E+04	1.30E-04	0.00E+00	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03
Arsenic	1.40E+01	1.20E-03	0.00E+00	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	4.69E+01	3.00E-03	0.00E+00	3.00E-02	1.02E-01	7.50E-03	1.71E-01	3.41E+00	3.69E+00
Chromium	1.33E+01	9.00E-04	0.00E+00	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00
Lead	1.71E+01	1.80E-03	0.00E+00	9.00E-03	1.12E-02	2.00E+00	1.67E+01	1.24E+00	1.79E+01
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	5.10E+01	1.80E-01	0.00E+00	3.00E-01	1.11E+00	1.80E+00	4.47E+01	3.71E+00	4.96E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-117. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.67E+02	2.09E+01	0.00E+00	2.09E+01	8.33E+01	2.51E-01	7.8%	
Arsenic	1.00E-01	1.91E-01	2.39E-02	0.00E+00	2.39E-02	6.22E+00	3.85E-03	0.1%	
Barium	7.50E-03	4.94E-02	6.17E-03	0.00E+00	6.17E-03	1.49E+01	4.15E-04	0.0%	
Chromium	2.80E-01	1.00E+00	1.25E-01	0.00E+00	1.25E-01	1.28E+00	9.80E-02	3.0%	
Lead	1.50E-02	4.80E-01	6.00E-02	0.00E+00	6.00E-02	8.51E-01	7.05E-02	2.2%	
Selenium	7.50E-01	6.53E-01	8.17E-02	0.00E+00	8.17E-02	6.05E-01	1.35E-01	4.2%	
Zinc	5.00E+00	4.42E+02	5.53E+01	0.00E+00	5.53E+01	2.07E+01	2.67E+00	82.7%	
HI =							3.23E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-118. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 16

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP _s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.14E+04	1.30E-04	4.70E-03	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03
Arsenic	1.40E+01	1.20E-03	5.33E-05	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	4.69E+01	3.00E-03	4.47E-04	3.00E-02	1.02E-01	7.50E-03	1.71E-01	3.41E+00	3.69E+00
Chromium	1.33E+01	9.00E-04	3.80E-05	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00
Lead	1.71E+01	1.80E-03	9.77E-05	9.00E-03	1.12E-02	2.00E+00	1.67E+01	1.24E+00	1.79E+01
Selenium	1.10E+00	5.00E-03	1.75E-05	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	5.10E+01	1.80E-01	2.91E-02	3.00E-01	1.11E+00	1.80E+00	4.47E+01	3.71E+00	4.96E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-118. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.67E+02	1.10E+01	2.20E+01	3.30E+01	5.46E-01	6.05E+01	96.9%
Arsenic	1.00E-01	1.91E-01	1.26E-02	2.70E-02	3.97E-02	3.56E-02	1.11E+00	1.8%
Barium	7.50E-03	4.94E-02	3.25E-03	9.06E-02	9.43E-02	2.79E+00	3.38E-02	0.1%
Chromium	2.80E-01	1.00E+00	6.60E-02	2.57E-02	9.18E-02	1.43E+03	6.42E-05	0.0%
Lead	1.50E-02	4.80E-01	3.16E-02	3.30E-02	6.47E-02	4.18E+00	1.55E-02	0.0%
Selenium	7.50E-01	6.53E-01	4.30E-02	2.13E-03	4.51E-02	1.05E-01	4.32E-01	0.7%
Zinc	5.00E+00	4.42E+02	2.91E+01	9.85E-02	2.93E+01	8.36E+01	3.50E-01	0.6%
							HI = 6.24E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-119. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.40E+04	5.00E+01	2.80E+02	93.6%
Arsenic	1.11E+01	1.00E+01	1.11E+00	0.4%
Barium	5.91E+01	5.00E+02	1.18E-01	0.0%
Chromium	1.61E+01	1.00E+00	1.61E+01	5.4%
Lead	1.59E+01	5.00E+01	3.18E-01	0.1%
Selenium	4.00E-01	1.00E+00	4.00E-01	0.1%
Zinc	5.43E+01	5.00E+01	1.09E+00	0.4%
HI =				2.99E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-120. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 17**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.40E+04	No TRV	No TRV	No HQ
Arsenic	1.11E+01	6.00E+01	1.85E-01	0.5%
Barium	5.91E+01	No TRV	No TRV	No HQ
Chromium	1.61E+01	4.00E-01	4.03E+01	98.8%
Lead	1.59E+01	5.00E+02	3.18E-02	0.1%
Selenium	4.00E-01	No TRV	No TRV	No HQ
Zinc	5.43E+01	2.00E+02	2.72E-01	0.7%
HI =				4.07E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-121. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03	2.22E+00	6.89E+02	98.9%
Arsenic	1.11E+01	8.00E-03	6.46E-03	6.60E-03	3.57E-02	8.08E-01	8.50E-01	1.45E-01	5.85E+00	0.8%
Barium	5.91E+01	3.00E-02	1.29E-01	7.50E-03	2.16E-01	4.30E+00	4.65E+00	1.14E+01	4.08E-01	0.1%
Chromium	1.61E+01	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00	5.83E+03	4.17E-04	0.0%
Lead	1.59E+01	9.00E-03	1.04E-02	2.00E+00	1.55E+01	1.16E+00	1.67E+01	1.70E+01	9.78E-01	0.1%
Selenium	4.00E-01	5.00E-03	1.46E-04	7.60E-01	1.48E-01	2.91E-02	1.77E-01	4.26E-01	4.16E-01	0.1%
Zinc	5.43E+01	3.00E-01	1.19E+00	1.80E+00	4.76E+01	3.95E+00	5.28E+01	3.41E+02	1.55E-01	0.0%
									HI =	6.96E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-122. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	1.30E-04	1.38E+00	7.50E-02	7.98E+02	2.21E+03	3.01E+03	1.29E+02	2.33E+01	47.0%
Arsenic	1.11E+01	1.20E-03	1.01E-02	6.60E-03	5.57E-02	1.75E+00	1.82E+00	9.66E+00	1.89E-01	0.4%
Barium	5.91E+01	3.00E-03	1.35E-01	7.50E-03	3.37E-01	9.34E+00	9.81E+00	2.31E+01	4.25E-01	0.9%
Chromium	1.61E+01	9.00E-04	1.10E-02	1.60E-01	1.96E+00	2.55E+00	4.51E+00	1.99E+00	2.27E+00	4.6%
Lead	1.59E+01	1.80E-03	2.18E-02	2.00E+00	2.42E+01	2.51E+00	2.67E+01	1.32E+00	2.02E+01	40.8%
Selenium	4.00E-01	5.00E-03	1.52E-03	7.60E-01	2.31E-01	6.32E-02	2.96E-01	9.40E-01	3.15E-01	0.6%
Zinc	5.43E+01	1.80E-01	7.43E+00	1.80E+00	7.43E+01	8.58E+00	9.03E+01	3.21E+01	2.81E+00	5.7%
HI =									4.95E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-123. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	8.00E-04	2.30E+00	7.50E-02	0.00E+00	1.81E+02	1.83E+02	7.63E-01	2.40E+02	98.5%
Arsenic	1.11E+01	8.00E-03	1.82E-02	6.60E-03	0.00E+00	1.43E-01	1.62E-01	4.98E-02	3.24E+00	1.3%
Barium	5.91E+01	3.00E-02	3.63E-01	7.50E-03	0.00E+00	7.63E-01	1.13E+00	3.90E+00	2.89E-01	0.1%
Chromium	1.61E+01	1.50E-03	4.95E-03	1.60E-01	0.00E+00	2.08E-01	2.13E-01	2.00E+03	1.06E-04	0.0%
Lead	1.59E+01	9.00E-03	2.93E-02	2.00E+00	0.00E+00	2.05E-01	2.35E-01	5.84E+00	4.02E-02	0.0%
Selenium	4.00E-01	5.00E-03	4.10E-04	7.60E-01	0.00E+00	5.17E-03	5.58E-03	1.46E-01	3.82E-02	0.0%
Zinc	5.43E+01	3.00E-01	3.34E+00	1.80E+00	0.00E+00	7.01E-01	4.04E+00	1.17E+02	3.46E-02	0.0%
									HI =	2.44E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-124. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	8.00E-04	3.47E-01	7.50E-02	0.00E+00	8.68E+00	9.03E+00	2.93E-01	3.08E+01	98.1%
Arsenic	1.11E+01	8.00E-03	2.75E-03	6.60E-03	0.00E+00	6.88E-03	9.63E-03	1.91E-02	5.04E-01	1.6%
Barium	5.91E+01	3.00E-02	5.50E-02	7.50E-03	0.00E+00	3.66E-02	9.16E-02	1.50E+00	6.11E-02	0.2%
Chromium	1.61E+01	1.50E-03	7.49E-04	1.60E-01	0.00E+00	9.98E-03	1.07E-02	7.68E+02	1.40E-05	0.0%
Lead	1.59E+01	9.00E-03	4.44E-03	2.00E+00	0.00E+00	9.86E-03	1.43E-02	2.24E+00	6.37E-03	0.0%
Selenium	4.00E-01	5.00E-03	6.20E-05	7.60E-01	0.00E+00	2.48E-04	3.10E-04	5.61E-02	5.52E-03	0.0%
Zinc	5.43E+01	3.00E-01	5.05E-01	1.80E+00	0.00E+00	3.37E-02	5.39E-01	4.49E+01	1.20E-02	0.0%
HI =									3.14E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-125. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.40E+04	1.30E-04	0.00E+00	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03
Arsenic	1.11E+01	1.20E-03	0.00E+00	8.00E-03	6.46E-03	6.60E-03	3.57E-02	8.08E-01	8.50E-01
Barium	5.91E+01	3.00E-03	0.00E+00	3.00E-02	1.29E-01	7.50E-03	2.16E-01	4.30E+00	4.65E+00
Chromium	1.61E+01	9.00E-04	0.00E+00	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00
Lead	1.59E+01	1.80E-03	0.00E+00	9.00E-03	1.04E-02	2.00E+00	1.55E+01	1.16E+00	1.67E+01
Selenium	4.00E-01	5.00E-03	0.00E+00	5.00E-03	1.46E-04	7.60E-01	1.48E-01	2.91E-02	1.77E-01
Zinc	5.43E+01	1.80E-01	0.00E+00	3.00E-01	1.19E+00	1.80E+00	4.76E+01	3.95E+00	5.28E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-125. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.05E+02	2.26E+01	0.00E+00	2.26E+01	6.68E+01	3.38E-01	9.1%
Arsenic	1.00E-01	1.52E-01	1.67E-02	0.00E+00	1.67E-02	4.98E+00	3.35E-03	0.1%
Barium	7.50E-03	6.22E-02	6.85E-03	0.00E+00	6.85E-03	1.19E+01	5.75E-04	0.0%
Chromium	2.80E-01	1.21E+00	1.34E-01	0.00E+00	1.34E-01	1.03E+00	1.30E-01	3.5%
Lead	1.50E-02	4.46E-01	4.91E-02	0.00E+00	4.91E-02	6.82E-01	7.20E-02	1.9%
Selenium	7.50E-01	2.38E-01	2.61E-02	0.00E+00	2.61E-02	4.85E-01	5.39E-02	1.4%
Zinc	5.00E+00	4.71E+02	5.18E+01	0.00E+00	5.18E+01	1.66E+01	3.13E+00	83.9%
HI =							3.72E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-126. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.40E+04	1.30E-04	0.00E+00	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03
Arsenic	1.11E+01	1.20E-03	0.00E+00	8.00E-03	6.46E-03	6.60E-03	3.57E-02	8.08E-01	8.50E-01
Barium	5.91E+01	3.00E-03	0.00E+00	3.00E-02	1.29E-01	7.50E-03	2.16E-01	4.30E+00	4.65E+00
Chromium	1.61E+01	9.00E-04	0.00E+00	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00
Lead	1.59E+01	1.80E-03	0.00E+00	9.00E-03	1.04E-02	2.00E+00	1.55E+01	1.16E+00	1.67E+01
Selenium	4.00E-01	5.00E-03	0.00E+00	5.00E-03	1.46E-04	7.60E-01	1.48E-01	2.91E-02	1.77E-01
Zinc	5.43E+01	1.80E-01	0.00E+00	3.00E-01	1.19E+00	1.80E+00	4.76E+01	3.95E+00	5.28E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-126. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	2.05E+02	2.56E+01	0.00E+00	2.56E+01	8.33E+01	3.08E-01	9.1%	
Arsenic	1.00E-01	1.52E-01	1.90E-02	0.00E+00	1.90E-02	6.22E+00	3.05E-03	0.1%	
Barium	7.50E-03	6.22E-02	7.78E-03	0.00E+00	7.78E-03	1.49E+01	5.23E-04	0.0%	
Chromium	2.80E-01	1.21E+00	1.52E-01	0.00E+00	1.52E-01	1.28E+00	1.19E-01	3.5%	
Lead	1.50E-02	4.46E-01	5.58E-02	0.00E+00	5.58E-02	8.51E-01	6.55E-02	1.9%	
Selenium	7.50E-01	2.38E-01	2.97E-02	0.00E+00	2.97E-02	6.05E-01	4.91E-02	1.4%	
Zinc	5.00E+00	4.71E+02	5.89E+01	0.00E+00	5.89E+01	2.07E+01	2.85E+00	83.9%	
							HI =	3.39E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-127. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 17

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP _s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.40E+04	1.30E-04	5.78E-03	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03
Arsenic	1.11E+01	1.20E-03	4.23E-05	8.00E-03	6.46E-03	6.60E-03	3.57E-02	8.08E-01	8.50E-01
Barium	5.91E+01	3.00E-03	5.63E-04	3.00E-02	1.29E-01	7.50E-03	2.16E-01	4.30E+00	4.65E+00
Chromium	1.61E+01	9.00E-04	4.60E-05	1.50E-03	1.76E-03	1.60E-01	1.26E+00	1.17E+00	2.43E+00
Lead	1.59E+01	1.80E-03	9.08E-05	9.00E-03	1.04E-02	2.00E+00	1.55E+01	1.16E+00	1.67E+01
Selenium	4.00E-01	5.00E-03	6.35E-06	5.00E-03	1.46E-04	7.60E-01	1.48E-01	2.91E-02	1.77E-01
Zinc	5.43E+01	1.80E-01	3.10E-02	3.00E-01	1.19E+00	1.80E+00	4.76E+01	3.95E+00	5.28E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-127. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.05E+02	1.35E+01	2.70E+01	4.06E+01	5.46E-01	7.43E+01	98.1%
Arsenic	1.00E-01	1.52E-01	9.99E-03	2.14E-02	3.15E-02	3.56E-02	8.83E-01	1.2%
Barium	7.50E-03	6.22E-02	4.10E-03	1.14E-01	1.19E-01	2.79E+00	4.26E-02	0.1%
Chromium	2.80E-01	1.21E+00	7.99E-02	3.11E-02	1.11E-01	1.43E+03	7.77E-05	0.0%
Lead	1.50E-02	4.46E-01	2.94E-02	3.07E-02	6.02E-02	4.18E+00	1.44E-02	0.0%
Selenium	7.50E-01	2.38E-01	1.56E-02	7.73E-04	1.64E-02	1.05E-01	1.57E-01	0.2%
Zinc	5.00E+00	4.71E+02	3.10E+01	1.05E-01	3.11E+01	8.36E+01	3.72E-01	0.5%
							HI = 7.58E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-128. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.04E+04	5.00E+01	2.08E+02	92.5%
Arsenic	1.50E+01	1.00E+01	1.50E+00	0.7%
Barium	8.10E+01	5.00E+02	1.62E-01	0.1%
Chromium	1.29E+01	1.00E+00	1.29E+01	5.7%
Lead	1.56E+01	5.00E+01	3.12E-01	0.1%
Selenium	9.60E-01	1.00E+00	9.60E-01	0.4%
Zinc	4.90E+01	5.00E+01	9.80E-01	0.4%
HI =				2.25E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-129. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 18**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.04E+04	No TRV	No TRV	No HQ
Arsenic	1.50E+01	6.00E+01	2.50E-01	0.8%
Barium	8.10E+01	No TRV	No TRV	No HQ
Chromium	1.29E+01	4.00E-01	3.23E+01	98.4%
Lead	1.56E+01	5.00E+02	3.12E-02	0.1%
Selenium	9.60E-01	No TRV	No TRV	No HQ
Zinc	4.90E+01	2.00E+02	2.45E-01	0.7%
HI =				3.28E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-130. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.04E+04	8.00E-04	6.06E-01	7.50E-02	3.80E+02	7.57E+02	1.14E+03	2.22E+00	5.11E+02	98.0%
Arsenic	1.50E+01	8.00E-03	8.74E-03	6.60E-03	4.82E-02	1.09E+00	1.15E+00	1.45E-01	7.91E+00	1.5%
Barium	8.10E+01	3.00E-02	1.77E-01	7.50E-03	2.96E-01	5.90E+00	6.37E+00	1.14E+01	5.60E-01	0.1%
Chromium	1.29E+01	1.50E-03	1.41E-03	1.60E-01	1.01E+00	9.39E-01	1.95E+00	5.83E+03	3.34E-04	0.0%
Lead	1.56E+01	9.00E-03	1.02E-02	2.00E+00	1.52E+01	1.14E+00	1.63E+01	1.70E+01	9.59E-01	0.2%
Selenium	9.60E-01	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01	4.26E-01	9.99E-01	0.2%
Zinc	4.90E+01	3.00E-01	1.07E+00	1.80E+00	4.30E+01	3.57E+00	4.76E+01	3.41E+02	1.40E-01	0.0%
									HI =	5.22E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-131. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.04E+04	1.30E-04	1.03E+00	7.50E-02	5.93E+02	1.64E+03	2.24E+03	1.29E+02	1.73E+01	40.2%
Arsenic	1.50E+01	1.20E-03	1.37E-02	6.60E-03	7.52E-02	2.37E+00	2.46E+00	9.66E+00	2.55E-01	0.6%
Barium	8.10E+01	3.00E-03	1.85E-01	7.50E-03	4.62E-01	1.28E+01	1.35E+01	2.31E+01	5.82E-01	1.4%
Chromium	1.29E+01	9.00E-04	8.82E-03	1.60E-01	1.57E+00	2.04E+00	3.62E+00	1.99E+00	1.82E+00	4.2%
Lead	1.56E+01	1.80E-03	2.13E-02	2.00E+00	2.37E+01	2.47E+00	2.62E+01	1.32E+00	1.98E+01	46.0%
Selenium	9.60E-01	5.00E-03	3.65E-03	7.60E-01	5.54E-01	1.52E-01	7.10E-01	9.40E-01	7.55E-01	1.8%
Zinc	4.90E+01	1.80E-01	6.70E+00	1.80E+00	6.70E+01	7.75E+00	8.15E+01	3.21E+01	2.54E+00	5.9%
HI =									4.31E+01	

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) 7.60E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-132. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.04E+04	8.00E-04	1.71E+00	7.50E-02	0.00E+00	1.34E+02	1.36E+02	7.63E-01	1.78E+02	97.3%
Arsenic	1.50E+01	8.00E-03	2.46E-02	6.60E-03	0.00E+00	1.94E-01	2.18E-01	4.98E-02	4.38E+00	2.4%
Barium	8.10E+01	3.00E-02	4.98E-01	7.50E-03	0.00E+00	1.05E+00	1.54E+00	3.90E+00	3.96E-01	0.2%
Chromium	1.29E+01	1.50E-03	3.97E-03	1.60E-01	0.00E+00	1.67E-01	1.71E-01	2.00E+03	8.53E-05	0.0%
Lead	1.56E+01	9.00E-03	2.88E-02	2.00E+00	0.00E+00	2.01E-01	2.30E-01	5.84E+00	3.94E-02	0.0%
Selenium	9.60E-01	5.00E-03	9.84E-04	7.60E-01	0.00E+00	1.24E-02	1.34E-02	1.46E-01	9.16E-02	0.0%
Zinc	4.90E+01	3.00E-01	3.01E+00	1.80E+00	0.00E+00	6.33E-01	3.65E+00	1.17E+02	3.12E-02	0.0%
									HI =	1.83E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-133. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.04E+04	8.00E-04	2.58E-01	7.50E-02	0.00E+00	6.45E+00	6.71E+00	2.93E-01	2.29E+01	96.6%
Arsenic	1.50E+01	8.00E-03	3.72E-03	6.60E-03	0.00E+00	9.30E-03	1.30E-02	1.91E-02	6.81E-01	2.9%
Barium	8.10E+01	3.00E-02	7.53E-02	7.50E-03	0.00E+00	5.02E-02	1.26E-01	1.50E+00	8.38E-02	0.4%
Chromium	1.29E+01	1.50E-03	6.00E-04	1.60E-01	0.00E+00	8.00E-03	8.60E-03	7.68E+02	1.12E-05	0.0%
Lead	1.56E+01	9.00E-03	4.35E-03	2.00E+00	0.00E+00	9.67E-03	1.40E-02	2.24E+00	6.25E-03	0.0%
Selenium	9.60E-01	5.00E-03	1.49E-04	7.60E-01	0.00E+00	5.95E-04	7.44E-04	5.61E-02	1.33E-02	0.1%
Zinc	4.90E+01	3.00E-01	4.56E-01	1.80E+00	0.00E+00	3.04E-02	4.86E-01	4.49E+01	1.08E-02	0.0%
									HI =	2.37E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-134. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.04E+04	1.30E-04	0.00E+00	8.00E-04	6.06E-01	7.50E-02	3.80E+02	7.57E+02	1.14E+03
Arsenic	1.50E+01	1.20E-03	0.00E+00	8.00E-03	8.74E-03	6.60E-03	4.82E-02	1.09E+00	1.15E+00
Barium	8.10E+01	3.00E-03	0.00E+00	3.00E-02	1.77E-01	7.50E-03	2.96E-01	5.90E+00	6.37E+00
Chromium	1.29E+01	9.00E-04	0.00E+00	1.50E-03	1.41E-03	1.60E-01	1.01E+00	9.39E-01	1.95E+00
Lead	1.56E+01	1.80E-03	0.00E+00	9.00E-03	1.02E-02	2.00E+00	1.52E+01	1.14E+00	1.63E+01
Selenium	9.60E-01	5.00E-03	0.00E+00	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01
Zinc	4.90E+01	1.80E-01	0.00E+00	3.00E-01	1.07E+00	1.80E+00	4.30E+01	3.57E+00	4.76E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-134. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.52E+02	1.68E+01	0.00E+00	1.68E+01	6.68E+01	2.51E-01	7.4%
Arsenic	1.00E-01	2.05E-01	2.26E-02	0.00E+00	2.26E-02	4.98E+00	4.53E-03	0.1%
Barium	7.50E-03	8.53E-02	9.38E-03	0.00E+00	9.38E-03	1.19E+01	7.88E-04	0.0%
Chromium	2.80E-01	9.73E-01	1.07E-01	0.00E+00	1.07E-01	1.03E+00	1.04E-01	3.1%
Lead	1.50E-02	4.38E-01	4.82E-02	0.00E+00	4.82E-02	6.82E-01	7.06E-02	2.1%
Selenium	7.50E-01	5.70E-01	6.27E-02	0.00E+00	6.27E-02	4.85E-01	1.29E-01	3.8%
Zinc	5.00E+00	4.25E+02	4.68E+01	0.00E+00	4.68E+01	1.66E+01	2.82E+00	83.4%
HI =							3.38E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-135. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.04E+04	1.30E-04	0.00E+00	8.00E-04	6.06E-01	7.50E-02	3.80E+02	7.57E+02	1.14E+03
Arsenic	1.50E+01	1.20E-03	0.00E+00	8.00E-03	8.74E-03	6.60E-03	4.82E-02	1.09E+00	1.15E+00
Barium	8.10E+01	3.00E-03	0.00E+00	3.00E-02	1.77E-01	7.50E-03	2.96E-01	5.90E+00	6.37E+00
Chromium	1.29E+01	9.00E-04	0.00E+00	1.50E-03	1.41E-03	1.60E-01	1.01E+00	9.39E-01	1.95E+00
Lead	1.56E+01	1.80E-03	0.00E+00	9.00E-03	1.02E-02	2.00E+00	1.52E+01	1.14E+00	1.63E+01
Selenium	9.60E-01	5.00E-03	0.00E+00	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01
Zinc	4.90E+01	1.80E-01	0.00E+00	3.00E-01	1.07E+00	1.80E+00	4.30E+01	3.57E+00	4.76E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-135. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} × BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs × I _A × AUF	ADDS (mg/kgBW/d) EPC × IS × AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H × 100	
Inorganics									
Aluminum	7.50E-02	1.52E+02	1.90E+01	0.00E+00	1.90E+01	8.33E+01	2.29E-01	7.4%	
Arsenic	1.00E-01	2.05E-01	2.56E-02	0.00E+00	2.56E-02	6.22E+00	4.13E-03	0.1%	
Barium	7.50E-03	8.53E-02	1.07E-02	0.00E+00	1.07E-02	1.49E+01	7.17E-04	0.0%	
Chromium	2.80E-01	9.73E-01	1.22E-01	0.00E+00	1.22E-01	1.28E+00	9.50E-02	3.1%	
Lead	1.50E-02	4.38E-01	5.47E-02	0.00E+00	5.47E-02	8.51E-01	6.43E-02	2.1%	
Selenium	7.50E-01	5.70E-01	7.13E-02	0.00E+00	7.13E-02	6.05E-01	1.18E-01	3.8%	
Zinc	5.00E+00	4.25E+02	5.31E+01	0.00E+00	5.31E+01	2.07E+01	2.57E+00	83.4%	
HI =							3.08E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-136. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 18

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.04E+04	1.30E-04	4.29E-03	8.00E-04	6.06E-01	7.50E-02	3.80E+02	7.57E+02	1.14E+03
Arsenic	1.50E+01	1.20E-03	5.71E-05	8.00E-03	8.74E-03	6.60E-03	4.82E-02	1.09E+00	1.15E+00
Barium	8.10E+01	3.00E-03	7.71E-04	3.00E-02	1.77E-01	7.50E-03	2.96E-01	5.90E+00	6.37E+00
Chromium	1.29E+01	9.00E-04	3.69E-05	1.50E-03	1.41E-03	1.60E-01	1.01E+00	9.39E-01	1.95E+00
Lead	1.56E+01	1.80E-03	8.91E-05	9.00E-03	1.02E-02	2.00E+00	1.52E+01	1.14E+00	1.63E+01
Selenium	9.60E-01	5.00E-03	1.52E-05	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01
Zinc	4.90E+01	1.80E-01	2.80E-02	3.00E-01	1.07E+00	1.80E+00	4.30E+01	3.57E+00	4.76E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-136. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.52E+02	1.00E+01	2.01E+01	3.01E+01	5.46E-01	5.52E+01	96.5%
Arsenic	1.00E-01	2.05E-01	1.35E-02	2.90E-02	4.25E-02	3.56E-02	1.19E+00	2.1%
Barium	7.50E-03	8.53E-02	5.62E-03	1.56E-01	1.63E-01	2.79E+00	5.83E-02	0.1%
Chromium	2.80E-01	9.73E-01	6.41E-02	2.49E-02	8.90E-02	1.43E+03	6.22E-05	0.0%
Lead	1.50E-02	4.38E-01	2.88E-02	3.01E-02	5.91E-02	4.18E+00	1.41E-02	0.0%
Selenium	7.50E-01	5.70E-01	3.75E-02	1.85E-03	3.94E-02	1.05E-01	3.77E-01	0.7%
Zinc	5.00E+00	4.25E+02	2.80E+01	9.47E-02	2.81E+01	8.36E+01	3.36E-01	0.6%
							HI = 5.72E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-137. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.09E+03	5.00E+01	1.62E+02	93.7%
Arsenic	1.20E+01	1.00E+01	1.20E+00	0.7%
Barium	3.48E+01	5.00E+02	6.96E-02	0.0%
Chromium	8.50E+00	1.00E+00	8.50E+00	4.9%
Lead	1.27E+01	5.00E+01	2.54E-01	0.1%
Zinc	3.90E+01	5.00E+01	7.80E-01	0.5%
HI =				1.73E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-138. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 19**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.09E+03	No TRV	No TRV	No HQ
Arsenic	1.20E+01	6.00E+01	2.00E-01	0.9%
Barium	3.48E+01	No TRV	No TRV	No HQ
Chromium	8.50E+00	4.00E-01	2.13E+01	98.1%
Lead	1.27E+01	5.00E+02	2.54E-02	0.1%
Zinc	3.90E+01	2.00E+02	1.95E-01	0.9%
HI =				2.17E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-139. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.09E+03	8.00E-04	4.71E-01	7.50E-02	2.96E+02	5.89E+02	8.85E+02	2.22E+00	3.98E+02	98.2%
Arsenic	1.20E+01	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01	1.45E-01	6.33E+00	1.6%
Barium	3.48E+01	3.00E-02	7.60E-02	7.50E-03	1.27E-01	2.53E+00	2.74E+00	1.14E+01	2.40E-01	0.1%
Chromium	8.50E+00	1.50E-03	9.28E-04	1.60E-01	6.63E-01	6.19E-01	1.28E+00	5.83E+03	2.20E-04	0.0%
Lead	1.27E+01	9.00E-03	8.32E-03	2.00E+00	1.24E+01	9.25E-01	1.33E+01	1.70E+01	7.81E-01	0.2%
Zinc	3.90E+01	3.00E-01	8.52E-01	1.80E+00	3.42E+01	2.84E+00	3.79E+01	3.41E+02	1.11E-01	0.0%
									HI =	4.05E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-140. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.09E+03	1.30E-04	7.99E-01	7.50E-02	4.61E+02	1.28E+03	1.74E+03	1.29E+02	1.35E+01	40.5%
Arsenic	1.20E+01	1.20E-03	1.09E-02	6.60E-03	6.02E-02	1.90E+00	1.97E+00	9.66E+00	2.04E-01	0.6%
Barium	3.48E+01	3.00E-03	7.93E-02	7.50E-03	1.98E-01	5.50E+00	5.78E+00	2.31E+01	2.50E-01	0.8%
Chromium	8.50E+00	9.00E-04	5.81E-03	1.60E-01	1.03E+00	1.34E+00	2.38E+00	1.99E+00	1.20E+00	3.6%
Lead	1.27E+01	1.80E-03	1.74E-02	2.00E+00	1.93E+01	2.01E+00	2.13E+01	1.32E+00	1.61E+01	48.5%
Zinc	3.90E+01	1.80E-01	5.34E+00	1.80E+00	5.34E+01	6.17E+00	6.49E+01	3.21E+01	2.02E+00	6.1%
HI =									3.33E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-141. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.09E+03	8.00E-04	1.33E+00	7.50E-02	0.00E+00	1.04E+02	1.06E+02	7.63E-01	1.39E+02	97.4%
Arsenic	1.20E+01	8.00E-03	1.97E-02	6.60E-03	0.00E+00	1.55E-01	1.75E-01	4.98E-02	3.51E+00	2.5%
Barium	3.48E+01	3.00E-02	2.14E-01	7.50E-03	0.00E+00	4.49E-01	6.63E-01	3.90E+00	1.70E-01	0.1%
Chromium	8.50E+00	1.50E-03	2.61E-03	1.60E-01	0.00E+00	1.10E-01	1.12E-01	2.00E+03	5.62E-05	0.0%
Lead	1.27E+01	9.00E-03	2.34E-02	2.00E+00	0.00E+00	1.64E-01	1.87E-01	5.84E+00	3.21E-02	0.0%
Zinc	3.90E+01	3.00E-01	2.40E+00	1.80E+00	0.00E+00	5.04E-01	2.90E+00	1.17E+02	2.48E-02	0.0%
									HI =	1.42E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-142. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.09E+03	8.00E-04	2.01E-01	7.50E-02	0.00E+00	5.02E+00	5.22E+00	2.93E-01	1.78E+01	96.8%
Arsenic	1.20E+01	8.00E-03	2.98E-03	6.60E-03	0.00E+00	7.44E-03	1.04E-02	1.91E-02	5.45E-01	3.0%
Barium	3.48E+01	3.00E-02	3.24E-02	7.50E-03	0.00E+00	2.16E-02	5.39E-02	1.50E+00	3.60E-02	0.2%
Chromium	8.50E+00	1.50E-03	3.95E-04	1.60E-01	0.00E+00	5.27E-03	5.67E-03	7.68E+02	7.38E-06	0.0%
Lead	1.27E+01	9.00E-03	3.54E-03	2.00E+00	0.00E+00	7.87E-03	1.14E-02	2.24E+00	5.09E-03	0.0%
Zinc	3.90E+01	3.00E-01	3.63E-01	1.80E+00	0.00E+00	2.42E-02	3.87E-01	4.49E+01	8.62E-03	0.0%
									HI =	1.84E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-143. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.09E+03	1.30E-04	0.00E+00	8.00E-04	4.71E-01	7.50E-02	2.96E+02	5.89E+02	8.85E+02
Arsenic	1.20E+01	1.20E-03	0.00E+00	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01
Barium	3.48E+01	3.00E-03	0.00E+00	3.00E-02	7.60E-02	7.50E-03	1.27E-01	2.53E+00	2.74E+00
Chromium	8.50E+00	9.00E-04	0.00E+00	1.50E-03	9.28E-04	1.60E-01	6.63E-01	6.19E-01	1.28E+00
Lead	1.27E+01	1.80E-03	0.00E+00	9.00E-03	8.32E-03	2.00E+00	1.24E+01	9.25E-01	1.33E+01
Zinc	3.90E+01	1.80E-01	0.00E+00	3.00E-01	8.52E-01	1.80E+00	3.42E+01	2.84E+00	3.79E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-143. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.19E+02	1.30E+01	0.00E+00	1.30E+01	6.68E+01	1.95E-01	7.6%
Arsenic	1.00E-01	1.64E-01	1.81E-02	0.00E+00	1.81E-02	4.98E+00	3.63E-03	0.1%
Barium	7.50E-03	3.67E-02	4.03E-03	0.00E+00	4.03E-03	1.19E+01	3.38E-04	0.0%
Chromium	2.80E-01	6.41E-01	7.05E-02	0.00E+00	7.05E-02	1.03E+00	6.88E-02	2.7%
Lead	1.50E-02	3.56E-01	3.92E-02	0.00E+00	3.92E-02	6.82E-01	5.75E-02	2.2%
Zinc	5.00E+00	3.38E+02	3.72E+01	0.00E+00	3.72E+01	1.66E+01	2.25E+00	87.3%
HI =							2.57E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-144. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.09E+03	1.30E-04	0.00E+00	8.00E-04	4.71E-01	7.50E-02	2.96E+02	5.89E+02	8.85E+02
Arsenic	1.20E+01	1.20E-03	0.00E+00	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01
Barium	3.48E+01	3.00E-03	0.00E+00	3.00E-02	7.60E-02	7.50E-03	1.27E-01	2.53E+00	2.74E+00
Chromium	8.50E+00	9.00E-04	0.00E+00	1.50E-03	9.28E-04	1.60E-01	6.63E-01	6.19E-01	1.28E+00
Lead	1.27E+01	1.80E-03	0.00E+00	9.00E-03	8.32E-03	2.00E+00	1.24E+01	9.25E-01	1.33E+01
Zinc	3.90E+01	1.80E-01	0.00E+00	3.00E-01	8.52E-01	1.80E+00	3.42E+01	2.84E+00	3.79E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-144. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.19E+02	1.48E+01	0.00E+00	1.48E+01	8.33E+01	1.78E-01	7.6%
Arsenic	1.00E-01	1.64E-01	2.05E-02	0.00E+00	2.05E-02	6.22E+00	3.30E-03	0.1%
Barium	7.50E-03	3.67E-02	4.58E-03	0.00E+00	4.58E-03	1.49E+01	3.08E-04	0.0%
Chromium	2.80E-01	6.41E-01	8.01E-02	0.00E+00	8.01E-02	1.28E+00	6.26E-02	2.7%
Lead	1.50E-02	3.56E-01	4.46E-02	0.00E+00	4.46E-02	8.51E-01	5.23E-02	2.2%
Zinc	5.00E+00	3.38E+02	4.23E+01	0.00E+00	4.23E+01	2.07E+01	2.04E+00	87.3%
							HI =	2.34E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-145. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 19

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	8.09E+03	1.30E-04	3.34E-03	8.00E-04	4.71E-01	7.50E-02	2.96E+02	5.89E+02	8.85E+02
Arsenic	1.20E+01	1.20E-03	4.57E-05	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01
Barium	3.48E+01	3.00E-03	3.31E-04	3.00E-02	7.60E-02	7.50E-03	1.27E-01	2.53E+00	2.74E+00
Chromium	8.50E+00	9.00E-04	2.43E-05	1.50E-03	9.28E-04	1.60E-01	6.63E-01	6.19E-01	1.28E+00
Lead	1.27E+01	1.80E-03	7.26E-05	9.00E-03	8.32E-03	2.00E+00	1.24E+01	9.25E-01	1.33E+01
Zinc	3.90E+01	1.80E-01	2.23E-02	3.00E-01	8.52E-01	1.80E+00	3.42E+01	2.84E+00	3.79E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-145. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.19E+02	7.80E+00	1.56E+01	2.34E+01	5.46E-01	4.29E+01	97.2%
Arsenic	1.00E-01	1.64E-01	1.08E-02	2.32E-02	3.40E-02	3.56E-02	9.55E-01	2.2%
Barium	7.50E-03	3.67E-02	2.41E-03	6.72E-02	7.00E-02	2.79E+00	2.51E-02	0.1%
Chromium	2.80E-01	6.41E-01	4.22E-02	1.64E-02	5.87E-02	1.43E+03	4.10E-05	0.0%
Lead	1.50E-02	3.56E-01	2.35E-02	2.45E-02	4.81E-02	4.18E+00	1.15E-02	0.0%
Zinc	5.00E+00	3.38E+02	2.23E+01	7.53E-02	2.24E+01	8.36E+01	2.67E-01	0.6%
							HI =	4.42E+01

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-146. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.18E+04	5.00E+01	2.36E+02	92.5%
Arsenic	1.40E+01	1.00E+01	1.40E+00	0.5%
Barium	5.79E+01	5.00E+02	1.16E-01	0.0%
Chromium	1.48E+01	1.00E+00	1.48E+01	5.8%
Lead	1.89E+01	5.00E+01	3.78E-01	0.1%
Selenium	1.40E+00	1.00E+00	1.40E+00	0.5%
Zinc	5.05E+01	5.00E+01	1.01E+00	0.4%
HI = 2.55E+02				

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-147. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 20**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.18E+04	No TRV	No TRV	No HQ
Arsenic	1.40E+01	6.00E+01	2.33E-01	0.6%
Barium	5.79E+01	No TRV	No TRV	No HQ
Chromium	1.48E+01	4.00E-01	3.70E+01	98.6%
Lead	1.89E+01	5.00E+02	3.78E-02	0.1%
Selenium	1.40E+00	No TRV	No TRV	No HQ
Zinc	5.05E+01	2.00E+02	2.53E-01	0.7%
HI = 3.75E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-148. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.18E+04	8.00E-04	6.87E-01	7.50E-02	4.31E+02	8.59E+02	1.29E+03	2.22E+00	5.80E+02	98.2%
Arsenic	1.40E+01	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00	1.45E-01	7.38E+00	1.2%
Barium	5.79E+01	3.00E-02	1.26E-01	7.50E-03	2.12E-01	4.22E+00	4.55E+00	1.14E+01	4.00E-01	0.1%
Chromium	1.48E+01	1.50E-03	1.62E-03	1.60E-01	1.15E+00	1.08E+00	2.23E+00	5.83E+03	3.83E-04	0.0%
Lead	1.89E+01	9.00E-03	1.24E-02	2.00E+00	1.84E+01	1.38E+00	1.98E+01	1.70E+01	1.16E+00	0.2%
Selenium	1.40E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01	4.26E-01	1.46E+00	0.2%
Zinc	5.05E+01	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01	3.41E+02	1.44E-01	0.0%
									HI =	5.91E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-149. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.18E+04	1.30E-04	1.17E+00	7.50E-02	6.73E+02	1.87E+03	2.54E+03	1.29E+02	1.96E+01	39.2%
Arsenic	1.40E+01	1.20E-03	1.28E-02	6.60E-03	7.02E-02	2.21E+00	2.30E+00	9.66E+00	2.38E-01	0.5%
Barium	5.79E+01	3.00E-03	1.32E-01	7.50E-03	3.30E-01	9.15E+00	9.61E+00	2.31E+01	4.16E-01	0.8%
Chromium	1.48E+01	9.00E-04	1.01E-02	1.60E-01	1.80E+00	2.34E+00	4.15E+00	1.99E+00	2.09E+00	4.2%
Lead	1.89E+01	1.80E-03	2.59E-02	2.00E+00	2.87E+01	2.99E+00	3.17E+01	1.32E+00	2.40E+01	47.9%
Selenium	1.40E+00	5.00E-03	5.32E-03	7.60E-01	8.09E-01	2.21E-01	1.04E+00	9.40E-01	1.10E+00	2.2%
Zinc	5.05E+01	1.80E-01	6.91E+00	1.80E+00	6.91E+01	7.98E+00	8.40E+01	3.21E+01	2.61E+00	5.2%
									HI =	5.01E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-150. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.18E+04	8.00E-04	1.94E+00	7.50E-02	0.00E+00	1.52E+02	1.54E+02	7.63E-01	2.02E+02	97.8%
Arsenic	1.40E+01	8.00E-03	2.30E-02	6.60E-03	0.00E+00	1.81E-01	2.04E-01	4.98E-02	4.09E+00	2.0%
Barium	5.79E+01	3.00E-02	3.56E-01	7.50E-03	0.00E+00	7.48E-01	1.10E+00	3.90E+00	2.83E-01	0.1%
Chromium	1.48E+01	1.50E-03	4.55E-03	1.60E-01	0.00E+00	1.91E-01	1.96E-01	2.00E+03	9.79E-05	0.0%
Lead	1.89E+01	9.00E-03	3.49E-02	2.00E+00	0.00E+00	2.44E-01	2.79E-01	5.84E+00	4.77E-02	0.0%
Selenium	1.40E+00	5.00E-03	1.44E-03	7.60E-01	0.00E+00	1.81E-02	1.95E-02	1.46E-01	1.34E-01	0.1%
Zinc	5.05E+01	3.00E-01	3.11E+00	1.80E+00	0.00E+00	6.52E-01	3.76E+00	1.17E+02	3.22E-02	0.0%
									HI =	2.07E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-151. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.18E+04	8.00E-04	2.93E-01	7.50E-02	0.00E+00	7.32E+00	7.61E+00	2.93E-01	2.60E+01	97.3%
Arsenic	1.40E+01	8.00E-03	3.47E-03	6.60E-03	0.00E+00	8.68E-03	1.22E-02	1.91E-02	6.35E-01	2.4%
Barium	5.79E+01	3.00E-02	5.38E-02	7.50E-03	0.00E+00	3.59E-02	8.97E-02	1.50E+00	5.99E-02	0.2%
Chromium	1.48E+01	1.50E-03	6.88E-04	1.60E-01	0.00E+00	9.18E-03	9.86E-03	7.68E+02	1.28E-05	0.0%
Lead	1.89E+01	9.00E-03	5.27E-03	2.00E+00	0.00E+00	1.17E-02	1.70E-02	2.24E+00	7.57E-03	0.0%
Selenium	1.40E+00	5.00E-03	2.17E-04	7.60E-01	0.00E+00	8.68E-04	1.09E-03	5.61E-02	1.93E-02	0.1%
Zinc	5.05E+01	3.00E-01	4.70E-01	1.80E+00	0.00E+00	3.13E-02	5.01E-01	4.49E+01	1.12E-02	0.0%
HI =									2.67E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-152. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.18E+04	1.30E-04	0.00E+00	8.00E-04	6.87E-01	7.50E-02	4.31E+02	8.59E+02	1.29E+03
Arsenic	1.40E+01	1.20E-03	0.00E+00	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	5.79E+01	3.00E-03	0.00E+00	3.00E-02	1.26E-01	7.50E-03	2.12E-01	4.22E+00	4.55E+00
Chromium	1.48E+01	9.00E-04	0.00E+00	1.50E-03	1.62E-03	1.60E-01	1.15E+00	1.08E+00	2.23E+00
Lead	1.89E+01	1.80E-03	0.00E+00	9.00E-03	1.24E-02	2.00E+00	1.84E+01	1.38E+00	1.98E+01
Selenium	1.40E+00	5.00E-03	0.00E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	5.05E+01	1.80E-01	0.00E+00	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-152. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.73E+02	1.90E+01	0.00E+00	1.90E+01	6.68E+01	2.85E-01	7.9%
Arsenic	1.00E-01	1.91E-01	2.11E-02	0.00E+00	2.11E-02	4.98E+00	4.23E-03	0.1%
Barium	7.50E-03	6.10E-02	6.71E-03	0.00E+00	6.71E-03	1.19E+01	5.63E-04	0.0%
Chromium	2.80E-01	1.12E+00	1.23E-01	0.00E+00	1.23E-01	1.03E+00	1.20E-01	3.3%
Lead	1.50E-02	5.30E-01	5.84E-02	0.00E+00	5.84E-02	6.82E-01	8.56E-02	2.4%
Selenium	7.50E-01	8.31E-01	9.15E-02	0.00E+00	9.15E-02	4.85E-01	1.89E-01	5.3%
Zinc	5.00E+00	4.38E+02	4.82E+01	0.00E+00	4.82E+01	1.66E+01	2.91E+00	81.0%
HI =							3.59E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-153. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.18E+04	1.30E-04	0.00E+00	8.00E-04	6.87E-01	7.50E-02	4.31E+02	8.59E+02	1.29E+03
Arsenic	1.40E+01	1.20E-03	0.00E+00	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	5.79E+01	3.00E-03	0.00E+00	3.00E-02	1.26E-01	7.50E-03	2.12E-01	4.22E+00	4.55E+00
Chromium	1.48E+01	9.00E-04	0.00E+00	1.50E-03	1.62E-03	1.60E-01	1.15E+00	1.08E+00	2.23E+00
Lead	1.89E+01	1.80E-03	0.00E+00	9.00E-03	1.24E-02	2.00E+00	1.84E+01	1.38E+00	1.98E+01
Selenium	1.40E+00	5.00E-03	0.00E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	5.05E+01	1.80E-01	0.00E+00	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-153. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.73E+02	2.16E+01	0.00E+00	2.16E+01	8.33E+01	2.59E-01	7.9%	
Arsenic	1.00E-01	1.91E-01	2.39E-02	0.00E+00	2.39E-02	6.22E+00	3.85E-03	0.1%	
Barium	7.50E-03	6.10E-02	7.62E-03	0.00E+00	7.62E-03	1.49E+01	5.13E-04	0.0%	
Chromium	2.80E-01	1.12E+00	1.40E-01	0.00E+00	1.40E-01	1.28E+00	1.09E-01	3.3%	
Lead	1.50E-02	5.30E-01	6.63E-02	0.00E+00	6.63E-02	8.51E-01	7.79E-02	2.4%	
Selenium	7.50E-01	8.31E-01	1.04E-01	0.00E+00	1.04E-01	6.05E-01	1.72E-01	5.3%	
Zinc	5.00E+00	4.38E+02	5.48E+01	0.00E+00	5.48E+01	2.07E+01	2.65E+00	81.0%	
							HI =	3.27E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-154. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 20

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP _s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.18E+04	1.30E-04	4.87E-03	8.00E-04	6.87E-01	7.50E-02	4.31E+02	8.59E+02	1.29E+03
Arsenic	1.40E+01	1.20E-03	5.33E-05	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	5.79E+01	3.00E-03	5.51E-04	3.00E-02	1.26E-01	7.50E-03	2.12E-01	4.22E+00	4.55E+00
Chromium	1.48E+01	9.00E-04	4.23E-05	1.50E-03	1.62E-03	1.60E-01	1.15E+00	1.08E+00	2.23E+00
Lead	1.89E+01	1.80E-03	1.08E-04	9.00E-03	1.24E-02	2.00E+00	1.84E+01	1.38E+00	1.98E+01
Selenium	1.40E+00	5.00E-03	2.22E-05	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	5.05E+01	1.80E-01	2.89E-02	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-154. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.73E+02	1.14E+01	2.28E+01	3.42E+01	5.46E-01	6.26E+01	96.8%
Arsenic	1.00E-01	1.91E-01	1.26E-02	2.70E-02	3.97E-02	3.56E-02	1.11E+00	1.7%
Barium	7.50E-03	6.10E-02	4.01E-03	1.12E-01	1.16E-01	2.79E+00	4.17E-02	0.1%
Chromium	2.80E-01	1.12E+00	7.35E-02	2.86E-02	1.02E-01	1.43E+03	7.14E-05	0.0%
Lead	1.50E-02	5.30E-01	3.49E-02	3.65E-02	7.15E-02	4.18E+00	1.71E-02	0.0%
Selenium	7.50E-01	8.31E-01	5.47E-02	2.70E-03	5.75E-02	1.05E-01	5.50E-01	0.8%
Zinc	5.00E+00	4.38E+02	2.88E+01	9.76E-02	2.90E+01	8.36E+01	3.46E-01	0.5%
							HI = 6.47E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-155. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.03E+04	5.00E+01	2.06E+02	93.4%
Arsenic	1.10E+01	1.00E+01	1.10E+00	0.5%
Barium	7.40E+01	5.00E+02	1.48E-01	0.1%
Cadmium	3.40E-01	5.00E-01	6.80E-01	0.3%
Chromium	1.08E+01	1.00E+00	1.08E+01	4.9%
Lead	1.37E+01	5.00E+01	2.74E-01	0.1%
Selenium	4.40E-01	1.00E+00	4.40E-01	0.2%
Zinc	5.15E+01	5.00E+01	1.03E+00	0.5%
HI =			2.20E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-156. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 23**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.03E+04	No TRV	No TRV	No HQ
Arsenic	1.10E+01	6.00E+01	1.83E-01	0.7%
Barium	7.40E+01	No TRV	No TRV	No HQ
Cadmium	3.40E-01	2.00E+01	1.70E-02	0.1%
Chromium	1.08E+01	4.00E-01	2.70E+01	98.2%
Lead	1.37E+01	5.00E+02	2.74E-02	0.1%
Selenium	4.40E-01	No TRV	No TRV	No HQ
Zinc	5.15E+01	2.00E+02	2.58E-01	0.9%
HI =				2.75E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-157. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.03E+04	8.00E-04	6.00E-01	7.50E-02	3.76E+02	7.50E+02	1.13E+03	2.22E+00	5.07E+02	98.3%
Arsenic	1.10E+01	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01	1.45E-01	5.80E+00	1.1%
Barium	7.40E+01	3.00E-02	1.62E-01	7.50E-03	2.70E-01	5.39E+00	5.82E+00	1.14E+01	5.11E-01	0.1%
Cadmium	3.40E-01	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00	2.05E+00	9.00E-01	0.2%
Chromium	1.08E+01	1.50E-03	1.18E-03	1.60E-01	8.42E-01	7.86E-01	1.63E+00	5.83E+03	2.79E-04	0.0%
Lead	1.37E+01	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01	1.70E+01	8.42E-01	0.2%
Selenium	4.40E-01	5.00E-03	1.60E-04	7.60E-01	1.63E-01	3.20E-02	1.95E-01	4.26E-01	4.58E-01	0.1%
Zinc	5.15E+01	3.00E-01	1.12E+00	1.80E+00	4.52E+01	3.75E+00	5.00E+01	3.41E+02	1.47E-01	0.0%
									HI =	5.15E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-158. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.03E+04	1.30E-04	1.02E+00	7.50E-02	5.87E+02	1.63E+03	2.22E+03	1.29E+02	1.71E+01	42.0%
Arsenic	1.10E+01	1.20E-03	1.00E-02	6.60E-03	5.52E-02	1.74E+00	1.80E+00	9.66E+00	1.87E-01	0.5%
Barium	7.40E+01	3.00E-03	1.69E-01	7.50E-03	4.22E-01	1.17E+01	1.23E+01	2.31E+01	5.32E-01	1.3%
Cadmium	3.40E-01	3.00E-02	7.75E-03	1.10E+01	2.84E+00	5.37E-02	2.90E+00	2.83E+00	1.03E+00	2.5%
Chromium	1.08E+01	9.00E-04	7.39E-03	1.60E-01	1.31E+00	1.71E+00	3.03E+00	1.99E+00	1.52E+00	3.7%
Lead	1.37E+01	1.80E-03	1.87E-02	2.00E+00	2.08E+01	2.17E+00	2.30E+01	1.32E+00	1.74E+01	42.6%
Selenium	4.40E-01	5.00E-03	1.67E-03	7.60E-01	2.54E-01	6.96E-02	3.25E-01	9.40E-01	3.46E-01	0.8%
Zinc	5.15E+01	1.80E-01	7.05E+00	1.80E+00	7.05E+01	8.14E+00	8.56E+01	3.21E+01	2.67E+00	6.5%
HI =									4.08E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-159. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.03E+04	8.00E-04	1.69E+00	7.50E-02	0.00E+00	1.33E+02	1.35E+02	7.63E-01	1.77E+02	97.9%
Arsenic	1.10E+01	8.00E-03	1.80E-02	6.60E-03	0.00E+00	1.42E-01	1.60E-01	4.98E-02	3.22E+00	1.8%
Barium	7.40E+01	3.00E-02	4.55E-01	7.50E-03	0.00E+00	9.56E-01	1.41E+00	3.90E+00	3.62E-01	0.2%
Cadmium	3.40E-01	1.10E-01	7.67E-03	1.10E+01	0.00E+00	4.39E-03	1.21E-02	7.05E-01	1.71E-02	0.0%
Chromium	1.08E+01	1.50E-03	3.32E-03	1.60E-01	0.00E+00	1.39E-01	1.43E-01	2.00E+03	7.14E-05	0.0%
Lead	1.37E+01	9.00E-03	2.53E-02	2.00E+00	0.00E+00	1.77E-01	2.02E-01	5.84E+00	3.46E-02	0.0%
Selenium	4.40E-01	5.00E-03	4.51E-04	7.60E-01	0.00E+00	5.68E-03	6.13E-03	1.46E-01	4.20E-02	0.0%
Zinc	5.15E+01	3.00E-01	3.17E+00	1.80E+00	0.00E+00	6.65E-01	3.83E+00	1.17E+02	3.28E-02	0.0%
									HI =	1.80E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-160. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.03E+04	8.00E-04	2.55E-01	7.50E-02	0.00E+00	6.39E+00	6.64E+00	2.93E-01	2.27E+01	97.4%
Arsenic	1.10E+01	8.00E-03	2.73E-03	6.60E-03	0.00E+00	6.82E-03	9.55E-03	1.91E-02	4.99E-01	2.1%
Barium	7.40E+01	3.00E-02	6.88E-02	7.50E-03	0.00E+00	4.59E-02	1.15E-01	1.50E+00	7.65E-02	0.3%
Cadmium	3.40E-01	1.10E-01	1.16E-03	1.10E+01	0.00E+00	2.11E-04	1.37E-03	2.71E-01	5.06E-03	0.0%
Chromium	1.08E+01	1.50E-03	5.02E-04	1.60E-01	0.00E+00	6.70E-03	7.20E-03	7.68E+02	9.37E-06	0.0%
Lead	1.37E+01	9.00E-03	3.82E-03	2.00E+00	0.00E+00	8.49E-03	1.23E-02	2.24E+00	5.49E-03	0.0%
Selenium	4.40E-01	5.00E-03	6.82E-05	7.60E-01	0.00E+00	2.73E-04	3.41E-04	5.61E-02	6.08E-03	0.0%
Zinc	5.15E+01	3.00E-01	4.79E-01	1.80E+00	0.00E+00	3.19E-02	5.11E-01	4.49E+01	1.14E-02	0.0%
									HI =	2.33E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-161. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.03E+04	1.30E-04	0.00E+00	8.00E-04	6.00E-01	7.50E-02	3.76E+02	7.50E+02	1.13E+03
Arsenic	1.10E+01	1.20E-03	0.00E+00	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01
Barium	7.40E+01	3.00E-03	0.00E+00	3.00E-02	1.62E-01	7.50E-03	2.70E-01	5.39E+00	5.82E+00
Cadmium	3.40E-01	3.00E-02	0.00E+00	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00
Chromium	1.08E+01	9.00E-04	0.00E+00	1.50E-03	1.18E-03	1.60E-01	8.42E-01	7.86E-01	1.63E+00
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	4.40E-01	5.00E-03	0.00E+00	5.00E-03	1.60E-04	7.60E-01	1.63E-01	3.20E-02	1.95E-01
Zinc	5.15E+01	1.80E-01	0.00E+00	3.00E-01	1.12E+00	1.80E+00	4.52E+01	3.75E+00	5.00E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-161. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.51E+02	1.66E+01	0.00E+00	1.66E+01	6.68E+01	2.49E-01	7.2%
Arsenic	1.00E-01	1.50E-01	1.66E-02	0.00E+00	1.66E-02	4.98E+00	3.32E-03	0.1%
Barium	7.50E-03	7.79E-02	8.57E-03	0.00E+00	8.57E-03	1.19E+01	7.20E-04	0.0%
Cadmium	2.80E-02	9.25E-02	1.02E-02	0.00E+00	1.02E-02	1.46E+00	6.98E-03	0.2%
Chromium	2.80E-01	8.15E-01	8.96E-02	0.00E+00	8.96E-02	1.03E+00	8.74E-02	2.5%
Lead	1.50E-02	3.85E-01	4.23E-02	0.00E+00	4.23E-02	6.82E-01	6.20E-02	1.8%
Selenium	7.50E-01	2.61E-01	2.87E-02	0.00E+00	2.87E-02	4.85E-01	5.93E-02	1.7%
Zinc	5.00E+00	4.47E+02	4.91E+01	0.00E+00	4.91E+01	1.66E+01	2.96E+00	86.4%
HI =							3.43E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-162. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.03E+04	1.30E-04	0.00E+00	8.00E-04	6.00E-01	7.50E-02	3.76E+02	7.50E+02	1.13E+03
Arsenic	1.10E+01	1.20E-03	0.00E+00	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01
Barium	7.40E+01	3.00E-03	0.00E+00	3.00E-02	1.62E-01	7.50E-03	2.70E-01	5.39E+00	5.82E+00
Cadmium	3.40E-01	3.00E-02	0.00E+00	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00
Chromium	1.08E+01	9.00E-04	0.00E+00	1.50E-03	1.18E-03	1.60E-01	8.42E-01	7.86E-01	1.63E+00
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	4.40E-01	5.00E-03	0.00E+00	5.00E-03	1.60E-04	7.60E-01	1.63E-01	3.20E-02	1.95E-01
Zinc	5.15E+01	1.80E-01	0.00E+00	3.00E-01	1.12E+00	1.80E+00	4.52E+01	3.75E+00	5.00E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-162. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.51E+02	1.89E+01	0.00E+00	1.89E+01	8.33E+01	2.26E-01	7.2%	
Arsenic	1.00E-01	1.50E-01	1.88E-02	0.00E+00	1.88E-02	6.22E+00	3.03E-03	0.1%	
Barium	7.50E-03	7.79E-02	9.74E-03	0.00E+00	9.74E-03	1.49E+01	6.55E-04	0.0%	
Cadmium	2.80E-02	9.25E-02	1.16E-02	0.00E+00	1.16E-02	1.82E+00	6.36E-03	0.2%	
Chromium	2.80E-01	8.15E-01	1.02E-01	0.00E+00	1.02E-01	1.28E+00	7.96E-02	2.5%	
Lead	1.50E-02	3.85E-01	4.81E-02	0.00E+00	4.81E-02	8.51E-01	5.65E-02	1.8%	
Selenium	7.50E-01	2.61E-01	3.27E-02	0.00E+00	3.27E-02	6.05E-01	5.40E-02	1.7%	
Zinc	5.00E+00	4.47E+02	5.58E+01	0.00E+00	5.58E+01	2.07E+01	2.70E+00	86.4%	
							HI =	3.13E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-163. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 23

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.03E+04	1.30E-04	4.25E-03	8.00E-04	6.00E-01	7.50E-02	3.76E+02	7.50E+02	1.13E+03
Arsenic	1.10E+01	1.20E-03	4.19E-05	8.00E-03	6.41E-03	6.60E-03	3.54E-02	8.01E-01	8.43E-01
Barium	7.40E+01	3.00E-03	7.05E-04	3.00E-02	1.62E-01	7.50E-03	2.70E-01	5.39E+00	5.82E+00
Cadmium	3.40E-01	3.00E-02	3.24E-05	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00
Chromium	1.08E+01	9.00E-04	3.09E-05	1.50E-03	1.18E-03	1.60E-01	8.42E-01	7.86E-01	1.63E+00
Lead	1.37E+01	1.80E-03	7.83E-05	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	4.40E-01	5.00E-03	6.98E-06	5.00E-03	1.60E-04	7.60E-01	1.63E-01	3.20E-02	1.95E-01
Zinc	5.15E+01	1.80E-01	2.94E-02	3.00E-01	1.12E+00	1.80E+00	4.52E+01	3.75E+00	5.00E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-163. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.51E+02	9.93E+00	1.99E+01	2.98E+01	5.46E-01	5.47E+01	97.4%
Arsenic	1.00E-01	1.50E-01	9.90E-03	2.13E-02	3.12E-02	3.56E-02	8.76E-01	1.6%
Barium	7.50E-03	7.79E-02	5.13E-03	1.43E-01	1.49E-01	2.79E+00	5.33E-02	0.1%
Cadmium	2.80E-02	9.25E-02	6.09E-03	6.57E-04	6.78E-03	5.04E-01	1.34E-02	0.0%
Chromium	2.80E-01	8.15E-01	5.36E-02	2.09E-02	7.45E-02	1.43E+03	5.21E-05	0.0%
Lead	1.50E-02	3.85E-01	2.53E-02	2.65E-02	5.19E-02	4.18E+00	1.24E-02	0.0%
Selenium	7.50E-01	2.61E-01	1.72E-02	8.50E-04	1.81E-02	1.05E-01	1.73E-01	0.3%
Zinc	5.00E+00	4.47E+02	2.94E+01	9.95E-02	2.95E+01	8.36E+01	3.53E-01	0.6%
							HI = 5.61E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-164. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.15E+04	5.00E+01	2.30E+02	92.8%
Arsenic	1.37E+01	1.00E+01	1.37E+00	0.6%
Barium	5.48E+01	5.00E+02	1.10E-01	0.0%
Cadmium	2.20E-01	5.00E-01	4.40E-01	0.2%
Chromium	1.41E+01	1.00E+00	1.41E+01	5.7%
Lead	1.14E+01	5.00E+01	2.28E-01	0.1%
Selenium	6.90E-01	1.00E+00	6.90E-01	0.3%
Zinc	4.52E+01	5.00E+01	9.04E-01	0.4%
HI =			2.48E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-165. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 24**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.15E+04	No TRV	No TRV	No HQ
Arsenic	1.37E+01	6.00E+01	2.28E-01	0.6%
Barium	5.48E+01	No TRV	No TRV	No HQ
Cadmium	2.20E-01	2.00E+01	1.10E-02	0.0%
Chromium	1.41E+01	4.00E-01	3.53E+01	98.6%
Lead	1.14E+01	5.00E+02	2.28E-02	0.1%
Selenium	6.90E-01	No TRV	No TRV	No HQ
Zinc	4.52E+01	2.00E+02	2.26E-01	0.6%
HI =			3.57E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-166. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.15E+04	8.00E-04	6.70E-01	7.50E-02	4.20E+02	8.37E+02	1.26E+03	2.22E+00	5.66E+02	98.3%
Arsenic	1.37E+01	8.00E-03	7.98E-03	6.60E-03	4.41E-02	9.97E-01	1.05E+00	1.45E-01	7.23E+00	1.3%
Barium	5.48E+01	3.00E-02	1.20E-01	7.50E-03	2.00E-01	3.99E+00	4.31E+00	1.14E+01	3.79E-01	0.1%
Cadmium	2.20E-01	1.10E-01	1.76E-03	1.10E+01	1.18E+00	1.60E-02	1.20E+00	2.05E+00	5.82E-01	0.1%
Chromium	1.41E+01	1.50E-03	1.54E-03	1.60E-01	1.10E+00	1.03E+00	2.13E+00	5.83E+03	3.65E-04	0.0%
Lead	1.14E+01	9.00E-03	7.47E-03	2.00E+00	1.11E+01	8.30E-01	1.19E+01	1.70E+01	7.01E-01	0.1%
Selenium	6.90E-01	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01	4.26E-01	7.18E-01	0.1%
Zinc	4.52E+01	3.00E-01	9.87E-01	1.80E+00	3.96E+01	3.29E+00	4.39E+01	3.41E+02	1.29E-01	0.0%
									HI =	5.75E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-167. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.15E+04	1.30E-04	1.14E+00	7.50E-02	6.56E+02	1.82E+03	2.47E+03	1.29E+02	1.91E+01	48.1%
Arsenic	1.37E+01	1.20E-03	1.25E-02	6.60E-03	6.87E-02	2.17E+00	2.25E+00	9.66E+00	2.33E-01	0.6%
Barium	5.48E+01	3.00E-03	1.25E-01	7.50E-03	3.12E-01	8.66E+00	9.10E+00	2.31E+01	3.94E-01	1.0%
Cadmium	2.20E-01	3.00E-02	5.02E-03	1.10E+01	1.84E+00	3.48E-02	1.88E+00	2.83E+00	6.65E-01	1.7%
Chromium	1.41E+01	9.00E-04	9.64E-03	1.60E-01	1.71E+00	2.23E+00	3.95E+00	1.99E+00	1.99E+00	5.0%
Lead	1.14E+01	1.80E-03	1.56E-02	2.00E+00	1.73E+01	1.80E+00	1.91E+01	1.32E+00	1.45E+01	36.4%
Selenium	6.90E-01	5.00E-03	2.62E-03	7.60E-01	3.99E-01	1.09E-01	5.10E-01	9.40E-01	5.43E-01	1.4%
Zinc	4.52E+01	1.80E-01	6.18E+00	1.80E+00	6.18E+01	7.15E+00	7.52E+01	3.21E+01	2.34E+00	5.9%
HI =									3.98E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-168. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.15E+04	8.00E-04	1.89E+00	7.50E-02	0.00E+00	1.49E+02	1.50E+02	7.63E-01	1.97E+02	97.8%
Arsenic	1.37E+01	8.00E-03	2.25E-02	6.60E-03	0.00E+00	1.77E-01	1.99E-01	4.98E-02	4.00E+00	2.0%
Barium	5.48E+01	3.00E-02	3.37E-01	7.50E-03	0.00E+00	7.08E-01	1.04E+00	3.90E+00	2.68E-01	0.1%
Cadmium	2.20E-01	1.10E-01	4.96E-03	1.10E+01	0.00E+00	2.84E-03	7.80E-03	7.05E-01	1.11E-02	0.0%
Chromium	1.41E+01	1.50E-03	4.34E-03	1.60E-01	0.00E+00	1.82E-01	1.86E-01	2.00E+03	9.33E-05	0.0%
Lead	1.14E+01	9.00E-03	2.10E-02	2.00E+00	0.00E+00	1.47E-01	1.68E-01	5.84E+00	2.88E-02	0.0%
Selenium	6.90E-01	5.00E-03	7.07E-04	7.60E-01	0.00E+00	8.91E-03	9.62E-03	1.46E-01	6.58E-02	0.0%
Zinc	4.52E+01	3.00E-01	2.78E+00	1.80E+00	0.00E+00	5.84E-01	3.36E+00	1.17E+02	2.88E-02	0.0%
								HI =	2.02E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-169. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.15E+04	8.00E-04	2.85E-01	7.50E-02	0.00E+00	7.13E+00	7.42E+00	2.93E-01	2.53E+01	97.3%
Arsenic	1.37E+01	8.00E-03	3.40E-03	6.60E-03	0.00E+00	8.49E-03	1.19E-02	1.91E-02	6.22E-01	2.4%
Barium	5.48E+01	3.00E-02	5.10E-02	7.50E-03	0.00E+00	3.40E-02	8.49E-02	1.50E+00	5.67E-02	0.2%
Cadmium	2.20E-01	1.10E-01	7.50E-04	1.10E+01	0.00E+00	1.36E-04	8.87E-04	2.71E-01	3.28E-03	0.0%
Chromium	1.41E+01	1.50E-03	6.56E-04	1.60E-01	0.00E+00	8.74E-03	9.40E-03	7.68E+02	1.22E-05	0.0%
Lead	1.14E+01	9.00E-03	3.18E-03	2.00E+00	0.00E+00	7.07E-03	1.02E-02	2.24E+00	4.57E-03	0.0%
Selenium	6.90E-01	5.00E-03	1.07E-04	7.60E-01	0.00E+00	4.28E-04	5.35E-04	5.61E-02	9.53E-03	0.0%
Zinc	4.52E+01	3.00E-01	4.20E-01	1.80E+00	0.00E+00	2.80E-02	4.48E-01	4.49E+01	9.99E-03	0.0%
HI =									2.60E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-170. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.15E+04	1.30E-04	0.00E+00	8.00E-04	6.70E-01	7.50E-02	4.20E+02	8.37E+02	1.26E+03
Arsenic	1.37E+01	1.20E-03	0.00E+00	8.00E-03	7.98E-03	6.60E-03	4.41E-02	9.97E-01	1.05E+00
Barium	5.48E+01	3.00E-03	0.00E+00	3.00E-02	1.20E-01	7.50E-03	2.00E-01	3.99E+00	4.31E+00
Cadmium	2.20E-01	3.00E-02	0.00E+00	1.10E-01	1.76E-03	1.10E+01	1.18E+00	1.60E-02	1.20E+00
Chromium	1.41E+01	9.00E-04	0.00E+00	1.50E-03	1.54E-03	1.60E-01	1.10E+00	1.03E+00	2.13E+00
Lead	1.14E+01	1.80E-03	0.00E+00	9.00E-03	7.47E-03	2.00E+00	1.11E+01	8.30E-01	1.19E+01
Selenium	6.90E-01	5.00E-03	0.00E+00	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	4.52E+01	1.80E-01	0.00E+00	3.00E-01	9.87E-01	1.80E+00	3.96E+01	3.29E+00	4.39E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-170. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.68E+02	1.85E+01	0.00E+00	1.85E+01	6.68E+01	2.78E-01	8.8%
Arsenic	1.00E-01	1.87E-01	2.06E-02	0.00E+00	2.06E-02	4.98E+00	4.14E-03	0.1%
Barium	7.50E-03	5.77E-02	6.35E-03	0.00E+00	6.35E-03	1.19E+01	5.33E-04	0.0%
Cadmium	2.80E-02	5.98E-02	6.58E-03	0.00E+00	6.58E-03	1.46E+00	4.52E-03	0.1%
Chromium	2.80E-01	1.06E+00	1.17E-01	0.00E+00	1.17E-01	1.03E+00	1.14E-01	3.6%
Lead	1.50E-02	3.20E-01	3.52E-02	0.00E+00	3.52E-02	6.82E-01	5.16E-02	1.6%
Selenium	7.50E-01	4.10E-01	4.51E-02	0.00E+00	4.51E-02	4.85E-01	9.29E-02	3.0%
Zinc	5.00E+00	3.92E+02	4.31E+01	0.00E+00	4.31E+01	1.66E+01	2.60E+00	82.7%
HI =							3.15E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-171. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.15E+04	1.30E-04	0.00E+00	8.00E-04	6.70E-01	7.50E-02	4.20E+02	8.37E+02	1.26E+03
Arsenic	1.37E+01	1.20E-03	0.00E+00	8.00E-03	7.98E-03	6.60E-03	4.41E-02	9.97E-01	1.05E+00
Barium	5.48E+01	3.00E-03	0.00E+00	3.00E-02	1.20E-01	7.50E-03	2.00E-01	3.99E+00	4.31E+00
Cadmium	2.20E-01	3.00E-02	0.00E+00	1.10E-01	1.76E-03	1.10E+01	1.18E+00	1.60E-02	1.20E+00
Chromium	1.41E+01	9.00E-04	0.00E+00	1.50E-03	1.54E-03	1.60E-01	1.10E+00	1.03E+00	2.13E+00
Lead	1.14E+01	1.80E-03	0.00E+00	9.00E-03	7.47E-03	2.00E+00	1.11E+01	8.30E-01	1.19E+01
Selenium	6.90E-01	5.00E-03	0.00E+00	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	4.52E+01	1.80E-01	0.00E+00	3.00E-01	9.87E-01	1.80E+00	3.96E+01	3.29E+00	4.39E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-171. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A _x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.68E+02	2.11E+01	0.00E+00	2.11E+01	8.33E+01	2.53E-01	8.8%	
Arsenic	1.00E-01	1.87E-01	2.34E-02	0.00E+00	2.34E-02	6.22E+00	3.77E-03	0.1%	
Barium	7.50E-03	5.77E-02	7.21E-03	0.00E+00	7.21E-03	1.49E+01	4.85E-04	0.0%	
Cadmium	2.80E-02	5.98E-02	7.48E-03	0.00E+00	7.48E-03	1.82E+00	4.11E-03	0.1%	
Chromium	2.80E-01	1.06E+00	1.33E-01	0.00E+00	1.33E-01	1.28E+00	1.04E-01	3.6%	
Lead	1.50E-02	3.20E-01	4.00E-02	0.00E+00	4.00E-02	8.51E-01	4.70E-02	1.6%	
Selenium	7.50E-01	4.10E-01	5.12E-02	0.00E+00	5.12E-02	6.05E-01	8.46E-02	3.0%	
Zinc	5.00E+00	3.92E+02	4.90E+01	0.00E+00	4.90E+01	2.07E+01	2.37E+00	82.7%	
							HI =	2.87E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-172. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 24

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.15E+04	1.30E-04	4.75E-03	8.00E-04	6.70E-01	7.50E-02	4.20E+02	8.37E+02	1.26E+03
Arsenic	1.37E+01	1.20E-03	5.22E-05	8.00E-03	7.98E-03	6.60E-03	4.41E-02	9.97E-01	1.05E+00
Barium	5.48E+01	3.00E-03	5.22E-04	3.00E-02	1.20E-01	7.50E-03	2.00E-01	3.99E+00	4.31E+00
Cadmium	2.20E-01	3.00E-02	2.09E-05	1.10E-01	1.76E-03	1.10E+01	1.18E+00	1.60E-02	1.20E+00
Chromium	1.41E+01	9.00E-04	4.03E-05	1.50E-03	1.54E-03	1.60E-01	1.10E+00	1.03E+00	2.13E+00
Lead	1.14E+01	1.80E-03	6.51E-05	9.00E-03	7.47E-03	2.00E+00	1.11E+01	8.30E-01	1.19E+01
Selenium	6.90E-01	5.00E-03	1.10E-05	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	4.52E+01	1.80E-01	2.58E-02	3.00E-01	9.87E-01	1.80E+00	3.96E+01	3.29E+00	4.39E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-172. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.68E+02	1.11E+01	2.22E+01	3.33E+01	5.46E-01	6.10E+01	97.2%
Arsenic	1.00E-01	1.87E-01	1.23E-02	2.65E-02	3.89E-02	3.56E-02	1.09E+00	1.7%
Barium	7.50E-03	5.77E-02	3.80E-03	1.06E-01	1.10E-01	2.79E+00	3.95E-02	0.1%
Cadmium	2.80E-02	5.98E-02	3.94E-03	4.25E-04	4.39E-03	5.04E-01	8.70E-03	0.0%
Chromium	2.80E-01	1.06E+00	7.00E-02	2.72E-02	9.73E-02	1.43E+03	6.80E-05	0.0%
Lead	1.50E-02	3.20E-01	2.11E-02	2.20E-02	4.32E-02	4.18E+00	1.03E-02	0.0%
Selenium	7.50E-01	4.10E-01	2.70E-02	1.33E-03	2.83E-02	1.05E-01	2.71E-01	0.4%
Zinc	5.00E+00	3.92E+02	2.58E+01	8.73E-02	2.59E+01	8.36E+01	3.10E-01	0.5%
							HI = 6.28E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-173. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.25E+03	5.00E+01	1.65E+02	92.3%
Arsenic	1.23E+01	1.00E+01	1.23E+00	0.7%
Barium	4.76E+01	5.00E+02	9.52E-02	0.1%
Cadmium	3.40E-01	5.00E-01	6.80E-01	0.4%
Chromium	1.02E+01	1.00E+00	1.02E+01	5.7%
Lead	1.51E+01	5.00E+01	3.02E-01	0.2%
Selenium	5.50E-01	1.00E+00	5.50E-01	0.3%
Zinc	3.60E+01	5.00E+01	7.20E-01	0.4%
HI =			1.79E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-174. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 25**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.25E+03	No TRV	No TRV	No HQ
Arsenic	1.23E+01	6.00E+01	2.05E-01	0.8%
Barium	4.76E+01	No TRV	No TRV	No HQ
Cadmium	3.40E-01	2.00E+01	1.70E-02	0.1%
Chromium	1.02E+01	4.00E-01	2.55E+01	98.3%
Lead	1.51E+01	5.00E+02	3.02E-02	0.1%
Selenium	5.50E-01	No TRV	No TRV	No HQ
Zinc	3.60E+01	2.00E+02	1.80E-01	0.7%
HI =				2.59E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-175. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.25E+03	8.00E-04	4.80E-01	7.50E-02	3.01E+02	6.01E+02	9.03E+02	2.22E+00	4.06E+02	97.8%
Arsenic	1.23E+01	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01	1.45E-01	6.49E+00	1.6%
Barium	4.76E+01	3.00E-02	1.04E-01	7.50E-03	1.74E-01	3.47E+00	3.74E+00	1.14E+01	3.29E-01	0.1%
Cadmium	3.40E-01	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00	2.05E+00	9.00E-01	0.2%
Chromium	1.02E+01	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00	5.83E+03	2.64E-04	0.0%
Lead	1.51E+01	9.00E-03	9.89E-03	2.00E+00	1.47E+01	1.10E+00	1.58E+01	1.70E+01	9.29E-01	0.2%
Selenium	5.50E-01	5.00E-03	2.00E-04	7.60E-01	2.04E-01	4.00E-02	2.44E-01	4.26E-01	5.72E-01	0.1%
Zinc	3.60E+01	3.00E-01	7.86E-01	1.80E+00	3.16E+01	2.62E+00	3.50E+01	3.41E+02	1.03E-01	0.0%
									HI =	4.15E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-176. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.25E+03	1.30E-04	8.15E-01	7.50E-02	4.70E+02	1.30E+03	1.78E+03	1.29E+02	1.37E+01	35.9%
Arsenic	1.23E+01	1.20E-03	1.12E-02	6.60E-03	6.17E-02	1.94E+00	2.02E+00	9.66E+00	2.09E-01	0.5%
Barium	4.76E+01	3.00E-03	1.09E-01	7.50E-03	2.71E-01	7.52E+00	7.90E+00	2.31E+01	3.42E-01	0.9%
Cadmium	3.40E-01	3.00E-02	7.75E-03	1.10E+01	2.84E+00	5.37E-02	2.90E+00	2.83E+00	1.03E+00	2.7%
Chromium	1.02E+01	9.00E-04	6.98E-03	1.60E-01	1.24E+00	1.61E+00	2.86E+00	1.99E+00	1.44E+00	3.8%
Lead	1.51E+01	1.80E-03	2.07E-02	2.00E+00	2.30E+01	2.39E+00	2.54E+01	1.32E+00	1.92E+01	50.2%
Selenium	5.50E-01	5.00E-03	2.09E-03	7.60E-01	3.18E-01	8.69E-02	4.07E-01	9.40E-01	4.33E-01	1.1%
Zinc	3.60E+01	1.80E-01	4.92E+00	1.80E+00	4.92E+01	5.69E+00	5.99E+01	3.21E+01	1.86E+00	4.9%
HI =									3.82E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-177. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.25E+03	8.00E-04	1.35E+00	7.50E-02	0.00E+00	1.07E+02	1.08E+02	7.63E-01	1.41E+02	97.3%
Arsenic	1.23E+01	8.00E-03	2.02E-02	6.60E-03	0.00E+00	1.59E-01	1.79E-01	4.98E-02	3.60E+00	2.5%
Barium	4.76E+01	3.00E-02	2.93E-01	7.50E-03	0.00E+00	6.15E-01	9.07E-01	3.90E+00	2.33E-01	0.2%
Cadmium	3.40E-01	1.10E-01	7.67E-03	1.10E+01	0.00E+00	4.39E-03	1.21E-02	7.05E-01	1.71E-02	0.0%
Chromium	1.02E+01	1.50E-03	3.14E-03	1.60E-01	0.00E+00	1.32E-01	1.35E-01	2.00E+03	6.75E-05	0.0%
Lead	1.51E+01	9.00E-03	2.79E-02	2.00E+00	0.00E+00	1.95E-01	2.23E-01	5.84E+00	3.81E-02	0.0%
Selenium	5.50E-01	5.00E-03	5.64E-04	7.60E-01	0.00E+00	7.10E-03	7.67E-03	1.46E-01	5.25E-02	0.0%
Zinc	3.60E+01	3.00E-01	2.21E+00	1.80E+00	0.00E+00	4.65E-01	2.68E+00	1.17E+02	2.29E-02	0.0%
									HI =	1.45E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-178. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.25E+03	8.00E-04	2.05E-01	7.50E-02	0.00E+00	5.12E+00	5.32E+00	2.93E-01	1.82E+01	96.6%
Arsenic	1.23E+01	8.00E-03	3.05E-03	6.60E-03	0.00E+00	7.63E-03	1.07E-02	1.91E-02	5.58E-01	3.0%
Barium	4.76E+01	3.00E-02	4.43E-02	7.50E-03	0.00E+00	2.95E-02	7.38E-02	1.50E+00	4.92E-02	0.3%
Cadmium	3.40E-01	1.10E-01	1.16E-03	1.10E+01	0.00E+00	2.11E-04	1.37E-03	2.71E-01	5.06E-03	0.0%
Chromium	1.02E+01	1.50E-03	4.74E-04	1.60E-01	0.00E+00	6.32E-03	6.80E-03	7.68E+02	8.85E-06	0.0%
Lead	1.51E+01	9.00E-03	4.21E-03	2.00E+00	0.00E+00	9.36E-03	1.36E-02	2.24E+00	6.05E-03	0.0%
Selenium	5.50E-01	5.00E-03	8.53E-05	7.60E-01	0.00E+00	3.41E-04	4.26E-04	5.61E-02	7.60E-03	0.0%
Zinc	3.60E+01	3.00E-01	3.35E-01	1.80E+00	0.00E+00	2.23E-02	3.57E-01	4.49E+01	7.96E-03	0.0%
HI =									1.88E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-179. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.25E+03	1.30E-04	0.00E+00	8.00E-04	4.80E-01	7.50E-02	3.01E+02	6.01E+02	9.03E+02
Arsenic	1.23E+01	1.20E-03	0.00E+00	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	4.76E+01	3.00E-03	0.00E+00	3.00E-02	1.04E-01	7.50E-03	1.74E-01	3.47E+00	3.74E+00
Cadmium	3.40E-01	3.00E-02	0.00E+00	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00
Chromium	1.02E+01	9.00E-04	0.00E+00	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00
Lead	1.51E+01	1.80E-03	0.00E+00	9.00E-03	9.89E-03	2.00E+00	1.47E+01	1.10E+00	1.58E+01
Selenium	5.50E-01	5.00E-03	0.00E+00	5.00E-03	2.00E-04	7.60E-01	2.04E-01	4.00E-02	2.44E-01
Zinc	3.60E+01	1.80E-01	0.00E+00	3.00E-01	7.86E-01	1.80E+00	3.16E+01	2.62E+00	3.50E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-179. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.21E+02	1.33E+01	0.00E+00	1.33E+01	6.68E+01	1.99E-01	7.9%
Arsenic	1.00E-01	1.68E-01	1.85E-02	0.00E+00	1.85E-02	4.98E+00	3.72E-03	0.1%
Barium	7.50E-03	5.01E-02	5.51E-03	0.00E+00	5.51E-03	1.19E+01	4.63E-04	0.0%
Cadmium	2.80E-02	9.25E-02	1.02E-02	0.00E+00	1.02E-02	1.46E+00	6.98E-03	0.3%
Chromium	2.80E-01	7.69E-01	8.46E-02	0.00E+00	8.46E-02	1.03E+00	8.25E-02	3.3%
Lead	1.50E-02	4.24E-01	4.66E-02	0.00E+00	4.66E-02	6.82E-01	6.84E-02	2.7%
Selenium	7.50E-01	3.27E-01	3.59E-02	0.00E+00	3.59E-02	4.85E-01	7.41E-02	3.0%
Zinc	5.00E+00	3.12E+02	3.44E+01	0.00E+00	3.44E+01	1.66E+01	2.07E+00	82.6%
HI =							2.51E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-180. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.25E+03	1.30E-04	0.00E+00	8.00E-04	4.80E-01	7.50E-02	3.01E+02	6.01E+02	9.03E+02
Arsenic	1.23E+01	1.20E-03	0.00E+00	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	4.76E+01	3.00E-03	0.00E+00	3.00E-02	1.04E-01	7.50E-03	1.74E-01	3.47E+00	3.74E+00
Cadmium	3.40E-01	3.00E-02	0.00E+00	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00
Chromium	1.02E+01	9.00E-04	0.00E+00	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00
Lead	1.51E+01	1.80E-03	0.00E+00	9.00E-03	9.89E-03	2.00E+00	1.47E+01	1.10E+00	1.58E+01
Selenium	5.50E-01	5.00E-03	0.00E+00	5.00E-03	2.00E-04	7.60E-01	2.04E-01	4.00E-02	2.44E-01
Zinc	3.60E+01	1.80E-01	0.00E+00	3.00E-01	7.86E-01	1.80E+00	3.16E+01	2.62E+00	3.50E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-180. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.21E+02	1.51E+01	0.00E+00	1.51E+01	8.33E+01	1.81E-01	7.9%
Arsenic	1.00E-01	1.68E-01	2.10E-02	0.00E+00	2.10E-02	6.22E+00	3.38E-03	0.1%
Barium	7.50E-03	5.01E-02	6.27E-03	0.00E+00	6.27E-03	1.49E+01	4.22E-04	0.0%
Cadmium	2.80E-02	9.25E-02	1.16E-02	0.00E+00	1.16E-02	1.82E+00	6.36E-03	0.3%
Chromium	2.80E-01	7.69E-01	9.62E-02	0.00E+00	9.62E-02	1.28E+00	7.51E-02	3.3%
Lead	1.50E-02	4.24E-01	5.30E-02	0.00E+00	5.30E-02	8.51E-01	6.22E-02	2.7%
Selenium	7.50E-01	3.27E-01	4.08E-02	0.00E+00	4.08E-02	6.05E-01	6.75E-02	3.0%
Zinc	5.00E+00	3.12E+02	3.90E+01	0.00E+00	3.90E+01	2.07E+01	1.89E+00	82.6%
							HI =	2.28E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-181. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 25

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	8.25E+03	1.30E-04	3.40E-03	8.00E-04	4.80E-01	7.50E-02	3.01E+02	6.01E+02	9.03E+02
Arsenic	1.23E+01	1.20E-03	4.68E-05	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	4.76E+01	3.00E-03	4.53E-04	3.00E-02	1.04E-01	7.50E-03	1.74E-01	3.47E+00	3.74E+00
Cadmium	3.40E-01	3.00E-02	3.24E-05	1.10E-01	2.72E-03	1.10E+01	1.82E+00	2.48E-02	1.85E+00
Chromium	1.02E+01	9.00E-04	2.91E-05	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00
Lead	1.51E+01	1.80E-03	8.63E-05	9.00E-03	9.89E-03	2.00E+00	1.47E+01	1.10E+00	1.58E+01
Selenium	5.50E-01	5.00E-03	8.73E-06	5.00E-03	2.00E-04	7.60E-01	2.04E-01	4.00E-02	2.44E-01
Zinc	3.60E+01	1.80E-01	2.06E-02	3.00E-01	7.86E-01	1.80E+00	3.16E+01	2.62E+00	3.50E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-181. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.21E+02	7.96E+00	1.59E+01	2.39E+01	5.46E-01	4.38E+01	96.7%
Arsenic	1.00E-01	1.68E-01	1.11E-02	2.38E-02	3.49E-02	3.56E-02	9.79E-01	2.2%
Barium	7.50E-03	5.01E-02	3.30E-03	9.20E-02	9.57E-02	2.79E+00	3.43E-02	0.1%
Cadmium	2.80E-02	9.25E-02	6.09E-03	6.57E-04	6.78E-03	5.04E-01	1.34E-02	0.0%
Chromium	2.80E-01	7.69E-01	5.06E-02	1.97E-02	7.04E-02	1.43E+03	4.92E-05	0.0%
Lead	1.50E-02	4.24E-01	2.79E-02	2.92E-02	5.72E-02	4.18E+00	1.37E-02	0.0%
Selenium	7.50E-01	3.27E-01	2.15E-02	1.06E-03	2.26E-02	1.05E-01	2.16E-01	0.5%
Zinc	5.00E+00	3.12E+02	2.06E+01	6.96E-02	2.06E+01	8.36E+01	2.47E-01	0.5%
							HI = 4.53E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-182. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI <i>x</i> 100
Inorganics				
Aluminum	9.49E+03	5.00E+01	1.90E+02	93.1%
Arsenic	1.25E+01	1.00E+01	1.25E+00	0.6%
Barium	3.12E+01	5.00E+02	6.24E-02	0.0%
Cadmium	2.00E-01	5.00E-01	4.00E-01	0.2%
Chromium	1.03E+01	1.00E+00	1.03E+01	5.1%
Lead	1.25E+01	5.00E+01	2.50E-01	0.1%
Selenium	8.80E-01	1.00E+00	8.80E-01	0.4%
Zinc	4.54E+01	5.00E+01	9.08E-01	0.4%
HI =				2.04E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-183. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 26**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.49E+03	No TRV	No TRV	No HQ
Arsenic	1.25E+01	6.00E+01	2.08E-01	0.8%
Barium	3.12E+01	No TRV	No TRV	No HQ
Cadmium	2.00E-01	2.00E+01	1.00E-02	0.0%
Chromium	1.03E+01	4.00E-01	2.58E+01	98.2%
Lead	1.25E+01	5.00E+02	2.50E-02	0.1%
Selenium	8.80E-01	No TRV	No TRV	No HQ
Zinc	4.54E+01	2.00E+02	2.27E-01	0.9%
HI =				2.62E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-184. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.49E+03	8.00E-04	5.53E-01	7.50E-02	3.47E+02	6.91E+02	1.04E+03	2.22E+00	4.67E+02	98.1%
Arsenic	1.25E+01	8.00E-03	7.28E-03	6.60E-03	4.02E-02	9.10E-01	9.57E-01	1.45E-01	6.59E+00	1.4%
Barium	3.12E+01	3.00E-02	6.81E-02	7.50E-03	1.14E-01	2.27E+00	2.45E+00	1.14E+01	2.16E-01	0.0%
Cadmium	2.00E-01	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00	2.05E+00	5.30E-01	0.1%
Chromium	1.03E+01	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00	5.83E+03	2.67E-04	0.0%
Lead	1.25E+01	9.00E-03	8.19E-03	2.00E+00	1.22E+01	9.10E-01	1.31E+01	1.70E+01	7.69E-01	0.2%
Selenium	8.80E-01	5.00E-03	3.20E-04	7.60E-01	3.26E-01	6.41E-02	3.90E-01	4.26E-01	9.16E-01	0.2%
Zinc	4.54E+01	3.00E-01	9.92E-01	1.80E+00	3.98E+01	3.31E+00	4.41E+01	3.41E+02	1.29E-01	0.0%
									HI =	4.76E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-185. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.49E+03	1.30E-04	9.38E-01	7.50E-02	5.41E+02	1.50E+03	2.04E+03	1.29E+02	1.58E+01	42.4%
Arsenic	1.25E+01	1.20E-03	1.14E-02	6.60E-03	6.27E-02	1.98E+00	2.05E+00	9.66E+00	2.12E-01	0.6%
Barium	3.12E+01	3.00E-03	7.11E-02	7.50E-03	1.78E-01	4.93E+00	5.18E+00	2.31E+01	2.24E-01	0.6%
Cadmium	2.00E-01	3.00E-02	4.56E-03	1.10E+01	1.67E+00	3.16E-02	1.71E+00	2.83E+00	6.05E-01	1.6%
Chromium	1.03E+01	9.00E-04	7.05E-03	1.60E-01	1.25E+00	1.63E+00	2.89E+00	1.99E+00	1.45E+00	3.9%
Lead	1.25E+01	1.80E-03	1.71E-02	2.00E+00	1.90E+01	1.98E+00	2.10E+01	1.32E+00	1.59E+01	42.7%
Selenium	8.80E-01	5.00E-03	3.34E-03	7.60E-01	5.08E-01	1.39E-01	6.51E-01	9.40E-01	6.92E-01	1.9%
Zinc	4.54E+01	1.80E-01	6.21E+00	1.80E+00	6.21E+01	7.18E+00	7.55E+01	3.21E+01	2.35E+00	6.3%
									HI =	3.72E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-186. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.49E+03	8.00E-04	1.56E+00	7.50E-02	0.00E+00	1.23E+02	1.24E+02	7.63E-01	1.63E+02	97.6%
Arsenic	1.25E+01	8.00E-03	2.05E-02	6.60E-03	0.00E+00	1.61E-01	1.82E-01	4.98E-02	3.65E+00	2.2%
Barium	3.12E+01	3.00E-02	1.92E-01	7.50E-03	0.00E+00	4.03E-01	5.95E-01	3.90E+00	1.52E-01	0.1%
Cadmium	2.00E-01	1.10E-01	4.51E-03	1.10E+01	0.00E+00	2.58E-03	7.09E-03	7.05E-01	1.01E-02	0.0%
Chromium	1.03E+01	1.50E-03	3.17E-03	1.60E-01	0.00E+00	1.33E-01	1.36E-01	2.00E+03	6.81E-05	0.0%
Lead	1.25E+01	9.00E-03	2.31E-02	2.00E+00	0.00E+00	1.61E-01	1.85E-01	5.84E+00	3.16E-02	0.0%
Selenium	8.80E-01	5.00E-03	9.02E-04	7.60E-01	0.00E+00	1.14E-02	1.23E-02	1.46E-01	8.40E-02	0.1%
Zinc	4.54E+01	3.00E-01	2.79E+00	1.80E+00	0.00E+00	5.86E-01	3.38E+00	1.17E+02	2.89E-02	0.0%
									HI =	1.67E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-187. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.49E+03	8.00E-04	2.35E-01	7.50E-02	0.00E+00	5.88E+00	6.12E+00	2.93E-01	2.09E+01	97.1%
Arsenic	1.25E+01	8.00E-03	3.10E-03	6.60E-03	0.00E+00	7.75E-03	1.09E-02	1.91E-02	5.67E-01	2.6%
Barium	3.12E+01	3.00E-02	2.90E-02	7.50E-03	0.00E+00	1.93E-02	4.84E-02	1.50E+00	3.23E-02	0.1%
Cadmium	2.00E-01	1.10E-01	6.82E-04	1.10E+01	0.00E+00	1.24E-04	8.06E-04	2.71E-01	2.98E-03	0.0%
Chromium	1.03E+01	1.50E-03	4.79E-04	1.60E-01	0.00E+00	6.39E-03	6.86E-03	7.68E+02	8.94E-06	0.0%
Lead	1.25E+01	9.00E-03	3.49E-03	2.00E+00	0.00E+00	7.75E-03	1.12E-02	2.24E+00	5.01E-03	0.0%
Selenium	8.80E-01	5.00E-03	1.36E-04	7.60E-01	0.00E+00	5.46E-04	6.82E-04	5.61E-02	1.22E-02	0.1%
Zinc	4.54E+01	3.00E-01	4.22E-01	1.80E+00	0.00E+00	2.81E-02	4.50E-01	4.49E+01	1.00E-02	0.0%
HI =									2.15E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-188. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	9.49E+03	1.30E-04	0.00E+00	8.00E-04	5.53E-01	7.50E-02	3.47E+02	6.91E+02	1.04E+03
Arsenic	1.25E+01	1.20E-03	0.00E+00	8.00E-03	7.28E-03	6.60E-03	4.02E-02	9.10E-01	9.57E-01
Barium	3.12E+01	3.00E-03	0.00E+00	3.00E-02	6.81E-02	7.50E-03	1.14E-01	2.27E+00	2.45E+00
Cadmium	2.00E-01	3.00E-02	0.00E+00	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00
Chromium	1.03E+01	9.00E-04	0.00E+00	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00
Lead	1.25E+01	1.80E-03	0.00E+00	9.00E-03	8.19E-03	2.00E+00	1.22E+01	9.10E-01	1.31E+01
Selenium	8.80E-01	5.00E-03	0.00E+00	5.00E-03	3.20E-04	7.60E-01	3.26E-01	6.41E-02	3.90E-01
Zinc	4.54E+01	1.80E-01	0.00E+00	3.00E-01	9.92E-01	1.80E+00	3.98E+01	3.31E+00	4.41E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-188. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _s x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.39E+02	1.53E+01	0.00E+00	1.53E+01	6.68E+01	2.29E-01	7.4%
Arsenic	1.00E-01	1.71E-01	1.88E-02	0.00E+00	1.88E-02	4.98E+00	3.78E-03	0.1%
Barium	7.50E-03	3.29E-02	3.61E-03	0.00E+00	3.61E-03	1.19E+01	3.03E-04	0.0%
Cadmium	2.80E-02	5.44E-02	5.98E-03	0.00E+00	5.98E-03	1.46E+00	4.11E-03	0.1%
Chromium	2.80E-01	7.77E-01	8.55E-02	0.00E+00	8.55E-02	1.03E+00	8.33E-02	2.7%
Lead	1.50E-02	3.51E-01	3.86E-02	0.00E+00	3.86E-02	6.82E-01	5.66E-02	1.8%
Selenium	7.50E-01	5.23E-01	5.75E-02	0.00E+00	5.75E-02	4.85E-01	1.19E-01	3.8%
Zinc	5.00E+00	3.94E+02	4.33E+01	0.00E+00	4.33E+01	1.66E+01	2.61E+00	84.1%
HI =							3.11E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-189. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.49E+03	1.30E-04	0.00E+00	8.00E-04	5.53E-01	7.50E-02	3.47E+02	6.91E+02	1.04E+03
Arsenic	1.25E+01	1.20E-03	0.00E+00	8.00E-03	7.28E-03	6.60E-03	4.02E-02	9.10E-01	9.57E-01
Barium	3.12E+01	3.00E-03	0.00E+00	3.00E-02	6.81E-02	7.50E-03	1.14E-01	2.27E+00	2.45E+00
Cadmium	2.00E-01	3.00E-02	0.00E+00	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00
Chromium	1.03E+01	9.00E-04	0.00E+00	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00
Lead	1.25E+01	1.80E-03	0.00E+00	9.00E-03	8.19E-03	2.00E+00	1.22E+01	9.10E-01	1.31E+01
Selenium	8.80E-01	5.00E-03	0.00E+00	5.00E-03	3.20E-04	7.60E-01	3.26E-01	6.41E-02	3.90E-01
Zinc	4.54E+01	1.80E-01	0.00E+00	3.00E-01	9.92E-01	1.80E+00	3.98E+01	3.31E+00	4.41E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-189. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A _x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.39E+02	1.74E+01	0.00E+00	1.74E+01	8.33E+01	2.09E-01	7.4%
Arsenic	1.00E-01	1.71E-01	2.14E-02	0.00E+00	2.14E-02	6.22E+00	3.44E-03	0.1%
Barium	7.50E-03	3.29E-02	4.11E-03	0.00E+00	4.11E-03	1.49E+01	2.76E-04	0.0%
Cadmium	2.80E-02	5.44E-02	6.80E-03	0.00E+00	6.80E-03	1.82E+00	3.74E-03	0.1%
Chromium	2.80E-01	7.77E-01	9.71E-02	0.00E+00	9.71E-02	1.28E+00	7.59E-02	2.7%
Lead	1.50E-02	3.51E-01	4.39E-02	0.00E+00	4.39E-02	8.51E-01	5.15E-02	1.8%
Selenium	7.50E-01	5.23E-01	6.53E-02	0.00E+00	6.53E-02	6.05E-01	1.08E-01	3.8%
Zinc	5.00E+00	3.94E+02	4.92E+01	0.00E+00	4.92E+01	2.07E+01	2.38E+00	84.1%
							HI =	2.83E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-190. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 26

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	9.49E+03	1.30E-04	3.92E-03	8.00E-04	5.53E-01	7.50E-02	3.47E+02	6.91E+02	1.04E+03
Arsenic	1.25E+01	1.20E-03	4.76E-05	8.00E-03	7.28E-03	6.60E-03	4.02E-02	9.10E-01	9.57E-01
Barium	3.12E+01	3.00E-03	2.97E-04	3.00E-02	6.81E-02	7.50E-03	1.14E-01	2.27E+00	2.45E+00
Cadmium	2.00E-01	3.00E-02	1.90E-05	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00
Chromium	1.03E+01	9.00E-04	2.94E-05	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00
Lead	1.25E+01	1.80E-03	7.14E-05	9.00E-03	8.19E-03	2.00E+00	1.22E+01	9.10E-01	1.31E+01
Selenium	8.80E-01	5.00E-03	1.40E-05	5.00E-03	3.20E-04	7.60E-01	3.26E-01	6.41E-02	3.90E-01
Zinc	4.54E+01	1.80E-01	2.59E-02	3.00E-01	9.92E-01	1.80E+00	3.98E+01	3.31E+00	4.41E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-190. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.39E+02	9.15E+00	1.83E+01	2.75E+01	5.46E-01	5.04E+01	96.7%
Arsenic	1.00E-01	1.71E-01	1.13E-02	2.42E-02	3.55E-02	3.56E-02	9.95E-01	1.9%
Barium	7.50E-03	3.29E-02	2.16E-03	6.03E-02	6.27E-02	2.79E+00	2.25E-02	0.0%
Cadmium	2.80E-02	5.44E-02	3.58E-03	3.86E-04	3.99E-03	5.04E-01	7.91E-03	0.0%
Chromium	2.80E-01	7.77E-01	5.11E-02	1.99E-02	7.11E-02	1.43E+03	4.97E-05	0.0%
Lead	1.50E-02	3.51E-01	2.31E-02	2.42E-02	4.73E-02	4.18E+00	1.13E-02	0.0%
Selenium	7.50E-01	5.23E-01	3.44E-02	1.70E-03	3.61E-02	1.05E-01	3.45E-01	0.7%
Zinc	5.00E+00	3.94E+02	2.59E+01	8.77E-02	2.60E+01	8.36E+01	3.11E-01	0.6%
							HI = 5.21E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-191. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.14E+04	5.00E+01	2.28E+02	92.1%
Arsenic	1.29E+01	1.00E+01	1.29E+00	0.5%
Barium	7.57E+01	5.00E+02	1.51E-01	0.1%
Cadmium	5.70E-01	5.00E-01	1.14E+00	0.5%
Chromium	1.37E+01	1.00E+00	1.37E+01	5.5%
Lead	1.29E+01	5.00E+01	2.58E-01	0.1%
Selenium	2.10E+00	1.00E+00	2.10E+00	0.8%
Zinc	4.74E+01	5.00E+01	9.48E-01	0.4%
HI =			2.48E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-192. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 27**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.14E+04	No TRV	No TRV	No HQ
Arsenic	1.29E+01	6.00E+01	2.15E-01	0.6%
Barium	7.57E+01	No TRV	No TRV	No HQ
Cadmium	5.70E-01	2.00E+01	2.85E-02	0.1%
Chromium	1.37E+01	4.00E-01	3.43E+01	98.5%
Lead	1.29E+01	5.00E+02	2.58E-02	0.1%
Selenium	2.10E+00	No TRV	No TRV	No HQ
Zinc	4.74E+01	2.00E+02	2.37E-01	0.7%
HI =			3.48E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-193. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03	2.22E+00	5.61E+02	97.9%
Arsenic	1.29E+01	8.00E-03	7.51E-03	6.60E-03	4.15E-02	9.39E-01	9.88E-01	1.45E-01	6.80E+00	1.2%
Barium	7.57E+01	3.00E-02	1.65E-01	7.50E-03	2.77E-01	5.51E+00	5.95E+00	1.14E+01	5.23E-01	0.1%
Cadmium	5.70E-01	1.10E-01	4.56E-03	1.10E+01	3.05E+00	4.15E-02	3.10E+00	2.05E+00	1.51E+00	0.3%
Chromium	1.37E+01	1.50E-03	1.50E-03	1.60E-01	1.07E+00	9.97E-01	2.07E+00	5.83E+03	3.55E-04	0.0%
Lead	1.29E+01	9.00E-03	8.45E-03	2.00E+00	1.26E+01	9.39E-01	1.35E+01	1.70E+01	7.93E-01	0.1%
Selenium	2.10E+00	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01	4.26E-01	2.19E+00	0.4%
Zinc	4.74E+01	3.00E-01	1.04E+00	1.80E+00	4.16E+01	3.45E+00	4.61E+01	3.41E+02	1.35E-01	0.0%
									HI =	5.73E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-194. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	1.30E-04	1.13E+00	7.50E-02	6.50E+02	1.80E+03	2.45E+03	1.29E+02	1.90E+01	43.2%
Arsenic	1.29E+01	1.20E-03	1.18E-02	6.60E-03	6.47E-02	2.04E+00	2.12E+00	9.66E+00	2.19E-01	0.5%
Barium	7.57E+01	3.00E-03	1.73E-01	7.50E-03	4.31E-01	1.20E+01	1.26E+01	2.31E+01	5.44E-01	1.2%
Cadmium	5.70E-01	3.00E-02	1.30E-02	1.10E+01	4.77E+00	9.01E-02	4.87E+00	2.83E+00	1.72E+00	3.9%
Chromium	1.37E+01	9.00E-04	9.37E-03	1.60E-01	1.67E+00	2.17E+00	3.84E+00	1.99E+00	1.93E+00	4.4%
Lead	1.29E+01	1.80E-03	1.76E-02	2.00E+00	1.96E+01	2.04E+00	2.17E+01	1.32E+00	1.64E+01	37.4%
Selenium	2.10E+00	5.00E-03	7.98E-03	7.60E-01	1.21E+00	3.32E-01	1.55E+00	9.40E-01	1.65E+00	3.8%
Zinc	4.74E+01	1.80E-01	6.48E+00	1.80E+00	6.48E+01	7.49E+00	7.88E+01	3.21E+01	2.45E+00	5.6%
HI =									4.39E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_P = Average daily dose; plant
 I_P (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-195. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	8.00E-04	1.87E+00	7.50E-02	0.00E+00	1.47E+02	1.49E+02	7.63E-01	1.95E+02	97.8%
Arsenic	1.29E+01	8.00E-03	2.12E-02	6.60E-03	0.00E+00	1.67E-01	1.88E-01	4.98E-02	3.77E+00	1.9%
Barium	7.57E+01	3.00E-02	4.66E-01	7.50E-03	0.00E+00	9.78E-01	1.44E+00	3.90E+00	3.70E-01	0.2%
Cadmium	5.70E-01	1.10E-01	1.29E-02	1.10E+01	0.00E+00	7.36E-03	2.02E-02	7.05E-01	2.87E-02	0.0%
Chromium	1.37E+01	1.50E-03	4.21E-03	1.60E-01	0.00E+00	1.77E-01	1.81E-01	2.00E+03	9.06E-05	0.0%
Lead	1.29E+01	9.00E-03	2.38E-02	2.00E+00	0.00E+00	1.67E-01	1.90E-01	5.84E+00	3.26E-02	0.0%
Selenium	2.10E+00	5.00E-03	2.15E-03	7.60E-01	0.00E+00	2.71E-02	2.93E-02	1.46E-01	2.00E-01	0.1%
Zinc	4.74E+01	3.00E-01	2.92E+00	1.80E+00	0.00E+00	6.12E-01	3.53E+00	1.17E+02	3.02E-02	0.0%
								HI =	2.00E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-196. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	8.00E-04	2.83E-01	7.50E-02	0.00E+00	7.07E+00	7.35E+00	2.93E-01	2.51E+01	97.2%
Arsenic	1.29E+01	8.00E-03	3.20E-03	6.60E-03	0.00E+00	8.00E-03	1.12E-02	1.91E-02	5.85E-01	2.3%
Barium	7.57E+01	3.00E-02	7.04E-02	7.50E-03	0.00E+00	4.69E-02	1.17E-01	1.50E+00	7.83E-02	0.3%
Cadmium	5.70E-01	1.10E-01	1.94E-03	1.10E+01	0.00E+00	3.53E-04	2.30E-03	2.71E-01	8.49E-03	0.0%
Chromium	1.37E+01	1.50E-03	6.37E-04	1.60E-01	0.00E+00	8.49E-03	9.13E-03	7.68E+02	1.19E-05	0.0%
Lead	1.29E+01	9.00E-03	3.60E-03	2.00E+00	0.00E+00	8.00E-03	1.16E-02	2.24E+00	5.17E-03	0.0%
Selenium	2.10E+00	5.00E-03	3.26E-04	7.60E-01	0.00E+00	1.30E-03	1.63E-03	5.61E-02	2.90E-02	0.1%
Zinc	4.74E+01	3.00E-01	4.41E-01	1.80E+00	0.00E+00	2.94E-02	4.70E-01	4.49E+01	1.05E-02	0.0%
HI =									2.58E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-196. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.14E+04	8.00E-04	2.83E-01	7.50E-02	0.00E+00	7.07E+00	7.35E+00	2.93E-01	2.51E+01	97.2%
Arsenic	1.29E+01	8.00E-03	3.20E-03	6.60E-03	0.00E+00	8.00E-03	1.12E-02	1.91E-02	5.85E-01	2.3%
Barium	7.57E+01	3.00E-02	7.04E-02	7.50E-03	0.00E+00	4.69E-02	1.17E-01	1.50E+00	7.83E-02	0.3%
Cadmium	5.70E-01	1.10E-01	1.94E-03	1.10E+01	0.00E+00	3.53E-04	2.30E-03	2.71E-01	8.49E-03	0.0%
Chromium	1.37E+01	1.50E-03	6.37E-04	1.60E-01	0.00E+00	8.49E-03	9.13E-03	7.68E+02	1.19E-05	0.0%
Lead	1.29E+01	9.00E-03	3.60E-03	2.00E+00	0.00E+00	8.00E-03	1.16E-02	2.24E+00	5.17E-03	0.0%
Selenium	2.10E+00	5.00E-03	3.26E-04	7.60E-01	0.00E+00	1.30E-03	1.63E-03	5.61E-02	2.90E-02	0.1%
Zinc	4.74E+01	3.00E-01	4.41E-01	1.80E+00	0.00E+00	2.94E-02	4.70E-01	4.49E+01	1.05E-02	0.0%
HI =									2.58E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-197. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.14E+04	1.30E-04	0.00E+00	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03
Arsenic	1.29E+01	1.20E-03	0.00E+00	8.00E-03	7.51E-03	6.60E-03	4.15E-02	9.39E-01	9.88E-01
Barium	7.57E+01	3.00E-03	0.00E+00	3.00E-02	1.65E-01	7.50E-03	2.77E-01	5.51E+00	5.95E+00
Cadmium	5.70E-01	3.00E-02	0.00E+00	1.10E-01	4.56E-03	1.10E+01	3.05E+00	4.15E-02	3.10E+00
Chromium	1.37E+01	9.00E-04	0.00E+00	1.50E-03	1.50E-03	1.60E-01	1.07E+00	9.97E-01	2.07E+00
Lead	1.29E+01	1.80E-03	0.00E+00	9.00E-03	8.45E-03	2.00E+00	1.26E+01	9.39E-01	1.35E+01
Selenium	2.10E+00	5.00E-03	0.00E+00	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01
Zinc	4.74E+01	1.80E-01	0.00E+00	3.00E-01	1.04E+00	1.80E+00	4.16E+01	3.45E+00	4.61E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-197. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.67E+02	1.84E+01	0.00E+00	1.84E+01	6.68E+01	2.75E-01	7.9%	
Arsenic	1.00E-01	1.76E-01	1.94E-02	0.00E+00	1.94E-02	4.98E+00	3.90E-03	0.1%	
Barium	7.50E-03	7.97E-02	8.77E-03	0.00E+00	8.77E-03	1.19E+01	7.36E-04	0.0%	
Cadmium	2.80E-02	1.55E-01	1.71E-02	0.00E+00	1.71E-02	1.46E+00	1.17E-02	0.3%	
Chromium	2.80E-01	1.03E+00	1.14E-01	0.00E+00	1.14E-01	1.03E+00	1.11E-01	3.2%	
Lead	1.50E-02	3.62E-01	3.98E-02	0.00E+00	3.98E-02	6.82E-01	5.84E-02	1.7%	
Selenium	7.50E-01	1.25E+00	1.37E-01	0.00E+00	1.37E-01	4.85E-01	2.83E-01	8.1%	
Zinc	5.00E+00	4.11E+02	4.52E+01	0.00E+00	4.52E+01	1.66E+01	2.73E+00	78.6%	
HI =							3.47E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-198. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.14E+04	1.30E-04	0.00E+00	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03
Arsenic	1.29E+01	1.20E-03	0.00E+00	8.00E-03	7.51E-03	6.60E-03	4.15E-02	9.39E-01	9.88E-01
Barium	7.57E+01	3.00E-03	0.00E+00	3.00E-02	1.65E-01	7.50E-03	2.77E-01	5.51E+00	5.95E+00
Cadmium	5.70E-01	3.00E-02	0.00E+00	1.10E-01	4.56E-03	1.10E+01	3.05E+00	4.15E-02	3.10E+00
Chromium	1.37E+01	9.00E-04	0.00E+00	1.50E-03	1.50E-03	1.60E-01	1.07E+00	9.97E-01	2.07E+00
Lead	1.29E+01	1.80E-03	0.00E+00	9.00E-03	8.45E-03	2.00E+00	1.26E+01	9.39E-01	1.35E+01
Selenium	2.10E+00	5.00E-03	0.00E+00	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01
Zinc	4.74E+01	1.80E-01	0.00E+00	3.00E-01	1.04E+00	1.80E+00	4.16E+01	3.45E+00	4.61E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-198. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} × BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs × I _A × AUF	ADDS (mg/kgBW/d) EPC × IS × AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H × 100	
Inorganics									
Aluminum	7.50E-02	1.67E+02	2.09E+01	0.00E+00	2.09E+01	8.33E+01	2.51E-01	7.9%	
Arsenic	1.00E-01	1.76E-01	2.21E-02	0.00E+00	2.21E-02	6.22E+00	3.55E-03	0.1%	
Barium	7.50E-03	7.97E-02	9.97E-03	0.00E+00	9.97E-03	1.49E+01	6.70E-04	0.0%	
Cadmium	2.80E-02	1.55E-01	1.94E-02	0.00E+00	1.94E-02	1.82E+00	1.07E-02	0.3%	
Chromium	2.80E-01	1.03E+00	1.29E-01	0.00E+00	1.29E-01	1.28E+00	1.01E-01	3.2%	
Lead	1.50E-02	3.62E-01	4.53E-02	0.00E+00	4.53E-02	8.51E-01	5.32E-02	1.7%	
Selenium	7.50E-01	1.25E+00	1.56E-01	0.00E+00	1.56E-01	6.05E-01	2.58E-01	8.1%	
Zinc	5.00E+00	4.11E+02	5.14E+01	0.00E+00	5.14E+01	2.07E+01	2.48E+00	78.6%	
							HI =	3.16E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-199. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 27

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.14E+04	1.30E-04	4.70E-03	8.00E-04	6.64E-01	7.50E-02	4.17E+02	8.30E+02	1.25E+03
Arsenic	1.29E+01	1.20E-03	4.91E-05	8.00E-03	7.51E-03	6.60E-03	4.15E-02	9.39E-01	9.88E-01
Barium	7.57E+01	3.00E-03	7.21E-04	3.00E-02	1.65E-01	7.50E-03	2.77E-01	5.51E+00	5.95E+00
Cadmium	5.70E-01	3.00E-02	5.43E-05	1.10E-01	4.56E-03	1.10E+01	3.05E+00	4.15E-02	3.10E+00
Chromium	1.37E+01	9.00E-04	3.91E-05	1.50E-03	1.50E-03	1.60E-01	1.07E+00	9.97E-01	2.07E+00
Lead	1.29E+01	1.80E-03	7.37E-05	9.00E-03	8.45E-03	2.00E+00	1.26E+01	9.39E-01	1.35E+01
Selenium	2.10E+00	5.00E-03	3.33E-05	5.00E-03	7.64E-04	7.60E-01	7.78E-01	1.53E-01	9.31E-01
Zinc	4.74E+01	1.80E-01	2.71E-02	3.00E-01	1.04E+00	1.80E+00	4.16E+01	3.45E+00	4.61E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-199. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.67E+02	1.10E+01	2.20E+01	3.30E+01	5.46E-01	6.05E+01	96.4%
Arsenic	1.00E-01	1.76E-01	1.16E-02	2.49E-02	3.66E-02	3.56E-02	1.03E+00	1.6%
Barium	7.50E-03	7.97E-02	5.25E-03	1.46E-01	1.52E-01	2.79E+00	5.45E-02	0.1%
Cadmium	2.80E-02	1.55E-01	1.02E-02	1.10E-03	1.14E-02	5.04E-01	2.25E-02	0.0%
Chromium	2.80E-01	1.03E+00	6.80E-02	2.65E-02	9.45E-02	1.43E+03	6.61E-05	0.0%
Lead	1.50E-02	3.62E-01	2.38E-02	2.49E-02	4.88E-02	4.18E+00	1.17E-02	0.0%
Selenium	7.50E-01	1.25E+00	8.21E-02	4.06E-03	8.62E-02	1.05E-01	8.24E-01	1.3%
Zinc	5.00E+00	4.11E+02	2.71E+01	9.16E-02	2.72E+01	8.36E+01	3.25E-01	0.5%
							HI = 6.28E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-200. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.25E+04	5.00E+01	2.50E+02	91.6%
Arsenic	1.51E+01	1.00E+01	1.51E+00	0.6%
Barium	4.27E+01	5.00E+02	8.54E-02	0.0%
Beryllium	5.80E-01	1.00E+01	5.80E-02	0.0%
Calcium	8.05E+02	No TRV	No TRV	No HQ
Chromium	1.52E+01	1.00E+00	1.52E+01	5.6%
Cobalt	7.20E+00	2.00E+01	3.60E-01	0.1%
Copper	1.88E+01	1.00E+02	1.88E-01	0.1%
Iron	2.73E+04	No TRV	No TRV	No HQ
Lead	1.37E+01	5.00E+01	2.74E-01	0.1%
Magnesium	2.64E+03	No TRV	No TRV	No HQ
Nickel	1.85E+01	3.00E+01	6.17E-01	0.2%
Potassium	8.24E+02	No TRV	No TRV	No HQ
Selenium	1.80E+00	1.00E+00	1.80E+00	0.7%
Sodium	1.62E+02	No TRV	No TRV	No HQ
Thallium	1.80E+00	1.00E+00	1.80E+00	0.7%
Zinc	4.96E+01	5.00E+01	9.92E-01	0.4%
Organics				
Toluene	4.00E-02	No TRV	No TRV	No HQ
			HI =	2.73E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-201. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 28**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.25E+04	No TRV	No TRV	No HQ
Arsenic	1.51E+01	6.00E+01	2.52E-01	0.6%
Barium	4.27E+01	No TRV	No TRV	No HQ
Beryllium	5.80E-01	No TRV	No TRV	No HQ
Calcium	8.05E+02	No TRV	No TRV	No HQ
Chromium	1.52E+01	4.00E-01	3.80E+01	97.4%
Cobalt	7.20E+00	No TRV	No TRV	No HQ
Copper	1.88E+01	5.00E+01	3.76E-01	1.0%
Iron	2.73E+04	No TRV	No TRV	No HQ
Lead	1.37E+01	5.00E+02	2.74E-02	0.1%
Magnesium	2.64E+03	No TRV	No TRV	No HQ
Nickel	1.85E+01	2.00E+02	9.25E-02	0.2%
Potassium	8.24E+02	No TRV	No TRV	No HQ
Selenium	1.80E+00	No TRV	No TRV	No HQ
Sodium	1.62E+02	No TRV	No TRV	No HQ
Thallium	1.80E+00	No TRV	No TRV	No HQ
Zinc	4.96E+01	2.00E+02	2.48E-01	0.6%
Organics				
Toluene	4.00E-02	No TRV	No TRV	No HQ
			HI =	3.90E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-202. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	8.00E-04	7.28E-01	7.50E-02	4.57E+02	9.10E+02	1.37E+03	2.22E+00	6.15E+02	89.2%
Arsenic	1.51E+01	8.00E-03	8.79E-03	6.60E-03	4.86E-02	1.10E+00	1.16E+00	1.45E-01	7.96E+00	1.2%
Barium	4.27E+01	3.00E-02	9.33E-02	7.50E-03	1.56E-01	3.11E+00	3.36E+00	1.14E+01	2.95E-01	0.0%
Beryllium	5.80E-01	2.00E-03	8.44E-05	5.00E-02	1.41E-02	4.22E-02	5.64E-02	1.41E+00	4.01E-02	0.0%
Calcium	8.05E+02	7.00E-01	4.10E+01	1.00E+00	3.92E+02	5.86E+01	4.92E+02	No TRV	No TRV	No HQ
Chromium	1.52E+01	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00	5.83E+03	3.93E-04	0.0%
Cobalt	7.20E+00	4.00E-03	2.10E-03	1.00E+00	3.51E+00	5.24E-01	4.03E+00	No TRV	No TRV	No HQ
Copper	1.88E+01	8.00E-02	1.09E-01	1.60E-01	1.47E+00	1.37E+00	2.94E+00	3.24E+01	9.08E-02	0.0%
Iron	2.73E+04	8.00E-04	1.59E+00	1.00E+00	1.33E+04	1.99E+03	1.53E+04	No TRV	No TRV	No HQ
Lead	1.37E+01	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01	1.70E+01	8.42E-01	0.1%
Magnesium	2.64E+03	2.00E-01	3.84E+01	1.00E+00	1.29E+03	1.92E+02	1.52E+03	No TRV	No TRV	No HQ
Nickel	1.85E+01	1.20E-02	1.62E-02	2.30E-01	2.07E+00	1.35E+00	3.44E+00	8.52E+01	4.03E-02	0.0%
Potassium	8.24E+02	2.00E-01	1.20E+01	1.00E+00	4.01E+02	6.00E+01	4.73E+02	No TRV	No TRV	No HQ
Selenium	1.80E+00	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01	4.26E-01	1.87E+00	0.3%
Sodium	1.62E+02	1.50E-02	1.77E-01	1.00E+00	7.89E+01	1.18E+01	9.09E+01	No TRV	No TRV	No HQ
Thallium	1.80E+00	8.00E-04	1.05E-04	1.00E+00	8.77E-01	1.31E-01	1.01E+00	1.59E-02	6.33E+01	9.2%
Zinc	4.96E+01	3.00E-01	1.08E+00	1.80E+00	4.35E+01	3.61E+00	4.82E+01	3.41E+02	1.41E-01	0.0%
Organics										
Toluene	4.00E-02	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03	2.99E+01	1.32E-04	0.0%
									HI =	6.89E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-203. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	1.30E-04	1.24E+00	7.50E-02	7.13E+02	1.98E+03	2.69E+03	1.29E+02	2.08E+01	46.2%
Arsenic	1.51E+01	1.20E-03	1.38E-02	6.60E-03	7.57E-02	2.39E+00	2.48E+00	9.66E+00	2.56E-01	0.6%
Barium	4.27E+01	3.00E-03	9.74E-02	7.50E-03	2.43E-01	6.75E+00	7.09E+00	2.31E+01	3.07E-01	0.7%
Beryllium	5.80E-01	3.00E-04	1.32E-04	5.00E-02	2.20E-02	9.17E-02	1.14E-01	No TRV	No TRV	No HQ
Calcium	8.05E+02	7.00E-02	4.28E+01	1.00E+00	6.12E+02	1.27E+02	7.82E+02	No TRV	No TRV	No HQ
Chromium	1.52E+01	9.00E-04	1.04E-02	1.60E-01	1.85E+00	2.40E+00	4.26E+00	1.99E+00	2.14E+00	4.8%
Cobalt	7.20E+00	1.40E-03	7.66E-03	1.00E+00	5.47E+00	1.14E+00	6.62E+00	No TRV	No TRV	No HQ
Copper	1.88E+01	5.00E-02	7.14E-01	1.60E-01	2.29E+00	2.97E+00	5.97E+00	7.55E+01	7.91E-02	0.2%
Iron	2.73E+04	2.00E-04	4.15E+00	1.00E+00	2.07E+04	4.32E+03	2.51E+04	No TRV	No TRV	No HQ
Lead	1.37E+01	1.80E-03	1.87E-02	2.00E+00	2.08E+01	2.17E+00	2.30E+01	1.32E+00	1.74E+01	38.7%
Magnesium	2.64E+03	1.10E-01	2.21E+02	1.00E+00	2.01E+03	4.17E+02	2.64E+03	No TRV	No TRV	No HQ
Nickel	1.85E+01	1.20E-02	1.69E-01	2.30E-01	3.23E+00	2.92E+00	6.33E+00	1.37E+02	4.62E-02	0.1%
Potassium	8.24E+02	1.10E-01	6.89E+01	1.00E+00	6.26E+02	1.30E+02	8.25E+02	No TRV	No TRV	No HQ
Selenium	1.80E+00	5.00E-03	6.84E-03	7.60E-01	1.04E+00	2.85E-01	1.33E+00	9.40E-01	1.42E+00	3.1%
Sodium	1.62E+02	1.10E-02	1.35E+00	1.00E+00	1.23E+02	2.56E+01	1.50E+02	No TRV	No TRV	No HQ
Thallium	1.80E+00	8.00E-05	1.09E-04	1.00E+00	1.37E+00	2.85E-01	1.65E+00	No TRV	No TRV	No HQ
Zinc	4.96E+01	1.80E-01	6.79E+00	1.80E+00	6.79E+01	7.84E+00	8.25E+01	3.21E+01	2.57E+00	5.7%
Organics										
Toluene	4.00E-02	2.00E-02	6.08E-04	5.00E-02	1.52E-03	6.32E-03	8.45E-03	No TRV	No TRV	No HQ
									HI =	4.50E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-204. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	8.00E-04	2.05E+00	7.50E-02	0.00E+00	1.61E+02	1.63E+02	7.63E-01	2.14E+02	95.9%
Arsenic	1.51E+01	8.00E-03	2.48E-02	6.60E-03	0.00E+00	1.95E-01	2.20E-01	4.98E-02	4.41E+00	2.0%
Barium	4.27E+01	3.00E-02	2.63E-01	7.50E-03	0.00E+00	5.51E-01	8.14E-01	3.90E+00	2.09E-01	0.1%
Beryllium	5.80E-01	2.00E-03	2.38E-04	5.00E-02	0.00E+00	7.49E-03	7.73E-03	4.82E-01	1.60E-02	0.0%
Calcium	8.05E+02	7.00E-01	1.16E+02	1.00E+00	0.00E+00	1.04E+01	1.26E+02	No TRV	No TRV	No HQ
Chromium	1.52E+01	1.50E-03	4.67E-03	1.60E-01	0.00E+00	1.96E-01	2.01E-01	2.00E+03	1.01E-04	0.0%
Cobalt	7.20E+00	4.00E-03	5.90E-03	1.00E+00	0.00E+00	9.30E-02	9.89E-02	No TRV	No TRV	No HQ
Copper	1.88E+01	8.00E-02	3.08E-01	1.60E-01	0.00E+00	2.43E-01	5.51E-01	1.11E+01	4.96E-02	0.0%
Iron	2.73E+04	8.00E-04	4.48E+00	1.00E+00	0.00E+00	3.53E+02	3.57E+02	No TRV	No TRV	No HQ
Lead	1.37E+01	9.00E-03	2.53E-02	2.00E+00	0.00E+00	1.77E-01	2.02E-01	5.84E+00	3.46E-02	0.0%
Magnesium	2.64E+03	2.00E-01	1.08E+02	1.00E+00	0.00E+00	3.41E+01	1.42E+02	No TRV	No TRV	No HQ
Nickel	1.85E+01	1.20E-02	4.55E-02	2.30E-01	0.00E+00	2.39E-01	2.84E-01	2.92E+01	9.74E-03	0.0%
Potassium	8.24E+02	2.00E-01	3.38E+01	1.00E+00	0.00E+00	1.06E+01	4.44E+01	No TRV	No TRV	No HQ
Selenium	1.80E+00	5.00E-03	1.85E-03	7.60E-01	0.00E+00	2.32E-02	2.51E-02	1.46E-01	1.72E-01	0.1%
Sodium	1.62E+02	1.50E-02	4.98E-01	1.00E+00	0.00E+00	2.09E+00	2.59E+00	No TRV	No TRV	No HQ
Thallium	1.80E+00	8.00E-04	2.95E-04	1.00E+00	0.00E+00	2.32E-02	2.35E-02	5.46E-03	4.31E+00	1.9%
Zinc	4.96E+01	3.00E-01	3.05E+00	1.80E+00	0.00E+00	6.41E-01	3.69E+00	1.17E+02	3.16E-02	0.0%
Organics										
Toluene	4.00E-02	2.00E-02	1.64E-04	5.00E-02	0.00E+00	5.17E-04	6.81E-04	1.03E+01	6.63E-05	0.0%
								HI = 2.24E+02		

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-205. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	8.00E-04	3.10E-01	7.50E-02	0.00E+00	7.75E+00	8.06E+00	2.93E-01	2.75E+01	95.4%
Arsenic	1.51E+01	8.00E-03	3.74E-03	6.60E-03	0.00E+00	9.36E-03	1.31E-02	1.91E-02	6.85E-01	2.4%
Barium	4.27E+01	3.00E-02	3.97E-02	7.50E-03	0.00E+00	2.65E-02	6.62E-02	1.50E+00	4.42E-02	0.2%
Beryllium	5.80E-01	2.00E-03	3.60E-05	5.00E-02	0.00E+00	3.60E-04	3.96E-04	1.85E-01	2.14E-03	0.0%
Calcium	8.05E+02	7.00E-01	1.75E+01	1.00E+00	0.00E+00	4.99E-01	1.80E+01	No TRV	No TRV	No HQ
Chromium	1.52E+01	1.50E-03	7.07E-04	1.60E-01	0.00E+00	9.42E-03	1.01E-02	7.68E+02	1.32E-05	0.0%
Cobalt	7.20E+00	4.00E-03	8.93E-04	1.00E+00	0.00E+00	4.46E-03	5.36E-03	No TRV	No TRV	No HQ
Copper	1.88E+01	8.00E-02	4.66E-02	1.60E-01	0.00E+00	1.17E-02	5.83E-02	4.27E+00	1.36E-02	0.0%
Iron	2.73E+04	8.00E-04	6.77E-01	1.00E+00	0.00E+00	1.69E+01	1.76E+01	No TRV	No TRV	No HQ
Lead	1.37E+01	9.00E-03	3.82E-03	2.00E+00	0.00E+00	8.49E-03	1.23E-02	2.24E+00	5.49E-03	0.0%
Magnesium	2.64E+03	2.00E-01	1.64E+01	1.00E+00	0.00E+00	1.64E+00	1.80E+01	No TRV	No TRV	No HQ
Nickel	1.85E+01	1.20E-02	6.88E-03	2.30E-01	0.00E+00	1.15E-02	1.84E-02	1.12E+01	1.64E-03	0.0%
Potassium	8.24E+02	2.00E-01	5.11E+00	1.00E+00	0.00E+00	5.11E-01	5.62E+00	No TRV	No TRV	No HQ
Selenium	1.80E+00	5.00E-03	2.79E-04	7.60E-01	0.00E+00	1.12E-03	1.40E-03	5.61E-02	2.49E-02	0.1%
Sodium	1.62E+02	1.50E-02	7.53E-02	1.00E+00	0.00E+00	1.00E-01	1.76E-01	No TRV	No TRV	No HQ
Thallium	1.80E+00	8.00E-04	4.46E-05	1.00E+00	0.00E+00	1.12E-03	1.16E-03	2.10E-03	5.53E-01	1.9%
Zinc	4.96E+01	3.00E-01	4.61E-01	1.80E+00	0.00E+00	3.08E-02	4.92E-01	4.49E+01	1.10E-02	0.0%
Organics										
Toluene	4.00E-02	2.00E-02	2.48E-05	5.00E-02	0.00E+00	2.48E-05	4.96E-05	3.94E+00	1.26E-05	0.0%
									HI =	2.89E+01

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-206. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.25E+04	1.30E-04	0.00E+00	8.00E-04	7.28E-01	7.50E-02	4.57E+02	9.10E+02	1.37E+03
Arsenic	1.51E+01	1.20E-03	0.00E+00	8.00E-03	8.79E-03	6.60E-03	4.86E-02	1.10E+00	1.16E+00
Barium	4.27E+01	3.00E-03	0.00E+00	3.00E-02	9.33E-02	7.50E-03	1.56E-01	3.11E+00	3.36E+00
Beryllium	5.80E-01	3.00E-04	0.00E+00	2.00E-03	8.44E-05	5.00E-02	1.41E-02	4.22E-02	5.64E-02
Calcium	8.05E+02	7.00E-02	0.00E+00	7.00E-01	4.10E+01	1.00E+00	3.92E+02	5.86E+01	4.92E+02
Chromium	1.52E+01	9.00E-04	0.00E+00	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00
Cobalt	7.20E+00	1.40E-03	0.00E+00	4.00E-03	2.10E-03	1.00E+00	3.51E+00	5.24E-01	4.03E+00
Copper	1.88E+01	5.00E-02	0.00E+00	8.00E-02	1.09E-01	1.60E-01	1.47E+00	1.37E+00	2.94E+00
Iron	2.73E+04	2.00E-04	0.00E+00	8.00E-04	1.59E+00	1.00E+00	1.33E+04	1.99E+03	1.53E+04
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Magnesium	2.64E+03	1.10E-01	0.00E+00	2.00E-01	3.84E+01	1.00E+00	1.29E+03	1.92E+02	1.52E+03
Nickel	1.85E+01	1.20E-02	0.00E+00	1.20E-02	1.62E-02	2.30E-01	2.07E+00	1.35E+00	3.44E+00
Potassium	8.24E+02	1.10E-01	0.00E+00	2.00E-01	1.20E+01	1.00E+00	4.01E+02	6.00E+01	4.73E+02
Selenium	1.80E+00	5.00E-03	0.00E+00	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01
Sodium	1.62E+02	1.10E-02	0.00E+00	1.50E-02	1.77E-01	1.00E+00	7.89E+01	1.18E+01	9.09E+01
Thallium	1.80E+00	8.00E-05	0.00E+00	8.00E-04	1.05E-04	1.00E+00	8.77E-01	1.31E-01	1.01E+00
Zinc	4.96E+01	1.80E-01	0.00E+00	3.00E-01	1.08E+00	1.80E+00	4.35E+01	3.61E+00	4.82E+01
Organics									
Toluene	4.00E-02	2.00E-02	0.00E+00	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-206. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.83E+02	2.01E+01	0.00E+00	2.01E+01	6.68E+01	3.02E-01	8.4%
Arsenic	1.00E-01	2.07E-01	2.27E-02	0.00E+00	2.27E-02	4.98E+00	4.56E-03	0.1%
Barium	7.50E-03	4.50E-02	4.95E-03	0.00E+00	4.95E-03	1.19E+01	4.15E-04	0.0%
Beryllium	5.00E-02	5.04E-03	5.54E-04	0.00E+00	5.54E-04	No TRV	No TRV	No HQ
Calcium	1.00E+00	8.78E+02	9.66E+01	0.00E+00	9.66E+01	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.15E+00	1.26E-01	0.00E+00	1.26E-01	1.03E+00	1.23E-01	3.4%
Cobalt	1.00E+00	7.20E+00	7.92E-01	0.00E+00	7.92E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.63E+00	2.89E-01	0.00E+00	2.89E-01	3.89E+01	7.42E-03	0.2%
Iron	1.00E+00	2.73E+04	3.00E+03	0.00E+00	3.00E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	3.85E-01	4.23E-02	0.00E+00	4.23E-02	6.82E-01	6.20E-02	1.7%
Magnesium	1.00E+00	2.71E+03	2.98E+02	0.00E+00	2.98E+02	No TRV	No TRV	No HQ
Nickel	3.00E-01	1.84E+00	2.02E-01	0.00E+00	2.02E-01	7.06E+01	2.87E-03	0.1%
Potassium	1.00E+00	8.45E+02	9.30E+01	0.00E+00	9.30E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.07E+00	1.18E-01	0.00E+00	1.18E-01	4.85E-01	2.42E-01	6.7%
Sodium	1.00E+00	1.62E+02	1.79E+01	0.00E+00	1.79E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.80E+00	1.98E-01	0.00E+00	1.98E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	4.30E+02	4.73E+01	0.00E+00	4.73E+01	1.66E+01	2.86E+00	79.3%
Toluene	7.60E-04	5.35E-06	5.89E-07	0.00E+00	5.89E-07	No TRV	No TRV	No HQ
							HI =	3.60E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-207. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.25E+04	1.30E-04	0.00E+00	8.00E-04	7.28E-01	7.50E-02	4.57E+02	9.10E+02	1.37E+03
Arsenic	1.51E+01	1.20E-03	0.00E+00	8.00E-03	8.79E-03	6.60E-03	4.86E-02	1.10E+00	1.16E+00
Barium	4.27E+01	3.00E-03	0.00E+00	3.00E-02	9.33E-02	7.50E-03	1.56E-01	3.11E+00	3.36E+00
Beryllium	5.80E-01	3.00E-04	0.00E+00	2.00E-03	8.44E-05	5.00E-02	1.41E-02	4.22E-02	5.64E-02
Calcium	8.05E+02	7.00E-02	0.00E+00	7.00E-01	4.10E+01	1.00E+00	3.92E+02	5.86E+01	4.92E+02
Chromium	1.52E+01	9.00E-04	0.00E+00	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00
Cobalt	7.20E+00	1.40E-03	0.00E+00	4.00E-03	2.10E-03	1.00E+00	3.51E+00	5.24E-01	4.03E+00
Copper	1.88E+01	5.00E-02	0.00E+00	8.00E-02	1.09E-01	1.60E-01	1.47E+00	1.37E+00	2.94E+00
Iron	2.73E+04	2.00E-04	0.00E+00	8.00E-04	1.59E+00	1.00E+00	1.33E+04	1.99E+03	1.53E+04
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Magnesium	2.64E+03	1.10E-01	0.00E+00	2.00E-01	3.84E+01	1.00E+00	1.29E+03	1.92E+02	1.52E+03
Nickel	1.85E+01	1.20E-02	0.00E+00	1.20E-02	1.62E-02	2.30E-01	2.07E+00	1.35E+00	3.44E+00
Potassium	8.24E+02	1.10E-01	0.00E+00	2.00E-01	1.20E+01	1.00E+00	4.01E+02	6.00E+01	4.73E+02
Selenium	1.80E+00	5.00E-03	0.00E+00	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01
Sodium	1.62E+02	1.10E-02	0.00E+00	1.50E-02	1.77E-01	1.00E+00	7.89E+01	1.18E+01	9.09E+01
Thallium	1.80E+00	8.00E-05	0.00E+00	8.00E-04	1.05E-04	1.00E+00	8.77E-01	1.31E-01	1.01E+00
Zinc	4.96E+01	1.80E-01	0.00E+00	3.00E-01	1.08E+00	1.80E+00	4.35E+01	3.61E+00	4.82E+01
Organics									
Toluene	4.00E-02	2.00E-02	0.00E+00	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-207. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _s I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.83E+02	2.29E+01	0.00E+00	2.29E+01	8.33E+01	2.75E-01	8.4%
Arsenic	1.00E-01	2.07E-01	2.58E-02	0.00E+00	2.58E-02	6.22E+00	4.15E-03	0.1%
Barium	7.50E-03	4.50E-02	5.62E-03	0.00E+00	5.62E-03	1.49E+01	3.78E-04	0.0%
Beryllium	5.00E-02	5.04E-03	6.30E-04	0.00E+00	6.30E-04	No TRV	No TRV	No HQ
Calcium	1.00E+00	8.78E+02	1.10E+02	0.00E+00	1.10E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.15E+00	1.43E-01	0.00E+00	1.43E-01	1.28E+00	1.12E-01	3.4%
Cobalt	1.00E+00	7.20E+00	9.00E-01	0.00E+00	9.00E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.63E+00	3.29E-01	0.00E+00	3.29E-01	4.86E+01	6.76E-03	0.2%
Iron	1.00E+00	2.73E+04	3.41E+03	0.00E+00	3.41E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	3.85E-01	4.81E-02	0.00E+00	4.81E-02	8.51E-01	5.65E-02	1.7%
Magnesium	1.00E+00	2.71E+03	3.39E+02	0.00E+00	3.39E+02	No TRV	No TRV	No HQ
Nickel	3.00E-01	1.84E+00	2.30E-01	0.00E+00	2.30E-01	8.81E+01	2.61E-03	0.1%
Potassium	1.00E+00	8.45E+02	1.06E+02	0.00E+00	1.06E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.07E+00	1.34E-01	0.00E+00	1.34E-01	6.05E-01	2.21E-01	6.7%
Sodium	1.00E+00	1.62E+02	2.03E+01	0.00E+00	2.03E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.80E+00	2.25E-01	0.00E+00	2.25E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	4.30E+02	5.38E+01	0.00E+00	5.38E+01	2.07E+01	2.60E+00	79.3%
Toluene	7.60E-04	5.35E-06	6.69E-07	0.00E+00	6.69E-07	No TRV	No TRV	No HQ
							HI =	3.28E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-208. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 28

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.25E+04	1.30E-04	5.16E-03	8.00E-04	7.28E-01	7.50E-02	4.57E+02	9.10E+02	1.37E+03
Arsenic	1.51E+01	1.20E-03	5.75E-05	8.00E-03	8.79E-03	6.60E-03	4.86E-02	1.10E+00	1.16E+00
Barium	4.27E+01	3.00E-03	4.07E-04	3.00E-02	9.33E-02	7.50E-03	1.56E-01	3.11E+00	3.36E+00
Beryllium	5.80E-01	3.00E-04	5.52E-07	2.00E-03	8.44E-05	5.00E-02	1.41E-02	4.22E-02	5.64E-02
Calcium	8.05E+02	7.00E-02	1.79E-01	7.00E-01	4.10E+01	1.00E+00	3.92E+02	5.86E+01	4.92E+02
Chromium	1.52E+01	9.00E-04	4.34E-05	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00
Cobalt	7.20E+00	1.40E-03	3.20E-05	4.00E-03	2.10E-03	1.00E+00	3.51E+00	5.24E-01	4.03E+00
Copper	1.88E+01	5.00E-02	2.98E-03	8.00E-02	1.09E-01	1.60E-01	1.47E+00	1.37E+00	2.94E+00
Iron	2.73E+04	2.00E-04	1.73E-02	8.00E-04	1.59E+00	1.00E+00	1.33E+04	1.99E+03	1.53E+04
Lead	1.37E+01	1.80E-03	7.83E-05	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Magnesium	2.64E+03	1.10E-01	9.22E-01	2.00E-01	3.84E+01	1.00E+00	1.29E+03	1.92E+02	1.52E+03
Nickel	1.85E+01	1.20E-02	7.05E-04	1.20E-02	1.62E-02	2.30E-01	2.07E+00	1.35E+00	3.44E+00
Potassium	8.24E+02	1.10E-01	2.88E-01	2.00E-01	1.20E+01	1.00E+00	4.01E+02	6.00E+01	4.73E+02
Selenium	1.80E+00	5.00E-03	2.86E-05	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01
Sodium	1.62E+02	1.10E-02	5.66E-03	1.50E-02	1.77E-01	1.00E+00	7.89E+01	1.18E+01	9.09E+01
Thallium	1.80E+00	8.00E-05	4.57E-07	8.00E-04	1.05E-04	1.00E+00	8.77E-01	1.31E-01	1.01E+00
Zinc	4.96E+01	1.80E-01	2.83E-02	3.00E-01	1.08E+00	1.80E+00	4.35E+01	3.61E+00	4.82E+01
Organics									
Toluene	4.00E-02	2.00E-02	2.54E-06	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 6.58E-02

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-208. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.83E+02	1.21E+01	2.42E+01	3.62E+01	5.46E-01	6.63E+01	66.4%
Arsenic	1.00E-01	2.07E-01	1.36E-02	2.92E-02	4.28E-02	3.56E-02	1.20E+00	1.2%
Barium	7.50E-03	4.50E-02	2.96E-03	8.25E-02	8.59E-02	2.79E+00	3.07E-02	0.0%
Beryllium	5.00E-02	5.04E-03	3.32E-04	1.12E-03	1.45E-03	3.45E-01	4.21E-03	0.0%
Calcium	1.00E+00	8.78E+02	5.78E+01	1.56E+00	5.95E+01	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.15E+00	7.55E-02	2.94E-02	1.05E-01	1.43E+03	7.33E-05	0.0%
Cobalt	1.00E+00	7.20E+00	4.74E-01	1.39E-02	4.88E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.63E+00	1.73E-01	3.63E-02	2.12E-01	7.96E+00	2.67E-02	0.0%
Iron	1.00E+00	2.73E+04	1.80E+03	5.27E+01	1.85E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	3.85E-01	2.53E-02	2.65E-02	5.19E-02	4.18E+00	1.24E-02	0.0%
Magnesium	1.00E+00	2.71E+03	1.78E+02	5.10E+00	1.84E+02	No TRV	No TRV	No HQ
Nickel	3.00E-01	1.84E+00	1.21E-01	3.57E-02	1.58E-01	2.09E+01	7.54E-03	0.0%
Potassium	1.00E+00	8.45E+02	5.57E+01	1.59E+00	5.75E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.07E+00	7.04E-02	3.48E-03	7.39E-02	1.05E-01	7.07E-01	0.7%
Sodium	1.00E+00	1.62E+02	1.07E+01	3.13E-01	1.10E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.80E+00	1.18E-01	3.48E-03	1.22E-01	3.91E-03	3.12E+01	31.2%
Zinc	5.00E+00	4.30E+02	2.83E+01	9.58E-02	2.84E+01	8.36E+01	3.40E-01	0.3%
Toluene	7.60E-04	5.35E-06	3.52E-07	7.73E-05	8.02E-05	7.35E+00	1.09E-05	0.0%
								HI = 9.99E+01

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-209. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.74E+04	5.00E+01	3.48E+02	94.1%
Arsenic	7.90E+00	1.00E+01	7.90E-01	0.2%
Barium	1.00E+02	5.00E+02	2.00E-01	0.1%
Chromium	1.84E+01	1.00E+00	1.84E+01	5.0%
Lead	1.58E+01	5.00E+01	3.16E-01	0.1%
Selenium	7.90E-01	1.00E+00	7.90E-01	0.2%
Zinc	5.77E+01	5.00E+01	1.15E+00	0.3%
HI =				3.70E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-210. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 29**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.74E+04	No TRV	No TRV	No HQ
Arsenic	7.90E+00	6.00E+01	1.32E-01	0.3%
Barium	1.00E+02	No TRV	No TRV	No HQ
Chromium	1.84E+01	4.00E-01	4.60E+01	99.0%
Lead	1.58E+01	5.00E+02	3.16E-02	0.1%
Selenium	7.90E-01	No TRV	No TRV	No HQ
Zinc	5.77E+01	2.00E+02	2.89E-01	0.6%
HI = 4.65E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-211. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.74E+04	8.00E-04	1.01E+00	7.50E-02	6.36E+02	1.27E+03	1.90E+03	2.22E+00	8.56E+02	99.2%
Arsenic	7.90E+00	8.00E-03	4.60E-03	6.60E-03	2.54E-02	5.75E-01	6.05E-01	1.45E-01	4.17E+00	0.5%
Barium	1.00E+02	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.28E+00	7.86E+00	1.14E+01	6.91E-01	0.1%
Chromium	1.84E+01	1.50E-03	2.01E-03	1.60E-01	1.43E+00	1.34E+00	2.78E+00	5.83E+03	4.76E-04	0.0%
Lead	1.58E+01	9.00E-03	1.04E-02	2.00E+00	1.54E+01	1.15E+00	1.66E+01	1.70E+01	9.72E-01	0.1%
Selenium	7.90E-01	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01	4.26E-01	8.22E-01	0.1%
Zinc	5.77E+01	3.00E-01	1.26E+00	1.80E+00	5.06E+01	4.20E+00	5.61E+01	3.41E+02	1.64E-01	0.0%
									HI =	8.63E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-212. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.74E+04	1.30E-04	1.72E+00	7.50E-02	9.92E+02	2.75E+03	3.74E+03	1.29E+02	2.89E+01	51.6%
Arsenic	7.90E+00	1.20E-03	7.20E-03	6.60E-03	3.96E-02	1.25E+00	1.30E+00	9.66E+00	1.34E-01	0.2%
Barium	1.00E+02	3.00E-03	2.28E-01	7.50E-03	5.70E-01	1.58E+01	1.66E+01	2.31E+01	7.19E-01	1.3%
Chromium	1.84E+01	9.00E-04	1.26E-02	1.60E-01	2.24E+00	2.91E+00	5.16E+00	1.99E+00	2.59E+00	4.6%
Lead	1.58E+01	1.80E-03	2.16E-02	2.00E+00	2.40E+01	2.50E+00	2.65E+01	1.32E+00	2.01E+01	35.8%
Selenium	7.90E-01	5.00E-03	3.00E-03	7.60E-01	4.56E-01	1.25E-01	5.84E-01	9.40E-01	6.21E-01	1.1%
Zinc	5.77E+01	1.80E-01	7.89E+00	1.80E+00	7.89E+01	9.12E+00	9.59E+01	3.21E+01	2.99E+00	5.3%
HI =									5.61E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-213. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.74E+04	8.00E-04	2.85E+00	7.50E-02	0.00E+00	2.25E+02	2.28E+02	7.63E-01	2.98E+02	99.0%
Arsenic	7.90E+00	8.00E-03	1.30E-02	6.60E-03	0.00E+00	1.02E-01	1.15E-01	4.98E-02	2.31E+00	0.8%
Barium	1.00E+02	3.00E-02	6.15E-01	7.50E-03	0.00E+00	1.29E+00	1.91E+00	3.90E+00	4.89E-01	0.2%
Chromium	1.84E+01	1.50E-03	5.66E-03	1.60E-01	0.00E+00	2.38E-01	2.43E-01	2.00E+03	1.22E-04	0.0%
Lead	1.58E+01	9.00E-03	2.92E-02	2.00E+00	0.00E+00	2.04E-01	2.33E-01	5.84E+00	3.99E-02	0.0%
Selenium	7.90E-01	5.00E-03	8.10E-04	7.60E-01	0.00E+00	1.02E-02	1.10E-02	1.46E-01	7.54E-02	0.0%
Zinc	5.77E+01	3.00E-01	3.55E+00	1.80E+00	0.00E+00	7.45E-01	4.29E+00	1.17E+02	3.67E-02	0.0%
									HI =	3.01E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-214. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.74E+04	8.00E-04	4.32E-01	7.50E-02	0.00E+00	1.08E+01	1.12E+01	2.93E-01	3.83E+01	98.7%
Arsenic	7.90E+00	8.00E-03	1.96E-03	6.60E-03	0.00E+00	4.90E-03	6.86E-03	1.91E-02	3.59E-01	0.9%
Barium	1.00E+02	3.00E-02	9.30E-02	7.50E-03	0.00E+00	6.20E-02	1.55E-01	1.50E+00	1.03E-01	0.3%
Chromium	1.84E+01	1.50E-03	8.56E-04	1.60E-01	0.00E+00	1.14E-02	1.23E-02	7.68E+02	1.60E-05	0.0%
Lead	1.58E+01	9.00E-03	4.41E-03	2.00E+00	0.00E+00	9.80E-03	1.42E-02	2.24E+00	6.33E-03	0.0%
Selenium	7.90E-01	5.00E-03	1.22E-04	7.60E-01	0.00E+00	4.90E-04	6.12E-04	5.61E-02	1.09E-02	0.0%
Zinc	5.77E+01	3.00E-01	5.37E-01	1.80E+00	0.00E+00	3.58E-02	5.72E-01	4.49E+01	1.28E-02	0.0%
HI =									3.88E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-215. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.74E+04	1.30E-04	0.00E+00	8.00E-04	1.01E+00	7.50E-02	6.36E+02	1.27E+03	1.90E+03
Arsenic	7.90E+00	1.20E-03	0.00E+00	8.00E-03	4.60E-03	6.60E-03	2.54E-02	5.75E-01	6.05E-01
Barium	1.00E+02	3.00E-03	0.00E+00	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.28E+00	7.86E+00
Chromium	1.84E+01	9.00E-04	0.00E+00	1.50E-03	2.01E-03	1.60E-01	1.43E+00	1.34E+00	2.78E+00
Lead	1.58E+01	1.80E-03	0.00E+00	9.00E-03	1.04E-02	2.00E+00	1.54E+01	1.15E+00	1.66E+01
Selenium	7.90E-01	5.00E-03	0.00E+00	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Zinc	5.77E+01	1.80E-01	0.00E+00	3.00E-01	1.26E+00	1.80E+00	5.06E+01	4.20E+00	5.61E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-215. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.55E+02	2.80E+01	0.00E+00	2.80E+01	6.68E+01	4.20E-01	10.3%
Arsenic	1.00E-01	1.08E-01	1.19E-02	0.00E+00	1.19E-02	4.98E+00	2.39E-03	0.1%
Barium	7.50E-03	1.05E-01	1.16E-02	0.00E+00	1.16E-02	1.19E+01	9.72E-04	0.0%
Chromium	2.80E-01	1.39E+00	1.53E-01	0.00E+00	1.53E-01	1.03E+00	1.49E-01	3.7%
Lead	1.50E-02	4.43E-01	4.88E-02	0.00E+00	4.88E-02	6.82E-01	7.15E-02	1.8%
Selenium	7.50E-01	4.69E-01	5.16E-02	0.00E+00	5.16E-02	4.85E-01	1.06E-01	2.6%
Zinc	5.00E+00	5.01E+02	5.51E+01	0.00E+00	5.51E+01	1.66E+01	3.32E+00	81.6%
HI =							4.07E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-216. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.74E+04	1.30E-04	0.00E+00	8.00E-04	1.01E+00	7.50E-02	6.36E+02	1.27E+03	1.90E+03
Arsenic	7.90E+00	1.20E-03	0.00E+00	8.00E-03	4.60E-03	6.60E-03	2.54E-02	5.75E-01	6.05E-01
Barium	1.00E+02	3.00E-03	0.00E+00	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.28E+00	7.86E+00
Chromium	1.84E+01	9.00E-04	0.00E+00	1.50E-03	2.01E-03	1.60E-01	1.43E+00	1.34E+00	2.78E+00
Lead	1.58E+01	1.80E-03	0.00E+00	9.00E-03	1.04E-02	2.00E+00	1.54E+01	1.15E+00	1.66E+01
Selenium	7.90E-01	5.00E-03	0.00E+00	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Zinc	5.77E+01	1.80E-01	0.00E+00	3.00E-01	1.26E+00	1.80E+00	5.06E+01	4.20E+00	5.61E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-216. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	2.55E+02	3.19E+01	0.00E+00	3.19E+01	8.33E+01	3.83E-01	10.3%	
Arsenic	1.00E-01	1.08E-01	1.35E-02	0.00E+00	1.35E-02	6.22E+00	2.17E-03	0.1%	
Barium	7.50E-03	1.05E-01	1.32E-02	0.00E+00	1.32E-02	1.49E+01	8.86E-04	0.0%	
Chromium	2.80E-01	1.39E+00	1.73E-01	0.00E+00	1.73E-01	1.28E+00	1.36E-01	3.7%	
Lead	1.50E-02	4.43E-01	5.54E-02	0.00E+00	5.54E-02	8.51E-01	6.51E-02	1.8%	
Selenium	7.50E-01	4.69E-01	5.86E-02	0.00E+00	5.86E-02	6.05E-01	9.69E-02	2.6%	
Zinc	5.00E+00	5.01E+02	6.26E+01	0.00E+00	6.26E+01	2.07E+01	3.02E+00	81.6%	
HI =							3.71E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-217. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 29

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.74E+04	1.30E-04	7.18E-03	8.00E-04	1.01E+00	7.50E-02	6.36E+02	1.27E+03	1.90E+03
Arsenic	7.90E+00	1.20E-03	3.01E-05	8.00E-03	4.60E-03	6.60E-03	2.54E-02	5.75E-01	6.05E-01
Barium	1.00E+02	3.00E-03	9.52E-04	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.28E+00	7.86E+00
Chromium	1.84E+01	9.00E-04	5.26E-05	1.50E-03	2.01E-03	1.60E-01	1.43E+00	1.34E+00	2.78E+00
Lead	1.58E+01	1.80E-03	9.03E-05	9.00E-03	1.04E-02	2.00E+00	1.54E+01	1.15E+00	1.66E+01
Selenium	7.90E-01	5.00E-03	1.25E-05	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Zinc	5.77E+01	1.80E-01	3.30E-02	3.00E-01	1.26E+00	1.80E+00	5.06E+01	4.20E+00	5.61E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-217. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.55E+02	1.68E+01	3.36E+01	5.04E+01	5.46E-01	9.23E+01	98.5%
Arsenic	1.00E-01	1.08E-01	7.11E-03	1.53E-02	2.24E-02	3.56E-02	6.29E-01	0.7%
Barium	7.50E-03	1.05E-01	6.93E-03	1.93E-01	2.01E-01	2.79E+00	7.20E-02	0.1%
Chromium	2.80E-01	1.39E+00	9.14E-02	3.55E-02	1.27E-01	1.43E+03	8.88E-05	0.0%
Lead	1.50E-02	4.43E-01	2.92E-02	3.05E-02	5.98E-02	4.18E+00	1.43E-02	0.0%
Selenium	7.50E-01	4.69E-01	3.09E-02	1.53E-03	3.24E-02	1.05E-01	3.10E-01	0.3%
Zinc	5.00E+00	5.01E+02	3.29E+01	1.11E-01	3.31E+01	8.36E+01	3.96E-01	0.4%
							HI = 9.38E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-218. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.50E+03	5.00E+01	1.70E+02	91.0%
Arsenic	1.98E+01	1.00E+01	1.98E+00	1.1%
Barium	3.92E+01	5.00E+02	7.84E-02	0.0%
Chromium	1.24E+01	1.00E+00	1.24E+01	6.6%
Lead	1.32E+01	5.00E+01	2.64E-01	0.1%
Selenium	6.90E-01	1.00E+00	6.90E-01	0.4%
Zinc	6.54E+01	5.00E+01	1.31E+00	0.7%
HI =				1.87E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-219. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 30**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.50E+03	No TRV	No TRV	No HQ
Arsenic	1.98E+01	6.00E+01	3.30E-01	1.0%
Barium	3.92E+01	No TRV	No TRV	No HQ
Chromium	1.24E+01	4.00E-01	3.10E+01	97.8%
Lead	1.32E+01	5.00E+02	2.64E-02	0.1%
Selenium	6.90E-01	No TRV	No TRV	No HQ
Zinc	6.54E+01	2.00E+02	3.27E-01	1.0%
HI =				3.17E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-220. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.50E+03	8.00E-04	4.95E-01	7.50E-02	3.11E+02	6.19E+02	9.30E+02	2.22E+00	4.18E+02	97.1%
Arsenic	1.98E+01	8.00E-03	1.15E-02	6.60E-03	6.37E-02	1.44E+00	1.52E+00	1.45E-01	1.04E+01	2.4%
Barium	3.92E+01	3.00E-02	8.56E-02	7.50E-03	1.43E-01	2.85E+00	3.08E+00	1.14E+01	2.71E-01	0.1%
Chromium	1.24E+01	1.50E-03	1.35E-03	1.60E-01	9.67E-01	9.03E-01	1.87E+00	5.83E+03	3.21E-04	0.0%
Lead	1.32E+01	9.00E-03	8.65E-03	2.00E+00	1.29E+01	9.61E-01	1.38E+01	1.70E+01	8.12E-01	0.2%
Selenium	6.90E-01	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01	4.26E-01	7.18E-01	0.2%
Zinc	6.54E+01	3.00E-01	1.43E+00	1.80E+00	5.74E+01	4.76E+00	6.35E+01	3.41E+02	1.86E-01	0.0%
									HI =	4.30E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-221. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.50E+03	1.30E-04	8.40E-01	7.50E-02	4.85E+02	1.34E+03	1.83E+03	1.29E+02	1.41E+01	38.0%
Arsenic	1.98E+01	1.20E-03	1.81E-02	6.60E-03	9.93E-02	3.13E+00	3.25E+00	9.66E+00	3.36E-01	0.9%
Barium	3.92E+01	3.00E-03	8.94E-02	7.50E-03	2.23E-01	6.20E+00	6.51E+00	2.31E+01	2.82E-01	0.8%
Chromium	1.24E+01	9.00E-04	8.48E-03	1.60E-01	1.51E+00	1.96E+00	3.48E+00	1.99E+00	1.75E+00	4.7%
Lead	1.32E+01	1.80E-03	1.81E-02	2.00E+00	2.01E+01	2.09E+00	2.22E+01	1.32E+00	1.68E+01	45.1%
Selenium	6.90E-01	5.00E-03	2.62E-03	7.60E-01	3.99E-01	1.09E-01	5.10E-01	9.40E-01	5.43E-01	1.5%
Zinc	6.54E+01	1.80E-01	8.95E+00	1.80E+00	8.95E+01	1.03E+01	1.09E+02	3.21E+01	3.38E+00	9.1%
HI =									3.72E+01	

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-222. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.50E+03	8.00E-04	1.39E+00	7.50E-02	0.00E+00	1.10E+02	1.11E+02	7.63E-01	1.46E+02	96.0%
Arsenic	1.98E+01	8.00E-03	3.25E-02	6.60E-03	0.00E+00	2.56E-01	2.88E-01	4.98E-02	5.79E+00	3.8%
Barium	3.92E+01	3.00E-02	2.41E-01	7.50E-03	0.00E+00	5.06E-01	7.47E-01	3.90E+00	1.92E-01	0.1%
Chromium	1.24E+01	1.50E-03	3.81E-03	1.60E-01	0.00E+00	1.60E-01	1.64E-01	2.00E+03	8.20E-05	0.0%
Lead	1.32E+01	9.00E-03	2.44E-02	2.00E+00	0.00E+00	1.70E-01	1.95E-01	5.84E+00	3.33E-02	0.0%
Selenium	6.90E-01	5.00E-03	7.07E-04	7.60E-01	0.00E+00	8.91E-03	9.62E-03	1.46E-01	6.58E-02	0.0%
Zinc	6.54E+01	3.00E-01	4.02E+00	1.80E+00	0.00E+00	8.45E-01	4.87E+00	1.17E+02	4.16E-02	0.0%
									HI =	1.52E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-223. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.50E+03	8.00E-04	2.11E-01	7.50E-02	0.00E+00	5.27E+00	5.48E+00	2.93E-01	1.87E+01	95.1%
Arsenic	1.98E+01	8.00E-03	4.91E-03	6.60E-03	0.00E+00	1.23E-02	1.72E-02	1.91E-02	8.99E-01	4.6%
Barium	3.92E+01	3.00E-02	3.65E-02	7.50E-03	0.00E+00	2.43E-02	6.08E-02	1.50E+00	4.05E-02	0.2%
Chromium	1.24E+01	1.50E-03	5.77E-04	1.60E-01	0.00E+00	7.69E-03	8.26E-03	7.68E+02	1.08E-05	0.0%
Lead	1.32E+01	9.00E-03	3.68E-03	2.00E+00	0.00E+00	8.18E-03	1.19E-02	2.24E+00	5.29E-03	0.0%
Selenium	6.90E-01	5.00E-03	1.07E-04	7.60E-01	0.00E+00	4.28E-04	5.35E-04	5.61E-02	9.53E-03	0.0%
Zinc	6.54E+01	3.00E-01	6.08E-01	1.80E+00	0.00E+00	4.05E-02	6.49E-01	4.49E+01	1.45E-02	0.1%
HI =									1.97E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-224. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.50E+03	1.30E-04	0.00E+00	8.00E-04	4.95E-01	7.50E-02	3.11E+02	6.19E+02	9.30E+02
Arsenic	1.98E+01	1.20E-03	0.00E+00	8.00E-03	1.15E-02	6.60E-03	6.37E-02	1.44E+00	1.52E+00
Barium	3.92E+01	3.00E-03	0.00E+00	3.00E-02	8.56E-02	7.50E-03	1.43E-01	2.85E+00	3.08E+00
Chromium	1.24E+01	9.00E-04	0.00E+00	1.50E-03	1.35E-03	1.60E-01	9.67E-01	9.03E-01	1.87E+00
Lead	1.32E+01	1.80E-03	0.00E+00	9.00E-03	8.65E-03	2.00E+00	1.29E+01	9.61E-01	1.38E+01
Selenium	6.90E-01	5.00E-03	0.00E+00	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	6.54E+01	1.80E-01	0.00E+00	3.00E-01	1.43E+00	1.80E+00	5.74E+01	4.76E+00	6.35E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-224. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.25E+02	1.37E+01	0.00E+00	1.37E+01	6.68E+01	2.05E-01	4.9%
Arsenic	1.00E-01	2.71E-01	2.98E-02	0.00E+00	2.98E-02	4.98E+00	5.98E-03	0.1%
Barium	7.50E-03	4.13E-02	4.54E-03	0.00E+00	4.54E-03	1.19E+01	3.81E-04	0.0%
Chromium	2.80E-01	9.35E-01	1.03E-01	0.00E+00	1.03E-01	1.03E+00	1.00E-01	2.4%
Lead	1.50E-02	3.70E-01	4.08E-02	0.00E+00	4.08E-02	6.82E-01	5.98E-02	1.4%
Selenium	7.50E-01	4.10E-01	4.51E-02	0.00E+00	4.51E-02	4.85E-01	9.29E-02	2.2%
Zinc	5.00E+00	5.67E+02	6.24E+01	0.00E+00	6.24E+01	1.66E+01	3.77E+00	89.0%
HI =							4.23E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-225. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF_i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.50E+03	1.30E-04	0.00E+00	8.00E-04	4.95E-01	7.50E-02	3.11E+02	6.19E+02	9.30E+02
Arsenic	1.98E+01	1.20E-03	0.00E+00	8.00E-03	1.15E-02	6.60E-03	6.37E-02	1.44E+00	1.52E+00
Barium	3.92E+01	3.00E-03	0.00E+00	3.00E-02	8.56E-02	7.50E-03	1.43E-01	2.85E+00	3.08E+00
Chromium	1.24E+01	9.00E-04	0.00E+00	1.50E-03	1.35E-03	1.60E-01	9.67E-01	9.03E-01	1.87E+00
Lead	1.32E+01	1.80E-03	0.00E+00	9.00E-03	8.65E-03	2.00E+00	1.29E+01	9.61E-01	1.38E+01
Selenium	6.90E-01	5.00E-03	0.00E+00	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	6.54E+01	1.80E-01	0.00E+00	3.00E-01	1.43E+00	1.80E+00	5.74E+01	4.76E+00	6.35E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-225. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.25E+02	1.56E+01	0.00E+00	1.56E+01	8.33E+01	1.87E-01	4.9%	
Arsenic	1.00E-01	2.71E-01	3.39E-02	0.00E+00	3.39E-02	6.22E+00	5.45E-03	0.1%	
Barium	7.50E-03	4.13E-02	5.16E-03	0.00E+00	5.16E-03	1.49E+01	3.47E-04	0.0%	
Chromium	2.80E-01	9.35E-01	1.17E-01	0.00E+00	1.17E-01	1.28E+00	9.14E-02	2.4%	
Lead	1.50E-02	3.70E-01	4.63E-02	0.00E+00	4.63E-02	8.51E-01	5.44E-02	1.4%	
Selenium	7.50E-01	4.10E-01	5.12E-02	0.00E+00	5.12E-02	6.05E-01	8.46E-02	2.2%	
Zinc	5.00E+00	5.67E+02	7.09E+01	0.00E+00	7.09E+01	2.07E+01	3.43E+00	89.0%	
							HI =	3.85E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-226. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 30

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	8.50E+03	1.30E-04	3.51E-03	8.00E-04	4.95E-01	7.50E-02	3.11E+02	6.19E+02	9.30E+02
Arsenic	1.98E+01	1.20E-03	7.54E-05	8.00E-03	1.15E-02	6.60E-03	6.37E-02	1.44E+00	1.52E+00
Barium	3.92E+01	3.00E-03	3.73E-04	3.00E-02	8.56E-02	7.50E-03	1.43E-01	2.85E+00	3.08E+00
Chromium	1.24E+01	9.00E-04	3.54E-05	1.50E-03	1.35E-03	1.60E-01	9.67E-01	9.03E-01	1.87E+00
Lead	1.32E+01	1.80E-03	7.54E-05	9.00E-03	8.65E-03	2.00E+00	1.29E+01	9.61E-01	1.38E+01
Selenium	6.90E-01	5.00E-03	1.10E-05	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	6.54E+01	1.80E-01	3.74E-02	3.00E-01	1.43E+00	1.80E+00	5.74E+01	4.76E+00	6.35E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-226. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.25E+02	8.20E+00	1.64E+01	2.46E+01	5.46E-01	4.51E+01	95.1%
Arsenic	1.00E-01	2.71E-01	1.78E-02	3.83E-02	5.62E-02	3.56E-02	1.58E+00	3.3%
Barium	7.50E-03	4.13E-02	2.72E-03	7.57E-02	7.88E-02	2.79E+00	2.82E-02	0.1%
Chromium	2.80E-01	9.35E-01	6.16E-02	2.40E-02	8.56E-02	1.43E+03	5.98E-05	0.0%
Lead	1.50E-02	3.70E-01	2.44E-02	2.55E-02	5.00E-02	4.18E+00	1.19E-02	0.0%
Selenium	7.50E-01	4.10E-01	2.70E-02	1.33E-03	2.83E-02	1.05E-01	2.71E-01	0.6%
Zinc	5.00E+00	5.67E+02	3.73E+01	1.26E-01	3.75E+01	8.36E+01	4.49E-01	0.9%
							HI = 4.74E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-227. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.23E+04	5.00E+01	2.46E+02	92.7%
Arsenic	1.61E+01	1.00E+01	1.61E+00	0.6%
Barium	5.56E+01	5.00E+02	1.11E-01	0.0%
Chromium	1.47E+01	1.00E+00	1.47E+01	5.5%
Lead	1.79E+01	5.00E+01	3.58E-01	0.1%
Selenium	1.40E+00	1.00E+00	1.40E+00	0.5%
Zinc	5.40E+01	5.00E+01	1.08E+00	0.4%
HI = 2.65E+02				

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-228. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 31**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.23E+04	No TRV	No TRV	No HQ
Arsenic	1.61E+01	6.00E+01	2.68E-01	0.7%
Barium	5.56E+01	No TRV	No TRV	No HQ
Chromium	1.47E+01	4.00E-01	3.68E+01	98.5%
Lead	1.79E+01	5.00E+02	3.58E-02	0.1%
Selenium	1.40E+00	No TRV	No TRV	No HQ
Zinc	5.40E+01	2.00E+02	2.70E-01	0.7%
HI =				3.73E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-229. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03	2.22E+00	6.05E+02	98.1%
Arsenic	1.61E+01	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00	1.45E-01	8.49E+00	1.4%
Barium	5.56E+01	3.00E-02	1.21E-01	7.50E-03	2.03E-01	4.05E+00	4.37E+00	1.14E+01	3.84E-01	0.1%
Chromium	1.47E+01	1.50E-03	1.61E-03	1.60E-01	1.15E+00	1.07E+00	2.22E+00	5.83E+03	3.80E-04	0.0%
Lead	1.79E+01	9.00E-03	1.17E-02	2.00E+00	1.74E+01	1.30E+00	1.88E+01	1.70E+01	1.10E+00	0.2%
Selenium	1.40E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01	4.26E-01	1.46E+00	0.2%
Zinc	5.40E+01	3.00E-01	1.18E+00	1.80E+00	4.74E+01	3.93E+00	5.25E+01	3.41E+02	1.54E-01	0.0%
									HI =	6.16E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-230. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	1.30E-04	1.22E+00	7.50E-02	7.01E+02	1.94E+03	2.65E+03	1.29E+02	2.04E+01	41.0%
Arsenic	1.61E+01	1.20E-03	1.47E-02	6.60E-03	8.08E-02	2.55E+00	2.64E+00	9.66E+00	2.73E-01	0.5%
Barium	5.56E+01	3.00E-03	1.27E-01	7.50E-03	3.17E-01	8.79E+00	9.23E+00	2.31E+01	4.00E-01	0.8%
Chromium	1.47E+01	9.00E-04	1.01E-02	1.60E-01	1.79E+00	2.32E+00	4.12E+00	1.99E+00	2.07E+00	4.2%
Lead	1.79E+01	1.80E-03	2.45E-02	2.00E+00	2.72E+01	2.83E+00	3.01E+01	1.32E+00	2.27E+01	45.6%
Selenium	1.40E+00	5.00E-03	5.32E-03	7.60E-01	8.09E-01	2.21E-01	1.04E+00	9.40E-01	1.10E+00	2.2%
Zinc	5.40E+01	1.80E-01	7.39E+00	1.80E+00	7.39E+01	8.54E+00	8.98E+01	3.21E+01	2.79E+00	5.6%
HI =									4.98E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-231. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	8.00E-04	2.02E+00	7.50E-02	0.00E+00	1.59E+02	1.61E+02	7.63E-01	2.11E+02	97.6%
Arsenic	1.61E+01	8.00E-03	2.64E-02	6.60E-03	0.00E+00	2.08E-01	2.34E-01	4.98E-02	4.71E+00	2.2%
Barium	5.56E+01	3.00E-02	3.42E-01	7.50E-03	0.00E+00	7.18E-01	1.06E+00	3.90E+00	2.72E-01	0.1%
Chromium	1.47E+01	1.50E-03	4.52E-03	1.60E-01	0.00E+00	1.90E-01	1.94E-01	2.00E+03	9.72E-05	0.0%
Lead	1.79E+01	9.00E-03	3.30E-02	2.00E+00	0.00E+00	2.31E-01	2.64E-01	5.84E+00	4.52E-02	0.0%
Selenium	1.40E+00	5.00E-03	1.44E-03	7.60E-01	0.00E+00	1.81E-02	1.95E-02	1.46E-01	1.34E-01	0.1%
Zinc	5.40E+01	3.00E-01	3.32E+00	1.80E+00	0.00E+00	6.97E-01	4.02E+00	1.17E+02	3.44E-02	0.0%
									HI =	2.16E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-232. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	8.00E-04	3.05E-01	7.50E-02	0.00E+00	7.63E+00	7.93E+00	2.93E-01	2.71E+01	97.0%
Arsenic	1.61E+01	8.00E-03	3.99E-03	6.60E-03	0.00E+00	9.98E-03	1.40E-02	1.91E-02	7.31E-01	2.6%
Barium	5.56E+01	3.00E-02	5.17E-02	7.50E-03	0.00E+00	3.45E-02	8.62E-02	1.50E+00	5.75E-02	0.2%
Chromium	1.47E+01	1.50E-03	6.84E-04	1.60E-01	0.00E+00	9.11E-03	9.80E-03	7.68E+02	1.28E-05	0.0%
Lead	1.79E+01	9.00E-03	4.99E-03	2.00E+00	0.00E+00	1.11E-02	1.61E-02	2.24E+00	7.17E-03	0.0%
Selenium	1.40E+00	5.00E-03	2.17E-04	7.60E-01	0.00E+00	8.68E-04	1.09E-03	5.61E-02	1.93E-02	0.1%
Zinc	5.40E+01	3.00E-01	5.02E-01	1.80E+00	0.00E+00	3.35E-02	5.36E-01	4.49E+01	1.19E-02	0.0%
HI =									2.79E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-233. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.23E+04	1.30E-04	0.00E+00	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03
Arsenic	1.61E+01	1.20E-03	0.00E+00	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00
Barium	5.56E+01	3.00E-03	0.00E+00	3.00E-02	1.21E-01	7.50E-03	2.03E-01	4.05E+00	4.37E+00
Chromium	1.47E+01	9.00E-04	0.00E+00	1.50E-03	1.61E-03	1.60E-01	1.15E+00	1.07E+00	2.22E+00
Lead	1.79E+01	1.80E-03	0.00E+00	9.00E-03	1.17E-02	2.00E+00	1.74E+01	1.30E+00	1.88E+01
Selenium	1.40E+00	5.00E-03	0.00E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	5.40E+01	1.80E-01	0.00E+00	3.00E-01	1.18E+00	1.80E+00	4.74E+01	3.93E+00	5.25E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-233. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.80E+02	1.98E+01	0.00E+00	1.98E+01	6.68E+01	2.97E-01	7.8%
Arsenic	1.00E-01	2.20E-01	2.42E-02	0.00E+00	2.42E-02	4.98E+00	4.86E-03	0.1%
Barium	7.50E-03	5.86E-02	6.44E-03	0.00E+00	6.44E-03	1.19E+01	5.41E-04	0.0%
Chromium	2.80E-01	1.11E+00	1.22E-01	0.00E+00	1.22E-01	1.03E+00	1.19E-01	3.1%
Lead	1.50E-02	5.02E-01	5.53E-02	0.00E+00	5.53E-02	6.82E-01	8.10E-02	2.1%
Selenium	7.50E-01	8.31E-01	9.15E-02	0.00E+00	9.15E-02	4.85E-01	1.89E-01	5.0%
Zinc	5.00E+00	4.68E+02	5.15E+01	0.00E+00	5.15E+01	1.66E+01	3.11E+00	81.8%
HI =							3.80E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-234. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.23E+04	1.30E-04	0.00E+00	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03
Arsenic	1.61E+01	1.20E-03	0.00E+00	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00
Barium	5.56E+01	3.00E-03	0.00E+00	3.00E-02	1.21E-01	7.50E-03	2.03E-01	4.05E+00	4.37E+00
Chromium	1.47E+01	9.00E-04	0.00E+00	1.50E-03	1.61E-03	1.60E-01	1.15E+00	1.07E+00	2.22E+00
Lead	1.79E+01	1.80E-03	0.00E+00	9.00E-03	1.17E-02	2.00E+00	1.74E+01	1.30E+00	1.88E+01
Selenium	1.40E+00	5.00E-03	0.00E+00	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	5.40E+01	1.80E-01	0.00E+00	3.00E-01	1.18E+00	1.80E+00	4.74E+01	3.93E+00	5.25E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A(kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-234. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.80E+02	2.25E+01	0.00E+00	2.25E+01	8.33E+01	2.70E-01	7.8%	
Arsenic	1.00E-01	2.20E-01	2.75E-02	0.00E+00	2.75E-02	6.22E+00	4.43E-03	0.1%	
Barium	7.50E-03	5.86E-02	7.32E-03	0.00E+00	7.32E-03	1.49E+01	4.92E-04	0.0%	
Chromium	2.80E-01	1.11E+00	1.39E-01	0.00E+00	1.39E-01	1.28E+00	1.08E-01	3.1%	
Lead	1.50E-02	5.02E-01	6.28E-02	0.00E+00	6.28E-02	8.51E-01	7.38E-02	2.1%	
Selenium	7.50E-01	8.31E-01	1.04E-01	0.00E+00	1.04E-01	6.05E-01	1.72E-01	5.0%	
Zinc	5.00E+00	4.68E+02	5.86E+01	0.00E+00	5.86E+01	2.07E+01	2.83E+00	81.8%	
HI =							3.46E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-235. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 31

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.23E+04	1.30E-04	5.08E-03	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03
Arsenic	1.61E+01	1.20E-03	6.13E-05	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00
Barium	5.56E+01	3.00E-03	5.29E-04	3.00E-02	1.21E-01	7.50E-03	2.03E-01	4.05E+00	4.37E+00
Chromium	1.47E+01	9.00E-04	4.20E-05	1.50E-03	1.61E-03	1.60E-01	1.15E+00	1.07E+00	2.22E+00
Lead	1.79E+01	1.80E-03	1.02E-04	9.00E-03	1.17E-02	2.00E+00	1.74E+01	1.30E+00	1.88E+01
Selenium	1.40E+00	5.00E-03	2.22E-05	5.00E-03	5.10E-04	7.60E-01	5.18E-01	1.02E-01	6.21E-01
Zinc	5.40E+01	1.80E-01	3.09E-02	3.00E-01	1.18E+00	1.80E+00	4.74E+01	3.93E+00	5.25E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-235. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.80E+02	1.19E+01	2.38E+01	3.56E+01	5.46E-01	6.53E+01	96.7%
Arsenic	1.00E-01	2.20E-01	1.45E-02	3.11E-02	4.57E-02	3.56E-02	1.28E+00	1.9%
Barium	7.50E-03	5.86E-02	3.85E-03	1.07E-01	1.12E-01	2.79E+00	4.00E-02	0.1%
Chromium	2.80E-01	1.11E+00	7.30E-02	2.84E-02	1.01E-01	1.43E+03	7.09E-05	0.0%
Lead	1.50E-02	5.02E-01	3.31E-02	3.46E-02	6.78E-02	4.18E+00	1.62E-02	0.0%
Selenium	7.50E-01	8.31E-01	5.47E-02	2.70E-03	5.75E-02	1.05E-01	5.50E-01	0.8%
Zinc	5.00E+00	4.68E+02	3.08E+01	1.04E-01	3.10E+01	8.36E+01	3.70E-01	0.5%
							HI = 6.75E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-236. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	2.05E+04	5.00E+01	4.10E+02	91.5%
Arsenic	9.70E+00	1.00E+01	9.70E-01	0.2%
Barium	2.63E+02	5.00E+02	5.26E-01	0.1%
Cadmium	8.20E+00	5.00E-01	1.64E+01	3.7%
Chromium	1.12E+01	1.00E+00	1.12E+01	2.5%
Lead	5.62E+01	5.00E+01	1.12E+00	0.3%
Mercury	4.00E-02	3.00E-01	1.33E-01	0.0%
Selenium	1.00E+00	1.00E+00	1.00E+00	0.2%
Silver	1.18E-01	2.00E+00	5.92E-02	0.0%
Zinc	3.29E+02	5.00E+01	6.58E+00	1.5%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	3.00E+01	4.17E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+02	5.00E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =				4.48E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-237. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 32**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	2.05E+04	No TRV	No TRV	No HQ
Arsenic	9.70E+00	6.00E+01	1.62E-01	0.5%
Barium	2.63E+02	No TRV	No TRV	No HQ
Cadmium	8.20E+00	2.00E+01	4.10E-01	1.4%
Chromium	1.12E+01	4.00E-01	2.80E+01	92.3%
Lead	5.62E+01	5.00E+02	1.12E-01	0.4%
Mercury	4.00E-02	No TRV	No TRV	No HQ
Selenium	1.00E+00	No TRV	No TRV	No HQ
Silver	1.18E-01	No TRV	No TRV	No HQ
Zinc	3.29E+02	2.00E+02	1.65E+00	5.4%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.40E+02	8.93E-04	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				3.03E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-238. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.05E+04	8.00E-04	1.19E+00	7.50E-02	7.49E+02	1.49E+03	2.24E+03	2.22E+00	1.01E+03	96.7%
Arsenic	9.70E+00	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01	7.43E-01	1.45E-01	5.12E+00	0.5%
Barium	2.63E+02	3.00E-02	5.74E-01	7.50E-03	9.61E-01	1.91E+01	2.07E+01	1.14E+01	1.82E+00	0.2%
Cadmium	8.20E+00	1.10E-01	6.57E-02	1.10E+01	4.39E+01	5.97E-01	4.46E+01	2.05E+00	2.17E+01	2.1%
Chromium	1.12E+01	1.50E-03	1.22E-03	1.60E-01	8.73E-01	8.15E-01	1.69E+00	5.83E+03	2.90E-04	0.0%
Lead	5.62E+01	9.00E-03	3.68E-02	2.00E+00	5.48E+01	4.09E+00	5.89E+01	1.70E+01	3.46E+00	0.3%
Mercury	4.00E-02	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02	2.80E+00	3.60E-03	0.0%
Selenium	1.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01	4.26E-01	1.04E+00	0.1%
Silver	1.18E-01	8.00E-02	6.89E-04	1.50E-01	8.65E-03	8.61E-03	1.79E-02	No TRV	No TRV	No HQ
Zinc	3.29E+02	3.00E-01	7.19E+00	1.80E+00	2.89E+02	2.40E+01	3.20E+02	3.41E+02	9.38E-01	0.1%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	3.41E+00	2.32E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	1.49E+00	8.60E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01	3.27E+00	1.94E-01	0.0%
Nitrobenzene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01	8.44E+00	3.75E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	1.04E+03

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; anima

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soi
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-239. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.05E+04	1.30E-04	2.03E+00	7.50E-02	1.17E+03	3.24E+03	4.41E+03	1.29E+02	3.41E+01	22.5%
Arsenic	9.70E+00	1.20E-03	8.85E-03	6.60E-03	4.87E-02	1.53E+00	1.59E+00	9.66E+00	1.65E-01	0.1%
Barium	2.63E+02	3.00E-03	6.00E-01	7.50E-03	1.50E+00	4.16E+01	4.37E+01	2.31E+01	1.89E+00	1.2%
Cadmium	8.20E+00	3.00E-02	1.87E-01	1.10E+01	6.86E+01	1.30E+00	7.00E+01	2.83E+00	2.48E+01	16.3%
Chromium	1.12E+01	9.00E-04	7.66E-03	1.60E-01	1.36E+00	1.77E+00	3.14E+00	1.99E+00	1.58E+00	1.0%
Lead	5.62E+01	1.80E-03	7.69E-02	2.00E+00	8.54E+01	8.88E+00	9.44E+01	1.32E+00	7.14E+01	47.0%
Mercury	4.00E-02	4.00E-02	1.22E-03	3.40E-01	1.03E-02	6.32E-03	1.79E-02	5.27E-01	3.39E-02	0.0%
Selenium	1.00E+00	5.00E-03	3.80E-03	7.60E-01	5.78E-01	1.58E-01	7.39E-01	9.40E-01	7.87E-01	0.5%
Silver	1.18E-01	2.00E-02	1.80E-03	1.50E-01	1.35E-02	1.87E-02	3.40E-02	No TRV	No TRV	No HQ
Zinc	3.29E+02	1.80E-01	4.50E+01	1.80E+00	4.50E+02	5.20E+01	5.47E+02	3.21E+01	1.70E+01	11.2%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.60E-01	1.00E+00	7.60E-01	1.58E-01	1.68E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.80E-01	1.00E+00	3.80E-01	7.90E-02	8.39E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
HI =									1.52E+02	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) 7.60E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-240. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.05E+04	8.00E-04	3.36E+00	7.50E-02	0.00E+00	2.65E+02	2.68E+02	7.63E-01	3.52E+02	98.4%
Arsenic	9.70E+00	8.00E-03	1.59E-02	6.60E-03	0.00E+00	1.25E-01	1.41E-01	4.98E-02	2.84E+00	0.8%
Barium	2.63E+02	3.00E-02	1.62E+00	7.50E-03	0.00E+00	3.40E+00	5.01E+00	3.90E+00	1.28E+00	0.4%
Cadmium	8.20E+00	1.10E-01	1.85E-01	1.10E+01	0.00E+00	1.06E-01	2.91E-01	7.05E-01	4.13E-01	0.1%
Chromium	1.12E+01	1.50E-03	3.44E-03	1.60E-01	0.00E+00	1.45E-01	1.48E-01	2.00E+03	7.41E-05	0.0%
Lead	5.62E+01	9.00E-03	1.04E-01	2.00E+00	0.00E+00	7.26E-01	8.30E-01	5.84E+00	1.42E-01	0.0%
Mercury	4.00E-02	1.80E-01	1.48E-03	3.40E-01	0.00E+00	5.17E-04	1.99E-03	9.59E-01	2.08E-03	0.0%
Selenium	1.00E+00	5.00E-03	1.03E-03	7.60E-01	0.00E+00	1.29E-02	1.39E-02	1.46E-01	9.54E-02	0.0%
Silver	1.18E-01	8.00E-02	1.94E-03	1.50E-01	0.00E+00	1.53E-03	3.47E-03	No TRV	No TRV	No HQ
Zinc	3.29E+02	3.00E-01	2.02E+01	1.80E+00	0.00E+00	4.25E+00	2.45E+01	1.17E+02	2.10E-01	0.1%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	1.17E+00	2.33E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	5.11E-01	4.33E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	2.05E-01	1.00E+00	0.00E+00	1.29E-02	2.18E-01	1.12E+00	1.94E-01	0.1%
Nitrobenzene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.03E-01	1.00E+00	0.00E+00	6.46E-03	1.09E-01	2.89E+00	3.77E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	3.57E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-241. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.05E+04	8.00E-04	5.08E-01	7.50E-02	0.00E+00	1.27E+01	1.32E+01	2.93E-01	4.51E+01	97.4%
Arsenic	9.70E+00	8.00E-03	2.41E-03	6.60E-03	0.00E+00	6.01E-03	8.42E-03	1.91E-02	4.40E-01	1.0%
Barium	2.63E+02	3.00E-02	2.45E-01	7.50E-03	0.00E+00	1.63E-01	4.08E-01	1.50E+00	2.72E-01	0.6%
Cadmium	8.20E+00	1.10E-01	2.80E-02	1.10E+01	0.00E+00	5.08E-03	3.30E-02	2.71E-01	1.22E-01	0.3%
Chromium	1.12E+01	1.50E-03	5.21E-04	1.60E-01	0.00E+00	6.94E-03	7.46E-03	7.68E+02	9.72E-06	0.0%
Lead	5.62E+01	9.00E-03	1.57E-02	2.00E+00	0.00E+00	3.48E-02	5.05E-02	2.24E+00	2.25E-02	0.0%
Mercury	4.00E-02	1.80E-01	2.23E-04	3.40E-01	0.00E+00	2.48E-05	2.48E-04	3.68E-01	6.73E-04	0.0%
Selenium	1.00E+00	5.00E-03	1.55E-04	7.60E-01	0.00E+00	6.20E-04	7.75E-04	5.61E-02	1.38E-02	0.0%
Silver	1.18E-01	8.00E-02	2.93E-04	1.50E-01	0.00E+00	7.33E-05	3.67E-04	No TRV	No TRV	No HQ
Zinc	3.29E+02	3.00E-01	3.06E+00	1.80E+00	0.00E+00	2.04E-01	3.26E+00	4.49E+01	7.27E-02	0.2%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.3%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	4.49E-01	8.81E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	1.96E-01	8.21E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	3.10E-02	1.00E+00	0.00E+00	6.20E-04	3.16E-02	4.31E-01	7.34E-02	0.2%
Nitrobenzene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.55E-02	1.00E+00	0.00E+00	3.10E-04	1.58E-02	1.11E+00	1.42E-02	0.0%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
									HI =	4.63E+01

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-242. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	2.05E+04	1.30E-04	0.00E+00	8.00E-04	1.19E+00	7.50E-02	7.49E+02	1.49E+03	2.24E+03
Arsenic	9.70E+00	1.20E-03	0.00E+00	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01	7.43E-01
Barium	2.63E+02	3.00E-03	0.00E+00	3.00E-02	5.74E-01	7.50E-03	9.61E-01	1.91E+01	2.07E+01
Cadmium	8.20E+00	3.00E-02	0.00E+00	1.10E-01	6.57E-02	1.10E+01	4.39E+01	5.97E-01	4.46E+01
Chromium	1.12E+01	9.00E-04	0.00E+00	1.50E-03	1.22E-03	1.60E-01	8.73E-01	8.15E-01	1.69E+00
Lead	5.62E+01	1.80E-03	0.00E+00	9.00E-03	3.68E-02	2.00E+00	5.48E+01	4.09E+00	5.89E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	1.00E+00	5.00E-03	0.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Silver	1.18E-01	2.00E-02	0.00E+00	8.00E-02	6.89E-04	1.50E-01	8.65E-03	8.61E-03	1.79E-02
Zinc	3.29E+02	1.80E-01	0.00E+00	3.00E-01	7.19E+00	1.80E+00	2.89E+02	2.40E+01	3.20E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-242. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	3.00E+02	3.30E+01	0.00E+00	3.30E+01	6.68E+01	4.95E-01	2.5%
Arsenic	1.00E-01	1.33E-01	1.46E-02	0.00E+00	1.46E-02	4.98E+00	2.93E-03	0.0%
Barium	7.50E-03	2.77E-01	3.05E-02	0.00E+00	3.05E-02	1.19E+01	2.56E-03	0.0%
Cadmium	2.80E-02	2.23E+00	2.45E-01	0.00E+00	2.45E-01	1.46E+00	1.68E-01	0.8%
Chromium	2.80E-01	8.45E-01	9.29E-02	0.00E+00	9.29E-02	1.03E+00	9.06E-02	0.4%
Lead	1.50E-02	1.58E+00	1.74E-01	0.00E+00	1.74E-01	6.82E-01	2.54E-01	1.3%
Mercury	1.30E+01	2.34E-01	2.57E-02	0.00E+00	2.57E-02	2.72E-01	9.46E-02	0.5%
Selenium	7.50E-01	5.94E-01	6.53E-02	0.00E+00	6.53E-02	4.85E-01	1.35E-01	0.7%
Silver	1.50E-01	4.81E-03	5.29E-04	0.00E+00	5.29E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.85E+03	3.14E+02	0.00E+00	3.14E+02	1.66E+01	1.89E+01	93.8%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	4.78E-07	0.00E+00	4.78E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.24E-01	0.00E+00	1.24E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.02E-07	0.00E+00	3.02E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	6.22E-02	0.00E+00	6.22E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	2.02E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-243. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	2.05E+04	1.30E-04	0.00E+00	8.00E-04	1.19E+00	7.50E-02	7.49E+02	1.49E+03	2.24E+03
Arsenic	9.70E+00	1.20E-03	0.00E+00	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01	7.43E-01
Barium	2.63E+02	3.00E-03	0.00E+00	3.00E-02	5.74E-01	7.50E-03	9.61E-01	1.91E+01	2.07E+01
Cadmium	8.20E+00	3.00E-02	0.00E+00	1.10E-01	6.57E-02	1.10E+01	4.39E+01	5.97E-01	4.46E+01
Chromium	1.12E+01	9.00E-04	0.00E+00	1.50E-03	1.22E-03	1.60E-01	8.73E-01	8.15E-01	1.69E+00
Lead	5.62E+01	1.80E-03	0.00E+00	9.00E-03	3.68E-02	2.00E+00	5.48E+01	4.09E+00	5.89E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	1.00E+00	5.00E-03	0.00E+00	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Silver	1.18E-01	2.00E-02	0.00E+00	8.00E-02	6.89E-04	1.50E-01	8.65E-03	8.61E-03	1.79E-02
Zinc	3.29E+02	1.80E-01	0.00E+00	3.00E-01	7.19E+00	1.80E+00	2.89E+02	2.40E+01	3.20E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-243. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	3.00E+02	3.75E+01	0.00E+00	3.75E+01	8.33E+01	4.51E-01	2.5%
Arsenic	1.00E-01	1.33E-01	1.66E-02	0.00E+00	1.66E-02	6.22E+00	2.67E-03	0.0%
Barium	7.50E-03	2.77E-01	3.46E-02	0.00E+00	3.46E-02	1.49E+01	2.33E-03	0.0%
Cadmium	2.80E-02	2.23E+00	2.79E-01	0.00E+00	2.79E-01	1.82E+00	1.53E-01	0.8%
Chromium	2.80E-01	8.45E-01	1.06E-01	0.00E+00	1.06E-01	1.28E+00	8.25E-02	0.4%
Lead	1.50E-02	1.58E+00	1.97E-01	0.00E+00	1.97E-01	8.51E-01	2.32E-01	1.3%
Mercury	1.30E+01	2.34E-01	2.92E-02	0.00E+00	2.92E-02	3.39E-01	8.61E-02	0.5%
Selenium	7.50E-01	5.94E-01	7.42E-02	0.00E+00	7.42E-02	6.05E-01	1.23E-01	0.7%
Silver	1.50E-01	4.81E-03	6.01E-04	0.00E+00	6.01E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.85E+03	3.57E+02	0.00E+00	3.57E+02	2.07E+01	1.72E+01	93.8%
1,3,5-Trinitrobenzen	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	5.44E-07	0.00E+00	5.44E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.41E-01	0.00E+00	1.41E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.43E-07	0.00E+00	3.43E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	7.06E-02	0.00E+00	7.06E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
						HI =	1.84E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-244. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 32

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	2.05E+04	1.30E-04	8.46E-03	8.00E-04	1.19E+00	7.50E-02	7.49E+02	1.49E+03	2.24E+03
Arsenic	9.70E+00	1.20E-03	3.69E-05	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01	7.43E-01
Barium	2.63E+02	3.00E-03	2.50E-03	3.00E-02	5.74E-01	7.50E-03	9.61E-01	1.91E+01	2.07E+01
Cadmium	8.20E+00	3.00E-02	7.81E-04	1.10E-01	6.57E-02	1.10E+01	4.39E+01	5.97E-01	4.46E+01
Chromium	1.12E+01	9.00E-04	3.20E-05	1.50E-03	1.22E-03	1.60E-01	8.73E-01	8.15E-01	1.69E+00
Lead	5.62E+01	1.80E-03	3.21E-04	9.00E-03	3.68E-02	2.00E+00	5.48E+01	4.09E+00	5.89E+01
Mercury	4.00E-02	4.00E-02	5.08E-06	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	1.00E+00	5.00E-03	1.59E-05	5.00E-03	3.64E-04	7.60E-01	3.70E-01	7.28E-02	4.43E-01
Silver	1.18E-01	2.00E-02	7.51E-06	8.00E-02	6.89E-04	1.50E-01	8.65E-03	8.61E-03	1.79E-02
Zinc	3.29E+02	1.80E-01	1.88E-01	3.00E-01	7.19E+00	1.80E+00	2.89E+02	2.40E+01	3.20E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	3.17E-03	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	1.59E-03	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 6.58E-02

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-244. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	3.00E+02	1.98E+01	3.96E+01	5.94E+01	5.46E-01	1.09E+02	96.2%
Arsenic	1.00E-01	1.33E-01	8.73E-03	1.87E-02	2.75E-02	3.56E-02	7.72E-01	0.7%
Barium	7.50E-03	2.77E-01	1.82E-02	5.08E-01	5.29E-01	2.79E+00	1.89E-01	0.2%
Cadmium	2.80E-02	2.23E+00	1.47E-01	1.58E-02	1.63E-01	5.04E-01	3.24E-01	0.3%
Chromium	2.80E-01	8.45E-01	5.56E-02	2.16E-02	7.73E-02	1.43E+03	5.40E-05	0.0%
Lead	1.50E-02	1.58E+00	1.04E-01	1.09E-01	2.13E-01	4.18E+00	5.09E-02	0.0%
Mercury	1.30E+01	2.34E-01	1.54E-02	7.73E-05	1.55E-02	6.86E-01	2.25E-02	0.0%
Selenium	7.50E-01	5.94E-01	3.91E-02	1.93E-03	4.10E-02	1.05E-01	3.93E-01	0.3%
Silver	1.50E-01	4.81E-03	3.16E-04	2.29E-04	5.52E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.85E+03	1.88E+02	6.36E-01	1.89E+02	8.36E+01	2.26E+00	2.0%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.1%
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	8.36E-01	1.19E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.35E-06	2.86E-07	2.51E-04	2.60E-04	3.66E-01	7.10E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	7.44E-02	1.93E-03	7.95E-02	8.02E-01	9.91E-02	0.1%
Nitrobenzene	1.20E-04	2.75E-06	1.81E-07	2.51E-04	2.60E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	3.72E-02	9.66E-04	3.97E-02	2.07E+00	1.92E-02	0.0%
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
							HI = 1.13E+02	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-245. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.49E+04	5.00E+01	2.98E+02	92.7%
Arsenic	1.69E+01	1.00E+01	1.69E+00	0.5%
Barium	6.42E+01	5.00E+02	1.28E-01	0.0%
Cadmium	3.70E-01	5.00E-01	7.40E-01	0.2%
Chromium	1.80E+01	1.00E+00	1.80E+01	5.6%
Lead	1.55E+01	5.00E+01	3.10E-01	0.1%
Selenium	1.10E+00	1.00E+00	1.10E+00	0.3%
Zinc	6.90E+01	5.00E+01	1.38E+00	0.4%
HI =			3.21E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-246. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 33**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.49E+04	No TRV	No TRV	No HQ
Arsenic	1.69E+01	6.00E+01	2.82E-01	0.6%
Barium	6.42E+01	No TRV	No TRV	No HQ
Cadmium	3.70E-01	2.00E+01	1.85E-02	0.0%
Chromium	1.80E+01	4.00E-01	4.50E+01	98.5%
Lead	1.55E+01	5.00E+02	3.10E-02	0.1%
Selenium	1.10E+00	No TRV	No TRV	No HQ
Zinc	6.90E+01	2.00E+02	3.45E-01	0.8%
HI =				4.57E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-247. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.49E+04	8.00E-04	8.68E-01	7.50E-02	5.44E+02	1.08E+03	1.63E+03	2.22E+00	7.33E+02	98.3%
Arsenic	1.69E+01	8.00E-03	9.84E-03	6.60E-03	5.43E-02	1.23E+00	1.29E+00	1.45E-01	8.91E+00	1.2%
Barium	6.42E+01	3.00E-02	1.40E-01	7.50E-03	2.35E-01	4.67E+00	5.05E+00	1.14E+01	4.44E-01	0.1%
Cadmium	3.70E-01	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00	2.05E+00	9.80E-01	0.1%
Chromium	1.80E+01	1.50E-03	1.97E-03	1.60E-01	1.40E+00	1.31E+00	2.72E+00	5.83E+03	4.66E-04	0.0%
Lead	1.55E+01	9.00E-03	1.02E-02	2.00E+00	1.51E+01	1.13E+00	1.62E+01	1.70E+01	9.53E-01	0.1%
Selenium	1.10E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01	4.26E-01	1.14E+00	0.2%
Zinc	6.90E+01	3.00E-01	1.51E+00	1.80E+00	6.05E+01	5.02E+00	6.70E+01	3.41E+02	1.97E-01	0.0%
									HI =	7.45E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-248. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.49E+04	1.30E-04	1.47E+00	7.50E-02	8.49E+02	2.36E+03	3.21E+03	1.29E+02	2.48E+01	46.5%
Arsenic	1.69E+01	1.20E-03	1.54E-02	6.60E-03	8.48E-02	2.67E+00	2.77E+00	9.66E+00	2.87E-01	0.5%
Barium	6.42E+01	3.00E-03	1.46E-01	7.50E-03	3.66E-01	1.01E+01	1.07E+01	2.31E+01	4.62E-01	0.9%
Cadmium	3.70E-01	3.00E-02	8.44E-03	1.10E+01	3.09E+00	5.85E-02	3.16E+00	2.83E+00	1.12E+00	2.1%
Chromium	1.80E+01	9.00E-04	1.23E-02	1.60E-01	2.19E+00	2.85E+00	5.05E+00	1.99E+00	2.54E+00	4.8%
Lead	1.55E+01	1.80E-03	2.12E-02	2.00E+00	2.36E+01	2.45E+00	2.60E+01	1.32E+00	1.97E+01	36.9%
Selenium	1.10E+00	5.00E-03	4.18E-03	7.60E-01	6.35E-01	1.74E-01	8.13E-01	9.40E-01	8.65E-01	1.6%
Zinc	6.90E+01	1.80E-01	9.44E+00	1.80E+00	9.44E+01	1.09E+01	1.15E+02	3.21E+01	3.57E+00	6.7%
HI =									5.33E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-249. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.49E+04	8.00E-04	2.44E+00	7.50E-02	0.00E+00	1.92E+02	1.95E+02	7.63E-01	2.56E+02	97.9%
Arsenic	1.69E+01	8.00E-03	2.77E-02	6.60E-03	0.00E+00	2.18E-01	2.46E-01	4.98E-02	4.94E+00	1.9%
Barium	6.42E+01	3.00E-02	3.95E-01	7.50E-03	0.00E+00	8.29E-01	1.22E+00	3.90E+00	3.14E-01	0.1%
Cadmium	3.70E-01	1.10E-01	8.34E-03	1.10E+01	0.00E+00	4.78E-03	1.31E-02	7.05E-01	1.86E-02	0.0%
Chromium	1.80E+01	1.50E-03	5.54E-03	1.60E-01	0.00E+00	2.32E-01	2.38E-01	2.00E+03	1.19E-04	0.0%
Lead	1.55E+01	9.00E-03	2.86E-02	2.00E+00	0.00E+00	2.00E-01	2.29E-01	5.84E+00	3.92E-02	0.0%
Selenium	1.10E+00	5.00E-03	1.13E-03	7.60E-01	0.00E+00	1.42E-02	1.53E-02	1.46E-01	1.05E-01	0.0%
Zinc	6.90E+01	3.00E-01	4.24E+00	1.80E+00	0.00E+00	8.91E-01	5.13E+00	1.17E+02	4.39E-02	0.0%
									HI =	2.61E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-250. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.49E+04	8.00E-04	3.70E-01	7.50E-02	0.00E+00	9.24E+00	9.61E+00	2.93E-01	3.28E+01	97.4%
Arsenic	1.69E+01	8.00E-03	4.19E-03	6.60E-03	0.00E+00	1.05E-02	1.47E-02	1.91E-02	7.67E-01	2.3%
Barium	6.42E+01	3.00E-02	5.97E-02	7.50E-03	0.00E+00	3.98E-02	9.95E-02	1.50E+00	6.64E-02	0.2%
Cadmium	3.70E-01	1.10E-01	1.26E-03	1.10E+01	0.00E+00	2.29E-04	1.49E-03	2.71E-01	5.51E-03	0.0%
Chromium	1.80E+01	1.50E-03	8.37E-04	1.60E-01	0.00E+00	1.12E-02	1.20E-02	7.68E+02	1.56E-05	0.0%
Lead	1.55E+01	9.00E-03	4.32E-03	2.00E+00	0.00E+00	9.61E-03	1.39E-02	2.24E+00	6.21E-03	0.0%
Selenium	1.10E+00	5.00E-03	1.71E-04	7.60E-01	0.00E+00	6.82E-04	8.53E-04	5.61E-02	1.52E-02	0.0%
Zinc	6.90E+01	3.00E-01	6.42E-01	1.80E+00	0.00E+00	4.28E-02	6.84E-01	4.49E+01	1.52E-02	0.0%
HI =									3.37E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-251. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.49E+04	1.30E-04	0.00E+00	8.00E-04	8.68E-01	7.50E-02	5.44E+02	1.08E+03	1.63E+03
Arsenic	1.69E+01	1.20E-03	0.00E+00	8.00E-03	9.84E-03	6.60E-03	5.43E-02	1.23E+00	1.29E+00
Barium	6.42E+01	3.00E-03	0.00E+00	3.00E-02	1.40E-01	7.50E-03	2.35E-01	4.67E+00	5.05E+00
Cadmium	3.70E-01	3.00E-02	0.00E+00	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00
Chromium	1.80E+01	9.00E-04	0.00E+00	1.50E-03	1.97E-03	1.60E-01	1.40E+00	1.31E+00	2.72E+00
Lead	1.55E+01	1.80E-03	0.00E+00	9.00E-03	1.02E-02	2.00E+00	1.51E+01	1.13E+00	1.62E+01
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	6.90E+01	1.80E-01	0.00E+00	3.00E-01	1.51E+00	1.80E+00	6.05E+01	5.02E+00	6.70E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-251. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.18E+02	2.40E+01	0.00E+00	2.40E+01	6.68E+01	3.60E-01	7.6%
Arsenic	1.00E-01	2.31E-01	2.54E-02	0.00E+00	2.54E-02	4.98E+00	5.11E-03	0.1%
Barium	7.50E-03	6.76E-02	7.44E-03	0.00E+00	7.44E-03	1.19E+01	6.24E-04	0.0%
Cadmium	2.80E-02	1.01E-01	1.11E-02	0.00E+00	1.11E-02	1.46E+00	7.60E-03	0.2%
Chromium	2.80E-01	1.36E+00	1.49E-01	0.00E+00	1.49E-01	1.03E+00	1.46E-01	3.1%
Lead	1.50E-02	4.35E-01	4.79E-02	0.00E+00	4.79E-02	6.82E-01	7.02E-02	1.5%
Selenium	7.50E-01	6.53E-01	7.19E-02	0.00E+00	7.19E-02	4.85E-01	1.48E-01	3.1%
Zinc	5.00E+00	5.99E+02	6.58E+01	0.00E+00	6.58E+01	1.66E+01	3.97E+00	84.4%
HI =							4.71E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-252. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.49E+04	1.30E-04	0.00E+00	8.00E-04	8.68E-01	7.50E-02	5.44E+02	1.08E+03	1.63E+03
Arsenic	1.69E+01	1.20E-03	0.00E+00	8.00E-03	9.84E-03	6.60E-03	5.43E-02	1.23E+00	1.29E+00
Barium	6.42E+01	3.00E-03	0.00E+00	3.00E-02	1.40E-01	7.50E-03	2.35E-01	4.67E+00	5.05E+00
Cadmium	3.70E-01	3.00E-02	0.00E+00	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00
Chromium	1.80E+01	9.00E-04	0.00E+00	1.50E-03	1.97E-03	1.60E-01	1.40E+00	1.31E+00	2.72E+00
Lead	1.55E+01	1.80E-03	0.00E+00	9.00E-03	1.02E-02	2.00E+00	1.51E+01	1.13E+00	1.62E+01
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	6.90E+01	1.80E-01	0.00E+00	3.00E-01	1.51E+00	1.80E+00	6.05E+01	5.02E+00	6.70E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-252. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	2.18E+02	2.73E+01	0.00E+00	2.73E+01	8.33E+01	3.28E-01	7.6%	
Arsenic	1.00E-01	2.31E-01	2.89E-02	0.00E+00	2.89E-02	6.22E+00	4.65E-03	0.1%	
Barium	7.50E-03	6.76E-02	8.45E-03	0.00E+00	8.45E-03	1.49E+01	5.69E-04	0.0%	
Cadmium	2.80E-02	1.01E-01	1.26E-02	0.00E+00	1.26E-02	1.82E+00	6.92E-03	0.2%	
Chromium	2.80E-01	1.36E+00	1.70E-01	0.00E+00	1.70E-01	1.28E+00	1.33E-01	3.1%	
Lead	1.50E-02	4.35E-01	5.44E-02	0.00E+00	5.44E-02	8.51E-01	6.39E-02	1.5%	
Selenium	7.50E-01	6.53E-01	8.17E-02	0.00E+00	8.17E-02	6.05E-01	1.35E-01	3.1%	
Zinc	5.00E+00	5.99E+02	7.48E+01	0.00E+00	7.48E+01	2.07E+01	3.62E+00	84.4%	
							HI =	4.29E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-253. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 33

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.49E+04	1.30E-04	6.15E-03	8.00E-04	8.68E-01	7.50E-02	5.44E+02	1.08E+03	1.63E+03
Arsenic	1.69E+01	1.20E-03	6.44E-05	8.00E-03	9.84E-03	6.60E-03	5.43E-02	1.23E+00	1.29E+00
Barium	6.42E+01	3.00E-03	6.11E-04	3.00E-02	1.40E-01	7.50E-03	2.35E-01	4.67E+00	5.05E+00
Cadmium	3.70E-01	3.00E-02	3.52E-05	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00
Chromium	1.80E+01	9.00E-04	5.14E-05	1.50E-03	1.97E-03	1.60E-01	1.40E+00	1.31E+00	2.72E+00
Lead	1.55E+01	1.80E-03	8.86E-05	9.00E-03	1.02E-02	2.00E+00	1.51E+01	1.13E+00	1.62E+01
Selenium	1.10E+00	5.00E-03	1.75E-05	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.01E-02	4.88E-01
Zinc	6.90E+01	1.80E-01	3.94E-02	3.00E-01	1.51E+00	1.80E+00	6.05E+01	5.02E+00	6.70E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-253. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.18E+02	1.44E+01	2.88E+01	4.32E+01	5.46E-01	7.91E+01	97.1%
Arsenic	1.00E-01	2.31E-01	1.52E-02	3.27E-02	4.79E-02	3.56E-02	1.35E+00	1.7%
Barium	7.50E-03	6.76E-02	4.45E-03	1.24E-01	1.29E-01	2.79E+00	4.62E-02	0.1%
Cadmium	2.80E-02	1.01E-01	6.62E-03	7.15E-04	7.37E-03	5.04E-01	1.46E-02	0.0%
Chromium	2.80E-01	1.36E+00	8.94E-02	3.48E-02	1.24E-01	1.43E+03	8.68E-05	0.0%
Lead	1.50E-02	4.35E-01	2.86E-02	2.99E-02	5.87E-02	4.18E+00	1.40E-02	0.0%
Selenium	7.50E-01	6.53E-01	4.30E-02	2.13E-03	4.51E-02	1.05E-01	4.32E-01	0.5%
Zinc	5.00E+00	5.99E+02	3.94E+01	1.33E-01	3.96E+01	8.36E+01	4.73E-01	0.6%
							HI = 8.14E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-254. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.31E+04	5.00E+01	2.62E+02	91.9%
Arsenic	1.42E+01	1.00E+01	1.42E+00	0.5%
Barium	1.12E+02	5.00E+02	2.24E-01	0.1%
Cadmium	4.20E-01	5.00E-01	8.40E-01	0.3%
Chromium	1.79E+01	1.00E+00	1.79E+01	6.3%
Lead	1.85E+01	5.00E+01	3.70E-01	0.1%
Selenium	8.50E-01	1.00E+00	8.50E-01	0.3%
Zinc	6.86E+01	5.00E+01	1.37E+00	0.5%
HI =				2.85E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-255. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 34**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.31E+04	No TRV	No TRV	No HQ
Arsenic	1.42E+01	6.00E+01	2.37E-01	0.5%
Barium	1.12E+02	No TRV	No TRV	No HQ
Cadmium	4.20E-01	2.00E+01	2.10E-02	0.0%
Chromium	1.79E+01	4.00E-01	4.48E+01	98.6%
Lead	1.85E+01	5.00E+02	3.70E-02	0.1%
Selenium	8.50E-01	No TRV	No TRV	No HQ
Zinc	6.86E+01	2.00E+02	3.43E-01	0.8%
HI =			4.54E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-256. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.31E+04	8.00E-04	7.63E-01	7.50E-02	4.79E+02	9.54E+02	1.43E+03	2.22E+00	6.44E+02	98.2%
Arsenic	1.42E+01	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00	1.45E-01	7.49E+00	1.1%
Barium	1.12E+02	3.00E-02	2.45E-01	7.50E-03	4.09E-01	8.15E+00	8.81E+00	1.14E+01	7.74E-01	0.1%
Cadmium	4.20E-01	1.10E-01	3.36E-03	1.10E+01	2.25E+00	3.06E-02	2.28E+00	2.05E+00	1.11E+00	0.2%
Chromium	1.79E+01	1.50E-03	1.95E-03	1.60E-01	1.40E+00	1.30E+00	2.70E+00	5.83E+03	4.63E-04	0.0%
Lead	1.85E+01	9.00E-03	1.21E-02	2.00E+00	1.80E+01	1.35E+00	1.94E+01	1.70E+01	1.14E+00	0.2%
Selenium	8.50E-01	5.00E-03	3.09E-04	7.60E-01	3.15E-01	6.19E-02	3.77E-01	4.26E-01	8.85E-01	0.1%
Zinc	6.86E+01	3.00E-01	1.50E+00	1.80E+00	6.02E+01	4.99E+00	6.67E+01	3.41E+02	1.96E-01	0.0%
									HI =	6.56E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-257. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.31E+04	1.30E-04	1.29E+00	7.50E-02	7.47E+02	2.07E+03	2.82E+03	1.29E+02	2.18E+01	40.1%
Arsenic	1.42E+01	1.20E-03	1.30E-02	6.60E-03	7.12E-02	2.24E+00	2.33E+00	9.66E+00	2.41E-01	0.4%
Barium	1.12E+02	3.00E-03	2.55E-01	7.50E-03	6.38E-01	1.77E+01	1.86E+01	2.31E+01	8.05E-01	1.5%
Cadmium	4.20E-01	3.00E-02	9.58E-03	1.10E+01	3.51E+00	6.64E-02	3.59E+00	2.83E+00	1.27E+00	2.3%
Chromium	1.79E+01	9.00E-04	1.22E-02	1.60E-01	2.18E+00	2.83E+00	5.02E+00	1.99E+00	2.52E+00	4.6%
Lead	1.85E+01	1.80E-03	2.53E-02	2.00E+00	2.81E+01	2.92E+00	3.11E+01	1.32E+00	2.35E+01	43.2%
Selenium	8.50E-01	5.00E-03	3.23E-03	7.60E-01	4.91E-01	1.34E-01	6.29E-01	9.40E-01	6.69E-01	1.2%
Zinc	6.86E+01	1.80E-01	9.38E+00	1.80E+00	9.38E+01	1.08E+01	1.14E+02	3.21E+01	3.55E+00	6.5%
HI =									5.43E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-258. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.31E+04	8.00E-04	2.15E+00	7.50E-02	0.00E+00	1.69E+02	1.71E+02	7.63E-01	2.25E+02	97.9%
Arsenic	1.42E+01	8.00E-03	2.33E-02	6.60E-03	0.00E+00	1.83E-01	2.07E-01	4.98E-02	4.15E+00	1.8%
Barium	1.12E+02	3.00E-02	6.89E-01	7.50E-03	0.00E+00	1.45E+00	2.14E+00	3.90E+00	5.47E-01	0.2%
Cadmium	4.20E-01	1.10E-01	9.47E-03	1.10E+01	0.00E+00	5.42E-03	1.49E-02	7.05E-01	2.11E-02	0.0%
Chromium	1.79E+01	1.50E-03	5.50E-03	1.60E-01	0.00E+00	2.31E-01	2.37E-01	2.00E+03	1.18E-04	0.0%
Lead	1.85E+01	9.00E-03	3.41E-02	2.00E+00	0.00E+00	2.39E-01	2.73E-01	5.84E+00	4.67E-02	0.0%
Selenium	8.50E-01	5.00E-03	8.71E-04	7.60E-01	0.00E+00	1.10E-02	1.18E-02	1.46E-01	8.11E-02	0.0%
Zinc	6.86E+01	3.00E-01	4.22E+00	1.80E+00	0.00E+00	8.86E-01	5.10E+00	1.17E+02	4.37E-02	0.0%
									HI =	2.30E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-259. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.31E+04	8.00E-04	3.25E-01	7.50E-02	0.00E+00	8.12E+00	8.45E+00	2.93E-01	2.88E+01	97.3%
Arsenic	1.42E+01	8.00E-03	3.52E-03	6.60E-03	0.00E+00	8.80E-03	1.23E-02	1.91E-02	6.44E-01	2.2%
Barium	1.12E+02	3.00E-02	1.04E-01	7.50E-03	0.00E+00	6.94E-02	1.74E-01	1.50E+00	1.16E-01	0.4%
Cadmium	4.20E-01	1.10E-01	1.43E-03	1.10E+01	0.00E+00	2.60E-04	1.69E-03	2.71E-01	6.25E-03	0.0%
Chromium	1.79E+01	1.50E-03	8.32E-04	1.60E-01	0.00E+00	1.11E-02	1.19E-02	7.68E+02	1.55E-05	0.0%
Lead	1.85E+01	9.00E-03	5.16E-03	2.00E+00	0.00E+00	1.15E-02	1.66E-02	2.24E+00	7.41E-03	0.0%
Selenium	8.50E-01	5.00E-03	1.32E-04	7.60E-01	0.00E+00	5.27E-04	6.59E-04	5.61E-02	1.17E-02	0.0%
Zinc	6.86E+01	3.00E-01	6.38E-01	1.80E+00	0.00E+00	4.25E-02	6.81E-01	4.49E+01	1.52E-02	0.1%
HI =									2.96E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-260. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.31E+04	1.30E-04	0.00E+00	8.00E-04	7.63E-01	7.50E-02	4.79E+02	9.54E+02	1.43E+03
Arsenic	1.42E+01	1.20E-03	0.00E+00	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00
Barium	1.12E+02	3.00E-03	0.00E+00	3.00E-02	2.45E-01	7.50E-03	4.09E-01	8.15E+00	8.81E+00
Cadmium	4.20E-01	3.00E-02	0.00E+00	1.10E-01	3.36E-03	1.10E+01	2.25E+00	3.06E-02	2.28E+00
Chromium	1.79E+01	9.00E-04	0.00E+00	1.50E-03	1.95E-03	1.60E-01	1.40E+00	1.30E+00	2.70E+00
Lead	1.85E+01	1.80E-03	0.00E+00	9.00E-03	1.21E-02	2.00E+00	1.80E+01	1.35E+00	1.94E+01
Selenium	8.50E-01	5.00E-03	0.00E+00	5.00E-03	3.09E-04	7.60E-01	3.15E-01	6.19E-02	3.77E-01
Zinc	6.86E+01	1.80E-01	0.00E+00	3.00E-01	1.50E+00	1.80E+00	6.02E+01	4.99E+00	6.67E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-260. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.92E+02	2.11E+01	0.00E+00	2.11E+01	6.68E+01	3.16E-01	6.8%
Arsenic	1.00E-01	1.94E-01	2.14E-02	0.00E+00	2.14E-02	4.98E+00	4.29E-03	0.1%
Barium	7.50E-03	1.18E-01	1.30E-02	0.00E+00	1.30E-02	1.19E+01	1.09E-03	0.0%
Cadmium	2.80E-02	1.14E-01	1.26E-02	0.00E+00	1.26E-02	1.46E+00	8.62E-03	0.2%
Chromium	2.80E-01	1.35E+00	1.49E-01	0.00E+00	1.49E-01	1.03E+00	1.45E-01	3.1%
Lead	1.50E-02	5.19E-01	5.71E-02	0.00E+00	5.71E-02	6.82E-01	8.37E-02	1.8%
Selenium	7.50E-01	5.05E-01	5.55E-02	0.00E+00	5.55E-02	4.85E-01	1.15E-01	2.5%
Zinc	5.00E+00	5.95E+02	6.55E+01	0.00E+00	6.55E+01	1.66E+01	3.95E+00	85.4%
HI =							4.62E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-261. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.31E+04	1.30E-04	0.00E+00	8.00E-04	7.63E-01	7.50E-02	4.79E+02	9.54E+02	1.43E+03
Arsenic	1.42E+01	1.20E-03	0.00E+00	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00
Barium	1.12E+02	3.00E-03	0.00E+00	3.00E-02	2.45E-01	7.50E-03	4.09E-01	8.15E+00	8.81E+00
Cadmium	4.20E-01	3.00E-02	0.00E+00	1.10E-01	3.36E-03	1.10E+01	2.25E+00	3.06E-02	2.28E+00
Chromium	1.79E+01	9.00E-04	0.00E+00	1.50E-03	1.95E-03	1.60E-01	1.40E+00	1.30E+00	2.70E+00
Lead	1.85E+01	1.80E-03	0.00E+00	9.00E-03	1.21E-02	2.00E+00	1.80E+01	1.35E+00	1.94E+01
Selenium	8.50E-01	5.00E-03	0.00E+00	5.00E-03	3.09E-04	7.60E-01	3.15E-01	6.19E-02	3.77E-01
Zinc	6.86E+01	1.80E-01	0.00E+00	3.00E-01	1.50E+00	1.80E+00	6.02E+01	4.99E+00	6.67E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-261. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _s x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.92E+02	2.40E+01	0.00E+00	2.40E+01	8.33E+01	2.88E-01	6.8%
Arsenic	1.00E-01	1.94E-01	2.43E-02	0.00E+00	2.43E-02	6.22E+00	3.91E-03	0.1%
Barium	7.50E-03	1.18E-01	1.47E-02	0.00E+00	1.47E-02	1.49E+01	9.92E-04	0.0%
Cadmium	2.80E-02	1.14E-01	1.43E-02	0.00E+00	1.43E-02	1.82E+00	7.85E-03	0.2%
Chromium	2.80E-01	1.35E+00	1.69E-01	0.00E+00	1.69E-01	1.28E+00	1.32E-01	3.1%
Lead	1.50E-02	5.19E-01	6.49E-02	0.00E+00	6.49E-02	8.51E-01	7.63E-02	1.8%
Selenium	7.50E-01	5.05E-01	6.31E-02	0.00E+00	6.31E-02	6.05E-01	1.04E-01	2.5%
Zinc	5.00E+00	5.95E+02	7.44E+01	0.00E+00	7.44E+01	2.07E+01	3.60E+00	85.4%
							HI =	4.21E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-262. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 34

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.31E+04	1.30E-04	5.41E-03	8.00E-04	7.63E-01	7.50E-02	4.79E+02	9.54E+02	1.43E+03
Arsenic	1.42E+01	1.20E-03	5.41E-05	8.00E-03	8.27E-03	6.60E-03	4.57E-02	1.03E+00	1.09E+00
Barium	1.12E+02	3.00E-03	1.07E-03	3.00E-02	2.45E-01	7.50E-03	4.09E-01	8.15E+00	8.81E+00
Cadmium	4.20E-01	3.00E-02	4.00E-05	1.10E-01	3.36E-03	1.10E+01	2.25E+00	3.06E-02	2.28E+00
Chromium	1.79E+01	9.00E-04	5.11E-05	1.50E-03	1.95E-03	1.60E-01	1.40E+00	1.30E+00	2.70E+00
Lead	1.85E+01	1.80E-03	1.06E-04	9.00E-03	1.21E-02	2.00E+00	1.80E+01	1.35E+00	1.94E+01
Selenium	8.50E-01	5.00E-03	1.35E-05	5.00E-03	3.09E-04	7.60E-01	3.15E-01	6.19E-02	3.77E-01
Zinc	6.86E+01	1.80E-01	3.92E-02	3.00E-01	1.50E+00	1.80E+00	6.02E+01	4.99E+00	6.67E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-262. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.92E+02	1.26E+01	2.53E+01	3.79E+01	5.46E-01	6.95E+01	97.1%
Arsenic	1.00E-01	1.94E-01	1.28E-02	2.74E-02	4.03E-02	3.56E-02	1.13E+00	1.6%
Barium	7.50E-03	1.18E-01	7.76E-03	2.16E-01	2.25E-01	2.79E+00	8.07E-02	0.1%
Cadmium	2.80E-02	1.14E-01	7.52E-03	8.11E-04	8.37E-03	5.04E-01	1.66E-02	0.0%
Chromium	2.80E-01	1.35E+00	8.89E-02	3.46E-02	1.24E-01	1.43E+03	8.63E-05	0.0%
Lead	1.50E-02	5.19E-01	3.42E-02	3.57E-02	7.00E-02	4.18E+00	1.67E-02	0.0%
Selenium	7.50E-01	5.05E-01	3.32E-02	1.64E-03	3.49E-02	1.05E-01	3.34E-01	0.5%
Zinc	5.00E+00	5.95E+02	3.92E+01	1.33E-01	3.93E+01	8.36E+01	4.70E-01	0.7%
							HI = 7.16E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-263. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.28E+04	5.00E+01	2.56E+02	93.1%
Arsenic	1.22E+01	1.00E+01	1.22E+00	0.4%
Barium	5.64E+01	5.00E+02	1.13E-01	0.0%
Cadmium	1.60E-01	5.00E-01	3.20E-01	0.1%
Chromium	1.52E+01	1.00E+00	1.52E+01	5.5%
Lead	1.70E+01	5.00E+01	3.40E-01	0.1%
Selenium	6.90E-01	1.00E+00	6.90E-01	0.3%
Zinc	4.85E+01	5.00E+01	9.70E-01	0.4%
HI =			2.75E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-264. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 35**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.28E+04	No TRV	No TRV	No HQ
Arsenic	1.22E+01	6.00E+01	2.03E-01	0.5%
Barium	5.64E+01	No TRV	No TRV	No HQ
Cadmium	1.60E-01	2.00E+01	8.00E-03	0.0%
Chromium	1.52E+01	4.00E-01	3.80E+01	98.7%
Lead	1.70E+01	5.00E+02	3.40E-02	0.1%
Selenium	6.90E-01	No TRV	No TRV	No HQ
Zinc	4.85E+01	2.00E+02	2.43E-01	0.6%
HI =			3.85E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-265. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03	2.22E+00	6.29E+02	98.6%
Arsenic	1.22E+01	8.00E-03	7.11E-03	6.60E-03	3.92E-02	8.88E-01	9.34E-01	1.45E-01	6.43E+00	1.0%
Barium	5.64E+01	3.00E-02	1.23E-01	7.50E-03	2.06E-01	4.11E+00	4.44E+00	1.14E+01	3.90E-01	0.1%
Cadmium	1.60E-01	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01	2.05E+00	4.24E-01	0.1%
Chromium	1.52E+01	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00	5.83E+03	3.93E-04	0.0%
Lead	1.70E+01	9.00E-03	1.11E-02	2.00E+00	1.66E+01	1.24E+00	1.78E+01	1.70E+01	1.05E+00	0.2%
Selenium	6.90E-01	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01	4.26E-01	7.18E-01	0.1%
Zinc	4.85E+01	3.00E-01	1.06E+00	1.80E+00	4.25E+01	3.53E+00	4.71E+01	3.41E+02	1.38E-01	0.0%
									HI =	6.39E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-266. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	1.30E-04	1.26E+00	7.50E-02	7.30E+02	2.02E+03	2.75E+03	1.29E+02	2.13E+01	43.3%
Arsenic	1.22E+01	1.20E-03	1.11E-02	6.60E-03	6.12E-02	1.93E+00	2.00E+00	9.66E+00	2.07E-01	0.4%
Barium	5.64E+01	3.00E-03	1.29E-01	7.50E-03	3.21E-01	8.92E+00	9.37E+00	2.31E+01	4.06E-01	0.8%
Cadmium	1.60E-01	3.00E-02	3.65E-03	1.10E+01	1.34E+00	2.53E-02	1.37E+00	2.83E+00	4.84E-01	1.0%
Chromium	1.52E+01	9.00E-04	1.04E-02	1.60E-01	1.85E+00	2.40E+00	4.26E+00	1.99E+00	2.14E+00	4.4%
Lead	1.70E+01	1.80E-03	2.33E-02	2.00E+00	2.58E+01	2.69E+00	2.86E+01	1.32E+00	2.16E+01	43.9%
Selenium	6.90E-01	5.00E-03	2.62E-03	7.60E-01	3.99E-01	1.09E-01	5.10E-01	9.40E-01	5.43E-01	1.1%
Zinc	4.85E+01	1.80E-01	6.63E+00	1.80E+00	6.63E+01	7.67E+00	8.06E+01	3.21E+01	2.51E+00	5.1%
HI =									4.92E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-267. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	2.10E+00	7.50E-02	0.00E+00	1.65E+02	1.67E+02	7.63E-01	2.19E+02	98.2%
Arsenic	1.22E+01	8.00E-03	2.00E-02	6.60E-03	0.00E+00	1.58E-01	1.78E-01	4.98E-02	3.57E+00	1.6%
Barium	5.64E+01	3.00E-02	3.47E-01	7.50E-03	0.00E+00	7.28E-01	1.08E+00	3.90E+00	2.76E-01	0.1%
Cadmium	1.60E-01	1.10E-01	3.61E-03	1.10E+01	0.00E+00	2.07E-03	5.67E-03	7.05E-01	8.05E-03	0.0%
Chromium	1.52E+01	1.50E-03	4.67E-03	1.60E-01	0.00E+00	1.96E-01	2.01E-01	2.00E+03	1.01E-04	0.0%
Lead	1.70E+01	9.00E-03	3.14E-02	2.00E+00	0.00E+00	2.20E-01	2.51E-01	5.84E+00	4.29E-02	0.0%
Selenium	6.90E-01	5.00E-03	7.07E-04	7.60E-01	0.00E+00	8.91E-03	9.62E-03	1.46E-01	6.58E-02	0.0%
Zinc	4.85E+01	3.00E-01	2.98E+00	1.80E+00	0.00E+00	6.26E-01	3.61E+00	1.17E+02	3.09E-02	0.0%
									HI =	2.23E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-268. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	3.17E-01	7.50E-02	0.00E+00	7.94E+00	8.25E+00	2.93E-01	2.82E+01	97.8%
Arsenic	1.22E+01	8.00E-03	3.03E-03	6.60E-03	0.00E+00	7.56E-03	1.06E-02	1.91E-02	5.54E-01	1.9%
Barium	5.64E+01	3.00E-02	5.25E-02	7.50E-03	0.00E+00	3.50E-02	8.74E-02	1.50E+00	5.83E-02	0.2%
Cadmium	1.60E-01	1.10E-01	5.46E-04	1.10E+01	0.00E+00	9.92E-05	6.45E-04	2.71E-01	2.38E-03	0.0%
Chromium	1.52E+01	1.50E-03	7.07E-04	1.60E-01	0.00E+00	9.42E-03	1.01E-02	7.68E+02	1.32E-05	0.0%
Lead	1.70E+01	9.00E-03	4.74E-03	2.00E+00	0.00E+00	1.05E-02	1.53E-02	2.24E+00	6.81E-03	0.0%
Selenium	6.90E-01	5.00E-03	1.07E-04	7.60E-01	0.00E+00	4.28E-04	5.35E-04	5.61E-02	9.53E-03	0.0%
Zinc	4.85E+01	3.00E-01	4.51E-01	1.80E+00	0.00E+00	3.01E-02	4.81E-01	4.49E+01	1.07E-02	0.0%
HI =									2.88E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-269. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.28E+04	1.30E-04	0.00E+00	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03
Arsenic	1.22E+01	1.20E-03	0.00E+00	8.00E-03	7.11E-03	6.60E-03	3.92E-02	8.88E-01	9.34E-01
Barium	5.64E+01	3.00E-03	0.00E+00	3.00E-02	1.23E-01	7.50E-03	2.06E-01	4.11E+00	4.44E+00
Cadmium	1.60E-01	3.00E-02	0.00E+00	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.52E+01	9.00E-04	0.00E+00	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00
Lead	1.70E+01	1.80E-03	0.00E+00	9.00E-03	1.11E-02	2.00E+00	1.66E+01	1.24E+00	1.78E+01
Selenium	6.90E-01	5.00E-03	0.00E+00	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	4.85E+01	1.80E-01	0.00E+00	3.00E-01	1.06E+00	1.80E+00	4.25E+01	3.53E+00	4.71E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/c) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-269. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	2.06E+01	0.00E+00	2.06E+01	6.68E+01	3.09E-01	9.1%
Arsenic	1.00E-01	1.67E-01	1.84E-02	0.00E+00	1.84E-02	4.98E+00	3.69E-03	0.1%
Barium	7.50E-03	5.94E-02	6.53E-03	0.00E+00	6.53E-03	1.19E+01	5.48E-04	0.0%
Cadmium	2.80E-02	4.35E-02	4.79E-03	0.00E+00	4.79E-03	1.46E+00	3.28E-03	0.1%
Chromium	2.80E-01	1.15E+00	1.26E-01	0.00E+00	1.26E-01	1.03E+00	1.23E-01	3.6%
Lead	1.50E-02	4.77E-01	5.25E-02	0.00E+00	5.25E-02	6.82E-01	7.70E-02	2.3%
Selenium	7.50E-01	4.10E-01	4.51E-02	0.00E+00	4.51E-02	4.85E-01	9.29E-02	2.7%
Zinc	5.00E+00	4.21E+02	4.63E+01	0.00E+00	4.63E+01	1.66E+01	2.79E+00	82.1%
HI =							3.40E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-270. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.28E+04	1.30E-04	0.00E+00	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03
Arsenic	1.22E+01	1.20E-03	0.00E+00	8.00E-03	7.11E-03	6.60E-03	3.92E-02	8.88E-01	9.34E-01
Barium	5.64E+01	3.00E-03	0.00E+00	3.00E-02	1.23E-01	7.50E-03	2.06E-01	4.11E+00	4.44E+00
Cadmium	1.60E-01	3.00E-02	0.00E+00	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.52E+01	9.00E-04	0.00E+00	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00
Lead	1.70E+01	1.80E-03	0.00E+00	9.00E-03	1.11E-02	2.00E+00	1.66E+01	1.24E+00	1.78E+01
Selenium	6.90E-01	5.00E-03	0.00E+00	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	4.85E+01	1.80E-01	0.00E+00	3.00E-01	1.06E+00	1.80E+00	4.25E+01	3.53E+00	4.71E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-270. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	2.34E+01	0.00E+00	2.34E+01	8.33E+01	2.81E-01	9.1%
Arsenic	1.00E-01	1.67E-01	2.09E-02	0.00E+00	2.09E-02	6.22E+00	3.36E-03	0.1%
Barium	7.50E-03	5.94E-02	7.42E-03	0.00E+00	7.42E-03	1.49E+01	4.99E-04	0.0%
Cadmium	2.80E-02	4.35E-02	5.44E-03	0.00E+00	5.44E-03	1.82E+00	2.99E-03	0.1%
Chromium	2.80E-01	1.15E+00	1.43E-01	0.00E+00	1.43E-01	1.28E+00	1.12E-01	3.6%
Lead	1.50E-02	4.77E-01	5.96E-02	0.00E+00	5.96E-02	8.51E-01	7.01E-02	2.3%
Selenium	7.50E-01	4.10E-01	5.12E-02	0.00E+00	5.12E-02	6.05E-01	8.46E-02	2.7%
Zinc	5.00E+00	4.21E+02	5.26E+01	0.00E+00	5.26E+01	2.07E+01	2.54E+00	82.1%
							HI =	3.10E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-271. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 35

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.28E+04	1.30E-04	5.28E-03	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03
Arsenic	1.22E+01	1.20E-03	4.65E-05	8.00E-03	7.11E-03	6.60E-03	3.92E-02	8.88E-01	9.34E-01
Barium	5.64E+01	3.00E-03	5.37E-04	3.00E-02	1.23E-01	7.50E-03	2.06E-01	4.11E+00	4.44E+00
Cadmium	1.60E-01	3.00E-02	1.52E-05	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.52E+01	9.00E-04	4.34E-05	1.50E-03	1.66E-03	1.60E-01	1.18E+00	1.11E+00	2.29E+00
Lead	1.70E+01	1.80E-03	9.71E-05	9.00E-03	1.11E-02	2.00E+00	1.66E+01	1.24E+00	1.78E+01
Selenium	6.90E-01	5.00E-03	1.10E-05	5.00E-03	2.51E-04	7.60E-01	2.55E-01	5.02E-02	3.06E-01
Zinc	4.85E+01	1.80E-01	2.77E-02	3.00E-01	1.06E+00	1.80E+00	4.25E+01	3.53E+00	4.71E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-271. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	1.23E+01	2.47E+01	3.71E+01	5.46E-01	6.79E+01	97.6%
Arsenic	1.00E-01	1.67E-01	1.10E-02	2.36E-02	3.46E-02	3.56E-02	9.71E-01	1.4%
Barium	7.50E-03	5.94E-02	3.91E-03	1.09E-01	1.13E-01	2.79E+00	4.06E-02	0.1%
Cadmium	2.80E-02	4.35E-02	2.86E-03	3.09E-04	3.19E-03	5.04E-01	6.33E-03	0.0%
Chromium	2.80E-01	1.15E+00	7.55E-02	2.94E-02	1.05E-01	1.43E+03	7.33E-05	0.0%
Lead	1.50E-02	4.77E-01	3.14E-02	3.28E-02	6.43E-02	4.18E+00	1.54E-02	0.0%
Selenium	7.50E-01	4.10E-01	2.70E-02	1.33E-03	2.83E-02	1.05E-01	2.71E-01	0.4%
Zinc	5.00E+00	4.21E+02	2.77E+01	9.37E-02	2.78E+01	8.36E+01	3.33E-01	0.5%
							HI = 6.96E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-272. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.23E+04	5.00E+01	2.46E+02	93.2%
Arsenic	1.14E+01	1.00E+01	1.14E+00	0.4%
Barium	5.45E+01	5.00E+02	1.09E-01	0.0%
Cadmium	1.60E-01	5.00E-01	3.20E-01	0.1%
Chromium	1.42E+01	1.00E+00	1.42E+01	5.4%
Lead	1.86E+01	5.00E+01	3.72E-01	0.1%
Selenium	6.40E-01	1.00E+00	6.40E-01	0.2%
Zinc	5.46E+01	5.00E+01	1.09E+00	0.4%
HI =			2.64E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-273. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 36**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.23E+04	No TRV	No TRV	No HQ
Arsenic	1.14E+01	6.00E+01	1.90E-01	0.5%
Barium	5.45E+01	No TRV	No TRV	No HQ
Cadmium	1.60E-01	2.00E+01	8.00E-03	0.0%
Chromium	1.42E+01	4.00E-01	3.55E+01	98.6%
Lead	1.86E+01	5.00E+02	3.72E-02	0.1%
Selenium	6.40E-01	No TRV	No TRV	No HQ
Zinc	5.46E+01	2.00E+02	2.73E-01	0.8%
HI =				3.60E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-274. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03	2.22E+00	6.05E+02	98.6%
Arsenic	1.14E+01	8.00E-03	6.64E-03	6.60E-03	3.67E-02	8.30E-01	8.73E-01	1.45E-01	6.01E+00	1.0%
Barium	5.45E+01	3.00E-02	1.19E-01	7.50E-03	1.99E-01	3.97E+00	4.29E+00	1.14E+01	3.77E-01	0.1%
Cadmium	1.60E-01	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01	2.05E+00	4.24E-01	0.1%
Chromium	1.42E+01	1.50E-03	1.55E-03	1.60E-01	1.11E+00	1.03E+00	2.14E+00	5.83E+03	3.67E-04	0.0%
Lead	1.86E+01	9.00E-03	1.22E-02	2.00E+00	1.81E+01	1.35E+00	1.95E+01	1.70E+01	1.14E+00	0.2%
Selenium	6.40E-01	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01	4.26E-01	6.66E-01	0.1%
Zinc	5.46E+01	3.00E-01	1.19E+00	1.80E+00	4.79E+01	3.97E+00	5.30E+01	3.41E+02	1.56E-01	0.0%
									HI =	6.14E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-275. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	1.30E-04	1.22E+00	7.50E-02	7.01E+02	1.94E+03	2.65E+03	1.29E+02	2.04E+01	40.5%
Arsenic	1.14E+01	1.20E-03	1.04E-02	6.60E-03	5.72E-02	1.80E+00	1.87E+00	9.66E+00	1.94E-01	0.4%
Barium	5.45E+01	3.00E-03	1.24E-01	7.50E-03	3.11E-01	8.62E+00	9.05E+00	2.31E+01	3.92E-01	0.8%
Cadmium	1.60E-01	3.00E-02	3.65E-03	1.10E+01	1.34E+00	2.53E-02	1.37E+00	2.83E+00	4.84E-01	1.0%
Chromium	1.42E+01	9.00E-04	9.71E-03	1.60E-01	1.73E+00	2.24E+00	3.98E+00	1.99E+00	2.00E+00	4.0%
Lead	1.86E+01	1.80E-03	2.54E-02	2.00E+00	2.83E+01	2.94E+00	3.12E+01	1.32E+00	2.36E+01	46.8%
Selenium	6.40E-01	5.00E-03	2.43E-03	7.60E-01	3.70E-01	1.01E-01	4.73E-01	9.40E-01	5.03E-01	1.0%
Zinc	5.46E+01	1.80E-01	7.47E+00	1.80E+00	7.47E+01	8.63E+00	9.08E+01	3.21E+01	2.83E+00	5.6%
HI =									5.05E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-276. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	8.00E-04	2.02E+00	7.50E-02	0.00E+00	1.59E+02	1.61E+02	7.63E-01	2.11E+02	98.3%
Arsenic	1.14E+01	8.00E-03	1.87E-02	6.60E-03	0.00E+00	1.47E-01	1.66E-01	4.98E-02	3.33E+00	1.6%
Barium	5.45E+01	3.00E-02	3.35E-01	7.50E-03	0.00E+00	7.04E-01	1.04E+00	3.90E+00	2.66E-01	0.1%
Cadmium	1.60E-01	1.10E-01	3.61E-03	1.10E+01	0.00E+00	2.07E-03	5.67E-03	7.05E-01	8.05E-03	0.0%
Chromium	1.42E+01	1.50E-03	4.37E-03	1.60E-01	0.00E+00	1.83E-01	1.88E-01	2.00E+03	9.39E-05	0.0%
Lead	1.86E+01	9.00E-03	3.43E-02	2.00E+00	0.00E+00	2.40E-01	2.75E-01	5.84E+00	4.70E-02	0.0%
Selenium	6.40E-01	5.00E-03	6.56E-04	7.60E-01	0.00E+00	8.27E-03	8.92E-03	1.46E-01	6.11E-02	0.0%
Zinc	5.46E+01	3.00E-01	3.36E+00	1.80E+00	0.00E+00	7.05E-01	4.06E+00	1.17E+02	3.48E-02	0.0%
								HI =	2.15E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-277. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.23E+04	8.00E-04	3.05E-01	7.50E-02	0.00E+00	7.63E+00	7.93E+00	2.93E-01	2.71E+01	97.8%
Arsenic	1.14E+01	8.00E-03	2.83E-03	6.60E-03	0.00E+00	7.07E-03	9.90E-03	1.91E-02	5.17E-01	1.9%
Barium	5.45E+01	3.00E-02	5.07E-02	7.50E-03	0.00E+00	3.38E-02	8.45E-02	1.50E+00	5.64E-02	0.2%
Cadmium	1.60E-01	1.10E-01	5.46E-04	1.10E+01	0.00E+00	9.92E-05	6.45E-04	2.71E-01	2.38E-03	0.0%
Chromium	1.42E+01	1.50E-03	6.60E-04	1.60E-01	0.00E+00	8.80E-03	9.46E-03	7.68E+02	1.23E-05	0.0%
Lead	1.86E+01	9.00E-03	5.19E-03	2.00E+00	0.00E+00	1.15E-02	1.67E-02	2.24E+00	7.45E-03	0.0%
Selenium	6.40E-01	5.00E-03	9.92E-05	7.60E-01	0.00E+00	3.97E-04	4.96E-04	5.61E-02	8.84E-03	0.0%
Zinc	5.46E+01	3.00E-01	5.08E-01	1.80E+00	0.00E+00	3.39E-02	5.42E-01	4.49E+01	1.21E-02	0.0%
HI =									2.77E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-278. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.23E+04	1.30E-04	0.00E+00	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03
Arsenic	1.14E+01	1.20E-03	0.00E+00	8.00E-03	6.64E-03	6.60E-03	3.67E-02	8.30E-01	8.73E-01
Barium	5.45E+01	3.00E-03	0.00E+00	3.00E-02	1.19E-01	7.50E-03	1.99E-01	3.97E+00	4.29E+00
Cadmium	1.60E-01	3.00E-02	0.00E+00	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.42E+01	9.00E-04	0.00E+00	1.50E-03	1.55E-03	1.60E-01	1.11E+00	1.03E+00	2.14E+00
Lead	1.86E+01	1.80E-03	0.00E+00	9.00E-03	1.22E-02	2.00E+00	1.81E+01	1.35E+00	1.95E+01
Selenium	6.40E-01	5.00E-03	0.00E+00	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01
Zinc	5.46E+01	1.80E-01	0.00E+00	3.00E-01	1.19E+00	1.80E+00	4.79E+01	3.97E+00	5.30E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-278. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.80E+02	1.98E+01	0.00E+00	1.98E+01	6.68E+01	2.97E-01	8.0%
Arsenic	1.00E-01	1.56E-01	1.72E-02	0.00E+00	1.72E-02	4.98E+00	3.44E-03	0.1%
Barium	7.50E-03	5.74E-02	6.31E-03	0.00E+00	6.31E-03	1.19E+01	5.30E-04	0.0%
Cadmium	2.80E-02	4.35E-02	4.79E-03	0.00E+00	4.79E-03	1.46E+00	3.28E-03	0.1%
Chromium	2.80E-01	1.07E+00	1.18E-01	0.00E+00	1.18E-01	1.03E+00	1.15E-01	3.1%
Lead	1.50E-02	5.22E-01	5.74E-02	0.00E+00	5.74E-02	6.82E-01	8.42E-02	2.3%
Selenium	7.50E-01	3.80E-01	4.18E-02	0.00E+00	4.18E-02	4.85E-01	8.62E-02	2.3%
Zinc	5.00E+00	4.74E+02	5.21E+01	0.00E+00	5.21E+01	1.66E+01	3.14E+00	84.2%
HI =							3.73E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-279. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.23E+04	1.30E-04	0.00E+00	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03
Arsenic	1.14E+01	1.20E-03	0.00E+00	8.00E-03	6.64E-03	6.60E-03	3.67E-02	8.30E-01	8.73E-01
Barium	5.45E+01	3.00E-03	0.00E+00	3.00E-02	1.19E-01	7.50E-03	1.99E-01	3.97E+00	4.29E+00
Cadmium	1.60E-01	3.00E-02	0.00E+00	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.42E+01	9.00E-04	0.00E+00	1.50E-03	1.55E-03	1.60E-01	1.11E+00	1.03E+00	2.14E+00
Lead	1.86E+01	1.80E-03	0.00E+00	9.00E-03	1.22E-02	2.00E+00	1.81E+01	1.35E+00	1.95E+01
Selenium	6.40E-01	5.00E-03	0.00E+00	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01
Zinc	5.46E+01	1.80E-01	0.00E+00	3.00E-01	1.19E+00	1.80E+00	4.79E+01	3.97E+00	5.30E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-279. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _s x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.80E+02	2.25E+01	0.00E+00	2.25E+01	8.33E+01	2.70E-01	8.0%
Arsenic	1.00E-01	1.56E-01	1.95E-02	0.00E+00	1.95E-02	6.22E+00	3.14E-03	0.1%
Barium	7.50E-03	5.74E-02	7.17E-03	0.00E+00	7.17E-03	1.49E+01	4.83E-04	0.0%
Cadmium	2.80E-02	4.35E-02	5.44E-03	0.00E+00	5.44E-03	1.82E+00	2.99E-03	0.1%
Chromium	2.80E-01	1.07E+00	1.34E-01	0.00E+00	1.34E-01	1.28E+00	1.05E-01	3.1%
Lead	1.50E-02	5.22E-01	6.53E-02	0.00E+00	6.53E-02	8.51E-01	7.67E-02	2.3%
Selenium	7.50E-01	3.80E-01	4.75E-02	0.00E+00	4.75E-02	6.05E-01	7.85E-02	2.3%
Zinc	5.00E+00	4.74E+02	5.92E+01	0.00E+00	5.92E+01	2.07E+01	2.86E+00	84.2%
							HI =	3.40E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-280. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 36

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.23E+04	1.30E-04	5.08E-03	8.00E-04	7.16E-01	7.50E-02	4.49E+02	8.95E+02	1.35E+03
Arsenic	1.14E+01	1.20E-03	4.34E-05	8.00E-03	6.64E-03	6.60E-03	3.67E-02	8.30E-01	8.73E-01
Barium	5.45E+01	3.00E-03	5.19E-04	3.00E-02	1.19E-01	7.50E-03	1.99E-01	3.97E+00	4.29E+00
Cadmium	1.60E-01	3.00E-02	1.52E-05	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.42E+01	9.00E-04	4.06E-05	1.50E-03	1.55E-03	1.60E-01	1.11E+00	1.03E+00	2.14E+00
Lead	1.86E+01	1.80E-03	1.06E-04	9.00E-03	1.22E-02	2.00E+00	1.81E+01	1.35E+00	1.95E+01
Selenium	6.40E-01	5.00E-03	1.02E-05	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01
Zinc	5.46E+01	1.80E-01	3.12E-02	3.00E-01	1.19E+00	1.80E+00	4.79E+01	3.97E+00	5.30E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_P = Average daily dose; plant

I_P (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{P-s} = Shrew I_P (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-280. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.80E+02	1.19E+01	2.38E+01	3.56E+01	5.46E-01	6.53E+01	97.6%
Arsenic	1.00E-01	1.56E-01	1.03E-02	2.20E-02	3.23E-02	3.56E-02	9.07E-01	1.4%
Barium	7.50E-03	5.74E-02	3.78E-03	1.05E-01	1.10E-01	2.79E+00	3.92E-02	0.1%
Cadmium	2.80E-02	4.35E-02	2.86E-03	3.09E-04	3.19E-03	5.04E-01	6.33E-03	0.0%
Chromium	2.80E-01	1.07E+00	7.05E-02	2.74E-02	9.80E-02	1.43E+03	6.85E-05	0.0%
Lead	1.50E-02	5.22E-01	3.44E-02	3.59E-02	7.04E-02	4.18E+00	1.68E-02	0.0%
Selenium	7.50E-01	3.80E-01	2.50E-02	1.24E-03	2.63E-02	1.05E-01	2.51E-01	0.4%
Zinc	5.00E+00	4.74E+02	3.12E+01	1.05E-01	3.13E+01	8.36E+01	3.74E-01	0.6%
							HI = 6.69E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-281. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	2.28E+04	5.00E+01	4.56E+02	78.5%
Antimony	2.37E+00	5.00E+00	4.73E-01	0.1%
Arsenic	1.45E+01	1.00E+01	1.45E+00	0.3%
Barium	3.44E+02	5.00E+02	6.88E-01	0.1%
Beryllium	2.88E+00	1.00E+01	2.88E-01	0.0%
Cadmium	2.68E+01	5.00E-01	5.36E+01	9.2%
Calcium	1.11E+05	No TRV	No TRV	No HQ
Chromium	2.78E+01	1.00E+00	2.78E+01	4.8%
Cobalt	7.92E+00	2.00E+01	3.96E-01	0.1%
Copper	5.90E+01	1.00E+02	5.90E-01	0.1%
Cyanide	2.30E-01	No TRV	No TRV	No HQ
Iron	2.44E+04	No TRV	No TRV	No HQ
Lead	1.49E+03	5.00E+01	2.98E+01	5.1%
Magnesium	1.67E+04	No TRV	No TRV	No HQ
Mercury	2.89E-02	3.00E-01	9.62E-02	0.0%
Nickel	2.23E+01	3.00E+01	7.43E-01	0.1%
Potassium	2.12E+03	No TRV	No TRV	No HQ
Selenium	1.68E+00	1.00E+00	1.68E+00	0.3%
Silver	8.59E-01	2.00E+00	4.29E-01	0.1%
Sodium	9.97E+02	No TRV	No TRV	No HQ
Thallium	1.81E+00	1.00E+00	1.81E+00	0.3%
Zinc	2.27E+02	5.00E+01	4.54E+00	0.8%
Organics				
Bis(2-ethylhexyl)phthalate	3.40E-02	No TRV	No TRV	No HQ
Di-n-butylphthalate	5.30E-02	No TRV	No TRV	No HQ
Toluene	1.70E-02	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	1.31E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.15E+00	3.00E+01	3.83E-02	0.0%
2,4-Dinitrotoluene	2.00E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.20E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.52E-01	No TRV	No TRV	No HQ
HMX	1.10E+00	No TRV	No TRV	No HQ
Nitrobenzene	5.40E-02	No TRV	No TRV	No HQ
Nitrocellulose	3.15E+02	No TRV	No TRV	No HQ
Nitroglycerin	1.20E+01	No TRV	No TRV	No HQ
RDX	3.51E+00	1.00E+02	3.51E-02	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =			5.80E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-282. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 37**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	2.28E+04	No TRV	No TRV	No HQ
Antimony	2.37E+00	No TRV	No TRV	No HQ
Arsenic	1.45E+01	6.00E+01	2.42E-01	0.3%
Barium	3.44E+02	No TRV	No TRV	No HQ
Beryllium	2.88E+00	No TRV	No TRV	No HQ
Cadmium	2.68E+01	2.00E+01	1.34E+00	1.8%
Calcium	1.11E+05	No TRV	No TRV	No HQ
Chromium	2.78E+01	4.00E-01	6.96E+01	90.9%
Cobalt	7.92E+00	No TRV	No TRV	No HQ
Copper	5.90E+01	5.00E+01	1.18E+00	1.5%
Cyanide	2.30E-01	No TRV	No TRV	No HQ
Iron	2.44E+04	No TRV	No TRV	No HQ
Lead	1.49E+03	5.00E+02	2.98E+00	3.9%
Magnesium	1.67E+04	No TRV	No TRV	No HQ
Mercury	2.89E-02	No TRV	No TRV	No HQ
Nickel	2.23E+01	2.00E+02	1.11E-01	0.1%
Potassium	2.12E+03	No TRV	No TRV	No HQ
Selenium	1.68E+00	No TRV	No TRV	No HQ
Silver	8.59E-01	No TRV	No TRV	No HQ
Sodium	9.97E+02	No TRV	No TRV	No HQ
Thallium	1.81E+00	No TRV	No TRV	No HQ
Zinc	2.27E+02	2.00E+02	1.13E+00	1.5%
Organics				
Bis(2-ethylhexyl)phthalate	3.40E-02	No TRV	No TRV	No HQ
Di-n-butylphthalate	5.30E-02	No TRV	No TRV	No HQ
Toluene	1.70E-02	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	1.31E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.15E+00	1.40E+02	8.21E-03	0.0%
2,4-Dinitrotoluene	2.00E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.20E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.52E-01	No TRV	No TRV	No HQ
HMX	1.10E+00	No TRV	No TRV	No HQ
Nitrobenzene	5.40E-02	No TRV	No TRV	No HQ
Nitrocellulose	3.15E+02	No TRV	No TRV	No HQ
Nitroglycerin	1.20E+01	No TRV	No TRV	No HQ
RDX	3.51E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				7.65E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-283. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.28E+04	8.00E-04	1.33E+00	7.50E-02	8.32E+02	1.66E+03	2.49E+03	2.22E+00	1.12E+03	82.2%
Antimony	2.37E+00	4.00E-02	6.89E-03	5.00E-02	5.77E-02	1.72E-01	2.37E-01	1.44E-01	1.64E+00	0.1%
Arsenic	1.45E+01	8.00E-03	8.46E-03	6.60E-03	4.67E-02	1.06E+00	1.11E+00	1.45E-01	7.66E+00	0.6%
Barium	3.44E+02	3.00E-02	7.51E-01	7.50E-03	1.26E+00	2.50E+01	2.70E+01	1.14E+01	2.38E+00	0.2%
Beryllium	2.88E+00	2.00E-03	4.19E-04	5.00E-02	7.01E-02	2.10E-01	2.80E-01	1.41E+00	1.99E-01	0.0%
Cadmium	2.68E+01	1.10E-01	2.15E-01	1.10E+01	1.44E+02	1.95E+00	1.46E+02	2.05E+00	7.10E+01	5.2%
Calcium	1.11E+05	7.00E-01	5.66E+03	1.00E+00	5.41E+04	8.08E+03	6.78E+04	No TRV	No TRV	No HQ
Chromium	2.78E+01	1.50E-03	3.04E-03	1.60E-01	2.17E+00	2.03E+00	4.20E+00	5.83E+03	7.20E-04	0.0%
Cobalt	7.92E+00	4.00E-03	2.31E-03	1.00E+00	3.86E+00	5.77E-01	4.44E+00	No TRV	No TRV	No HQ
Copper	5.90E+01	8.00E-02	3.44E-01	1.60E-01	4.60E+00	4.30E+00	9.24E+00	3.24E+01	2.85E-01	0.0%
Cyanide	2.30E-01	1.00E+00	1.67E-02	0.00E+00	0.00E+00	1.67E-02	3.35E-02	1.38E+02	2.44E-04	0.0%
Iron	2.44E+04	8.00E-04	1.42E+00	1.00E+00	1.19E+04	1.78E+03	1.37E+04	No TRV	No TRV	No HQ
Lead	1.49E+03	9.00E-03	9.76E-01	2.00E+00	1.45E+03	1.08E+02	1.56E+03	1.70E+01	9.16E+01	6.7%
Magnesium	1.67E+04	2.00E-01	2.43E+02	1.00E+00	8.14E+03	1.22E+03	9.60E+03	No TRV	No TRV	No HQ
Mercury	2.89E-02	1.80E-01	3.78E-04	3.40E-01	4.78E-03	2.10E-03	7.26E-03	2.80E+00	2.59E-03	0.0%
Nickel	2.23E+01	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00	8.52E+01	4.86E-02	0.0%
Potassium	2.12E+03	2.00E-01	3.08E+01	1.00E+00	1.03E+03	1.54E+02	1.22E+03	No TRV	No TRV	No HQ
Selenium	1.68E+00	5.00E-03	6.13E-04	7.60E-01	6.24E-01	1.23E-01	7.47E-01	4.26E-01	1.75E+00	0.1%
Silver	8.59E-01	8.00E-02	5.00E-03	1.50E-01	6.28E-02	6.25E-02	1.30E-01	No TRV	No TRV	No HQ
Sodium	9.97E+02	1.50E-02	1.09E+00	1.00E+00	4.86E+02	7.26E+01	5.59E+02	No TRV	No TRV	No HQ
Thallium	1.81E+00	8.00E-04	1.05E-04	1.00E+00	8.81E-01	1.32E-01	1.01E+00	1.59E-02	6.36E+01	4.7%
Zinc	2.27E+02	3.00E-01	4.96E+00	1.80E+00	1.99E+02	1.65E+01	2.20E+02	3.41E+02	6.47E-01	0.0%
Organics										
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	2.15E-05	5.00E-02	8.28E-04	2.48E-03	3.32E-03	2.11E+01	1.58E-04	0.0%
Di-n-butylphthalate	5.30E-02	7.60E-03	2.93E-05	5.00E-02	1.29E-03	3.86E-03	5.18E-03	6.34E+02	8.17E-06	0.0%
Toluene	1.70E-02	2.00E-02	2.48E-05	5.00E-02	4.14E-04	1.24E-03	1.68E-03	2.99E+01	5.60E-05	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.31E-01	1.00E+00	9.54E-03	1.00E+00	6.38E-02	9.54E-03	8.29E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	1.15E+00	1.00E+00	8.37E-02	1.00E+00	5.60E-01	8.37E-02	7.28E-01	3.41E+00	2.14E-01	0.0%
2,4-Dinitrotoluene	2.00E-01	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01	1.56E+01	8.13E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	1.49E+00	8.60E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.20E-01	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02	No TRV	No TRV	No HQ

Appendix Table L-283. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
4-Nitrotoluene	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 HQ
HMX	1.10E+00	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01	3.27E+00	2.13E-01	0.0%
Nitrobenzene	5.40E-02	2.00E-02	7.86E-05	5.00E-02	1.32E-03	3.93E-03	5.33E-03	No TRV	No TRV	No HQ
Nitrocellulose	3.15E+02	1.00E+00	2.29E+01	1.00E+00	1.53E+02	2.29E+01	1.99E+02	No TRV	No TRV	No HQ
Nitroglycerin	1.20E+01	1.00E+00	8.74E-01	1.00E+00	5.85E+00	8.74E-01	7.59E+00	No TRV	No TRV	No HQ
RDX	3.51E+00	1.00E+00	2.56E-01	1.00E+00	1.71E+00	2.56E-01	2.22E+00	8.44E+00	2.63E-01	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
HI =									1.36E+03	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-284. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.28E+04	1.30E-04	2.25E+00	7.50E-02	1.30E+03	3.60E+03	4.90E+03	1.29E+02	3.79E+01	1.9%
Antimony	2.37E+00	6.00E-03	1.08E-02	5.00E-02	8.99E-02	3.74E-01	4.75E-01	No TRV	No TRV	No HQ
Arsenic	1.45E+01	1.20E-03	1.32E-02	6.60E-03	7.28E-02	2.30E+00	2.38E+00	9.66E+00	2.47E-01	0.0%
Barium	3.44E+02	3.00E-03	7.84E-01	7.50E-03	1.96E+00	5.44E+01	5.71E+01	2.31E+01	2.47E+00	0.1%
Beryllium	2.88E+00	3.00E-04	6.56E-04	5.00E-02	1.09E-01	4.55E-01	5.65E-01	No TRV	No TRV	No HQ
Cadmium	2.68E+01	3.00E-02	6.11E-01	1.10E+01	2.24E+02	4.24E+00	2.29E+02	2.83E+00	8.10E+01	4.0%
Calcium	1.11E+05	7.00E-02	5.91E+03	1.00E+00	8.44E+04	1.75E+04	1.08E+05	No TRV	No TRV	No HQ
Chromium	2.78E+01	9.00E-04	1.90E-02	1.60E-01	3.38E+00	4.40E+00	7.80E+00	1.99E+00	3.92E+00	0.2%
Cobalt	7.92E+00	1.40E-03	8.43E-03	1.00E+00	6.02E+00	1.25E+00	7.28E+00	No TRV	No TRV	No HQ
Copper	5.90E+01	5.00E-02	2.24E+00	1.60E-01	7.17E+00	9.33E+00	1.87E+01	7.55E+01	2.48E-01	0.0%
Cyanide	2.30E-01	1.00E+00	1.75E-01	0.00E+00	0.00E+00	3.64E-02	2.11E-01	No TRV	No TRV	No HQ
Iron	2.44E+04	2.00E-04	3.71E+00	1.00E+00	1.86E+04	3.86E+03	2.24E+04	No TRV	No TRV	No HQ
Lead	1.49E+03	1.80E-03	2.04E+00	2.00E+00	2.26E+03	2.36E+02	2.50E+03	1.32E+00	1.89E+03	93.2%
Magnesium	1.67E+04	1.10E-01	1.40E+03	1.00E+00	1.27E+04	2.64E+03	1.67E+04	No TRV	No TRV	No HQ
Mercury	2.89E-02	4.00E-02	8.77E-04	3.40E-01	7.45E-03	4.56E-03	1.29E-02	5.27E-01	2.45E-02	0.0%
Nickel	2.23E+01	1.20E-02	2.03E-01	2.30E-01	3.89E+00	3.52E+00	7.62E+00	1.37E+02	5.57E-02	0.0%
Potassium	2.12E+03	1.10E-01	1.77E+02	1.00E+00	1.61E+03	3.35E+02	2.12E+03	No TRV	No TRV	No HQ
Selenium	1.68E+00	5.00E-03	6.40E-03	7.60E-01	9.73E-01	2.66E-01	1.25E+00	9.40E-01	1.32E+00	0.1%
Silver	8.59E-01	2.00E-02	1.31E-02	1.50E-01	9.79E-02	1.36E-01	2.47E-01	No TRV	No TRV	No HQ
Sodium	9.97E+02	1.10E-02	8.33E+00	1.00E+00	7.58E+02	1.58E+02	9.24E+02	No TRV	No TRV	No HQ
Thallium	1.81E+00	8.00E-05	1.10E-04	1.00E+00	1.37E+00	2.86E-01	1.66E+00	No TRV	No TRV	No HQ
Zinc	2.27E+02	1.80E-01	3.10E+01	1.80E+00	3.10E+02	3.59E+01	3.77E+02	3.21E+01	1.17E+01	0.6%
Organics										
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	2.25E-04	5.00E-02	1.29E-03	5.37E-03	6.89E-03	1.30E+00	5.31E-03	0.0%
Di-n-butylphthalate	5.30E-02	7.60E-03	3.06E-04	5.00E-02	2.01E-03	8.38E-03	1.07E-02	1.31E-01	8.17E-02	0.0%
Toluene	1.70E-02	2.00E-02	2.58E-04	5.00E-02	6.46E-04	2.69E-03	3.59E-03	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	1.31E-01	1.00E+00	9.96E-02	1.00E+00	9.96E-02	2.07E-02	2.20E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.15E+00	1.00E+00	8.74E-01	1.00E+00	8.74E-01	1.82E-01	1.93E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	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 HQ
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.20E-01	1.00E+00	9.12E-02	1.00E+00	9.12E-02	1.90E-02	2.01E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	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 HQ

Appendix Table L-284. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
HMX	1.10E+00	1.00E+00	8.36E-01	1.00E+00	8.36E-01	1.74E-01	1.85E+00	No TRV	No TRV	No HQ
Nitrobenzene	5.40E-02	2.00E-02	8.21E-04	5.00E-02	2.05E-03	8.54E-03	1.14E-02	No TRV	No TRV	No HQ
Nitrocellulose	3.15E+02	1.00E+00	2.39E+02	1.00E+00	2.39E+02	4.98E+01	5.29E+02	No TRV	No TRV	No HQ
Nitroglycerin	1.20E+01	1.00E+00	9.12E+00	1.00E+00	9.12E+00	1.90E+00	2.01E+01	No TRV	No TRV	No HQ
RDX	3.51E+00	1.00E+00	2.67E+00	1.00E+00	2.67E+00	5.55E-01	5.89E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
HI =									2.03E+03	

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-285. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI 100
Inorganics										
Aluminum	2.28E+04	8.00E-04	3.74E+00	7.50E-02	0.00E+00	2.94E+02	2.98E+02	7.63E-01	3.91E+02	95.6%
Antimony	2.37E+00	4.00E-02	1.94E-02	5.00E-02	0.00E+00	3.06E-02	5.00E-02	4.94E-02	1.01E+00	0.2%
Arsenic	1.45E+01	8.00E-03	2.38E-02	6.60E-03	0.00E+00	1.88E-01	2.11E-01	4.98E-02	4.24E+00	1.0%
Barium	3.44E+02	3.00E-02	2.11E+00	7.50E-03	0.00E+00	4.44E+00	6.56E+00	3.90E+00	1.68E+00	0.4%
Beryllium	2.88E+00	2.00E-03	1.18E-03	5.00E-02	0.00E+00	3.72E-02	3.84E-02	4.82E-01	7.96E-02	0.0%
Cadmium	2.68E+01	1.10E-01	6.04E-01	1.10E+01	0.00E+00	3.46E-01	9.50E-01	7.05E-01	1.35E+00	0.3%
Calcium	1.11E+05	7.00E-01	1.59E+04	1.00E+00	0.00E+00	1.43E+03	1.74E+04	No TRV	No TRV	No HQ
Chromium	2.78E+01	1.50E-03	8.55E-03	1.60E-01	0.00E+00	3.59E-01	3.68E-01	2.00E+03	1.84E-04	0.0%
Cobalt	7.92E+00	4.00E-03	6.50E-03	1.00E+00	0.00E+00	1.02E-01	1.09E-01	No TRV	No TRV	No HQ
Copper	5.90E+01	8.00E-02	9.68E-01	1.60E-01	0.00E+00	7.62E-01	1.73E+00	1.11E+01	1.56E-01	0.0%
Cyanide	2.30E-01	1.00E+00	4.72E-02	0.00E+00	0.00E+00	2.97E-03	5.01E-02	4.72E+01	1.06E-03	0.0%
Iron	2.44E+04	8.00E-04	4.01E+00	1.00E+00	0.00E+00	3.16E+02	3.20E+02	No TRV	No TRV	No HQ
Lead	1.49E+03	9.00E-03	2.75E+00	2.00E+00	0.00E+00	1.92E+01	2.20E+01	5.84E+00	3.76E+00	0.9%
Magnesium	1.67E+04	2.00E-01	6.85E+02	1.00E+00	0.00E+00	2.16E+02	9.00E+02	No TRV	No TRV	No HQ
Mercury	2.89E-02	1.80E-01	1.06E-03	3.40E-01	0.00E+00	3.73E-04	1.44E-03	9.59E-01	1.50E-03	0.0%
Nickel	2.23E+01	1.20E-02	5.48E-02	2.30E-01	0.00E+00	2.88E-01	3.43E-01	2.92E+01	1.17E-02	0.0%
Potassium	2.12E+03	2.00E-01	8.68E+01	1.00E+00	0.00E+00	2.74E+01	1.14E+02	No TRV	No TRV	No HQ
Selenium	1.68E+00	5.00E-03	1.73E-03	7.60E-01	0.00E+00	2.17E-02	2.35E-02	1.46E-01	1.61E-01	0.0%
Silver	8.59E-01	8.00E-02	1.41E-02	1.50E-01	0.00E+00	1.11E-02	2.52E-02	No TRV	No TRV	No HQ
Sodium	9.97E+02	1.50E-02	3.07E+00	1.00E+00	0.00E+00	1.29E+01	1.59E+01	No TRV	No TRV	No HQ
Thallium	1.81E+00	8.00E-04	2.97E-04	1.00E+00	0.00E+00	2.34E-02	2.37E-02	5.46E-03	4.33E+00	1.1%
Zinc	2.27E+02	3.00E-01	1.40E+01	1.80E+00	0.00E+00	2.93E+00	1.69E+01	1.17E+02	1.44E-01	0.0%
Organics										
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	6.06E-05	5.00E-02	0.00E+00	4.39E-04	5.00E-04	7.23E+00	6.91E-05	0.0%
Di-n-butylphthalate	5.30E-02	7.60E-03	8.26E-05	5.00E-02	0.00E+00	6.84E-04	7.67E-04	2.17E+02	3.53E-06	0.0%
Toluene	1.70E-02	2.00E-02	6.97E-05	5.00E-02	0.00E+00	2.20E-04	2.89E-04	1.03E+01	2.82E-05	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.31E-01	1.00E+00	2.69E-02	1.00E+00	0.00E+00	1.69E-03	2.85E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	1.15E+00	1.00E+00	2.36E-01	1.00E+00	0.00E+00	1.49E-02	2.51E-01	1.17E+00	2.14E-01	0.1%
2,4-Dinitrotoluene	2.00E-01	1.00E+00	4.10E-02	1.00E+00	0.00E+00	2.58E-03	4.36E-02	5.34E+00	8.17E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	5.11E-01	4.33E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.20E-01	1.00E+00	2.46E-02	1.00E+00	0.00E+00	1.55E-03	2.61E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.52E-01	1.00E+00	3.12E-02	1.00E+00	0.00E+00	1.96E-03	3.31E-02	No TRV	No TRV	No HQ
HMX	1.10E+00	1.00E+00	2.26E-01	1.00E+00	0.00E+00	1.42E-02	2.40E-01	1.12E+00	2.14E-01	0.1%
Nitrobenzene	5.40E-02	2.00E-02	2.21E-04	5.00E-02	0.00E+00	6.97E-04	9.19E-04	No TRV	No TRV	No HQ
Nitrocellulose	3.15E+02	1.00E+00	6.46E+01	1.00E+00	0.00E+00	4.07E+00	6.86E+01	No TRV	No TRV	No HQ

Appendix Table L-285. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Nitroglycerin	1.20E+01	1.00E+00	2.46E+00	1.00E+00	0.00E+00	1.55E-01	2.61E+00	No TRV	No TRV	No HQ
RDX	3.51E+00	1.00E+00	7.20E-01	1.00E+00	0.00E+00	4.53E-02	7.65E-01	2.89E+00	2.64E-01	0.1%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
HI =									4.09E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-286. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad :

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.28E+04	8.00E-04	5.65E-01	7.50E-02	0.00E+00	1.41E+01	1.47E+01	2.93E-01	5.01E+01	93.7%
Antimony	2.37E+00	4.00E-02	2.94E-03	5.00E-02	0.00E+00	1.47E-03	4.40E-03	1.90E-02	2.32E-01	0.4%
Arsenic	1.45E+01	8.00E-03	3.60E-03	6.60E-03	0.00E+00	9.00E-03	1.26E-02	1.91E-02	6.59E-01	1.2%
Barium	3.44E+02	3.00E-02	3.20E-01	7.50E-03	0.00E+00	2.13E-01	5.33E-01	1.50E+00	3.56E-01	0.7%
Beryllium	2.88E+00	2.00E-03	1.78E-04	5.00E-02	0.00E+00	1.78E-03	1.96E-03	1.85E-01	1.06E-02	0.0%
Cadmium	2.68E+01	1.10E-01	9.14E-02	1.10E+01	0.00E+00	1.66E-02	1.08E-01	2.71E-01	3.99E-01	0.7%
Calcium	1.11E+05	7.00E-01	2.41E+03	1.00E+00	0.00E+00	6.88E+01	2.48E+03	No TRV	No TRV	No HQ
Chromium	2.78E+01	1.50E-03	1.29E-03	1.60E-01	0.00E+00	1.72E-02	1.85E-02	7.68E+02	2.41E-05	0.0%
Cobalt	7.92E+00	4.00E-03	9.82E-04	1.00E+00	0.00E+00	4.91E-03	5.89E-03	No TRV	No TRV	No HQ
Copper	5.90E+01	8.00E-02	1.46E-01	1.60E-01	0.00E+00	3.66E-02	1.83E-01	4.27E+00	4.28E-02	0.1%
Cyanide	2.30E-01	1.00E+00	7.13E-03	0.00E+00	0.00E+00	1.43E-04	7.27E-03	1.81E+01	4.02E-04	0.0%
Iron	2.44E+04	8.00E-04	6.06E-01	1.00E+00	0.00E+00	1.52E+01	1.58E+01	No TRV	No TRV	No HQ
Lead	1.49E+03	9.00E-03	4.16E-01	2.00E+00	0.00E+00	9.24E-01	1.34E+00	2.24E+00	5.97E-01	1.1%
Magnesium	1.67E+04	2.00E-01	1.04E+02	1.00E+00	0.00E+00	1.04E+01	1.14E+02	No TRV	No TRV	No HQ
Mercury	2.89E-02	1.80E-01	1.61E-04	3.40E-01	0.00E+00	1.79E-05	1.79E-04	3.68E-01	4.86E-04	0.0%
Nickel	2.23E+01	1.20E-02	8.29E-03	2.30E-01	0.00E+00	1.38E-02	2.21E-02	1.12E+01	1.97E-03	0.0%
Potassium	2.12E+03	2.00E-01	1.31E+01	1.00E+00	0.00E+00	1.31E+00	1.44E+01	No TRV	No TRV	No HQ
Selenium	1.68E+00	5.00E-03	2.61E-04	7.60E-01	0.00E+00	1.04E-03	1.31E-03	5.61E-02	2.33E-02	0.0%
Silver	8.59E-01	8.00E-02	2.13E-03	1.50E-01	0.00E+00	5.32E-04	2.66E-03	No TRV	No TRV	No HQ
Sodium	9.97E+02	1.50E-02	4.64E-01	1.00E+00	0.00E+00	6.18E-01	1.08E+00	No TRV	No TRV	No HQ
Thallium	1.81E+00	8.00E-04	4.49E-05	1.00E+00	0.00E+00	1.12E-03	1.17E-03	2.10E-03	5.56E-01	1.0%
Zinc	2.27E+02	3.00E-01	2.11E+00	1.80E+00	0.00E+00	1.41E-01	2.25E+00	4.49E+01	5.01E-02	0.1%
Organics										
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	9.17E-06	5.00E-02	0.00E+00	2.11E-05	3.02E-05	2.78E+00	1.09E-05	0.0%
Di-n-butylphthalate	5.30E-02	7.60E-03	1.25E-05	5.00E-02	0.00E+00	3.29E-05	4.53E-05	8.35E+01	5.43E-07	0.0%
Toluene	1.70E-02	2.00E-02	1.05E-05	5.00E-02	0.00E+00	1.05E-05	2.11E-05	3.94E+00	5.35E-06	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.31E-01	1.00E+00	4.06E-03	1.00E+00	0.00E+00	8.12E-05	4.14E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.2%
2,4,6-Trinitrotoluene	1.15E+00	1.00E+00	3.57E-02	1.00E+00	0.00E+00	7.13E-04	3.64E-02	4.49E-01	8.10E-02	0.2%
2,4-Dinitrotoluene	2.00E-01	1.00E+00	6.20E-03	1.00E+00	0.00E+00	1.24E-04	6.32E-03	2.05E+00	3.09E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	1.96E-01	8.21E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.20E-01	1.00E+00	3.72E-03	1.00E+00	0.00E+00	7.44E-05	3.79E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.52E-01	1.00E+00	4.71E-03	1.00E+00	0.00E+00	9.42E-05	4.81E-03	No TRV	No TRV	No HQ
HMX	1.10E+00	1.00E+00	3.41E-02	1.00E+00	0.00E+00	6.82E-04	3.48E-02	4.31E-01	8.08E-02	0.2%
Nitrobenzene	5.40E-02	2.00E-02	3.35E-05	5.00E-02	0.00E+00	3.35E-05	6.70E-05	No TRV	No TRV	No HQ
Nitrocellulose	3.15E+02	1.00E+00	9.77E+00	1.00E+00	0.00E+00	1.95E-01	9.96E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.20E+01	1.00E+00	3.72E-01	1.00E+00	0.00E+00	7.44E-03	3.79E-01	No TRV	No TRV	No HQ
RDX	3.51E+00	1.00E+00	1.09E-01	1.00E+00	0.00E+00	2.18E-03	1.11E-01	1.11E+00	9.99E-02	0.2%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%

Appendix Table L-286. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad :

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
HI =									5.35E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-287. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	2.28E+04	1.30E-04	0.00E+00	8.00E-04	1.33E+00	7.50E-02	8.32E+02	1.66E+03	2.49E+03
Antimony	2.37E+00	6.00E-03	0.00E+00	4.00E-02	6.89E-03	5.00E-02	5.77E-02	1.72E-01	2.37E-01
Arsenic	1.45E+01	1.20E-03	0.00E+00	8.00E-03	8.46E-03	6.60E-03	4.67E-02	1.06E+00	1.11E+00
Barium	3.44E+02	3.00E-03	0.00E+00	3.00E-02	7.51E-01	7.50E-03	1.26E+00	2.50E+01	2.70E+01
Beryllium	2.88E+00	3.00E-04	0.00E+00	2.00E-03	4.19E-04	5.00E-02	7.01E-02	2.10E-01	2.80E-01
Cadmium	2.68E+01	3.00E-02	0.00E+00	1.10E-01	2.15E-01	1.10E+01	1.44E+02	1.95E+00	1.46E+02
Calcium	1.11E+05	7.00E-02	0.00E+00	7.00E-01	5.66E+03	1.00E+00	5.41E+04	8.08E+03	6.78E+04
Chromium	2.78E+01	9.00E-04	0.00E+00	1.50E-03	3.04E-03	1.60E-01	2.17E+00	2.03E+00	4.20E+00
Cobalt	7.92E+00	1.40E-03	0.00E+00	4.00E-03	2.31E-03	1.00E+00	3.86E+00	5.77E-01	4.44E+00
Copper	5.90E+01	5.00E-02	0.00E+00	8.00E-02	3.44E-01	1.60E-01	4.60E+00	4.30E+00	9.24E+00
Cyanide	2.30E-01	1.00E+00	0.00E+00	1.00E+00	1.67E-02	0.00E+00	0.00E+00	1.67E-02	3.35E-02
Iron	2.44E+04	2.00E-04	0.00E+00	8.00E-04	1.42E+00	1.00E+00	1.19E+04	1.78E+03	1.37E+04
Lead	1.49E+03	1.80E-03	0.00E+00	9.00E-03	9.76E-01	2.00E+00	1.45E+03	1.08E+02	1.56E+03
Magnesium	1.67E+04	1.10E-01	0.00E+00	2.00E-01	2.43E+02	1.00E+00	8.14E+03	1.22E+03	9.60E+03
Mercury	2.89E-02	4.00E-02	0.00E+00	1.80E-01	3.78E-04	3.40E-01	4.78E-03	2.10E-03	7.26E-03
Nickel	2.23E+01	1.20E-02	0.00E+00	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00
Potassium	2.12E+03	1.10E-01	0.00E+00	2.00E-01	3.08E+01	1.00E+00	1.03E+03	1.54E+02	1.22E+03
Selenium	1.68E+00	5.00E-03	0.00E+00	5.00E-03	6.13E-04	7.60E-01	6.24E-01	1.23E-01	7.47E-01
Silver	8.59E-01	2.00E-02	0.00E+00	8.00E-02	5.00E-03	1.50E-01	6.28E-02	6.25E-02	1.30E-01
Sodium	9.97E+02	1.10E-02	0.00E+00	1.50E-02	1.09E+00	1.00E+00	4.86E+02	7.26E+01	5.59E+02
Thallium	1.81E+00	8.00E-05	0.00E+00	8.00E-04	1.05E-04	1.00E+00	8.81E-01	1.32E-01	1.01E+00
Zinc	2.27E+02	1.80E-01	0.00E+00	3.00E-01	4.96E+00	1.80E+00	1.99E+02	1.65E+01	2.20E+02
Organics									
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	0.00E+00	8.70E-03	2.15E-05	5.00E-02	8.28E-04	2.48E-03	3.32E-03
Di-n-butylphthalate	5.30E-02	7.60E-03	0.00E+00	7.60E-03	2.93E-05	5.00E-02	1.29E-03	3.86E-03	5.18E-03
Toluene	1.70E-02	2.00E-02	0.00E+00	2.00E-02	2.48E-05	5.00E-02	4.14E-04	1.24E-03	1.68E-03
Explosives									
1,3,5-Trinitrobenzene	1.31E-01	1.00E+00	0.00E+00	1.00E+00	9.54E-03	1.00E+00	6.38E-02	9.54E-03	8.29E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.15E+00	1.00E+00	0.00E+00	1.00E+00	8.37E-02	1.00E+00	5.60E-01	8.37E-02	7.28E-01
2,4-Dinitrotoluene	2.00E-01	1.00E+00	0.00E+00	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.20E-01	1.00E+00	0.00E+00	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
4-Nitrotoluene	1.52E-01	1.00E+00	0.00E+00	1.00E+00	1.11E-02	1.00E+00	7.41E-02	1.11E-02	9.62E-02
HMX	1.10E+00	1.00E+00	0.00E+00	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01
Nitrobenzene	5.40E-02	2.00E-02	0.00E+00	2.00E-02	7.86E-05	5.00E-02	1.32E-03	3.93E-03	5.33E-03

Appendix Table L-287. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	3.34E+02	3.67E+01	0.00E+00	3.67E+01	6.68E+01	5.50E-01	2.6%
Antimony	5.00E-02	2.11E-02	2.33E-03	0.00E+00	2.33E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.99E-01	2.18E-02	0.00E+00	2.18E-02	4.98E+00	4.39E-03	0.0%
Barium	7.50E-03	3.62E-01	3.98E-02	0.00E+00	3.98E-02	1.19E+01	3.34E-03	0.0%
Beryllium	5.00E-02	2.50E-02	2.75E-03	0.00E+00	2.75E-03	No TRV	No TRV	No HQ
Cadmium	2.80E-02	7.29E+00	8.02E-01	0.00E+00	8.02E-01	1.46E+00	5.50E-01	2.6%
Calcium	1.00E+00	1.21E+05	1.33E+04	0.00E+00	1.33E+04	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.10E+00	2.31E-01	0.00E+00	2.31E-01	1.03E+00	2.25E-01	1.0%
Cobalt	1.00E+00	7.93E+00	8.72E-01	0.00E+00	8.72E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	8.25E+00	9.07E-01	0.00E+00	9.07E-01	3.89E+01	2.33E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.44E+04	2.69E+03	0.00E+00	2.69E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	4.18E+01	4.60E+00	0.00E+00	4.60E+00	6.82E-01	6.74E+00	31.4%
Magnesium	1.00E+00	1.71E+04	1.88E+03	0.00E+00	1.88E+03	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.68E-01	1.85E-02	0.00E+00	1.85E-02	2.72E-01	6.82E-02	0.3%
Nickel	3.00E-01	2.22E+00	2.44E-01	0.00E+00	2.44E-01	7.06E+01	3.45E-03	0.0%
Potassium	1.00E+00	2.17E+03	2.39E+02	0.00E+00	2.39E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.00E+00	1.10E-01	0.00E+00	1.10E-01	4.85E-01	2.27E-01	1.1%
Silver	1.50E-01	3.49E-02	3.84E-03	0.00E+00	3.84E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	9.99E+02	1.10E+02	0.00E+00	1.10E+02	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.81E+00	1.99E-01	0.00E+00	1.99E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.97E+03	2.17E+02	0.00E+00	2.17E+02	1.66E+01	1.31E+01	60.9%
Bis(2-ethylhexyl)phthalate	1.90E-01	1.13E-03	1.24E-04	0.00E+00	1.24E-04	6.69E-01	1.85E-04	0.0%
Di-n-butylphthalate	2.40E-01	2.22E-03	2.44E-04	0.00E+00	2.44E-04	6.76E-02	3.61E-03	0.0%
Toluene	7.60E-04	2.28E-06	2.50E-07	0.00E+00	2.50E-07	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	1.48E-01	1.63E-02	0.00E+00	1.63E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.30E+00	1.43E-01	0.00E+00	1.43E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	2.26E-01	2.49E-02	0.00E+00	2.49E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	4.78E-07	0.00E+00	4.78E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.36E-01	1.49E-02	0.00E+00	1.49E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.72E-01	1.89E-02	0.00E+00	1.89E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.24E+00	1.37E-01	0.00E+00	1.37E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	1.14E-06	1.26E-07	0.00E+00	1.26E-07	No TRV	No TRV	No HQ

Appendix Table L-287. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Nitrocellulose	3.15E+02	1.00E+00	0.00E+00	1.00E+00	2.29E+01	1.00E+00	1.53E+02	2.29E+01	1.99E+02
Nitroglycerin	1.20E+01	1.00E+00	0.00E+00	1.00E+00	8.74E-01	1.00E+00	5.85E+00	8.74E-01	7.59E+00
RDX	3.51E+00	1.00E+00	0.00E+00	1.00E+00	2.56E-01	1.00E+00	1.71E+00	2.56E-01	2.22E+00
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-287. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Nitrocellulose	1.00E+00	3.56E+02	3.92E+01	0.00E+00	3.92E+01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.36E+01	1.49E+00	0.00E+00	1.49E+00	No TRV	No TRV	No HQ
RDX	1.00E+00	3.97E+00	4.36E-01	0.00E+00	4.36E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
HI =								2.15E+01

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-288. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	2.28E+04	1.30E-04	0.00E+00	8.00E-04	1.33E+00	7.50E-02	8.32E+02	1.66E+03	2.49E+03
Antimony	2.37E+00	6.00E-03	0.00E+00	4.00E-02	6.89E-03	5.00E-02	5.77E-02	1.72E-01	2.37E-01
Arsenic	1.45E+01	1.20E-03	0.00E+00	8.00E-03	8.46E-03	6.60E-03	4.67E-02	1.06E+00	1.11E+00
Barium	3.44E+02	3.00E-03	0.00E+00	3.00E-02	7.51E-01	7.50E-03	1.26E+00	2.50E+01	2.70E+01
Beryllium	2.88E+00	3.00E-04	0.00E+00	2.00E-03	4.19E-04	5.00E-02	7.01E-02	2.10E-01	2.80E-01
Cadmium	2.68E+01	3.00E-02	0.00E+00	1.10E-01	2.15E-01	1.10E+01	1.44E+02	1.95E+00	1.46E+02
Calcium	1.11E+05	7.00E-02	0.00E+00	7.00E-01	5.66E+03	1.00E+00	5.41E+04	8.08E+03	6.78E+04
Chromium	2.78E+01	9.00E-04	0.00E+00	1.50E-03	3.04E-03	1.60E-01	2.17E+00	2.03E+00	4.20E+00
Cobalt	7.92E+00	1.40E-03	0.00E+00	4.00E-03	2.31E-03	1.00E+00	3.86E+00	5.77E-01	4.44E+00
Copper	5.90E+01	5.00E-02	0.00E+00	8.00E-02	3.44E-01	1.60E-01	4.60E+00	4.30E+00	9.24E+00
Cyanide	2.30E-01	1.00E+00	0.00E+00	1.00E+00	1.67E-02	0.00E+00	0.00E+00	1.67E-02	3.35E-02
Iron	2.44E+04	2.00E-04	0.00E+00	8.00E-04	1.42E+00	1.00E+00	1.19E+04	1.78E+03	1.37E+04
Lead	1.49E+03	1.80E-03	0.00E+00	9.00E-03	9.76E-01	2.00E+00	1.45E+03	1.08E+02	1.56E+03
Magnesium	1.67E+04	1.10E-01	0.00E+00	2.00E-01	2.43E+02	1.00E+00	8.14E+03	1.22E+03	9.60E+03
Mercury	2.89E-02	4.00E-02	0.00E+00	1.80E-01	3.78E-04	3.40E-01	4.78E-03	2.10E-03	7.26E-03
Nickel	2.23E+01	1.20E-02	0.00E+00	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00
Potassium	2.12E+03	1.10E-01	0.00E+00	2.00E-01	3.08E+01	1.00E+00	1.03E+03	1.54E+02	1.22E+03
Selenium	1.68E+00	5.00E-03	0.00E+00	5.00E-03	6.13E-04	7.60E-01	6.24E-01	1.23E-01	7.47E-01
Silver	8.59E-01	2.00E-02	0.00E+00	8.00E-02	5.00E-03	1.50E-01	6.28E-02	6.25E-02	1.30E-01
Sodium	9.97E+02	1.10E-02	0.00E+00	1.50E-02	1.09E+00	1.00E+00	4.86E+02	7.26E+01	5.59E+02
Thallium	1.81E+00	8.00E-05	0.00E+00	8.00E-04	1.05E-04	1.00E+00	8.81E-01	1.32E-01	1.01E+00
Zinc	2.27E+02	1.80E-01	0.00E+00	3.00E-01	4.96E+00	1.80E+00	1.99E+02	1.65E+01	2.20E+02
Organics									
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	0.00E+00	8.70E-03	2.15E-05	5.00E-02	8.28E-04	2.48E-03	3.32E-03
Di-n-butylphthalate	5.30E-02	7.60E-03	0.00E+00	7.60E-03	2.93E-05	5.00E-02	1.29E-03	3.86E-03	5.18E-03
Toluene	1.70E-02	2.00E-02	0.00E+00	2.00E-02	2.48E-05	5.00E-02	4.14E-04	1.24E-03	1.68E-03
Explosives									
1,3,5-Trinitrobenzene	1.31E-01	1.00E+00	0.00E+00	1.00E+00	9.54E-03	1.00E+00	6.38E-02	9.54E-03	8.29E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.15E+00	1.00E+00	0.00E+00	1.00E+00	8.37E-02	1.00E+00	5.60E-01	8.37E-02	7.28E-01
2,4-Dinitrotoluene	2.00E-01	1.00E+00	0.00E+00	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.20E-01	1.00E+00	0.00E+00	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
4-Nitrotoluene	1.52E-01	1.00E+00	0.00E+00	1.00E+00	1.11E-02	1.00E+00	7.41E-02	1.11E-02	9.62E-02
HMX	1.10E+00	1.00E+00	0.00E+00	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01
Nitrobenzene	5.40E-02	2.00E-02	0.00E+00	2.00E-02	7.86E-05	5.00E-02	1.32E-03	3.93E-03	5.33E-03

Appendix Table L-288. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	3.34E+02	4.17E+01	0.00E+00	4.17E+01	8.33E+01	5.01E-01	2.6%
Antimony	5.00E-02	2.11E-02	2.64E-03	0.00E+00	2.64E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.99E-01	2.48E-02	0.00E+00	2.48E-02	6.22E+00	3.99E-03	0.0%
Barium	7.50E-03	3.62E-01	4.53E-02	0.00E+00	4.53E-02	1.49E+01	3.05E-03	0.0%
Beryllium	5.00E-02	2.50E-02	3.13E-03	0.00E+00	3.13E-03	No TRV	No TRV	No HQ
Cadmium	2.80E-02	7.29E+00	9.11E-01	0.00E+00	9.11E-01	1.82E+00	5.01E-01	2.6%
Calcium	1.00E+00	1.21E+05	1.51E+04	0.00E+00	1.51E+04	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.10E+00	2.62E-01	0.00E+00	2.62E-01	1.28E+00	2.05E-01	1.0%
Cobalt	1.00E+00	7.93E+00	9.91E-01	0.00E+00	9.91E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	8.25E+00	1.03E+00	0.00E+00	1.03E+00	4.86E+01	2.12E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.44E+04	3.06E+03	0.00E+00	3.06E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	4.18E+01	5.23E+00	0.00E+00	5.23E+00	8.51E-01	6.14E+00	31.4%
Magnesium	1.00E+00	1.71E+04	2.14E+03	0.00E+00	2.14E+03	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.68E-01	2.11E-02	0.00E+00	2.11E-02	3.39E-01	6.21E-02	0.3%
Nickel	3.00E-01	2.22E+00	2.77E-01	0.00E+00	2.77E-01	8.81E+01	3.15E-03	0.0%
Potassium	1.00E+00	2.17E+03	2.72E+02	0.00E+00	2.72E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.00E+00	1.25E-01	0.00E+00	1.25E-01	6.05E-01	2.07E-01	1.1%
Silver	1.50E-01	3.49E-02	4.36E-03	0.00E+00	4.36E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	9.99E+02	1.25E+02	0.00E+00	1.25E+02	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.81E+00	2.26E-01	0.00E+00	2.26E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.97E+03	2.46E+02	0.00E+00	2.46E+02	2.07E+01	1.19E+01	60.9%
Bis(2-ethylhexyl)phthalate	1.90E-01	1.13E-03	1.41E-04	0.00E+00	1.41E-04	8.35E-01	1.69E-04	0.0%
Di-n-butylphthalate	2.40E-01	2.22E-03	2.77E-04	0.00E+00	2.77E-04	8.43E-02	3.29E-03	0.0%
Toluene	7.60E-04	2.28E-06	2.84E-07	0.00E+00	2.84E-07	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	1.48E-01	1.85E-02	0.00E+00	1.85E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.30E+00	1.62E-01	0.00E+00	1.62E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	2.26E-01	2.83E-02	0.00E+00	2.83E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	5.44E-07	0.00E+00	5.44E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.36E-01	1.70E-02	0.00E+00	1.70E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.72E-01	2.15E-02	0.00E+00	2.15E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.24E+00	1.55E-01	0.00E+00	1.55E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	1.14E-06	1.43E-07	0.00E+00	1.43E-07	No TRV	No TRV	No HQ

Appendix Table L-288. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Nitrocellulose	3.15E+02	1.00E+00	0.00E+00	1.00E+00	2.29E+01	1.00E+00	1.53E+02	2.29E+01	1.99E+02
Nitroglycerin	1.20E+01	1.00E+00	0.00E+00	1.00E+00	8.74E-01	1.00E+00	5.85E+00	8.74E-01	7.59E+00
RDX	3.51E+00	1.00E+00	0.00E+00	1.00E+00	2.56E-01	1.00E+00	1.71E+00	2.56E-01	2.22E+00
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-288. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Nitrocellulose	1.00E+00	3.56E+02	4.45E+01	0.00E+00	4.45E+01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.36E+01	1.70E+00	0.00E+00	1.70E+00	No TRV	No TRV	No HQ
RDX	1.00E+00	3.97E+00	4.96E-01	0.00E+00	4.96E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
HI =								1.95E+01

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-289. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	2.28E+04	1.30E-04	9.40E-03	8.00E-04	1.33E+00	7.50E-02	8.32E+02	1.66E+03	2.49E+03
Antimony	2.37E+00	6.00E-03	4.51E-05	4.00E-02	6.89E-03	5.00E-02	5.77E-02	1.72E-01	2.37E-01
Arsenic	1.45E+01	1.20E-03	5.53E-05	8.00E-03	8.46E-03	6.60E-03	4.67E-02	1.06E+00	1.11E+00
Barium	3.44E+02	3.00E-03	3.27E-03	3.00E-02	7.51E-01	7.50E-03	1.26E+00	2.50E+01	2.70E+01
Beryllium	2.88E+00	3.00E-04	2.74E-06	2.00E-03	4.19E-04	5.00E-02	7.01E-02	2.10E-01	2.80E-01
Cadmium	2.68E+01	3.00E-02	2.55E-03	1.10E-01	2.15E-01	1.10E+01	1.44E+02	1.95E+00	1.46E+02
Calcium	1.11E+05	7.00E-02	2.47E+01	7.00E-01	5.66E+03	1.00E+00	5.41E+04	8.08E+03	6.78E+04
Chromium	2.78E+01	9.00E-04	7.95E-05	1.50E-03	3.04E-03	1.60E-01	2.17E+00	2.03E+00	4.20E+00
Cobalt	7.92E+00	1.40E-03	3.52E-05	4.00E-03	2.31E-03	1.00E+00	3.86E+00	5.77E-01	4.44E+00
Copper	5.90E+01	5.00E-02	9.36E-03	8.00E-02	3.44E-01	1.60E-01	4.60E+00	4.30E+00	9.24E+00
Cyanide	2.30E-01	1.00E+00	7.30E-04	1.00E+00	1.67E-02	0.00E+00	0.00E+00	1.67E-02	3.35E-02
Iron	2.44E+04	2.00E-04	1.55E-02	8.00E-04	1.42E+00	1.00E+00	1.19E+04	1.78E+03	1.37E+04
Lead	1.49E+03	1.80E-03	8.51E-03	9.00E-03	9.76E-01	2.00E+00	1.45E+03	1.08E+02	1.56E+03
Magnesium	1.67E+04	1.10E-01	5.83E+00	2.00E-01	2.43E+02	1.00E+00	8.14E+03	1.22E+03	9.60E+03
Mercury	2.89E-02	4.00E-02	3.66E-06	1.80E-01	3.78E-04	3.40E-01	4.78E-03	2.10E-03	7.26E-03
Nickel	2.23E+01	1.20E-02	8.49E-04	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.14E+00
Potassium	2.12E+03	1.10E-01	7.39E-01	2.00E-01	3.08E+01	1.00E+00	1.03E+03	1.54E+02	1.22E+03
Selenium	1.68E+00	5.00E-03	2.67E-05	5.00E-03	6.13E-04	7.60E-01	6.24E-01	1.23E-01	7.47E-01
Silver	8.59E-01	2.00E-02	5.45E-05	8.00E-02	5.00E-03	1.50E-01	6.28E-02	6.25E-02	1.30E-01
Sodium	9.97E+02	1.10E-02	3.48E-02	1.50E-02	1.09E+00	1.00E+00	4.86E+02	7.26E+01	5.59E+02
Thallium	1.81E+00	8.00E-05	4.59E-07	8.00E-04	1.05E-04	1.00E+00	8.81E-01	1.32E-01	1.01E+00
Zinc	2.27E+02	1.80E-01	1.30E-01	3.00E-01	4.96E+00	1.80E+00	1.99E+02	1.65E+01	2.20E+02
Organics									
Bis(2-ethylhexyl)phthalate	3.40E-02	8.70E-03	9.39E-07	8.70E-03	2.15E-05	5.00E-02	8.28E-04	2.48E-03	3.32E-03
Di-n-butylphthalate	5.30E-02	7.60E-03	1.28E-06	7.60E-03	2.93E-05	5.00E-02	1.29E-03	3.86E-03	5.18E-03
Toluene	1.70E-02	2.00E-02	1.08E-06	2.00E-02	2.48E-05	5.00E-02	4.14E-04	1.24E-03	1.68E-03
Explosives									
1,3,5-Trinitrobenzene	1.31E-01	1.00E+00	4.16E-04	1.00E+00	9.54E-03	1.00E+00	6.38E-02	9.54E-03	8.29E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.15E+00	1.00E+00	3.65E-03	1.00E+00	8.37E-02	1.00E+00	5.60E-01	8.37E-02	7.28E-01
2,4-Dinitrotoluene	2.00E-01	1.00E+00	6.35E-04	1.00E+00	1.46E-02	1.00E+00	9.74E-02	1.46E-02	1.27E-01
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02

Appendix Table L-289. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	3.34E+02	2.20E+01	4.40E+01	6.60E+01	5.46E-01	1.21E+02	76.0%
Antimony	5.00E-02	2.11E-02	1.39E-03	4.57E-03	6.01E-03	3.54E-02	1.70E-01	0.1%
Arsenic	1.00E-01	1.99E-01	1.31E-02	2.81E-02	4.12E-02	3.56E-02	1.16E+00	0.7%
Barium	7.50E-03	3.62E-01	2.38E-02	6.64E-01	6.92E-01	2.79E+00	2.48E-01	0.2%
Beryllium	5.00E-02	2.50E-02	1.65E-03	5.56E-03	7.21E-03	3.45E-01	2.09E-02	0.0%
Cadmium	2.80E-02	7.29E+00	4.80E-01	5.18E-02	5.34E-01	5.04E-01	1.06E+00	0.7%
Calcium	1.00E+00	1.21E+05	7.97E+03	2.14E+02	8.21E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.10E+00	1.38E-01	5.37E-02	1.92E-01	1.43E+03	1.34E-04	0.0%
Cobalt	1.00E+00	7.93E+00	5.22E-01	1.53E-02	5.37E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	8.25E+00	5.43E-01	1.14E-01	6.66E-01	7.96E+00	8.37E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	4.44E-04	1.17E-03	3.37E+01	3.48E-05	0.0%
Iron	1.00E+00	2.44E+04	1.61E+03	4.72E+01	1.66E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	4.18E+01	2.75E+00	2.88E+00	5.64E+00	4.18E+00	1.35E+00	0.8%
Magnesium	1.00E+00	1.71E+04	1.13E+03	3.23E+01	1.17E+03	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.68E-01	1.11E-02	5.57E-05	1.11E-02	6.86E-01	1.62E-02	0.0%
Nickel	3.00E-01	2.22E+00	1.46E-01	4.30E-02	1.90E-01	2.09E+01	9.08E-03	0.0%
Potassium	1.00E+00	2.17E+03	1.43E+02	4.09E+00	1.48E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.00E+00	6.58E-02	3.25E-03	6.91E-02	1.05E-01	6.61E-01	0.4%
Silver	1.50E-01	3.49E-02	2.30E-03	1.66E-03	4.01E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	9.99E+02	6.58E+01	1.93E+00	6.77E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.81E+00	1.19E-01	3.49E-03	1.23E-01	3.91E-03	3.14E+01	19.7%
Zinc	5.00E+00	1.97E+03	1.30E+02	4.38E-01	1.30E+02	8.36E+01	1.56E+00	1.0%
Bis(2-ethylhexyl)phthalate	1.90E-01	1.13E-03	7.43E-05	6.57E-05	1.41E-04	5.18E+00	2.72E-05	0.0%
Di-n-butylphthalate	2.40E-01	2.22E-03	1.46E-04	1.02E-04	2.50E-04	1.56E+02	1.61E-06	0.0%
Toluene	7.60E-04	2.28E-06	1.50E-07	3.28E-05	3.41E-05	7.35E+00	4.64E-06	0.0%
1,3,5-Trinitrobenzene	1.00E+00	1.48E-01	9.74E-03	2.53E-04	1.04E-02	1.68E+00	6.20E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.1%
2,4,6-Trinitrotoluene	1.00E+00	1.30E+00	8.55E-02	2.22E-03	9.14E-02	8.36E-01	1.09E-01	0.1%
2,4-Dinitrotoluene	1.00E+00	2.26E-01	1.49E-02	3.86E-04	1.59E-02	3.82E+00	4.16E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.35E-06	2.86E-07	2.51E-04	2.60E-04	3.66E-01	7.10E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ

Appendix Table L-289. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 37

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
3-Nitrotoluene	1.20E-01	1.00E+00	3.81E-04	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
4-Nitrotoluene	1.52E-01	1.00E+00	4.82E-04	1.00E+00	1.11E-02	1.00E+00	7.41E-02	1.11E-02	9.62E-02
HMX	1.10E+00	1.00E+00	3.49E-03	1.00E+00	8.01E-02	1.00E+00	5.36E-01	8.01E-02	6.96E-01
Nitrobenzene	5.40E-02	2.00E-02	3.43E-06	2.00E-02	7.86E-05	5.00E-02	1.32E-03	3.93E-03	5.33E-03
Nitrocellulose	3.15E+02	1.00E+00	1.00E+00	1.00E+00	2.29E+01	1.00E+00	1.53E+02	2.29E+01	1.99E+02
Nitroglycerin	1.20E+01	1.00E+00	3.81E-02	1.00E+00	8.74E-01	1.00E+00	5.85E+00	8.74E-01	7.59E+00
RDX	3.51E+00	1.00E+00	1.11E-02	1.00E+00	2.56E-01	1.00E+00	1.71E+00	2.56E-01	2.22E+00
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) : 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-289. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
3-Nitrotoluene	1.00E+00	1.36E-01	8.93E-03	2.32E-04	9.54E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.72E-01	1.13E-02	2.94E-04	1.21E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.24E+00	8.18E-02	2.13E-03	8.74E-02	8.02E-01	1.09E-01	0.1%
Nitrobenzene	1.20E-04	1.14E-06	7.51E-08	1.04E-04	1.08E-04	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	3.56E+02	2.34E+01	6.09E-01	2.50E+01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.36E+01	8.93E-01	2.32E-02	9.54E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	3.97E+00	2.61E-01	6.78E-03	2.79E-01	2.07E+00	1.35E-01	0.1%
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
HI = 1.59E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-290. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	2.22E+04	5.00E+01	4.44E+02	19.6%
Antimony	1.30E+00	5.00E+00	2.60E-01	0.0%
Arsenic	1.61E+01	1.00E+01	1.61E+00	0.1%
Barium	5.96E+02	5.00E+02	1.19E+00	0.1%
Beryllium	1.60E+00	1.00E+01	1.60E-01	0.0%
Cadmium	8.77E+02	5.00E-01	1.75E+03	77.6%
Calcium	5.64E+04	No TRV	No TRV	No HQ
Chromium	2.68E+01	1.00E+00	2.68E+01	1.2%
Cobalt	9.00E+00	2.00E+01	4.50E-01	0.0%
Copper	8.20E+01	1.00E+02	8.20E-01	0.0%
Cyanide	3.41E-01	No TRV	No TRV	No HQ
Iron	2.51E+04	No TRV	No TRV	No HQ
Lead	4.11E+02	5.00E+01	8.21E+00	0.4%
Magnesium	8.22E+03	No TRV	No TRV	No HQ
Mercury	3.40E-02	3.00E-01	1.13E-01	0.0%
Nickel	2.12E+01	3.00E+01	7.07E-01	0.0%
Potassium	1.67E+03	No TRV	No TRV	No HQ
Selenium	5.00E+00	1.00E+00	5.00E+00	0.2%
Silver	7.18E-01	2.00E+00	3.59E-01	0.0%
Sodium	3.28E+02	No TRV	No TRV	No HQ
Thallium	3.41E-01	1.00E+00	3.41E-01	0.0%
Zinc	8.77E+02	5.00E+01	1.75E+01	0.8%
Explosives				
1,3,5-Trinitrobenzene	5.70E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	2.80E+00	3.00E+01	9.33E-02	0.0%
2,4-Dinitrotoluene	3.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.48E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.33E-01	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+02	6.60E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =				2.26E+03

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-291. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 38**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	2.22E+04	No TRV	No TRV	No HQ
Antimony	1.30E+00	No TRV	No TRV	No HQ
Arsenic	1.61E+01	6.00E+01	2.68E-01	0.2%
Barium	5.96E+02	No TRV	No TRV	No HQ
Beryllium	1.60E+00	No TRV	No TRV	No HQ
Cadmium	8.77E+02	2.00E+01	4.39E+01	37.2%
Calcium	5.64E+04	No TRV	No TRV	No HQ
Chromium	2.68E+01	4.00E-01	6.69E+01	56.7%
Cobalt	9.00E+00	No TRV	No TRV	No HQ
Copper	8.20E+01	5.00E+01	1.64E+00	1.4%
Cyanide	3.41E-01	No TRV	No TRV	No HQ
Iron	2.51E+04	No TRV	No TRV	No HQ
Lead	4.11E+02	5.00E+02	8.21E-01	0.7%
Magnesium	8.22E+03	No TRV	No TRV	No HQ
Mercury	3.40E-02	No TRV	No TRV	No HQ
Nickel	2.12E+01	2.00E+02	1.06E-01	0.1%
Potassium	1.67E+03	No TRV	No TRV	No HQ
Selenium	5.00E+00	No TRV	No TRV	No HQ
Silver	7.18E-01	No TRV	No TRV	No HQ
Sodium	3.28E+02	No TRV	No TRV	No HQ
Thallium	3.41E-01	No TRV	No TRV	No HQ
Zinc	8.77E+02	2.00E+02	4.39E+00	3.7%
Explosives				
1,3,5-Trinitrobenzene	5.70E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	2.80E+00	1.40E+02	2.00E-02	0.0%
2,4-Dinitrotoluene	3.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.48E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.33E-01	No TRV	No TRV	No HQ
RDX	6.60E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI = 1.18E+02				

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-292. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _s + ADD _a	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.22E+04	8.00E-04	1.29E+00	7.50E-02	8.11E+02	1.62E+03	2.43E+03	2.22E+00	1.09E+03	31.4%
Antimony	1.30E+00	4.00E-02	3.79E-03	5.00E-02	3.17E-02	9.46E-02	1.30E-01	1.44E-01	9.03E-01	0.0%
Arsenic	1.61E+01	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00	1.45E-01	8.49E+00	0.2%
Barium	5.96E+02	3.00E-02	1.30E+00	7.50E-03	2.18E+00	4.34E+01	4.69E+01	1.14E+01	4.12E+00	0.1%
Beryllium	1.60E+00	2.00E-03	2.33E-04	5.00E-02	3.90E-02	1.16E-01	1.56E-01	1.41E+00	1.11E-01	0.0%
Cadmium	8.77E+02	1.10E-01	7.02E+00	1.10E+01	4.70E+03	6.38E+01	4.77E+03	2.05E+00	2.32E+03	66.8%
Calcium	5.64E+04	7.00E-01	2.87E+03	1.00E+00	2.75E+04	4.11E+03	3.45E+04	No TRV	No TRV	No HQ
Chromium	2.68E+01	1.50E-03	2.92E-03	1.60E-01	2.09E+00	1.95E+00	4.04E+00	5.83E+03	6.93E-04	0.0%
Cobalt	9.00E+00	4.00E-03	2.62E-03	1.00E+00	4.38E+00	6.55E-01	5.04E+00	No TRV	No TRV	No HQ
Copper	8.20E+01	8.00E-02	4.78E-01	1.60E-01	6.39E+00	5.97E+00	1.28E+01	3.24E+01	3.96E-01	0.0%
Cyanide	3.41E-01	1.00E+00	2.48E-02	0.00E+00	0.00E+00	2.48E-02	4.97E-02	1.38E+02	3.61E-04	0.0%
Iron	2.51E+04	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.83E+03	1.41E+04	No TRV	No TRV	No HQ
Lead	4.11E+02	9.00E-03	2.69E-01	2.00E+00	4.00E+02	2.99E+01	4.30E+02	1.70E+01	2.52E+01	0.7%
Magnesium	8.22E+03	2.00E-01	1.20E+02	1.00E+00	4.00E+03	5.98E+02	4.72E+03	No TRV	No TRV	No HQ
Mercury	3.40E-02	1.80E-01	4.46E-04	3.40E-01	5.63E-03	2.48E-03	8.55E-03	2.80E+00	3.06E-03	0.0%
Nickel	2.12E+01	1.20E-02	1.85E-02	2.30E-01	2.38E+00	1.54E+00	3.94E+00	8.52E+01	4.62E-02	0.0%
Potassium	1.67E+03	2.00E-01	2.43E+01	1.00E+00	8.14E+02	1.22E+02	9.60E+02	No TRV	No TRV	No HQ
Selenium	5.00E+00	5.00E-03	1.82E-03	7.60E-01	1.85E+00	3.64E-01	2.22E+00	4.26E-01	5.20E+00	0.1%
Silver	7.18E-01	8.00E-02	4.18E-03	1.50E-01	5.24E-02	5.22E-02	1.09E-01	No TRV	No TRV	No HQ
Sodium	3.28E+02	1.50E-02	3.58E-01	1.00E+00	1.60E+02	2.39E+01	1.84E+02	No TRV	No TRV	No HQ
Thallium	3.41E-01	8.00E-04	1.99E-05	1.00E+00	1.66E-01	2.48E-02	1.91E-01	1.59E-02	1.20E+01	0.3%
Zinc	8.77E+02	3.00E-01	1.92E+01	1.80E+00	7.69E+02	6.38E+01	8.52E+02	3.41E+02	2.50E+00	0.1%
Explosives										
1,3,5-Trinitrobenzene	5.70E-02	1.00E+00	4.15E-03	1.00E+00	2.78E-02	4.15E-03	3.61E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	2.80E+00	1.00E+00	2.04E-01	1.00E+00	1.36E+00	2.04E-01	1.77E+00	3.41E+00	5.20E-01	0.0%
2,4-Dinitrotoluene	3.10E-01	1.00E+00	2.26E-02	1.00E+00	1.51E-01	2.26E-02	1.96E-01	1.56E+01	1.26E-02	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02	1.49E+00	8.80E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.48E+00	1.00E+00	1.08E-01	1.00E+00	7.21E-01	1.08E-01	9.37E-01	3.27E+00	2.86E-01	0.0%
Nitrobenzene	1.33E-01	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01	8.44E+00	4.95E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	3.47E+03

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_a = Average daily dose; animal

I_a(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-293. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.22E+04	1.30E-04	2.19E+00	7.50E-02	1.27E+03	3.51E+03	4.78E+03	1.29E+02	3.69E+01	1.1%
Antimony	1.30E+00	6.00E-03	5.93E-03	5.00E-02	4.94E-02	2.06E-01	2.61E-01	No TRV	No TRV	No HQ
Arsenic	1.61E+01	1.20E-03	1.47E-02	6.60E-03	8.08E-02	2.55E+00	2.64E+00	9.66E+00	2.73E-01	0.0%
Barium	5.96E+02	3.00E-03	1.36E+00	7.50E-03	3.40E+00	9.42E+01	9.90E+01	2.31E+01	4.29E+00	0.1%
Beryllium	1.60E+00	3.00E-04	3.65E-04	5.00E-02	6.08E-02	2.53E-01	3.14E-01	No TRV	No TRV	No HQ
Cadmium	8.77E+02	3.00E-02	2.00E+01	1.10E+01	7.33E+03	1.39E+02	7.49E+03	2.83E+00	2.65E+03	81.1%
Calcium	5.64E+04	7.00E-02	3.00E+03	1.00E+00	4.29E+04	8.92E+03	5.48E+04	No TRV	No TRV	No HQ
Chromium	2.68E+01	9.00E-04	1.83E-02	1.60E-01	3.26E+00	4.23E+00	7.51E+00	1.99E+00	3.77E+00	0.1%
Cobalt	9.00E+00	1.40E-03	9.58E-03	1.00E+00	6.84E+00	1.42E+00	8.27E+00	No TRV	No TRV	No HQ
Copper	8.20E+01	5.00E-02	3.12E+00	1.60E-01	9.97E+00	1.30E+01	2.60E+01	7.55E+01	3.45E-01	0.0%
Cyanide	3.41E-01	1.00E+00	2.59E-01	0.00E+00	0.00E+00	5.39E-02	3.13E-01	No TRV	No TRV	No HQ
Iron	2.51E+04	2.00E-04	3.82E+00	1.00E+00	1.91E+04	3.97E+03	2.30E+04	No TRV	No TRV	No HQ
Lead	4.11E+02	1.80E-03	5.62E-01	2.00E+00	6.24E+02	6.49E+01	6.89E+02	1.32E+00	5.21E+02	16.0%
Magnesium	8.22E+03	1.10E-01	6.87E+02	1.00E+00	6.25E+03	1.30E+03	8.23E+03	No TRV	No TRV	No HQ
Mercury	3.40E-02	4.00E-02	1.03E-03	3.40E-01	8.79E-03	5.37E-03	1.52E-02	5.27E-01	2.89E-02	0.0%
Nickel	2.12E+01	1.20E-02	1.93E-01	2.30E-01	3.71E+00	3.35E+00	7.25E+00	1.37E+02	5.30E-02	0.0%
Potassium	1.67E+03	1.10E-01	1.40E+02	1.00E+00	1.27E+03	2.64E+02	1.67E+03	No TRV	No TRV	No HQ
Selenium	5.00E+00	5.00E-03	1.90E-02	7.60E-01	2.89E+00	7.90E-01	3.70E+00	9.40E-01	3.93E+00	0.1%
Silver	7.18E-01	2.00E-02	1.09E-02	1.50E-01	8.18E-02	1.13E-01	2.06E-01	No TRV	No TRV	No HQ
Sodium	3.28E+02	1.10E-02	2.74E+00	1.00E+00	2.49E+02	5.19E+01	3.04E+02	No TRV	No TRV	No HQ
Thallium	3.41E-01	8.00E-05	2.07E-05	1.00E+00	2.59E-01	5.39E-02	3.13E-01	No TRV	No TRV	No HQ
Zinc	8.77E+02	1.80E-01	1.20E+02	1.80E+00	1.20E+03	1.39E+02	1.46E+03	3.21E+01	4.54E+01	1.4%
Explosives										
1,3,5-Trinitrobenzene	5.70E-02	1.00E+00	4.33E-02	1.00E+00	4.33E-02	9.01E-03	9.57E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	2.80E+00	1.00E+00	2.13E+00	1.00E+00	2.13E+00	4.43E-01	4.70E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	3.10E-01	1.00E+00	2.36E-01	1.00E+00	2.36E-01	4.90E-02	5.20E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	2.00E-02	2.02E-03	5.00E-02	5.05E-03	2.10E-02	2.81E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	1.48E+00	1.00E+00	1.12E+00	1.00E+00	1.12E+00	2.34E-01	2.48E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.33E-01	2.00E-02	2.02E-03	5.00E-02	5.05E-03	2.10E-02	2.81E-02	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	5.02E-01	1.00E+00	5.02E-01	1.04E-01	1.11E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
								HI = 3.27E+03		

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/ 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-294. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.22E+04	8.00E-04	3.64E+00	7.50E-02	0.00E+00	2.87E+02	2.90E+02	7.63E-01	3.81E+02	87.0%
Antimony	1.30E+00	4.00E-02	1.07E-02	5.00E-02	0.00E+00	1.68E-02	2.74E-02	4.94E-02	5.56E-01	0.1%
Arsenic	1.61E+01	8.00E-03	2.64E-02	6.60E-03	0.00E+00	2.08E-01	2.34E-01	4.98E-02	4.71E+00	1.1%
Barium	5.96E+02	3.00E-02	3.67E+00	7.50E-03	0.00E+00	7.70E+00	1.14E+01	3.90E+00	2.91E+00	0.7%
Beryllium	1.60E+00	2.00E-03	6.56E-04	5.00E-02	0.00E+00	2.07E-02	2.13E-02	4.82E-01	4.42E-02	0.0%
Cadmium	8.77E+02	1.10E-01	1.98E+01	1.10E+01	0.00E+00	1.13E+01	3.11E+01	7.05E-01	4.41E+01	10.1%
Calcium	5.64E+04	7.00E-01	8.09E+03	1.00E+00	0.00E+00	7.28E+02	8.82E+03	No TRV	No TRV	No HQ
Chromium	2.68E+01	1.50E-03	8.23E-03	1.60E-01	0.00E+00	3.46E-01	3.54E-01	2.00E+03	1.77E-04	0.0%
Cobalt	9.00E+00	4.00E-03	7.38E-03	1.00E+00	0.00E+00	1.16E-01	1.24E-01	No TRV	No TRV	No HQ
Copper	8.20E+01	8.00E-02	1.34E+00	1.60E-01	0.00E+00	1.06E+00	2.40E+00	1.11E+01	2.16E-01	0.0%
Cyanide	3.41E-01	1.00E+00	6.99E-02	0.00E+00	0.00E+00	4.41E-03	7.43E-02	4.72E+01	1.58E-03	0.0%
Iron	2.51E+04	8.00E-04	4.12E+00	1.00E+00	0.00E+00	3.24E+02	3.28E+02	No TRV	No TRV	No HQ
Lead	4.11E+02	9.00E-03	7.57E-01	2.00E+00	0.00E+00	5.30E+00	6.06E+00	5.84E+00	1.04E+00	0.2%
Magnesium	8.22E+03	2.00E-01	3.37E+02	1.00E+00	0.00E+00	1.06E+02	4.43E+02	No TRV	No TRV	No HQ
Mercury	3.40E-02	1.80E-01	1.25E-03	3.40E-01	0.00E+00	4.39E-04	1.69E-03	9.59E-01	1.77E-03	0.0%
Nickel	2.12E+01	1.20E-02	5.22E-02	2.30E-01	0.00E+00	2.74E-01	3.26E-01	2.92E+01	1.12E-02	0.0%
Potassium	1.67E+03	2.00E-01	6.85E+01	1.00E+00	0.00E+00	2.16E+01	9.00E+01	No TRV	No TRV	No HQ
Selenium	5.00E+00	5.00E-03	5.13E-03	7.60E-01	0.00E+00	6.46E-02	6.97E-02	1.46E-01	4.77E-01	0.1%
Silver	7.18E-01	8.00E-02	1.18E-02	1.50E-01	0.00E+00	9.27E-03	2.10E-02	No TRV	No TRV	No HQ
Sodium	3.28E+02	1.50E-02	1.01E+00	1.00E+00	0.00E+00	4.24E+00	5.24E+00	No TRV	No TRV	No HQ
Thallium	3.41E-01	8.00E-04	5.59E-05	1.00E+00	0.00E+00	4.41E-03	4.46E-03	5.46E-03	8.17E-01	0.2%
Zinc	8.77E+02	3.00E-01	5.39E+01	1.80E+00	0.00E+00	1.13E+01	6.53E+01	1.17E+02	5.58E-01	0.1%
Explosives										
1,3,5-Trinitrobenzene	5.70E-02	1.00E+00	1.17E-02	1.00E+00	0.00E+00	7.36E-04	1.24E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	2.80E+00	1.00E+00	5.74E-01	1.00E+00	0.00E+00	3.62E-02	6.10E-01	1.17E+00	5.22E-01	0.1%
2,4-Dinitrotoluene	3.10E-01	1.00E+00	6.36E-02	1.00E+00	0.00E+00	4.00E-03	6.76E-02	5.34E+00	1.27E-02	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	5.45E-04	5.00E-02	0.00E+00	1.72E-03	2.26E-03	5.11E-01	4.43E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.48E+00	1.00E+00	3.03E-01	1.00E+00	0.00E+00	1.91E-02	3.23E-01	1.12E+00	2.88E-01	0.1%
Nitrobenzene	1.33E-01	2.00E-02	5.45E-04	5.00E-02	0.00E+00	1.72E-03	2.26E-03	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	1.35E-01	1.00E+00	0.00E+00	8.52E-03	1.44E-01	2.89E+00	4.97E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	4.37E+02

Appendix Table L-294. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-295. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	2.22E+04	8.00E-04	5.51E-01	7.50E-02	0.00E+00	1.38E+01	1.43E+01	2.93E-01	4.89E+01	75.8%
Antimony	1.30E+00	4.00E-02	1.61E-03	5.00E-02	0.00E+00	8.06E-04	2.42E-03	1.90E-02	1.27E-01	0.2%
Arsenic	1.61E+01	8.00E-03	3.99E-03	6.60E-03	0.00E+00	9.98E-03	1.40E-02	1.91E-02	7.31E-01	1.1%
Barium	5.96E+02	3.00E-02	5.54E-01	7.50E-03	0.00E+00	3.70E-01	9.24E-01	1.50E+00	6.16E-01	1.0%
Beryllium	1.60E+00	2.00E-03	9.92E-05	5.00E-02	0.00E+00	9.92E-04	1.09E-03	1.85E-01	5.89E-03	0.0%
Cadmium	8.77E+02	1.10E-01	2.99E+00	1.10E+01	0.00E+00	5.44E-01	3.53E+00	2.71E-01	1.31E+01	20.3%
Calcium	5.64E+04	7.00E-01	1.22E+03	1.00E+00	0.00E+00	3.50E+01	1.26E+03	No TRV	No TRV	No HQ
Chromium	2.68E+01	1.50E-03	1.24E-03	1.60E-01	0.00E+00	1.66E-02	1.78E-02	7.68E+02	2.32E-05	0.0%
Cobalt	9.00E+00	4.00E-03	1.12E-03	1.00E+00	0.00E+00	5.58E-03	6.70E-03	No TRV	No TRV	No HQ
Copper	8.20E+01	8.00E-02	2.03E-01	1.60E-01	0.00E+00	5.08E-02	2.54E-01	4.27E+00	5.95E-02	0.1%
Cyanide	3.41E-01	1.00E+00	1.06E-02	0.00E+00	0.00E+00	2.11E-04	1.08E-02	1.81E+01	5.95E-04	0.0%
Iron	2.51E+04	8.00E-04	6.22E-01	1.00E+00	0.00E+00	1.56E+01	1.62E+01	No TRV	No TRV	No HQ
Lead	4.11E+02	9.00E-03	1.15E-01	2.00E+00	0.00E+00	2.55E-01	3.69E-01	2.24E+00	1.64E-01	0.3%
Magnesium	8.22E+03	2.00E-01	5.10E+01	1.00E+00	0.00E+00	5.10E+00	5.61E+01	No TRV	No TRV	No HQ
Mercury	3.40E-02	1.80E-01	1.90E-04	3.40E-01	0.00E+00	2.11E-05	2.11E-04	3.68E-01	5.72E-04	0.0%
Nickel	2.12E+01	1.20E-02	7.89E-03	2.30E-01	0.00E+00	1.31E-02	2.10E-02	1.12E+01	1.87E-03	0.0%
Potassium	1.67E+03	2.00E-01	1.04E+01	1.00E+00	0.00E+00	1.04E+00	1.14E+01	No TRV	No TRV	No HQ
Selenium	5.00E+00	5.00E-03	7.75E-04	7.60E-01	0.00E+00	3.10E-03	3.88E-03	5.61E-02	6.91E-02	0.1%
Silver	7.18E-01	8.00E-02	1.78E-03	1.50E-01	0.00E+00	4.45E-04	2.22E-03	No TRV	No TRV	No HQ
Sodium	3.28E+02	1.50E-02	1.53E-01	1.00E+00	0.00E+00	2.03E-01	3.56E-01	No TRV	No TRV	No HQ
Thallium	3.41E-01	8.00E-04	8.46E-06	1.00E+00	0.00E+00	2.11E-04	2.20E-04	2.10E-03	1.05E-01	0.2%
Zinc	8.77E+02	3.00E-01	8.16E+00	1.80E+00	0.00E+00	5.44E-01	8.70E+00	4.49E+01	1.94E-01	0.3%
Explosives										
1,3,5-Trinitrobenzene	5.70E-02	1.00E+00	1.77E-03	1.00E+00	0.00E+00	3.53E-05	1.80E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.2%
2,4,6-Trinitrotoluene	2.80E+00	1.00E+00	8.68E-02	1.00E+00	0.00E+00	1.74E-03	8.85E-02	4.49E-01	1.97E-01	0.3%
2,4-Dinitrotoluene	3.10E-01	1.00E+00	9.61E-03	1.00E+00	0.00E+00	1.92E-04	9.80E-03	2.05E+00	4.78E-03	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	8.25E-05	5.00E-02	0.00E+00	8.25E-05	1.65E-04	1.96E-01	8.40E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.48E+00	1.00E+00	4.59E-02	1.00E+00	0.00E+00	9.18E-04	4.68E-02	4.31E-01	1.09E-01	0.2%
Nitrobenzene	1.33E-01	2.00E-02	8.25E-05	5.00E-02	0.00E+00	8.25E-05	1.65E-04	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	2.05E-02	1.00E+00	0.00E+00	4.09E-04	2.09E-02	1.11E+00	1.88E-02	0.0%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.0%
									HI =	6.45E+01

EPC = Exposure point concentration

I_A(kg/kgBW/d) = 0.00E+00

SP_v = Soil-to-plant; vegetative

ADD_S = Average daily dose; soil

ADD_p = Average daily dose; plant
I_p (kg/kgBW/d) = 3.10E-02
AUF = 1.00E+00
BAF_i = Soil-to-animal; invertebrates
ADD_A = Average daily dose; animal

I_s (kg/kgBW/d) = 6.20E-04
ADD_{total} = Average daily dose; total
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard index (Sum of HQs)

Appendix Table L-296. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	2.22E+04	1.30E-04	0.00E+00	8.00E-04	1.29E+00	7.50E-02	8.11E+02	1.62E+03	2.43E+03
Antimony	1.30E+00	6.00E-03	0.00E+00	4.00E-02	3.79E-03	5.00E-02	3.17E-02	9.46E-02	1.30E-01
Arsenic	1.61E+01	1.20E-03	0.00E+00	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00
Barium	5.96E+02	3.00E-03	0.00E+00	3.00E-02	1.30E+00	7.50E-03	2.18E+00	4.34E+01	4.69E+01
Beryllium	1.60E+00	3.00E-04	0.00E+00	2.00E-03	2.33E-04	5.00E-02	3.90E-02	1.16E-01	1.56E-01
Cadmium	8.77E+02	3.00E-02	0.00E+00	1.10E-01	7.02E+00	1.10E+01	4.70E+03	6.38E+01	4.77E+03
Calcium	5.64E+04	7.00E-02	0.00E+00	7.00E-01	2.87E+03	1.00E+00	2.75E+04	4.11E+03	3.45E+04
Chromium	2.68E+01	9.00E-04	0.00E+00	1.50E-03	2.92E-03	1.60E-01	2.09E+00	1.95E+00	4.04E+00
Cobalt	9.00E+00	1.40E-03	0.00E+00	4.00E-03	2.62E-03	1.00E+00	4.38E+00	6.55E-01	5.04E+00
Copper	8.20E+01	5.00E-02	0.00E+00	8.00E-02	4.78E-01	1.60E-01	6.39E+00	5.97E+00	1.28E+01
Cyanide	3.41E-01	1.00E+00	0.00E+00	1.00E+00	2.48E-02	0.00E+00	0.00E+00	2.48E-02	4.97E-02
Iron	2.51E+04	2.00E-04	0.00E+00	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.83E+03	1.41E+04
Lead	4.11E+02	1.80E-03	0.00E+00	9.00E-03	2.69E-01	2.00E+00	4.00E+02	2.99E+01	4.30E+02
Magnesium	8.22E+03	1.10E-01	0.00E+00	2.00E-01	1.20E+02	1.00E+00	4.00E+03	5.98E+02	4.72E+03
Mercury	3.40E-02	4.00E-02	0.00E+00	1.80E-01	4.46E-04	3.40E-01	5.63E-03	2.48E-03	8.55E-03
Nickel	2.12E+01	1.20E-02	0.00E+00	1.20E-02	1.85E-02	2.30E-01	2.38E+00	1.54E+00	3.94E+00
Potassium	1.67E+03	1.10E-01	0.00E+00	2.00E-01	2.43E+01	1.00E+00	8.14E+02	1.22E+02	9.60E+02
Selenium	5.00E+00	5.00E-03	0.00E+00	5.00E-03	1.82E-03	7.60E-01	1.85E+00	3.64E-01	2.22E+00
Silver	7.18E-01	2.00E-02	0.00E+00	8.00E-02	4.18E-03	1.50E-01	5.24E-02	5.22E-02	1.09E-01
Sodium	3.28E+02	1.10E-02	0.00E+00	1.50E-02	3.58E-01	1.00E+00	1.60E+02	2.39E+01	1.84E+02
Thallium	3.41E-01	8.00E-05	0.00E+00	8.00E-04	1.99E-05	1.00E+00	1.66E-01	2.48E-02	1.91E-01
Zinc	8.77E+02	1.80E-01	0.00E+00	3.00E-01	1.92E+01	1.80E+00	7.69E+02	6.38E+01	8.52E+02
Explosives									
1,3,5-Trinitrobenzene	5.70E-02	1.00E+00	0.00E+00	1.00E+00	4.15E-03	1.00E+00	2.78E-02	4.15E-03	3.61E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	2.80E+00	1.00E+00	0.00E+00	1.00E+00	2.04E-01	1.00E+00	1.36E+00	2.04E-01	1.77E+00
2,4-Dinitrotoluene	3.10E-01	1.00E+00	0.00E+00	1.00E+00	2.26E-02	1.00E+00	1.51E-01	2.26E-02	1.96E-01
2,6-Dinitrotoluene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.48E+00	1.00E+00	0.00E+00	1.00E+00	1.08E-01	1.00E+00	7.21E-01	1.08E-01	9.37E-01
Nitrobenzene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
RDX	6.60E-01	1.00E+00	0.00E+00	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-296. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	3.25E+02	3.58E+01	0.00E+00	3.58E+01	6.68E+01	5.36E-01	0.7%
Antimony	5.00E-02	1.16E-02	1.28E-03	0.00E+00	1.28E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.20E-01	2.42E-02	0.00E+00	2.42E-02	4.98E+00	4.86E-03	0.0%
Barium	7.50E-03	6.28E-01	6.90E-02	0.00E+00	6.90E-02	1.19E+01	5.80E-03	0.0%
Beryllium	5.00E-02	1.39E-02	1.53E-03	0.00E+00	1.53E-03	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.39E+02	2.62E+01	0.00E+00	2.62E+01	1.46E+00	1.80E+01	25.0%
Calcium	1.00E+00	6.15E+04	6.77E+03	0.00E+00	6.77E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.02E+00	2.22E-01	0.00E+00	2.22E-01	1.03E+00	2.17E-01	0.3%
Cobalt	1.00E+00	9.00E+00	9.91E-01	0.00E+00	9.91E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.15E+01	1.26E+00	0.00E+00	1.26E+00	3.89E+01	3.24E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.51E+04	2.76E+03	0.00E+00	2.76E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.15E+01	1.27E+00	0.00E+00	1.27E+00	6.82E-01	1.86E+00	2.6%
Magnesium	1.00E+00	8.43E+03	9.28E+02	0.00E+00	9.28E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.99E-01	2.18E-02	0.00E+00	2.18E-02	2.72E-01	8.04E-02	0.1%
Nickel	3.00E-01	2.11E+00	2.32E-01	0.00E+00	2.32E-01	7.06E+01	3.29E-03	0.0%
Potassium	1.00E+00	1.71E+03	1.88E+02	0.00E+00	1.88E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	2.97E+00	3.27E-01	0.00E+00	3.27E-01	4.85E-01	6.74E-01	0.9%
Silver	1.50E-01	2.92E-02	3.21E-03	0.00E+00	3.21E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.29E+02	3.62E+01	0.00E+00	3.62E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.41E-01	3.75E-02	0.00E+00	3.75E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	7.61E+03	8.37E+02	0.00E+00	8.37E+02	1.66E+01	5.05E+01	70.2%
1,3,5-Trinitrobenzene	1.00E+00	6.44E-02	7.09E-03	0.00E+00	7.09E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.16E+00	3.48E-01	0.00E+00	3.48E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	3.50E-01	3.85E-02	0.00E+00	3.85E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.45E-06	4.90E-07	0.00E+00	4.90E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.67E+00	1.84E-01	0.00E+00	1.84E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.81E-06	3.09E-07	0.00E+00	3.09E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	8.20E-02	0.00E+00	8.20E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	7.19E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-296. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-296. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-297. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	2.22E+04	1.30E-04	0.00E+00	8.00E-04	1.29E+00	7.50E-02	8.11E+02	1.62E+03	2.43E+03
Antimony	1.30E+00	6.00E-03	0.00E+00	4.00E-02	3.79E-03	5.00E-02	3.17E-02	9.46E-02	1.30E-01
Arsenic	1.61E+01	1.20E-03	0.00E+00	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00
Barium	5.96E+02	3.00E-03	0.00E+00	3.00E-02	1.30E+00	7.50E-03	2.18E+00	4.34E+01	4.69E+01
Beryllium	1.60E+00	3.00E-04	0.00E+00	2.00E-03	2.33E-04	5.00E-02	3.90E-02	1.16E-01	1.56E-01
Cadmium	8.77E+02	3.00E-02	0.00E+00	1.10E-01	7.02E+00	1.10E+01	4.70E+03	6.38E+01	4.77E+03
Calcium	5.64E+04	7.00E-02	0.00E+00	7.00E-01	2.87E+03	1.00E+00	2.75E+04	4.11E+03	3.45E+04
Chromium	2.68E+01	9.00E-04	0.00E+00	1.50E-03	2.92E-03	1.60E-01	2.09E+00	1.95E+00	4.04E+00
Cobalt	9.00E+00	1.40E-03	0.00E+00	4.00E-03	2.62E-03	1.00E+00	4.38E+00	6.55E-01	5.04E+00
Copper	8.20E+01	5.00E-02	0.00E+00	8.00E-02	4.78E-01	1.60E-01	6.39E+00	5.97E+00	1.28E+01
Cyanide	3.41E-01	1.00E+00	0.00E+00	1.00E+00	2.48E-02	0.00E+00	0.00E+00	2.48E-02	4.97E-02
Iron	2.51E+04	2.00E-04	0.00E+00	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.83E+03	1.41E+04
Lead	4.11E+02	1.80E-03	0.00E+00	9.00E-03	2.69E-01	2.00E+00	4.00E+02	2.99E+01	4.30E+02
Magnesium	8.22E+03	1.10E-01	0.00E+00	2.00E-01	1.20E+02	1.00E+00	4.00E+03	5.98E+02	4.72E+03
Mercury	3.40E-02	4.00E-02	0.00E+00	1.80E-01	4.46E-04	3.40E-01	5.63E-03	2.48E-03	8.55E-03
Nickel	2.12E+01	1.20E-02	0.00E+00	1.20E-02	1.85E-02	2.30E-01	2.38E+00	1.54E+00	3.94E+00
Potassium	1.67E+03	1.10E-01	0.00E+00	2.00E-01	2.43E+01	1.00E+00	8.14E+02	1.22E+02	9.60E+02
Selenium	5.00E+00	5.00E-03	0.00E+00	5.00E-03	1.82E-03	7.60E-01	1.85E+00	3.64E-01	2.22E+00
Silver	7.18E-01	2.00E-02	0.00E+00	8.00E-02	4.18E-03	1.50E-01	5.24E-02	5.22E-02	1.09E-01
Sodium	3.28E+02	1.10E-02	0.00E+00	1.50E-02	3.58E-01	1.00E+00	1.60E+02	2.39E+01	1.84E+02
Thallium	3.41E-01	8.00E-05	0.00E+00	8.00E-04	1.99E-05	1.00E+00	1.66E-01	2.48E-02	1.91E-01
Zinc	8.77E+02	1.80E-01	0.00E+00	3.00E-01	1.92E+01	1.80E+00	7.69E+02	6.38E+01	8.52E+02
Explosives									
1,3,5-Trinitrobenzene	5.70E-02	1.00E+00	0.00E+00	1.00E+00	4.15E-03	1.00E+00	2.78E-02	4.15E-03	3.61E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	2.80E+00	1.00E+00	0.00E+00	1.00E+00	2.04E-01	1.00E+00	1.36E+00	2.04E-01	1.77E+00
2,4-Dinitrotoluene	3.10E-01	1.00E+00	0.00E+00	1.00E+00	2.26E-02	1.00E+00	1.51E-01	2.26E-02	1.96E-01
2,6-Dinitrotoluene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.48E+00	1.00E+00	0.00E+00	1.00E+00	1.08E-01	1.00E+00	7.21E-01	1.08E-01	9.37E-01
Nitrobenzene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
RDX	6.60E-01	1.00E+00	0.00E+00	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

AUF-s = Shrew AUF =

1.00E+00

Appendix Table L-297. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	3.25E+02	4.07E+01	0.00E+00	4.07E+01	8.33E+01	4.88E-01	0.7%
Antimony	5.00E-02	1.16E-02	1.45E-03	0.00E+00	1.45E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.20E-01	2.75E-02	0.00E+00	2.75E-02	6.22E+00	4.43E-03	0.0%
Barium	7.50E-03	6.28E-01	7.85E-02	0.00E+00	7.85E-02	1.49E+01	5.28E-03	0.0%
Beryllium	5.00E-02	1.39E-02	1.74E-03	0.00E+00	1.74E-03	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.39E+02	2.98E+01	0.00E+00	2.98E+01	1.82E+00	1.64E+01	25.0%
Calcium	1.00E+00	6.15E+04	7.69E+03	0.00E+00	7.69E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.02E+00	2.52E-01	0.00E+00	2.52E-01	1.28E+00	1.97E-01	0.3%
Cobalt	1.00E+00	9.00E+00	1.13E+00	0.00E+00	1.13E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	1.15E+01	1.43E+00	0.00E+00	1.43E+00	4.86E+01	2.95E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.51E+04	3.14E+03	0.00E+00	3.14E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.15E+01	1.44E+00	0.00E+00	1.44E+00	8.51E-01	1.69E+00	2.6%
Magnesium	1.00E+00	8.43E+03	1.05E+03	0.00E+00	1.05E+03	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.99E-01	2.48E-02	0.00E+00	2.48E-02	3.39E-01	7.32E-02	0.1%
Nickel	3.00E-01	2.11E+00	2.64E-01	0.00E+00	2.64E-01	8.81E+01	2.99E-03	0.0%
Potassium	1.00E+00	1.71E+03	2.14E+02	0.00E+00	2.14E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	2.97E+00	3.71E-01	0.00E+00	3.71E-01	6.05E-01	6.13E-01	0.9%
Silver	1.50E-01	2.92E-02	3.64E-03	0.00E+00	3.64E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.29E+02	4.11E+01	0.00E+00	4.11E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.41E-01	4.26E-02	0.00E+00	4.26E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	7.61E+03	9.51E+02	0.00E+00	9.51E+02	2.07E+01	4.60E+01	70.2%
1,3,5-Trinitrobenzen	1.00E+00	6.44E-02	8.05E-03	0.00E+00	8.05E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.16E+00	3.96E-01	0.00E+00	3.96E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	3.50E-01	4.38E-02	0.00E+00	4.38E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.45E-06	5.56E-07	0.00E+00	5.56E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.67E+00	2.09E-01	0.00E+00	2.09E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.81E-06	3.51E-07	0.00E+00	3.51E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	9.32E-02	0.00E+00	9.32E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
							HI = 6.55E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-297. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-297. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-298. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	2.22E+04	1.30E-04	9.16E-03	8.00E-04	1.29E+00	7.50E-02	8.11E+02	1.62E+03	2.43E+03
Antimony	1.30E+00	6.00E-03	2.48E-05	4.00E-02	3.79E-03	5.00E-02	3.17E-02	9.46E-02	1.30E-01
Arsenic	1.61E+01	1.20E-03	6.13E-05	8.00E-03	9.38E-03	6.60E-03	5.18E-02	1.17E+00	1.23E+00
Barium	5.96E+02	3.00E-03	5.68E-03	3.00E-02	1.30E+00	7.50E-03	2.18E+00	4.34E+01	4.69E+01
Beryllium	1.60E+00	3.00E-04	1.52E-06	2.00E-03	2.33E-04	5.00E-02	3.90E-02	1.16E-01	1.56E-01
Cadmium	8.77E+02	3.00E-02	8.35E-02	1.10E-01	7.02E+00	1.10E+01	4.70E+03	6.38E+01	4.77E+03
Calcium	5.64E+04	7.00E-02	1.25E+01	7.00E-01	2.87E+03	1.00E+00	2.75E+04	4.11E+03	3.45E+04
Chromium	2.68E+01	9.00E-04	7.65E-05	1.50E-03	2.92E-03	1.60E-01	2.09E+00	1.95E+00	4.04E+00
Cobalt	9.00E+00	1.40E-03	4.00E-05	4.00E-03	2.62E-03	1.00E+00	4.38E+00	6.55E-01	5.04E+00
Copper	8.20E+01	5.00E-02	1.30E-02	8.00E-02	4.78E-01	1.60E-01	6.39E+00	5.97E+00	1.28E+01
Cyanide	3.41E-01	1.00E+00	1.08E-03	1.00E+00	2.48E-02	0.00E+00	0.00E+00	2.48E-02	4.97E-02
Iron	2.51E+04	2.00E-04	1.59E-02	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.83E+03	1.41E+04
Lead	4.11E+02	1.80E-03	2.35E-03	9.00E-03	2.69E-01	2.00E+00	4.00E+02	2.99E+01	4.30E+02
Magnesium	8.22E+03	1.10E-01	2.87E+00	2.00E-01	1.20E+02	1.00E+00	4.00E+03	5.98E+02	4.72E+03
Mercury	3.40E-02	4.00E-02	4.32E-06	1.80E-01	4.46E-04	3.40E-01	5.63E-03	2.48E-03	8.55E-03
Nickel	2.12E+01	1.20E-02	8.07E-04	1.20E-02	1.85E-02	2.30E-01	2.38E+00	1.54E+00	3.94E+00
Potassium	1.67E+03	1.10E-01	5.83E-01	2.00E-01	2.43E+01	1.00E+00	8.14E+02	1.22E+02	9.60E+02
Selenium	5.00E+00	5.00E-03	7.94E-05	5.00E-03	1.82E-03	7.60E-01	1.85E+00	3.64E-01	2.22E+00
Silver	7.18E-01	2.00E-02	4.55E-05	8.00E-02	4.18E-03	1.50E-01	5.24E-02	5.22E-02	1.09E-01
Sodium	3.28E+02	1.10E-02	1.15E-02	1.50E-02	3.58E-01	1.00E+00	1.60E+02	2.39E+01	1.84E+02
Thallium	3.41E-01	8.00E-05	8.66E-08	8.00E-04	1.99E-05	1.00E+00	1.66E-01	2.48E-02	1.91E-01
Zinc	8.77E+02	1.80E-01	5.01E-01	3.00E-01	1.92E+01	1.80E+00	7.69E+02	6.38E+01	8.52E+02
Explosives									
1,3,5-Trinitrobenzene	5.70E-02	1.00E+00	1.81E-04	1.00E+00	4.15E-03	1.00E+00	2.78E-02	4.15E-03	3.61E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	2.80E+00	1.00E+00	8.89E-03	1.00E+00	2.04E-01	1.00E+00	1.36E+00	2.04E-01	1.77E+00
2,4-Dinitrotoluene	3.10E-01	1.00E+00	9.84E-04	1.00E+00	2.26E-02	1.00E+00	1.51E-01	2.26E-02	1.96E-01
2,6-Dinitrotoluene	1.33E-01	2.00E-02	8.44E-06	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.48E+00	1.00E+00	4.70E-03	1.00E+00	1.08E-01	1.00E+00	7.21E-01	1.08E-01	9.37E-01
Nitrobenzene	1.33E-01	2.00E-02	8.44E-06	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
RDX	6.60E-01	1.00E+00	2.09E-03	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01

Appendix Table L-298. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	3.25E+02	2.14E+01	4.29E+01	6.43E+01	5.46E-01	1.18E+02	69.6%
Antimony	5.00E-02	1.16E-02	7.65E-04	2.51E-03	3.30E-03	3.54E-02	9.34E-02	0.1%
Arsenic	1.00E-01	2.20E-01	1.45E-02	3.11E-02	4.57E-02	3.56E-02	1.28E+00	0.8%
Barium	7.50E-03	6.28E-01	4.13E-02	1.15E+00	1.20E+00	2.79E+00	4.29E-01	0.3%
Beryllium	5.00E-02	1.39E-02	9.15E-04	3.09E-03	4.01E-03	3.45E-01	1.16E-02	0.0%
Cadmium	2.80E-02	2.39E+02	1.57E+01	1.69E+00	1.75E+01	5.04E-01	3.47E+01	20.5%
Calcium	1.00E+00	6.15E+04	4.05E+03	1.09E+02	4.17E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.02E+00	1.33E-01	5.17E-02	1.85E-01	1.43E+03	1.29E-04	0.0%
Cobalt	1.00E+00	9.00E+00	5.93E-01	1.74E-02	6.10E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.15E+01	7.55E-01	1.58E-01	9.26E-01	7.96E+00	1.16E-01	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.59E-04	1.74E-03	3.37E+01	5.16E-05	0.0%
Iron	1.00E+00	2.51E+04	1.65E+03	4.85E+01	1.70E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.15E+01	7.58E-01	7.93E-01	1.55E+00	4.18E+00	3.72E-01	0.2%
Magnesium	1.00E+00	8.43E+03	5.55E+02	1.59E+01	5.74E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.99E-01	1.31E-02	6.57E-05	1.31E-02	6.86E-01	1.91E-02	0.0%
Nickel	3.00E-01	2.11E+00	1.39E-01	4.10E-02	1.81E-01	2.09E+01	8.64E-03	0.0%
Potassium	1.00E+00	1.71E+03	1.13E+02	3.23E+00	1.17E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	2.97E+00	1.95E-01	9.66E-03	2.05E-01	1.05E-01	1.96E+00	1.2%
Silver	1.50E-01	2.92E-02	1.92E-03	1.39E-03	3.35E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.29E+02	2.16E+01	6.34E-01	2.23E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.41E-01	2.25E-02	6.59E-04	2.31E-02	3.91E-03	5.91E+00	3.5%
Zinc	5.00E+00	7.61E+03	5.01E+02	1.69E+00	5.03E+02	8.36E+01	6.01E+00	3.6%
1,3,5-Trinitrobenzene	1.00E+00	6.44E-02	4.24E-03	1.10E-04	4.53E-03	1.68E+00	2.70E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.1%
2,4,6-Trinitrotoluene	1.00E+00	3.16E+00	2.08E-01	5.41E-03	2.23E-01	8.36E-01	2.66E-01	0.2%
2,4-Dinitrotoluene	1.00E+00	3.50E-01	2.31E-02	5.99E-04	2.46E-02	3.82E+00	6.45E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.45E-06	2.93E-07	2.57E-04	2.66E-04	3.66E-01	7.26E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.67E+00	1.10E-01	2.86E-03	1.18E-01	8.02E-01	1.47E-01	0.1%
Nitrobenzene	1.20E-04	2.81E-06	1.85E-07	2.57E-04	2.66E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	4.91E-02	1.28E-03	5.25E-02	2.07E+00	2.53E-02	0.0%

Appendix Table L-298. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 38

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-298. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
HI = 1.69E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-299. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI <i>x</i> 100
Inorganics				
Aluminum	1.02E+04	5.00E+01	2.04E+02	92.7%
Arsenic	1.23E+01	1.00E+01	1.23E+00	0.6%
Barium	4.19E+01	5.00E+02	8.38E-02	0.0%
Cadmium	2.40E-01	5.00E-01	4.80E-01	0.2%
Chromium	1.16E+01	1.00E+00	1.16E+01	5.3%
Lead	1.81E+01	5.00E+01	3.62E-01	0.2%
Selenium	6.40E-01	1.00E+00	6.40E-01	0.3%
Zinc	8.22E+01	5.00E+01	1.64E+00	0.7%
HI =			2.20E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-300. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 39**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.02E+04	No TRV	No TRV	No HQ
Arsenic	1.23E+01	6.00E+01	2.05E-01	0.7%
Barium	4.19E+01	No TRV	No TRV	No HQ
Cadmium	2.40E-01	2.00E+01	1.20E-02	0.0%
Chromium	1.16E+01	4.00E-01	2.90E+01	97.8%
Lead	1.81E+01	5.00E+02	3.62E-02	0.1%
Selenium	6.40E-01	No TRV	No TRV	No HQ
Zinc	8.22E+01	2.00E+02	4.11E-01	1.4%
HI =				2.97E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-301. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.02E+04	8.00E-04	5.94E-01	7.50E-02	3.73E+02	7.43E+02	1.12E+03	2.22E+00	5.02E+02	98.2%
Arsenic	1.23E+01	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01	1.45E-01	6.49E+00	1.3%
Barium	4.19E+01	3.00E-02	9.15E-02	7.50E-03	1.53E-01	3.05E+00	3.29E+00	1.14E+01	2.90E-01	0.1%
Cadmium	2.40E-01	1.10E-01	1.92E-03	1.10E+01	1.29E+00	1.75E-02	1.31E+00	2.05E+00	6.35E-01	0.1%
Chromium	1.16E+01	1.50E-03	1.27E-03	1.60E-01	9.04E-01	8.44E-01	1.75E+00	5.83E+03	3.00E-04	0.0%
Lead	1.81E+01	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01	1.70E+01	1.11E+00	0.2%
Selenium	6.40E-01	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01	4.26E-01	6.66E-01	0.1%
Zinc	8.22E+01	3.00E-01	1.80E+00	1.80E+00	7.21E+01	5.98E+00	7.99E+01	3.41E+02	2.34E-01	0.0%
									HI =	5.11E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-302. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.02E+04	1.30E-04	1.01E+00	7.50E-02	5.81E+02	1.61E+03	2.19E+03	1.29E+02	1.70E+01	35.6%
Arsenic	1.23E+01	1.20E-03	1.12E-02	6.60E-03	6.17E-02	1.94E+00	2.02E+00	9.66E+00	2.09E-01	0.4%
Barium	4.19E+01	3.00E-03	9.55E-02	7.50E-03	2.39E-01	6.62E+00	6.96E+00	2.31E+01	3.01E-01	0.6%
Cadmium	2.40E-01	3.00E-02	5.47E-03	1.10E+01	2.01E+00	3.79E-02	2.05E+00	2.83E+00	7.26E-01	1.5%
Chromium	1.16E+01	9.00E-04	7.93E-03	1.60E-01	1.41E+00	1.83E+00	3.25E+00	1.99E+00	1.64E+00	3.4%
Lead	1.81E+01	1.80E-03	2.48E-02	2.00E+00	2.75E+01	2.86E+00	3.04E+01	1.32E+00	2.30E+01	48.3%
Selenium	6.40E-01	5.00E-03	2.43E-03	7.60E-01	3.70E-01	1.01E-01	4.73E-01	9.40E-01	5.03E-01	1.1%
Zinc	8.22E+01	1.80E-01	1.12E+01	1.80E+00	1.12E+02	1.30E+01	1.37E+02	3.21E+01	4.25E+00	8.9%
HI =									4.76E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-303. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.02E+04	8.00E-04	1.67E+00	7.50E-02	0.00E+00	1.32E+02	1.33E+02	7.63E-01	1.75E+02	97.8%
Arsenic	1.23E+01	8.00E-03	2.02E-02	6.60E-03	0.00E+00	1.59E-01	1.79E-01	4.98E-02	3.60E+00	2.0%
Barium	4.19E+01	3.00E-02	2.58E-01	7.50E-03	0.00E+00	5.41E-01	7.99E-01	3.90E+00	2.05E-01	0.1%
Cadmium	2.40E-01	1.10E-01	5.41E-03	1.10E+01	0.00E+00	3.10E-03	8.51E-03	7.05E-01	1.21E-02	0.0%
Chromium	1.16E+01	1.50E-03	3.57E-03	1.60E-01	0.00E+00	1.50E-01	1.53E-01	2.00E+03	7.67E-05	0.0%
Lead	1.81E+01	9.00E-03	3.34E-02	2.00E+00	0.00E+00	2.34E-01	2.67E-01	5.84E+00	4.57E-02	0.0%
Selenium	6.40E-01	5.00E-03	6.56E-04	7.60E-01	0.00E+00	8.27E-03	8.92E-03	1.46E-01	6.11E-02	0.0%
Zinc	8.22E+01	3.00E-01	5.06E+00	1.80E+00	0.00E+00	1.06E+00	6.12E+00	1.17E+02	5.23E-02	0.0%
									HI =	1.79E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-304. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.02E+04	8.00E-04	2.53E-01	7.50E-02	0.00E+00	6.32E+00	6.58E+00	2.93E-01	2.24E+01	97.2%
Arsenic	1.23E+01	8.00E-03	3.05E-03	6.60E-03	0.00E+00	7.63E-03	1.07E-02	1.91E-02	5.58E-01	2.4%
Barium	4.19E+01	3.00E-02	3.90E-02	7.50E-03	0.00E+00	2.60E-02	6.49E-02	1.50E+00	4.33E-02	0.2%
Cadmium	2.40E-01	1.10E-01	8.18E-04	1.10E+01	0.00E+00	1.49E-04	9.67E-04	2.71E-01	3.57E-03	0.0%
Chromium	1.16E+01	1.50E-03	5.39E-04	1.60E-01	0.00E+00	7.19E-03	7.73E-03	7.68E+02	1.01E-05	0.0%
Lead	1.81E+01	9.00E-03	5.05E-03	2.00E+00	0.00E+00	1.12E-02	1.63E-02	2.24E+00	7.25E-03	0.0%
Selenium	6.40E-01	5.00E-03	9.92E-05	7.60E-01	0.00E+00	3.97E-04	4.96E-04	5.61E-02	8.84E-03	0.0%
Zinc	8.22E+01	3.00E-01	7.64E-01	1.80E+00	0.00E+00	5.10E-02	8.15E-01	4.49E+01	1.82E-02	0.1%
HI =									2.31E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-305. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.02E+04	1.30E-04	0.00E+00	8.00E-04	5.94E-01	7.50E-02	3.73E+02	7.43E+02	1.12E+03
Arsenic	1.23E+01	1.20E-03	0.00E+00	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	4.19E+01	3.00E-03	0.00E+00	3.00E-02	9.15E-02	7.50E-03	1.53E-01	3.05E+00	3.29E+00
Cadmium	2.40E-01	3.00E-02	0.00E+00	1.10E-01	1.92E-03	1.10E+01	1.29E+00	1.75E-02	1.31E+00
Chromium	1.16E+01	9.00E-04	0.00E+00	1.50E-03	1.27E-03	1.60E-01	9.04E-01	8.44E-01	1.75E+00
Lead	1.81E+01	1.80E-03	0.00E+00	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01
Selenium	6.40E-01	5.00E-03	0.00E+00	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01
Zinc	8.22E+01	1.80E-01	0.00E+00	3.00E-01	1.80E+00	1.80E+00	7.21E+01	5.98E+00	7.99E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-305. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.49E+02	1.64E+01	0.00E+00	1.64E+01	6.68E+01	2.46E-01	4.7%	
Arsenic	1.00E-01	1.68E-01	1.85E-02	0.00E+00	1.85E-02	4.98E+00	3.72E-03	0.1%	
Barium	7.50E-03	4.41E-02	4.85E-03	0.00E+00	4.85E-03	1.19E+01	4.07E-04	0.0%	
Cadmium	2.80E-02	6.53E-02	7.18E-03	0.00E+00	7.18E-03	1.46E+00	4.93E-03	0.1%	
Chromium	2.80E-01	8.75E-01	9.62E-02	0.00E+00	9.62E-02	1.03E+00	9.39E-02	1.8%	
Lead	1.50E-02	5.08E-01	5.59E-02	0.00E+00	5.59E-02	6.82E-01	8.19E-02	1.6%	
Selenium	7.50E-01	3.80E-01	4.18E-02	0.00E+00	4.18E-02	4.85E-01	8.62E-02	1.6%	
Zinc	5.00E+00	7.13E+02	7.84E+01	0.00E+00	7.84E+01	1.66E+01	4.73E+00	90.1%	
HI =							5.25E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-306. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.02E+04	1.30E-04	0.00E+00	8.00E-04	5.94E-01	7.50E-02	3.73E+02	7.43E+02	1.12E+03
Arsenic	1.23E+01	1.20E-03	0.00E+00	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	4.19E+01	3.00E-03	0.00E+00	3.00E-02	9.15E-02	7.50E-03	1.53E-01	3.05E+00	3.29E+00
Cadmium	2.40E-01	3.00E-02	0.00E+00	1.10E-01	1.92E-03	1.10E+01	1.29E+00	1.75E-02	1.31E+00
Chromium	1.16E+01	9.00E-04	0.00E+00	1.50E-03	1.27E-03	1.60E-01	9.04E-01	8.44E-01	1.75E+00
Lead	1.81E+01	1.80E-03	0.00E+00	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01
Selenium	6.40E-01	5.00E-03	0.00E+00	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01
Zinc	8.22E+01	1.80E-01	0.00E+00	3.00E-01	1.80E+00	1.80E+00	7.21E+01	5.98E+00	7.99E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-306. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.49E+02	1.87E+01	0.00E+00	1.87E+01	8.33E+01	2.24E-01	4.7%
Arsenic	1.00E-01	1.68E-01	2.10E-02	0.00E+00	2.10E-02	6.22E+00	3.38E-03	0.1%
Barium	7.50E-03	4.41E-02	5.52E-03	0.00E+00	5.52E-03	1.49E+01	3.71E-04	0.0%
Cadmium	2.80E-02	6.53E-02	8.16E-03	0.00E+00	8.16E-03	1.82E+00	4.49E-03	0.1%
Chromium	2.80E-01	8.75E-01	1.09E-01	0.00E+00	1.09E-01	1.28E+00	8.55E-02	1.8%
Lead	1.50E-02	5.08E-01	6.35E-02	0.00E+00	6.35E-02	8.51E-01	7.46E-02	1.6%
Selenium	7.50E-01	3.80E-01	4.75E-02	0.00E+00	4.75E-02	6.05E-01	7.85E-02	1.6%
Zinc	5.00E+00	7.13E+02	8.91E+01	0.00E+00	8.91E+01	2.07E+01	4.31E+00	90.1%
HI =							4.78E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-307. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 39

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.02E+04	1.30E-04	4.21E-03	8.00E-04	5.94E-01	7.50E-02	3.73E+02	7.43E+02	1.12E+03
Arsenic	1.23E+01	1.20E-03	4.68E-05	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	4.19E+01	3.00E-03	3.99E-04	3.00E-02	9.15E-02	7.50E-03	1.53E-01	3.05E+00	3.29E+00
Cadmium	2.40E-01	3.00E-02	2.29E-05	1.10E-01	1.92E-03	1.10E+01	1.29E+00	1.75E-02	1.31E+00
Chromium	1.16E+01	9.00E-04	3.31E-05	1.50E-03	1.27E-03	1.60E-01	9.04E-01	8.44E-01	1.75E+00
Lead	1.81E+01	1.80E-03	1.03E-04	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01
Selenium	6.40E-01	5.00E-03	1.02E-05	5.00E-03	2.33E-04	7.60E-01	2.37E-01	4.66E-02	2.84E-01
Zinc	8.22E+01	1.80E-01	4.70E-02	3.00E-01	1.80E+00	1.80E+00	7.21E+01	5.98E+00	7.99E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-307. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.49E+02	9.84E+00	1.97E+01	2.95E+01	5.46E-01	5.41E+01	96.7%
Arsenic	1.00E-01	1.68E-01	1.11E-02	2.38E-02	3.49E-02	3.56E-02	9.79E-01	1.7%
Barium	7.50E-03	4.41E-02	2.90E-03	8.10E-02	8.43E-02	2.79E+00	3.02E-02	0.1%
Cadmium	2.80E-02	6.53E-02	4.30E-03	4.64E-04	4.78E-03	5.04E-01	9.49E-03	0.0%
Chromium	2.80E-01	8.75E-01	5.76E-02	2.24E-02	8.00E-02	1.43E+03	5.60E-05	0.0%
Lead	1.50E-02	5.08E-01	3.34E-02	3.50E-02	6.85E-02	4.18E+00	1.64E-02	0.0%
Selenium	7.50E-01	3.80E-01	2.50E-02	1.24E-03	2.63E-02	1.05E-01	2.51E-01	0.4%
Zinc	5.00E+00	7.13E+02	4.69E+01	1.59E-01	4.71E+01	8.36E+01	5.64E-01	1.0%
							HI = 5.60E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-308. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.09E+04	5.00E+01	2.18E+02	86.9%
Antimony	7.40E-01	5.00E+00	1.48E-01	0.1%
Arsenic	3.58E+01	1.00E+01	3.58E+00	1.4%
Barium	9.07E+01	5.00E+02	1.81E-01	0.1%
Beryllium	3.54E-01	1.00E+01	3.54E-02	0.0%
Cadmium	4.01E-01	5.00E-01	8.03E-01	0.3%
Calcium	2.91E+04	No TRV	No TRV	No HQ
Chromium	1.43E+01	1.00E+00	1.43E+01	5.7%
Cobalt	9.50E+00	2.00E+01	4.75E-01	0.2%
Copper	2.50E+01	1.00E+02	2.50E-01	0.1%
Cyanide	3.20E-01	No TRV	No TRV	No HQ
Iron	2.64E+04	No TRV	No TRV	No HQ
Lead	1.89E+02	5.00E+01	3.78E+00	1.5%
Magnesium	3.08E+03	No TRV	No TRV	No HQ
Mercury	6.30E-02	3.00E-01	2.10E-01	0.1%
Nickel	2.92E+01	3.00E+01	9.73E-01	0.4%
Potassium	1.12E+03	No TRV	No TRV	No HQ
Selenium	1.20E+00	1.00E+00	1.20E+00	0.5%
Silver	7.48E-01	2.00E+00	3.74E-01	0.1%
Sodium	3.84E+01	No TRV	No TRV	No HQ
Thallium	3.20E-01	1.00E+00	3.20E-01	0.1%
Zinc	3.17E+02	5.00E+01	6.34E+00	2.5%
Explosives				
1,3,5-Trinitrobenzene	6.40E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	3.00E+01	4.17E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+02	1.16E-02	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =				2.51E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-309. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 40**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.09E+04	No TRV	No TRV	No HQ
Antimony	7.40E-01	No TRV	No TRV	No HQ
Arsenic	3.58E+01	6.00E+01	5.97E-01	1.5%
Barium	9.07E+01	No TRV	No TRV	No HQ
Beryllium	3.54E-01	No TRV	No TRV	No HQ
Cadmium	4.01E-01	2.00E+01	2.01E-02	0.1%
Calcium	2.91E+04	No TRV	No TRV	No HQ
Chromium	1.43E+01	4.00E-01	3.58E+01	91.7%
Cobalt	9.50E+00	No TRV	No TRV	No HQ
Copper	2.50E+01	5.00E+01	5.00E-01	1.3%
Cyanide	3.20E-01	No TRV	No TRV	No HQ
Iron	2.64E+04	No TRV	No TRV	No HQ
Lead	1.89E+02	5.00E+02	3.78E-01	1.0%
Magnesium	3.08E+03	No TRV	No TRV	No HQ
Mercury	6.30E-02	No TRV	No TRV	No HQ
Nickel	2.92E+01	2.00E+02	1.46E-01	0.4%
Potassium	1.12E+03	No TRV	No TRV	No HQ
Selenium	1.20E+00	No TRV	No TRV	No HQ
Silver	7.48E-01	No TRV	No TRV	No HQ
Sodium	3.84E+01	No TRV	No TRV	No HQ
Thallium	3.20E-01	No TRV	No TRV	No HQ
Zinc	3.17E+02	2.00E+02	1.59E+00	4.1%
Explosives				
1,3,5-Trinitrobenzene	6.40E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.40E+02	8.93E-04	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				3.90E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-310. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IAF x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _s + ADD _a	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.09E+04	8.00E-04	6.35E-01	7.50E-02	3.98E+02	7.94E+02	1.19E+03	2.22E+00	5.36E+02	91.9%
Antimony	7.40E-01	4.00E-02	2.15E-03	5.00E-02	1.80E-02	5.39E-02	7.41E-02	1.44E-01	5.14E-01	0.1%
Arsenic	3.58E+01	8.00E-03	2.08E-02	6.60E-03	1.15E-01	2.61E+00	2.74E+00	1.45E-01	1.89E+01	3.2%
Barium	9.07E+01	3.00E-02	1.98E-01	7.50E-03	3.31E-01	6.60E+00	7.13E+00	1.14E+01	6.27E-01	0.1%
Beryllium	3.54E-01	2.00E-03	5.16E-05	5.00E-02	8.63E-03	2.58E-02	3.45E-02	1.41E+00	2.45E-02	0.0%
Cadmium	4.01E-01	1.10E-01	3.21E-03	1.10E+01	2.15E+00	2.92E-02	2.18E+00	2.05E+00	1.06E+00	0.2%
Calcium	2.91E+04	7.00E-01	1.48E+03	1.00E+00	1.42E+04	2.12E+03	1.78E+04	No TRV	No TRV	No HQ
Chromium	1.43E+01	1.50E-03	1.56E-03	1.60E-01	1.11E+00	1.04E+00	2.16E+00	5.83E+03	3.70E-04	0.0%
Cobalt	9.50E+00	4.00E-03	2.77E-03	1.00E+00	4.63E+00	6.92E-01	5.32E+00	No TRV	No TRV	No HQ
Copper	2.50E+01	8.00E-02	1.46E-01	1.60E-01	1.95E+00	1.82E+00	3.91E+00	3.24E+01	1.21E-01	0.0%
Cyanide	3.20E-01	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.65E-02	1.38E-02	3.38E-04	0.0%
Iron	2.64E+04	8.00E-04	1.54E+00	1.00E+00	1.29E+04	1.92E+03	1.48E+04	No TRV	No TRV	No HQ
Lead	1.89E+02	9.00E-03	1.24E-01	2.00E+00	1.84E+02	1.38E+01	1.98E+02	1.70E+01	1.16E+01	2.0%
Magnesium	3.08E+03	2.00E-01	4.48E+01	1.00E+00	1.50E+03	2.24E+02	1.77E+03	No TRV	No TRV	No HQ
Mercury	6.30E-02	1.80E-01	8.26E-04	3.40E-01	1.04E-02	4.59E-03	1.58E-02	2.80E+00	5.67E-03	0.0%
Nickel	2.92E+01	1.20E-02	2.55E-02	2.30E-01	3.27E+00	2.13E+00	5.42E+00	8.52E+01	6.37E-02	0.0%
Potassium	1.12E+03	2.00E-01	1.63E+01	1.00E+00	5.46E+02	8.15E+01	6.44E+02	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	4.36E-04	7.60E-01	4.44E-01	8.73E-02	5.32E-01	4.26E-01	1.25E+00	0.2%
Silver	7.48E-01	8.00E-02	4.36E-03	1.50E-01	5.47E-02	5.45E-02	1.14E-01	No TRV	No TRV	No HQ
Sodium	3.84E+01	1.50E-02	4.19E-02	1.00E+00	1.87E+01	2.80E+00	2.16E+01	No TRV	No TRV	No HQ
Thallium	3.20E-01	8.00E-04	1.86E-05	1.00E+00	1.56E-01	2.33E-02	1.79E-01	1.59E-02	1.12E+01	1.9%
Zinc	3.17E+02	3.00E-01	6.92E+00	1.80E+00	2.78E+02	2.31E+01	3.08E+02	3.41E+02	9.04E-01	0.2%
Explosives										
1,3,5-Trinitrobenzene	6.40E-02	1.00E+00	4.66E-03	1.00E+00	3.12E-02	4.66E-03	4.05E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.1%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	3.41E+00	2.32E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	1.49E+00	9.46E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00	3.27E+00	5.79E-01	0.1%
Nitrobenzene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01	8.44E+00	8.70E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	5.83E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_a = Average daily dose; animal

I_a(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-311. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.09E+04	1.30E-04	1.08E+00	7.50E-02	6.21E+02	1.72E+03	2.35E+03	1.29E+02	1.81E+01	6.5%
Antimony	7.40E-01	6.00E-03	3.37E-03	5.00E-02	2.81E-02	1.17E-01	1.48E-01	No TRV	No TRV	No HQ
Arsenic	3.58E+01	1.20E-03	3.26E-02	6.60E-03	1.80E-01	5.66E+00	5.87E+00	9.66E+00	6.08E-01	0.2%
Barium	9.07E+01	3.00E-03	2.07E-01	7.50E-03	5.17E-01	1.43E+01	1.51E+01	2.31E+01	6.52E-01	0.2%
Beryllium	3.54E-01	3.00E-04	8.08E-05	5.00E-02	1.35E-02	5.60E-02	6.96E-02	No TRV	No TRV	No HQ
Cadmium	4.01E-01	3.00E-02	9.15E-03	1.10E+01	3.35E+00	6.34E-02	3.43E+00	2.83E+00	1.21E+00	0.4%
Calcium	2.91E+04	7.00E-02	1.55E+03	1.00E+00	2.21E+04	4.60E+03	2.83E+04	No TRV	No TRV	No HQ
Chromium	1.43E+01	9.00E-04	9.78E-03	1.60E-01	1.74E+00	2.26E+00	4.01E+00	1.99E+00	2.02E+00	0.7%
Cobalt	9.50E+00	1.40E-03	1.01E-02	1.00E+00	7.22E+00	1.50E+00	8.73E+00	No TRV	No TRV	No HQ
Copper	2.50E+01	5.00E-02	9.50E-01	1.60E-01	3.04E+00	3.95E+00	7.94E+00	7.55E+01	1.05E-01	0.0%
Cyanide	3.20E-01	1.00E+00	2.43E-01	0.00E+00	0.00E+00	5.05E-02	2.93E-01	No TRV	No TRV	No HQ
Iron	2.64E+04	2.00E-04	4.01E+00	1.00E+00	2.01E+04	4.17E+03	2.42E+04	No TRV	No TRV	No HQ
Lead	1.89E+02	1.80E-03	2.59E-01	2.00E+00	2.87E+02	2.99E+01	3.17E+02	1.32E+00	2.40E+02	85.7%
Magnesium	3.08E+03	1.10E-01	2.57E+02	1.00E+00	2.34E+03	4.87E+02	3.09E+03	No TRV	No TRV	No HQ
Mercury	6.30E-02	4.00E-02	1.92E-03	3.40E-01	1.63E-02	9.96E-03	2.82E-02	5.27E-01	5.35E-02	0.0%
Nickel	2.92E+01	1.20E-02	2.66E-01	2.30E-01	5.10E+00	4.62E+00	9.99E+00	1.37E+02	7.30E-02	0.0%
Potassium	1.12E+03	1.10E-01	9.36E+01	1.00E+00	8.51E+02	1.77E+02	1.12E+03	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	4.56E-03	7.60E-01	6.93E-01	1.90E-01	8.87E-01	9.40E-01	9.43E-01	0.3%
Silver	7.48E-01	2.00E-02	1.14E-02	1.50E-01	8.53E-02	1.18E-01	2.15E-01	No TRV	No TRV	No HQ
Sodium	3.84E+01	1.10E-02	3.21E-01	1.00E+00	2.92E+01	6.07E+00	3.56E+01	No TRV	No TRV	No HQ
Thallium	3.20E-01	8.00E-05	1.94E-05	1.00E+00	2.43E-01	5.05E-02	2.93E-01	No TRV	No TRV	No HQ
Zinc	3.17E+02	1.80E-01	4.34E+01	1.80E+00	4.34E+02	5.01E+01	5.27E+02	3.21E+01	1.64E+01	5.9%
Explosives										
1,3,5-Trinitrobenzene	6.40E-02	1.00E+00	4.86E-02	1.00E+00	4.86E-02	1.01E-02	1.07E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.27E+00	1.00E+00	2.27E+00	4.73E-01	5.02E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.82E-01	1.00E+00	8.82E-01	1.83E-01	1.95E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
								HI = 2.80E+02		

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_a(kg/kgBW/ 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-312. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.09E+04	8.00E-04	1.79E+00	7.50E-02	0.00E+00	1.41E+02	1.43E+02	7.63E-01	1.87E+02	93.0%
Antimony	7.40E-01	4.00E-02	6.07E-03	5.00E-02	0.00E+00	9.56E-03	1.56E-02	4.94E-02	3.16E-01	0.2%
Arsenic	3.58E+01	8.00E-03	5.87E-02	6.60E-03	0.00E+00	4.62E-01	5.21E-01	4.98E-02	1.05E+01	5.2%
Barium	9.07E+01	3.00E-02	5.58E-01	7.50E-03	0.00E+00	1.17E+00	1.73E+00	3.90E+00	4.43E-01	0.2%
Beryllium	3.54E-01	2.00E-03	1.45E-04	5.00E-02	0.00E+00	4.58E-03	4.72E-03	4.82E-01	9.79E-03	0.0%
Cadmium	4.01E-01	1.10E-01	9.05E-03	1.10E+01	0.00E+00	5.18E-03	1.42E-02	7.05E-01	2.02E-02	0.0%
Calcium	2.91E+04	7.00E-01	4.18E+03	1.00E+00	0.00E+00	3.76E+02	4.55E+03	No TRV	No TRV	No HQ
Chromium	1.43E+01	1.50E-03	4.40E-03	1.60E-01	0.00E+00	1.85E-01	1.89E-01	2.00E+03	9.46E-05	0.0%
Cobalt	9.50E+00	4.00E-03	7.79E-03	1.00E+00	0.00E+00	1.23E-01	1.30E-01	No TRV	No TRV	No HQ
Copper	2.50E+01	8.00E-02	4.10E-01	1.60E-01	0.00E+00	3.23E-01	7.33E-01	1.11E+01	6.59E-02	0.0%
Cyanide	3.20E-01	1.00E+00	6.55E-02	0.00E+00	0.00E+00	4.13E-03	6.96E-02	4.72E+01	1.48E-03	0.0%
Iron	2.64E+04	8.00E-04	4.33E+00	1.00E+00	0.00E+00	3.41E+02	3.45E+02	No TRV	No TRV	No HQ
Lead	1.89E+02	9.00E-03	3.49E-01	2.00E+00	0.00E+00	2.44E+00	2.79E+00	5.84E+00	4.77E-01	0.2%
Magnesium	3.08E+03	2.00E-01	1.26E+02	1.00E+00	0.00E+00	3.98E+01	1.66E+02	No TRV	No TRV	No HQ
Mercury	6.30E-02	1.80E-01	2.32E-03	3.40E-01	0.00E+00	8.14E-04	3.14E-03	9.59E-01	3.27E-03	0.0%
Nickel	2.92E+01	1.20E-02	7.18E-02	2.30E-01	0.00E+00	3.77E-01	4.49E-01	2.92E+01	1.54E-02	0.0%
Potassium	1.12E+03	2.00E-01	4.59E+01	1.00E+00	0.00E+00	1.45E+01	6.04E+01	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	1.23E-03	7.60E-01	0.00E+00	1.55E-02	1.67E-02	1.46E-01	1.14E-01	0.1%
Silver	7.48E-01	8.00E-02	1.23E-02	1.50E-01	0.00E+00	9.66E-03	2.19E-02	No TRV	No TRV	No HQ
Sodium	3.84E+01	1.50E-02	1.18E-01	1.00E+00	0.00E+00	4.96E-01	6.14E-01	No TRV	No TRV	No HQ
Thallium	3.20E-01	8.00E-04	5.24E-05	1.00E+00	0.00E+00	4.13E-03	4.18E-03	5.46E-03	7.65E-01	0.4%
Zinc	3.17E+02	3.00E-01	1.95E+01	1.80E+00	0.00E+00	4.09E+00	2.36E+01	1.17E+02	2.02E-01	0.1%
Explosives										
1,3,5-Trinitrobenzene	6.40E-02	1.00E+00	1.31E-02	1.00E+00	0.00E+00	8.27E-04	1.39E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.2%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	1.17E+00	2.33E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	5.11E-01	4.76E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	6.13E-01	1.00E+00	0.00E+00	3.86E-02	6.52E-01	1.12E+00	5.81E-01	0.3%
Nitrobenzene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	2.38E-01	1.00E+00	0.00E+00	1.50E-02	2.53E-01	2.89E+00	8.74E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	2.01E+02

Appendix Table L-312. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-313. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.09E+04	8.00E-04	2.70E-01	7.50E-02	0.00E+00	6.76E+00	7.03E+00	2.93E-01	2.40E+01	90.6%
Antimony	7.40E-01	4.00E-02	9.18E-04	5.00E-02	0.00E+00	4.59E-04	1.38E-03	1.90E-02	7.25E-02	0.3%
Arsenic	3.58E+01	8.00E-03	8.88E-03	6.60E-03	0.00E+00	2.22E-02	3.11E-02	1.91E-02	1.62E+00	6.1%
Barium	9.07E+01	3.00E-02	8.44E-02	7.50E-03	0.00E+00	5.62E-02	1.41E-01	1.50E+00	9.38E-02	0.4%
Beryllium	3.54E-01	2.00E-03	2.20E-05	5.00E-02	0.00E+00	2.20E-04	2.42E-04	1.85E-01	1.30E-03	0.0%
Cadmium	4.01E-01	1.10E-01	1.37E-03	1.10E+01	0.00E+00	2.49E-04	1.62E-03	2.71E-01	5.98E-03	0.0%
Calcium	2.91E+04	7.00E-01	6.31E+02	1.00E+00	0.00E+00	1.80E+01	6.50E+02	No TRV	No TRV	No HQ
Chromium	1.43E+01	1.50E-03	6.65E-04	1.60E-01	0.00E+00	8.87E-03	9.53E-03	7.68E+02	1.24E-05	0.0%
Cobalt	9.50E+00	4.00E-03	1.18E-03	1.00E+00	0.00E+00	5.89E-03	7.07E-03	No TRV	No TRV	No HQ
Copper	2.50E+01	8.00E-02	6.20E-02	1.60E-01	0.00E+00	1.55E-02	7.75E-02	4.27E+00	1.81E-02	0.1%
Cyanide	3.20E-01	1.00E+00	9.90E-03	0.00E+00	0.00E+00	1.98E-04	1.01E-02	1.81E+01	5.58E-04	0.0%
Iron	2.64E+04	8.00E-04	6.55E-01	1.00E+00	0.00E+00	1.64E+01	1.70E+01	No TRV	No TRV	No HQ
Lead	1.89E+02	9.00E-03	5.27E-02	2.00E+00	0.00E+00	1.17E-01	1.70E-01	2.24E+00	7.57E-02	0.3%
Magnesium	3.08E+03	2.00E-01	1.91E+01	1.00E+00	0.00E+00	1.91E+00	2.10E+01	No TRV	No TRV	No HQ
Mercury	6.30E-02	1.80E-01	3.52E-04	3.40E-01	0.00E+00	3.91E-05	3.91E-04	3.68E-01	1.06E-03	0.0%
Nickel	2.92E+01	1.20E-02	1.09E-02	2.30E-01	0.00E+00	1.81E-02	2.90E-02	1.12E+01	2.58E-03	0.0%
Potassium	1.12E+03	2.00E-01	6.94E+00	1.00E+00	0.00E+00	6.94E-01	7.64E+00	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	1.86E-04	7.60E-01	0.00E+00	7.43E-04	9.29E-04	5.61E-02	1.66E-02	0.1%
Silver	7.48E-01	8.00E-02	1.86E-03	1.50E-01	0.00E+00	4.64E-04	2.32E-03	No TRV	No TRV	No HQ
Sodium	3.84E+01	1.50E-02	1.79E-02	1.00E+00	0.00E+00	2.38E-02	4.17E-02	No TRV	No TRV	No HQ
Thallium	3.20E-01	8.00E-04	7.92E-06	1.00E+00	0.00E+00	1.98E-04	2.06E-04	2.10E-03	9.82E-02	0.4%
Zinc	3.17E+02	3.00E-01	2.95E+00	1.80E+00	0.00E+00	1.97E-01	3.14E+00	4.49E+01	7.01E-02	0.3%
Explosives										
1,3,5-Trinitrobenzene	6.40E-02	1.00E+00	1.98E-03	1.00E+00	0.00E+00	3.97E-05	2.02E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.5%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	4.49E-01	8.81E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	1.96E-01	9.03E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	9.27E-02	1.00E+00	0.00E+00	1.85E-03	9.45E-02	4.31E-01	2.20E-01	0.8%
Nitrobenzene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	3.60E-02	1.00E+00	0.00E+00	7.19E-04	3.67E-02	1.11E+00	3.30E-02	0.1%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
									HI =	2.65E+01

EPC = Exposure point concentration

I_A(kg/kgBW/d) = 0.00E+00

SP_v = Soil-to-plant; vegetative

ADD_S = Average daily dose; soil

Appendix Table L-313. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-314. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.09E+04	1.30E-04	0.00E+00	8.00E-04	6.35E-01	7.50E-02	3.98E+02	7.94E+02	1.19E+03
Antimony	7.40E-01	6.00E-03	0.00E+00	4.00E-02	2.15E-03	5.00E-02	1.80E-02	5.39E-02	7.41E-02
Arsenic	3.58E+01	1.20E-03	0.00E+00	8.00E-03	2.08E-02	6.60E-03	1.15E-01	2.61E+00	2.74E+00
Barium	9.07E+01	3.00E-03	0.00E+00	3.00E-02	1.98E-01	7.50E-03	3.31E-01	6.60E+00	7.13E+00
Beryllium	3.54E-01	3.00E-04	0.00E+00	2.00E-03	5.16E-05	5.00E-02	8.63E-03	2.58E-02	3.45E-02
Cadmium	4.01E-01	3.00E-02	0.00E+00	1.10E-01	3.21E-03	1.10E+01	2.15E+00	2.92E-02	2.18E+00
Calcium	2.91E+04	7.00E-02	0.00E+00	7.00E-01	1.48E+03	1.00E+00	1.42E+04	2.12E+03	1.78E+04
Chromium	1.43E+01	9.00E-04	0.00E+00	1.50E-03	1.56E-03	1.60E-01	1.11E+00	1.04E+00	2.16E+00
Cobalt	9.50E+00	1.40E-03	0.00E+00	4.00E-03	2.77E-03	1.00E+00	4.63E+00	6.92E-01	5.32E+00
Copper	2.50E+01	5.00E-02	0.00E+00	8.00E-02	1.46E-01	1.60E-01	1.95E+00	1.82E+00	3.91E+00
Cyanide	3.20E-01	1.00E+00	0.00E+00	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.65E-02
Iron	2.64E+04	2.00E-04	0.00E+00	8.00E-04	1.54E+00	1.00E+00	1.29E+04	1.92E+03	1.48E+04
Lead	1.89E+02	1.80E-03	0.00E+00	9.00E-03	1.24E-01	2.00E+00	1.84E+02	1.38E+01	1.98E+02
Magnesium	3.08E+03	1.10E-01	0.00E+00	2.00E-01	4.48E+01	1.00E+00	1.50E+03	2.24E+02	1.77E+03
Mercury	6.30E-02	4.00E-02	0.00E+00	1.80E-01	8.26E-04	3.40E-01	1.04E-02	4.59E-03	1.58E-02
Nickel	2.92E+01	1.20E-02	0.00E+00	1.20E-02	2.55E-02	2.30E-01	3.27E+00	2.13E+00	5.42E+00
Potassium	1.12E+03	1.10E-01	0.00E+00	2.00E-01	1.63E+01	1.00E+00	5.46E+02	8.15E+01	6.44E+02
Selenium	1.20E+00	5.00E-03	0.00E+00	5.00E-03	4.36E-04	7.60E-01	4.44E-01	8.73E-02	5.32E-01
Silver	7.48E-01	2.00E-02	0.00E+00	8.00E-02	4.36E-03	1.50E-01	5.47E-02	5.45E-02	1.14E-01
Sodium	3.84E+01	1.10E-02	0.00E+00	1.50E-02	4.19E-02	1.00E+00	1.87E+01	2.80E+00	2.16E+01
Thallium	3.20E-01	8.00E-05	0.00E+00	8.00E-04	1.86E-05	1.00E+00	1.56E-01	2.33E-02	1.79E-01
Zinc	3.17E+02	1.80E-01	0.00E+00	3.00E-01	6.92E+00	1.80E+00	2.78E+02	2.31E+01	3.08E+02
Explosives									
1,3,5-Trinitrobenzene	6.40E-02	1.00E+00	0.00E+00	1.00E+00	4.66E-03	1.00E+00	3.12E-02	4.66E-03	4.05E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-314. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.60E+02	1.76E+01	0.00E+00	1.76E+01	6.68E+01	2.63E-01	1.3%
Antimony	5.00E-02	6.61E-03	7.27E-04	0.00E+00	7.27E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	4.90E-01	5.39E-02	0.00E+00	5.39E-02	4.98E+00	1.08E-02	0.1%
Barium	7.50E-03	9.55E-02	1.05E-02	0.00E+00	1.05E-02	1.19E+01	8.82E-04	0.0%
Beryllium	5.00E-02	3.08E-03	3.39E-04	0.00E+00	3.39E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.09E-01	1.20E-02	0.00E+00	1.20E-02	1.46E+00	8.24E-03	0.0%
Calcium	1.00E+00	3.17E+04	3.49E+03	0.00E+00	3.49E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.08E+00	1.19E-01	0.00E+00	1.19E-01	1.03E+00	1.16E-01	0.6%
Cobalt	1.00E+00	9.50E+00	1.05E+00	0.00E+00	1.05E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	3.50E+00	3.84E-01	0.00E+00	3.84E-01	3.89E+01	9.87E-03	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.64E+04	2.90E+03	0.00E+00	2.90E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.30E+00	5.84E-01	0.00E+00	5.84E-01	6.82E-01	8.56E-01	4.3%
Magnesium	1.00E+00	3.16E+03	3.48E+02	0.00E+00	3.48E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.68E-01	4.05E-02	0.00E+00	4.05E-02	2.72E-01	1.49E-01	0.8%
Nickel	3.00E-01	2.91E+00	3.20E-01	0.00E+00	3.20E-01	7.06E+01	4.53E-03	0.0%
Potassium	1.00E+00	1.15E+03	1.26E+02	0.00E+00	1.26E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.12E-01	7.83E-02	0.00E+00	7.83E-02	4.85E-01	1.62E-01	0.8%
Silver	1.50E-01	3.04E-02	3.34E-03	0.00E+00	3.34E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.85E+01	4.23E+00	0.00E+00	4.23E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.20E-01	3.51E-02	0.00E+00	3.51E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.75E+03	3.02E+02	0.00E+00	3.02E+02	1.66E+01	1.82E+01	92.0%
1,3,5-Trinitrobenzene	1.00E+00	7.23E-02	7.96E-03	0.00E+00	7.96E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.26E-07	0.00E+00	5.26E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	3.72E-01	0.00E+00	3.72E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.32E-07	0.00E+00	3.32E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.44E-01	0.00E+00	1.44E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	1.98E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-314. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-314. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-315. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.09E+04	1.30E-04	0.00E+00	8.00E-04	6.35E-01	7.50E-02	3.98E+02	7.94E+02	1.19E+03
Antimony	7.40E-01	6.00E-03	0.00E+00	4.00E-02	2.15E-03	5.00E-02	1.80E-02	5.39E-02	7.41E-02
Arsenic	3.58E+01	1.20E-03	0.00E+00	8.00E-03	2.08E-02	6.60E-03	1.15E-01	2.61E+00	2.74E+00
Barium	9.07E+01	3.00E-03	0.00E+00	3.00E-02	1.98E-01	7.50E-03	3.31E-01	6.60E+00	7.13E+00
Beryllium	3.54E-01	3.00E-04	0.00E+00	2.00E-03	5.16E-05	5.00E-02	8.63E-03	2.58E-02	3.45E-02
Cadmium	4.01E-01	3.00E-02	0.00E+00	1.10E-01	3.21E-03	1.10E+01	2.15E+00	2.92E-02	2.18E+00
Calcium	2.91E+04	7.00E-02	0.00E+00	7.00E-01	1.48E+03	1.00E+00	1.42E+04	2.12E+03	1.78E+04
Chromium	1.43E+01	9.00E-04	0.00E+00	1.50E-03	1.56E-03	1.60E-01	1.11E+00	1.04E+00	2.16E+00
Cobalt	9.50E+00	1.40E-03	0.00E+00	4.00E-03	2.77E-03	1.00E+00	4.63E+00	6.92E-01	5.32E+00
Copper	2.50E+01	5.00E-02	0.00E+00	8.00E-02	1.46E-01	1.60E-01	1.95E+00	1.82E+00	3.91E+00
Cyanide	3.20E-01	1.00E+00	0.00E+00	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.65E-02
Iron	2.64E+04	2.00E-04	0.00E+00	8.00E-04	1.54E+00	1.00E+00	1.29E+04	1.92E+03	1.48E+04
Lead	1.89E+02	1.80E-03	0.00E+00	9.00E-03	1.24E-01	2.00E+00	1.84E+02	1.38E+01	1.98E+02
Magnesium	3.08E+03	1.10E-01	0.00E+00	2.00E-01	4.48E+01	1.00E+00	1.50E+03	2.24E+02	1.77E+03
Mercury	6.30E-02	4.00E-02	0.00E+00	1.80E-01	8.26E-04	3.40E-01	1.04E-02	4.59E-03	1.58E-02
Nickel	2.92E+01	1.20E-02	0.00E+00	1.20E-02	2.55E-02	2.30E-01	3.27E+00	2.13E+00	5.42E+00
Potassium	1.12E+03	1.10E-01	0.00E+00	2.00E-01	1.63E+01	1.00E+00	5.46E+02	8.15E+01	6.44E+02
Selenium	1.20E+00	5.00E-03	0.00E+00	5.00E-03	4.36E-04	7.60E-01	4.44E-01	8.73E-02	5.32E-01
Silver	7.48E-01	2.00E-02	0.00E+00	8.00E-02	4.36E-03	1.50E-01	5.47E-02	5.45E-02	1.14E-01
Sodium	3.84E+01	1.10E-02	0.00E+00	1.50E-02	4.19E-02	1.00E+00	1.87E+01	2.80E+00	2.16E+01
Thallium	3.20E-01	8.00E-05	0.00E+00	8.00E-04	1.86E-05	1.00E+00	1.56E-01	2.33E-02	1.79E-01
Zinc	3.17E+02	1.80E-01	0.00E+00	3.00E-01	6.92E+00	1.80E+00	2.78E+02	2.31E+01	3.08E+02
Explosives									
1,3,5-Trinitrobenzene	6.40E-02	1.00E+00	0.00E+00	1.00E+00	4.66E-03	1.00E+00	3.12E-02	4.66E-03	4.05E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

AUF-s = Shrew AUF =

1.00E+00

Appendix Table L-315. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.60E+02	2.00E+01	0.00E+00	2.00E+01	8.33E+01	2.40E-01	1.3%
Antimony	5.00E-02	6.61E-03	8.26E-04	0.00E+00	8.26E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	4.90E-01	6.12E-02	0.00E+00	6.12E-02	6.22E+00	9.85E-03	0.1%
Barium	7.50E-03	9.55E-02	1.19E-02	0.00E+00	1.19E-02	1.49E+01	8.03E-04	0.0%
Beryllium	5.00E-02	3.08E-03	3.85E-04	0.00E+00	3.85E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.09E-01	1.36E-02	0.00E+00	1.36E-02	1.82E+00	7.50E-03	0.0%
Calcium	1.00E+00	3.17E+04	3.97E+03	0.00E+00	3.97E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.08E+00	1.35E-01	0.00E+00	1.35E-01	1.28E+00	1.05E-01	0.6%
Cobalt	1.00E+00	9.50E+00	1.19E+00	0.00E+00	1.19E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	3.50E+00	4.37E-01	0.00E+00	4.37E-01	4.86E+01	8.99E-03	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.64E+04	3.30E+03	0.00E+00	3.30E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.30E+00	6.63E-01	0.00E+00	6.63E-01	8.51E-01	7.79E-01	4.3%
Magnesium	1.00E+00	3.16E+03	3.95E+02	0.00E+00	3.95E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.68E-01	4.60E-02	0.00E+00	4.60E-02	3.39E-01	1.36E-01	0.8%
Nickel	3.00E-01	2.91E+00	3.63E-01	0.00E+00	3.63E-01	8.81E+01	4.12E-03	0.0%
Potassium	1.00E+00	1.15E+03	1.44E+02	0.00E+00	1.44E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.12E-01	8.90E-02	0.00E+00	8.90E-02	6.05E-01	1.47E-01	0.8%
Silver	1.50E-01	3.04E-02	3.80E-03	0.00E+00	3.80E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.85E+01	4.81E+00	0.00E+00	4.81E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.20E-01	3.99E-02	0.00E+00	3.99E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.75E+03	3.44E+02	0.00E+00	3.44E+02	2.07E+01	1.66E+01	92.0%
1,3,5-Trinitrobenzen	1.00E+00	7.23E-02	9.04E-03	0.00E+00	9.04E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.98E-07	0.00E+00	5.98E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	4.22E-01	0.00E+00	4.22E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.78E-07	0.00E+00	3.78E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.64E-01	0.00E+00	1.64E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
						HI =	1.81E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-315. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF_i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-315. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) $ADD_{total} \times$ BAF_v / IR_f	ADD_A (mg/kgBW/d) $Cs \times I_A \times AUF$	ADDS (mg/kgBW/d) EPC x $IS \times AUF$	ADD_{total} (mg/kgBW/d) $ADD_p + ADD_A +$ ADD_s	TRV (mg/kgBW/d)	Site HQ $ADD_{total} /$ TRV	%HI HQ/H $\times 100$
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-316. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.09E+04	1.30E-04	4.50E-03	8.00E-04	6.35E-01	7.50E-02	3.98E+02	7.94E+02	1.19E+03
Antimony	7.40E-01	6.00E-03	1.41E-05	4.00E-02	2.15E-03	5.00E-02	1.80E-02	5.39E-02	7.41E-02
Arsenic	3.58E+01	1.20E-03	1.36E-04	8.00E-03	2.08E-02	6.60E-03	1.15E-01	2.61E+00	2.74E+00
Barium	9.07E+01	3.00E-03	8.64E-04	3.00E-02	1.98E-01	7.50E-03	3.31E-01	6.60E+00	7.13E+00
Beryllium	3.54E-01	3.00E-04	3.37E-07	2.00E-03	5.16E-05	5.00E-02	8.63E-03	2.58E-02	3.45E-02
Cadmium	4.01E-01	3.00E-02	3.82E-05	1.10E-01	3.21E-03	1.10E+01	2.15E+00	2.92E-02	2.18E+00
Calcium	2.91E+04	7.00E-02	6.47E+00	7.00E-01	1.48E+03	1.00E+00	1.42E+04	2.12E+03	1.78E+04
Chromium	1.43E+01	9.00E-04	4.08E-05	1.50E-03	1.56E-03	1.60E-01	1.11E+00	1.04E+00	2.16E+00
Cobalt	9.50E+00	1.40E-03	4.22E-05	4.00E-03	2.77E-03	1.00E+00	4.63E+00	6.92E-01	5.32E+00
Copper	2.50E+01	5.00E-02	3.97E-03	8.00E-02	1.46E-01	1.60E-01	1.95E+00	1.82E+00	3.91E+00
Cyanide	3.20E-01	1.00E+00	1.01E-03	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.65E-02
Iron	2.64E+04	2.00E-04	1.68E-02	8.00E-04	1.54E+00	1.00E+00	1.29E+04	1.92E+03	1.48E+04
Lead	1.89E+02	1.80E-03	1.08E-03	9.00E-03	1.24E-01	2.00E+00	1.84E+02	1.38E+01	1.98E+02
Magnesium	3.08E+03	1.10E-01	1.08E+00	2.00E-01	4.48E+01	1.00E+00	1.50E+03	2.24E+02	1.77E+03
Mercury	6.30E-02	4.00E-02	8.00E-06	1.80E-01	8.26E-04	3.40E-01	1.04E-02	4.59E-03	1.58E-02
Nickel	2.92E+01	1.20E-02	1.11E-03	1.20E-02	2.55E-02	2.30E-01	3.27E+00	2.13E+00	5.42E+00
Potassium	1.12E+03	1.10E-01	3.91E-01	2.00E-01	1.63E+01	1.00E+00	5.46E+02	8.15E+01	6.44E+02
Selenium	1.20E+00	5.00E-03	1.90E-05	5.00E-03	4.36E-04	7.60E-01	4.44E-01	8.73E-02	5.32E-01
Silver	7.48E-01	2.00E-02	4.75E-05	8.00E-02	4.36E-03	1.50E-01	5.47E-02	5.45E-02	1.14E-01
Sodium	3.84E+01	1.10E-02	1.34E-03	1.50E-02	4.19E-02	1.00E+00	1.87E+01	2.80E+00	2.16E+01
Thallium	3.20E-01	8.00E-05	8.11E-08	8.00E-04	1.86E-05	1.00E+00	1.56E-01	2.33E-02	1.79E-01
Zinc	3.17E+02	1.80E-01	1.81E-01	3.00E-01	6.92E+00	1.80E+00	2.78E+02	2.31E+01	3.08E+02
Explosives									
1,3,5-Trinitrobenzene	6.40E-02	1.00E+00	2.03E-04	1.00E+00	4.66E-03	1.00E+00	3.12E-02	4.66E-03	4.05E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	9.49E-03	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	3.68E-03	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01

Appendix Table L-316. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.60E+02	1.05E+01	2.11E+01	3.16E+01	5.46E-01	5.79E+01	82.8%
Antimony	5.00E-02	6.61E-03	4.35E-04	1.43E-03	1.88E-03	3.54E-02	5.32E-02	0.1%
Arsenic	1.00E-01	4.90E-01	3.22E-02	6.92E-02	1.02E-01	3.56E-02	2.85E+00	4.1%
Barium	7.50E-03	9.55E-02	6.29E-03	1.75E-01	1.82E-01	2.79E+00	6.53E-02	0.1%
Beryllium	5.00E-02	3.08E-03	2.03E-04	6.85E-04	8.87E-04	3.45E-01	2.57E-03	0.0%
Cadmium	2.80E-02	1.09E-01	7.19E-03	7.75E-04	8.00E-03	5.04E-01	1.59E-02	0.0%
Calcium	1.00E+00	3.17E+04	2.09E+03	5.62E+01	2.15E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.08E+00	7.10E-02	2.76E-02	9.87E-02	1.43E+03	6.90E-05	0.0%
Cobalt	1.00E+00	9.50E+00	6.26E-01	1.84E-02	6.44E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	3.50E+00	2.30E-01	4.83E-02	2.82E-01	7.96E+00	3.55E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.17E-04	1.63E-03	3.37E+01	4.83E-05	0.0%
Iron	1.00E+00	2.64E+04	1.74E+03	5.10E+01	1.79E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	5.30E+00	3.49E-01	3.65E-01	7.15E-01	4.18E+00	1.71E-01	0.2%
Magnesium	1.00E+00	3.16E+03	2.08E+02	5.95E+00	2.15E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.68E-01	2.42E-02	1.22E-04	2.43E-02	6.86E-01	3.55E-02	0.1%
Nickel	3.00E-01	2.91E+00	1.91E-01	5.64E-02	2.49E-01	2.09E+01	1.19E-02	0.0%
Potassium	1.00E+00	1.15E+03	7.56E+01	2.16E+00	7.82E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.12E-01	4.69E-02	2.32E-03	4.92E-02	1.05E-01	4.71E-01	0.7%
Silver	1.50E-01	3.04E-02	2.00E-03	1.45E-03	3.49E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	3.85E+01	2.53E+00	7.42E-02	2.61E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.20E-01	2.10E-02	6.17E-04	2.17E-02	3.91E-03	5.54E+00	7.9%
Zinc	5.00E+00	2.75E+03	1.81E+02	6.12E-01	1.82E+02	8.36E+01	2.17E+00	3.1%
1,3,5-Trinitrobenzene	1.00E+00	7.23E-02	4.76E-03	1.24E-04	5.09E-03	1.68E+00	3.03E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	8.36E-01	1.19E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.78E-06	3.15E-07	2.76E-04	2.86E-04	3.66E-01	7.81E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	2.22E-01	5.78E-03	2.38E-01	8.02E-01	2.96E-01	0.4%
Nitrobenzene	1.20E-04	3.02E-06	1.99E-07	2.76E-04	2.86E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	8.63E-02	2.24E-03	9.22E-02	2.07E+00	4.45E-02	0.1%

Appendix Table L-316. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 40

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-316. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.1%
HI = 6.98E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-317. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.98E+03	5.00E+01	1.80E+02	91.5%
Arsenic	2.16E+01	1.00E+01	2.16E+00	1.1%
Barium	5.58E+01	5.00E+02	1.12E-01	0.1%
Cadmium	3.60E-01	5.00E-01	7.20E-01	0.4%
Chromium	1.03E+01	1.00E+00	1.03E+01	5.3%
Lead	1.81E+01	5.00E+01	3.62E-01	0.2%
Mercury	6.00E-02	3.00E-01	2.00E-01	0.1%
Selenium	1.70E+00	1.00E+00	1.70E+00	0.9%
Silver	1.37E-01	2.00E+00	6.83E-02	0.0%
Zinc	4.67E+01	5.00E+01	9.34E-01	0.5%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	3.00E+01	4.17E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+02	5.00E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =				1.96E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-318. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 41**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.98E+03	No TRV	No TRV	No HQ
Arsenic	2.16E+01	6.00E+01	3.60E-01	1.4%
Barium	5.58E+01	No TRV	No TRV	No HQ
Cadmium	3.60E-01	2.00E+01	1.80E-02	0.1%
Chromium	1.03E+01	4.00E-01	2.58E+01	97.5%
Lead	1.81E+01	5.00E+02	3.62E-02	0.1%
Mercury	6.00E-02	No TRV	No TRV	No HQ
Selenium	1.70E+00	No TRV	No TRV	No HQ
Silver	1.37E-01	No TRV	No TRV	No HQ
Zinc	4.67E+01	2.00E+02	2.34E-01	0.9%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.40E+02	8.93E-04	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				2.64E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-319. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.98E+03	8.00E-04	5.23E-01	7.50E-02	3.28E+02	6.54E+02	9.82E+02	2.22E+00	4.42E+02	96.4%
Arsenic	2.16E+01	8.00E-03	1.26E-02	6.60E-03	6.95E-02	1.57E+00	1.65E+00	1.45E-01	1.14E+01	2.5%
Barium	5.58E+01	3.00E-02	1.22E-01	7.50E-03	2.04E-01	4.06E+00	4.39E+00	1.14E+01	3.86E-01	0.1%
Cadmium	3.60E-01	1.10E-01	2.88E-03	1.10E+01	1.93E+00	2.62E-02	1.96E+00	2.05E+00	9.53E-01	0.2%
Chromium	1.03E+01	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00	5.83E+03	2.67E-04	0.0%
Lead	1.81E+01	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01	1.70E+01	1.11E+00	0.2%
Mercury	6.00E-02	1.80E-01	7.86E-04	3.40E-01	9.94E-03	4.37E-03	1.51E-02	2.80E+00	5.40E-03	0.0%
Selenium	1.70E+00	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01	4.26E-01	1.77E+00	0.4%
Silver	1.37E-01	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02	No TRV	No TRV	No HQ
Zinc	4.67E+01	3.00E-01	1.02E+00	1.80E+00	4.10E+01	3.40E+00	4.54E+01	3.41E+02	1.33E-01	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.1%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	3.41E+00	2.32E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	1.49E+00	8.60E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01	3.27E+00	1.94E-01	0.0%
Nitrobenzene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01	8.44E+00	3.75E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
								HI =	4.58E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-320. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.98E+03	1.30E-04	8.87E-01	7.50E-02	5.12E+02	1.42E+03	1.93E+03	1.29E+02	1.49E+01	33.2%
Arsenic	2.16E+01	1.20E-03	1.97E-02	6.60E-03	1.08E-01	3.41E+00	3.54E+00	9.66E+00	3.67E-01	0.8%
Barium	5.58E+01	3.00E-03	1.27E-01	7.50E-03	3.18E-01	8.82E+00	9.27E+00	2.31E+01	4.01E-01	0.9%
Cadmium	3.60E-01	3.00E-02	8.21E-03	1.10E+01	3.01E+00	5.69E-02	3.07E+00	2.83E+00	1.09E+00	2.4%
Chromium	1.03E+01	9.00E-04	7.05E-03	1.60E-01	1.25E+00	1.63E+00	2.89E+00	1.99E+00	1.45E+00	3.2%
Lead	1.81E+01	1.80E-03	2.48E-02	2.00E+00	2.75E+01	2.86E+00	3.04E+01	1.32E+00	2.30E+01	51.0%
Mercury	6.00E-02	4.00E-02	1.82E-03	3.40E-01	1.55E-02	9.48E-03	2.68E-02	5.27E-01	5.09E-02	0.1%
Selenium	1.70E+00	5.00E-03	6.46E-03	7.60E-01	9.82E-01	2.69E-01	1.26E+00	9.40E-01	1.34E+00	3.0%
Silver	1.37E-01	2.00E-02	2.08E-03	1.50E-01	1.56E-02	2.16E-02	3.92E-02	No TRV	No TRV	No HQ
Zinc	4.67E+01	1.80E-01	6.39E+00	1.80E+00	6.39E+01	7.38E+00	7.77E+01	3.21E+01	2.42E+00	5.4%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.60E-01	1.00E+00	7.60E-01	1.58E-01	1.68E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.80E-01	1.00E+00	3.80E-01	7.90E-02	8.39E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
HI =									4.50E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) 7.60E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-321. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x I _A x AUF	ADDS (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics										
Aluminum	8.98E+03	8.00E-04	1.47E+00	7.50E-02	0.00E+00	1.16E+02	1.17E+02	7.63E-01	1.54E+02	95.4%
Arsenic	2.16E+01	8.00E-03	3.54E-02	6.60E-03	0.00E+00	2.79E-01	3.14E-01	4.98E-02	6.31E+00	3.9%
Barium	5.58E+01	3.00E-02	3.43E-01	7.50E-03	0.00E+00	7.21E-01	1.06E+00	3.90E+00	2.73E-01	0.2%
Cadmium	3.60E-01	1.10E-01	8.12E-03	1.10E+01	0.00E+00	4.65E-03	1.28E-02	7.05E-01	1.81E-02	0.0%
Chromium	1.03E+01	1.50E-03	3.17E-03	1.60E-01	0.00E+00	1.33E-01	1.36E-01	2.00E+03	6.81E-05	0.0%
Lead	1.81E+01	9.00E-03	3.34E-02	2.00E+00	0.00E+00	2.34E-01	2.67E-01	5.84E+00	4.57E-02	0.0%
Mercury	6.00E-02	1.80E-01	2.21E-03	3.40E-01	0.00E+00	7.75E-04	2.99E-03	9.59E-01	3.12E-03	0.0%
Selenium	1.70E+00	5.00E-03	1.74E-03	7.60E-01	0.00E+00	2.20E-02	2.37E-02	1.46E-01	1.62E-01	0.1%
Silver	1.37E-01	8.00E-02	2.24E-03	1.50E-01	0.00E+00	1.76E-03	4.00E-03	No TRV	No TRV	No HQ
Zinc	4.67E+01	3.00E-01	2.87E+00	1.80E+00	0.00E+00	6.03E-01	3.48E+00	1.17E+02	2.97E-02	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.2%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	1.17E+00	2.33E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	5.11E-01	4.33E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	2.05E-01	1.00E+00	0.00E+00	1.29E-02	2.18E-01	1.12E+00	1.94E-01	0.1%
Nitrobenzene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.03E-01	1.00E+00	0.00E+00	6.46E-03	1.09E-01	2.89E+00	3.77E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	1.61E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-322. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.98E+03	8.00E-04	2.23E-01	7.50E-02	0.00E+00	5.57E+00	5.79E+00	2.93E-01	1.98E+01	93.7%
Arsenic	2.16E+01	8.00E-03	5.36E-03	6.60E-03	0.00E+00	1.34E-02	1.87E-02	1.91E-02	9.80E-01	4.6%
Barium	5.58E+01	3.00E-02	5.19E-02	7.50E-03	0.00E+00	3.46E-02	8.65E-02	1.50E+00	5.77E-02	0.3%
Cadmium	3.60E-01	1.10E-01	1.23E-03	1.10E+01	0.00E+00	2.23E-04	1.45E-03	2.71E-01	5.36E-03	0.0%
Chromium	1.03E+01	1.50E-03	4.79E-04	1.60E-01	0.00E+00	6.39E-03	6.86E-03	7.68E+02	8.94E-06	0.0%
Lead	1.81E+01	9.00E-03	5.05E-03	2.00E+00	0.00E+00	1.12E-02	1.63E-02	2.24E+00	7.25E-03	0.0%
Mercury	6.00E-02	1.80E-01	3.35E-04	3.40E-01	0.00E+00	3.72E-05	3.72E-04	3.68E-01	1.01E-03	0.0%
Selenium	1.70E+00	5.00E-03	2.64E-04	7.60E-01	0.00E+00	1.05E-03	1.32E-03	5.61E-02	2.35E-02	0.1%
Silver	1.37E-01	8.00E-02	3.39E-04	1.50E-01	0.00E+00	8.47E-05	4.23E-04	No TRV	No TRV	No HQ
Zinc	4.67E+01	3.00E-01	4.34E-01	1.80E+00	0.00E+00	2.90E-02	4.63E-01	4.49E+01	1.03E-02	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.6%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	4.49E-01	8.81E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	1.96E-01	8.21E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	3.10E-02	1.00E+00	0.00E+00	6.20E-04	3.16E-02	4.31E-01	7.34E-02	0.3%
Nitrobenzene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.55E-02	1.00E+00	0.00E+00	3.10E-04	1.58E-02	1.11E+00	1.42E-02	0.1%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
									HI =	2.11E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-323. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	SP _r	ADD _p (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADD _p (mg/kgBW/d) EPC x SP _v x IP-s x AUF	BAF _i	Prey ADD _A (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADD _S (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.98E+03	1.30E-04	0.00E+00	8.00E-04	5.23E-01	7.50E-02	3.28E+02	6.54E+02	9.82E+02
Arsenic	2.16E+01	1.20E-03	0.00E+00	8.00E-03	1.26E-02	6.60E-03	6.95E-02	1.57E+00	1.65E+00
Barium	5.58E+01	3.00E-03	0.00E+00	3.00E-02	1.22E-01	7.50E-03	2.04E-01	4.06E+00	4.39E+00
Cadmium	3.60E-01	3.00E-02	0.00E+00	1.10E-01	2.88E-03	1.10E+01	1.93E+00	2.62E-02	1.96E+00
Chromium	1.03E+01	9.00E-04	0.00E+00	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00
Lead	1.81E+01	1.80E-03	0.00E+00	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01
Mercury	6.00E-02	4.00E-02	0.00E+00	1.80E-01	7.86E-04	3.40E-01	9.94E-03	4.37E-03	1.51E-02
Selenium	1.70E+00	5.00E-03	0.00E+00	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01
Silver	1.37E-01	2.00E-02	0.00E+00	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02
Zinc	4.67E+01	1.80E-01	0.00E+00	3.00E-01	1.02E+00	1.80E+00	4.10E+01	3.40E+00	4.54E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-323. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	1.32E+02	1.45E+01	0.00E+00	1.45E+01	6.68E+01	2.17E-01	6.3%
Arsenic	1.00E-01	2.95E-01	3.25E-02	0.00E+00	3.25E-02	4.98E+00	6.53E-03	0.2%
Barium	7.50E-03	5.88E-02	6.46E-03	0.00E+00	6.46E-03	1.19E+01	5.43E-04	0.0%
Cadmium	2.80E-02	9.79E-02	1.08E-02	0.00E+00	1.08E-02	1.46E+00	7.39E-03	0.2%
Chromium	2.80E-01	7.77E-01	8.55E-02	0.00E+00	8.55E-02	1.03E+00	8.33E-02	2.4%
Lead	1.50E-02	5.08E-01	5.59E-02	0.00E+00	5.59E-02	6.82E-01	8.19E-02	2.4%
Mercury	1.30E+01	3.50E-01	3.85E-02	0.00E+00	3.85E-02	2.72E-01	1.42E-01	4.1%
Selenium	7.50E-01	1.01E+00	1.11E-01	0.00E+00	1.11E-01	4.85E-01	2.29E-01	6.6%
Silver	1.50E-01	5.55E-03	6.11E-04	0.00E+00	6.11E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	4.05E+02	4.46E+01	0.00E+00	4.46E+01	1.66E+01	2.69E+00	77.8%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	4.78E-07	0.00E+00	4.78E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.24E-01	0.00E+00	1.24E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.02E-07	0.00E+00	3.02E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	6.22E-02	0.00E+00	6.22E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	3.46E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-324. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.98E+03	1.30E-04	0.00E+00	8.00E-04	5.23E-01	7.50E-02	3.28E+02	6.54E+02	9.82E+02
Arsenic	2.16E+01	1.20E-03	0.00E+00	8.00E-03	1.26E-02	6.60E-03	6.95E-02	1.57E+00	1.65E+00
Barium	5.58E+01	3.00E-03	0.00E+00	3.00E-02	1.22E-01	7.50E-03	2.04E-01	4.06E+00	4.39E+00
Cadmium	3.60E-01	3.00E-02	0.00E+00	1.10E-01	2.88E-03	1.10E+01	1.93E+00	2.62E-02	1.96E+00
Chromium	1.03E+01	9.00E-04	0.00E+00	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00
Lead	1.81E+01	1.80E-03	0.00E+00	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01
Mercury	6.00E-02	4.00E-02	0.00E+00	1.80E-01	7.86E-04	3.40E-01	9.94E-03	4.37E-03	1.51E-02
Selenium	1.70E+00	5.00E-03	0.00E+00	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01
Silver	1.37E-01	2.00E-02	0.00E+00	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02
Zinc	4.67E+01	1.80E-01	0.00E+00	3.00E-01	1.02E+00	1.80E+00	4.10E+01	3.40E+00	4.54E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-324. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _s x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	1.32E+02	1.64E+01	0.00E+00	1.64E+01	8.33E+01	1.97E-01	6.3%
Arsenic	1.00E-01	2.95E-01	3.69E-02	0.00E+00	3.69E-02	6.22E+00	5.94E-03	0.2%
Barium	7.50E-03	5.88E-02	7.35E-03	0.00E+00	7.35E-03	1.49E+01	4.94E-04	0.0%
Cadmium	2.80E-02	9.79E-02	1.22E-02	0.00E+00	1.22E-02	1.82E+00	6.73E-03	0.2%
Chromium	2.80E-01	7.77E-01	9.71E-02	0.00E+00	9.71E-02	1.28E+00	7.59E-02	2.4%
Lead	1.50E-02	5.08E-01	6.35E-02	0.00E+00	6.35E-02	8.51E-01	7.46E-02	2.4%
Mercury	1.30E+01	3.50E-01	4.38E-02	0.00E+00	4.38E-02	3.39E-01	1.29E-01	4.1%
Selenium	7.50E-01	1.01E+00	1.26E-01	0.00E+00	1.26E-01	6.05E-01	2.09E-01	6.6%
Silver	1.50E-01	5.55E-03	6.94E-04	0.00E+00	6.94E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	4.05E+02	5.06E+01	0.00E+00	5.06E+01	2.07E+01	2.45E+00	77.8%
1,3,5-Trinitrobenzen	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	5.44E-07	0.00E+00	5.44E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.41E-01	0.00E+00	1.41E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.43E-07	0.00E+00	3.43E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	7.06E-02	0.00E+00	7.06E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
						HI =	3.15E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-325. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 41

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.98E+03	1.30E-04	3.71E-03	8.00E-04	5.23E-01	7.50E-02	3.28E+02	6.54E+02	9.82E+02
Arsenic	2.16E+01	1.20E-03	8.23E-05	8.00E-03	1.26E-02	6.60E-03	6.95E-02	1.57E+00	1.65E+00
Barium	5.58E+01	3.00E-03	5.31E-04	3.00E-02	1.22E-01	7.50E-03	2.04E-01	4.06E+00	4.39E+00
Cadmium	3.60E-01	3.00E-02	3.43E-05	1.10E-01	2.88E-03	1.10E+01	1.93E+00	2.62E-02	1.96E+00
Chromium	1.03E+01	9.00E-04	2.94E-05	1.50E-03	1.12E-03	1.60E-01	8.03E-01	7.50E-01	1.55E+00
Lead	1.81E+01	1.80E-03	1.03E-04	9.00E-03	1.19E-02	2.00E+00	1.76E+01	1.32E+00	1.90E+01
Mercury	6.00E-02	4.00E-02	7.62E-06	1.80E-01	7.86E-04	3.40E-01	9.94E-03	4.37E-03	1.51E-02
Selenium	1.70E+00	5.00E-03	2.70E-05	5.00E-03	6.19E-04	7.60E-01	6.29E-01	1.24E-01	7.54E-01
Silver	1.37E-01	2.00E-02	8.67E-06	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02
Zinc	4.67E+01	1.80E-01	2.67E-02	3.00E-01	1.02E+00	1.80E+00	4.10E+01	3.40E+00	4.54E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	3.17E-03	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	1.59E-03	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_s = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-325. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.32E+02	8.66E+00	1.73E+01	2.60E+01	5.46E-01	4.77E+01	93.8%
Arsenic	1.00E-01	2.95E-01	1.94E-02	4.17E-02	6.13E-02	3.56E-02	1.72E+00	3.4%
Barium	7.50E-03	5.88E-02	3.87E-03	1.08E-01	1.12E-01	2.79E+00	4.02E-02	0.1%
Cadmium	2.80E-02	9.79E-02	6.45E-03	6.96E-04	7.18E-03	5.04E-01	1.42E-02	0.0%
Chromium	2.80E-01	7.77E-01	5.11E-02	1.99E-02	7.11E-02	1.43E+03	4.97E-05	0.0%
Lead	1.50E-02	5.08E-01	3.34E-02	3.50E-02	6.85E-02	4.18E+00	1.64E-02	0.0%
Mercury	1.30E+01	3.50E-01	2.31E-02	1.16E-04	2.32E-02	6.86E-01	3.38E-02	0.1%
Selenium	7.50E-01	1.01E+00	6.65E-02	3.28E-03	6.98E-02	1.05E-01	6.67E-01	1.3%
Silver	1.50E-01	5.55E-03	3.65E-04	2.64E-04	6.38E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	4.05E+02	2.67E+01	9.02E-02	2.68E+01	8.36E+01	3.20E-01	0.6%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.3%
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	8.36E-01	1.19E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.35E-06	2.86E-07	2.51E-04	2.60E-04	3.66E-01	7.10E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	7.44E-02	1.93E-03	7.95E-02	8.02E-01	9.91E-02	0.2%
Nitrobenzene	1.20E-04	2.75E-06	1.81E-07	2.51E-04	2.60E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	3.72E-02	9.66E-04	3.97E-02	2.07E+00	1.92E-02	0.0%
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.1%
							HI = 5.08E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-326. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.52E+04	5.00E+01	3.04E+02	93.3%
Arsenic	1.41E+01	1.00E+01	1.41E+00	0.4%
Barium	6.37E+01	5.00E+02	1.27E-01	0.0%
Cadmium	3.10E-01	5.00E-01	6.20E-01	0.2%
Chromium	1.72E+01	1.00E+00	1.72E+01	5.3%
Lead	1.34E+01	5.00E+01	2.68E-01	0.1%
Mercury	3.33E-02	3.00E-01	1.11E-01	0.0%
Selenium	5.60E-01	1.00E+00	5.60E-01	0.2%
Silver	1.37E-01	2.00E+00	6.83E-02	0.0%
Zinc	6.94E+01	5.00E+01	1.39E+00	0.4%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	4.50E-01	3.00E+01	1.50E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+02	5.00E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =				3.26E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-327. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 43**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.52E+04	No TRV	No TRV	No HQ
Arsenic	1.41E+01	6.00E+01	2.35E-01	0.5%
Barium	6.37E+01	No TRV	No TRV	No HQ
Cadmium	3.10E-01	2.00E+01	1.55E-02	0.0%
Chromium	1.72E+01	4.00E-01	4.30E+01	98.6%
Lead	1.34E+01	5.00E+02	2.68E-02	0.1%
Mercury	3.33E-02	No TRV	No TRV	No HQ
Selenium	5.60E-01	No TRV	No TRV	No HQ
Silver	1.37E-01	No TRV	No TRV	No HQ
Zinc	6.94E+01	2.00E+02	3.47E-01	0.8%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	4.50E-01	1.40E+02	3.21E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				4.36E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-328. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.52E+04	8.00E-04	8.85E-01	7.50E-02	5.55E+02	1.11E+03	1.66E+03	2.22E+00	7.48E+02	98.5%
Arsenic	1.41E+01	8.00E-03	8.21E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00	1.45E-01	7.44E+00	1.0%
Barium	6.37E+01	3.00E-02	1.39E-01	7.50E-03	2.33E-01	4.64E+00	5.01E+00	1.14E+01	4.40E-01	0.1%
Cadmium	3.10E-01	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00	2.05E+00	8.21E-01	0.1%
Chromium	1.72E+01	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.59E+00	5.83E+03	4.45E-04	0.0%
Lead	1.34E+01	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01	1.70E+01	8.24E-01	0.1%
Mercury	3.33E-02	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03	2.80E+00	2.99E-03	0.0%
Selenium	5.60E-01	5.00E-03	2.04E-04	7.60E-01	2.07E-01	4.08E-02	2.48E-01	4.26E-01	5.83E-01	0.1%
Silver	1.37E-01	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02	No TRV	No TRV	No HQ
Zinc	6.94E+01	3.00E-01	1.52E+00	1.80E+00	6.09E+01	5.05E+00	6.74E+01	3.41E+02	1.98E-01	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	4.50E-01	1.00E+00	3.28E-02	1.00E+00	2.19E-01	3.28E-02	2.85E-01	3.41E+00	8.36E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	1.49E+00	8.60E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01	3.27E+00	1.94E-01	0.0%
Nitrobenzene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01	8.44E+00	3.75E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	7.59E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; anima

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soi
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-329. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.52E+04	1.30E-04	1.50E+00	7.50E-02	8.66E+02	2.40E+03	3.27E+03	1.29E+02	2.53E+01	50.1%
Arsenic	1.41E+01	1.20E-03	1.29E-02	6.60E-03	7.07E-02	2.23E+00	2.31E+00	9.66E+00	2.40E-01	0.5%
Barium	6.37E+01	3.00E-03	1.45E-01	7.50E-03	3.63E-01	1.01E+01	1.06E+01	2.31E+01	4.58E-01	0.9%
Cadmium	3.10E-01	3.00E-02	7.07E-03	1.10E+01	2.59E+00	4.90E-02	2.65E+00	2.83E+00	9.37E-01	1.9%
Chromium	1.72E+01	9.00E-04	1.18E-02	1.60E-01	2.09E+00	2.72E+00	4.82E+00	1.99E+00	2.43E+00	4.8%
Lead	1.34E+01	1.80E-03	1.83E-02	2.00E+00	2.04E+01	2.12E+00	2.25E+01	1.32E+00	1.70E+01	33.8%
Mercury	3.33E-02	4.00E-02	1.01E-03	3.40E-01	8.60E-03	5.26E-03	1.49E-02	5.27E-01	2.82E-02	0.1%
Selenium	5.60E-01	5.00E-03	2.13E-03	7.60E-01	3.23E-01	8.85E-02	4.14E-01	9.40E-01	4.40E-01	0.9%
Silver	1.37E-01	2.00E-02	2.08E-03	1.50E-01	1.56E-02	2.16E-02	3.92E-02	No TRV	No TRV	No HQ
Zinc	6.94E+01	1.80E-01	9.49E+00	1.80E+00	9.49E+01	1.10E+01	1.15E+02	3.21E+01	3.59E+00	7.1%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	4.50E-01	1.00E+00	3.42E-01	1.00E+00	3.42E-01	7.11E-02	7.55E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.60E-01	1.00E+00	7.60E-01	1.58E-01	1.68E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.80E-01	1.00E+00	3.80E-01	7.90E-02	8.39E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
HI =									5.04E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) 7.60E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-330. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.52E+04	8.00E-04	2.49E+00	7.50E-02	0.00E+00	1.96E+02	1.99E+02	7.63E-01	2.61E+02	98.0%
Arsenic	1.41E+01	8.00E-03	2.31E-02	6.60E-03	0.00E+00	1.82E-01	2.05E-01	4.98E-02	4.12E+00	1.5%
Barium	6.37E+01	3.00E-02	3.92E-01	7.50E-03	0.00E+00	8.23E-01	1.21E+00	3.90E+00	3.11E-01	0.1%
Cadmium	3.10E-01	1.10E-01	6.99E-03	1.10E+01	0.00E+00	4.00E-03	1.10E-02	7.05E-01	1.56E-02	0.0%
Chromium	1.72E+01	1.50E-03	5.29E-03	1.60E-01	0.00E+00	2.22E-01	2.27E-01	2.00E+03	1.14E-04	0.0%
Lead	1.34E+01	9.00E-03	2.47E-02	2.00E+00	0.00E+00	1.73E-01	1.98E-01	5.84E+00	3.39E-02	0.0%
Mercury	3.33E-02	1.80E-01	1.23E-03	3.40E-01	0.00E+00	4.30E-04	1.66E-03	9.59E-01	1.73E-03	0.0%
Selenium	5.60E-01	5.00E-03	5.74E-04	7.60E-01	0.00E+00	7.23E-03	7.81E-03	1.46E-01	5.34E-02	0.0%
Silver	1.37E-01	8.00E-02	2.24E-03	1.50E-01	0.00E+00	1.76E-03	4.00E-03	No TRV	No TRV	No HQ
Zinc	6.94E+01	3.00E-01	4.27E+00	1.80E+00	0.00E+00	8.96E-01	5.16E+00	1.17E+02	4.42E-02	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	4.50E-01	1.00E+00	9.23E-02	1.00E+00	0.00E+00	5.81E-03	9.81E-02	1.17E+00	8.39E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	5.11E-01	4.33E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	2.05E-01	1.00E+00	0.00E+00	1.29E-02	2.18E-01	1.12E+00	1.94E-01	0.1%
Nitrobenzene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.03E-01	1.00E+00	0.00E+00	6.46E-03	1.09E-01	2.89E+00	3.77E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
								HI = 2.66E+02		

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-331. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.52E+04	8.00E-04	3.77E-01	7.50E-02	0.00E+00	9.42E+00	9.80E+00	2.93E-01	3.35E+01	97.1%
Arsenic	1.41E+01	8.00E-03	3.50E-03	6.60E-03	0.00E+00	8.74E-03	1.22E-02	1.91E-02	6.40E-01	1.9%
Barium	6.37E+01	3.00E-02	5.92E-02	7.50E-03	0.00E+00	3.95E-02	9.87E-02	1.50E+00	6.59E-02	0.2%
Cadmium	3.10E-01	1.10E-01	1.06E-03	1.10E+01	0.00E+00	1.92E-04	1.25E-03	2.71E-01	4.62E-03	0.0%
Chromium	1.72E+01	1.50E-03	8.00E-04	1.60E-01	0.00E+00	1.07E-02	1.15E-02	7.68E+02	1.49E-05	0.0%
Lead	1.34E+01	9.00E-03	3.74E-03	2.00E+00	0.00E+00	8.31E-03	1.20E-02	2.24E+00	5.37E-03	0.0%
Mercury	3.33E-02	1.80E-01	1.86E-04	3.40E-01	0.00E+00	2.06E-05	2.06E-04	3.68E-01	5.60E-04	0.0%
Selenium	5.60E-01	5.00E-03	8.68E-05	7.60E-01	0.00E+00	3.47E-04	4.34E-04	5.61E-02	7.73E-03	0.0%
Silver	1.37E-01	8.00E-02	3.39E-04	1.50E-01	0.00E+00	8.47E-05	4.23E-04	No TRV	No TRV	No HQ
Zinc	6.94E+01	3.00E-01	6.45E-01	1.80E+00	0.00E+00	4.30E-02	6.88E-01	4.49E+01	1.53E-02	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.3%
2,4,6-Trinitrotoluene	4.50E-01	1.00E+00	1.40E-02	1.00E+00	0.00E+00	2.79E-04	1.42E-02	4.49E-01	3.17E-02	0.1%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	1.96E-01	8.21E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	3.10E-02	1.00E+00	0.00E+00	6.20E-04	3.16E-02	4.31E-01	7.34E-02	0.2%
Nitrobenzene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.55E-02	1.00E+00	0.00E+00	3.10E-04	1.58E-02	1.11E+00	1.42E-02	0.0%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
								HI = 3.45E+01		

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-332. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.52E+04	1.30E-04	0.00E+00	8.00E-04	8.85E-01	7.50E-02	5.55E+02	1.11E+03	1.66E+03
Arsenic	1.41E+01	1.20E-03	0.00E+00	8.00E-03	8.21E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00
Barium	6.37E+01	3.00E-03	0.00E+00	3.00E-02	1.39E-01	7.50E-03	2.33E-01	4.64E+00	5.01E+00
Cadmium	3.10E-01	3.00E-02	0.00E+00	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00
Chromium	1.72E+01	9.00E-04	0.00E+00	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.59E+00
Lead	1.34E+01	1.80E-03	0.00E+00	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01
Mercury	3.33E-02	4.00E-02	0.00E+00	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03
Selenium	5.60E-01	5.00E-03	0.00E+00	5.00E-03	2.04E-04	7.60E-01	2.07E-01	4.08E-02	2.48E-01
Silver	1.37E-01	2.00E-02	0.00E+00	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02
Zinc	6.94E+01	1.80E-01	0.00E+00	3.00E-01	1.52E+00	1.80E+00	6.09E+01	5.05E+00	6.74E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	4.50E-01	1.00E+00	0.00E+00	1.00E+00	3.28E-02	1.00E+00	2.19E-01	3.28E-02	2.85E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-332. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	2.23E+02	2.45E+01	0.00E+00	2.45E+01	6.68E+01	3.67E-01	7.8%
Arsenic	1.00E-01	1.93E-01	2.12E-02	0.00E+00	2.12E-02	4.98E+00	4.26E-03	0.1%
Barium	7.50E-03	6.71E-02	7.38E-03	0.00E+00	7.38E-03	1.19E+01	6.19E-04	0.0%
Cadmium	2.80E-02	8.43E-02	9.28E-03	0.00E+00	9.28E-03	1.46E+00	6.36E-03	0.1%
Chromium	2.80E-01	1.30E+00	1.43E-01	0.00E+00	1.43E-01	1.03E+00	1.39E-01	2.9%
Lead	1.50E-02	3.76E-01	4.14E-02	0.00E+00	4.14E-02	6.82E-01	6.07E-02	1.3%
Mercury	1.30E+01	1.94E-01	2.14E-02	0.00E+00	2.14E-02	2.72E-01	7.87E-02	1.7%
Selenium	7.50E-01	3.33E-01	3.66E-02	0.00E+00	3.66E-02	4.85E-01	7.54E-02	1.6%
Silver	1.50E-01	5.55E-03	6.11E-04	0.00E+00	6.11E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	6.02E+02	6.62E+01	0.00E+00	6.62E+01	1.66E+01	4.00E+00	84.5%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	5.09E-01	5.59E-02	0.00E+00	5.59E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	4.78E-07	0.00E+00	4.78E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.24E-01	0.00E+00	1.24E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.02E-07	0.00E+00	3.02E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	6.22E-02	0.00E+00	6.22E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	4.73E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-333. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.52E+04	1.30E-04	0.00E+00	8.00E-04	8.85E-01	7.50E-02	5.55E+02	1.11E+03	1.66E+03
Arsenic	1.41E+01	1.20E-03	0.00E+00	8.00E-03	8.21E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00
Barium	6.37E+01	3.00E-03	0.00E+00	3.00E-02	1.39E-01	7.50E-03	2.33E-01	4.64E+00	5.01E+00
Cadmium	3.10E-01	3.00E-02	0.00E+00	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00
Chromium	1.72E+01	9.00E-04	0.00E+00	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.59E+00
Lead	1.34E+01	1.80E-03	0.00E+00	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01
Mercury	3.33E-02	4.00E-02	0.00E+00	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03
Selenium	5.60E-01	5.00E-03	0.00E+00	5.00E-03	2.04E-04	7.60E-01	2.07E-01	4.08E-02	2.48E-01
Silver	1.37E-01	2.00E-02	0.00E+00	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02
Zinc	6.94E+01	1.80E-01	0.00E+00	3.00E-01	1.52E+00	1.80E+00	6.09E+01	5.05E+00	6.74E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	4.50E-01	1.00E+00	0.00E+00	1.00E+00	3.28E-02	1.00E+00	2.19E-01	3.28E-02	2.85E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-333. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	2.23E+02	2.78E+01	0.00E+00	2.78E+01	8.33E+01	3.34E-01	7.8%
Arsenic	1.00E-01	1.93E-01	2.41E-02	0.00E+00	2.41E-02	6.22E+00	3.88E-03	0.1%
Barium	7.50E-03	6.71E-02	8.39E-03	0.00E+00	8.39E-03	1.49E+01	5.64E-04	0.0%
Cadmium	2.80E-02	8.43E-02	1.05E-02	0.00E+00	1.05E-02	1.82E+00	5.80E-03	0.1%
Chromium	2.80E-01	1.30E+00	1.62E-01	0.00E+00	1.62E-01	1.28E+00	1.27E-01	2.9%
Lead	1.50E-02	3.76E-01	4.70E-02	0.00E+00	4.70E-02	8.51E-01	5.52E-02	1.3%
Mercury	1.30E+01	1.94E-01	2.43E-02	0.00E+00	2.43E-02	3.39E-01	7.17E-02	1.7%
Selenium	7.50E-01	3.33E-01	4.16E-02	0.00E+00	4.16E-02	6.05E-01	6.87E-02	1.6%
Silver	1.50E-01	5.55E-03	6.94E-04	0.00E+00	6.94E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	6.02E+02	7.53E+01	0.00E+00	7.53E+01	2.07E+01	3.64E+00	84.5%
1,3,5-Trinitrobenzen	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	5.09E-01	6.36E-02	0.00E+00	6.36E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	5.44E-07	0.00E+00	5.44E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.41E-01	0.00E+00	1.41E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.43E-07	0.00E+00	3.43E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	7.06E-02	0.00E+00	7.06E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
						HI =	4.31E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-334. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 43

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.52E+04	1.30E-04	6.27E-03	8.00E-04	8.85E-01	7.50E-02	5.55E+02	1.11E+03	1.66E+03
Arsenic	1.41E+01	1.20E-03	5.37E-05	8.00E-03	8.21E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00
Barium	6.37E+01	3.00E-03	6.07E-04	3.00E-02	1.39E-01	7.50E-03	2.33E-01	4.64E+00	5.01E+00
Cadmium	3.10E-01	3.00E-02	2.95E-05	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00
Chromium	1.72E+01	9.00E-04	4.91E-05	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.59E+00
Lead	1.34E+01	1.80E-03	7.66E-05	9.00E-03	8.78E-03	2.00E+00	1.31E+01	9.76E-01	1.40E+01
Mercury	3.33E-02	4.00E-02	4.23E-06	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03
Selenium	5.60E-01	5.00E-03	8.89E-06	5.00E-03	2.04E-04	7.60E-01	2.07E-01	4.08E-02	2.48E-01
Silver	1.37E-01	2.00E-02	8.67E-06	8.00E-02	7.96E-04	1.50E-01	9.98E-03	9.94E-03	2.07E-02
Zinc	6.94E+01	1.80E-01	3.96E-02	3.00E-01	1.52E+00	1.80E+00	6.09E+01	5.05E+00	6.74E+01
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	4.50E-01	1.00E+00	1.43E-03	1.00E+00	3.28E-02	1.00E+00	2.19E-01	3.28E-02	2.85E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	3.17E-03	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	1.59E-03	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-334. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.23E+02	1.47E+01	2.94E+01	4.40E+01	5.46E-01	8.07E+01	97.3%
Arsenic	1.00E-01	1.93E-01	1.27E-02	2.72E-02	4.00E-02	3.56E-02	1.12E+00	1.4%
Barium	7.50E-03	6.71E-02	4.42E-03	1.23E-01	1.28E-01	2.79E+00	4.59E-02	0.1%
Cadmium	2.80E-02	8.43E-02	5.55E-03	5.99E-04	6.18E-03	5.04E-01	1.23E-02	0.0%
Chromium	2.80E-01	1.30E+00	8.54E-02	3.32E-02	1.19E-01	1.43E+03	8.30E-05	0.0%
Lead	1.50E-02	3.76E-01	2.48E-02	2.59E-02	5.07E-02	4.18E+00	1.21E-02	0.0%
Mercury	1.30E+01	1.94E-01	1.28E-02	6.43E-05	1.29E-02	6.86E-01	1.87E-02	0.0%
Selenium	7.50E-01	3.33E-01	2.19E-02	1.08E-03	2.30E-02	1.05E-01	2.20E-01	0.3%
Silver	1.50E-01	5.55E-03	3.65E-04	2.64E-04	6.38E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	6.02E+02	3.96E+01	1.34E-01	3.98E+01	8.36E+01	4.76E-01	0.6%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	5.09E-01	3.35E-02	8.69E-04	3.58E-02	8.36E-01	4.28E-02	0.1%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.35E-06	2.86E-07	2.51E-04	2.60E-04	3.66E-01	7.10E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	7.44E-02	1.93E-03	7.95E-02	8.02E-01	9.91E-02	0.1%
Nitrobenzene	1.20E-04	2.75E-06	1.81E-07	2.51E-04	2.60E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	3.72E-02	9.66E-04	3.97E-02	2.07E+00	1.92E-02	0.0%
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
							HI = 8.30E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-335. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.24E+04	5.00E+01	2.48E+02	92.9%
Arsenic	1.24E+01	1.00E+01	1.24E+00	0.5%
Barium	4.18E+01	5.00E+02	8.36E-02	0.0%
Chromium	1.54E+01	1.00E+00	1.54E+01	5.8%
Lead	1.37E+01	5.00E+01	2.74E-01	0.1%
Selenium	7.20E-01	1.00E+00	7.20E-01	0.3%
Zinc	5.56E+01	5.00E+01	1.11E+00	0.4%
HI =				2.67E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-336. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 44**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.24E+04	No TRV	No TRV	No HQ
Arsenic	1.24E+01	6.00E+01	2.07E-01	0.5%
Barium	4.18E+01	No TRV	No TRV	No HQ
Chromium	1.54E+01	4.00E-01	3.85E+01	98.7%
Lead	1.37E+01	5.00E+02	2.74E-02	0.1%
Selenium	7.20E-01	No TRV	No TRV	No HQ
Zinc	5.56E+01	2.00E+02	2.78E-01	0.7%
HI =				3.90E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-337. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03	2.22E+00	6.10E+02	98.6%
Arsenic	1.24E+01	8.00E-03	7.22E-03	6.60E-03	3.99E-02	9.03E-01	9.50E-01	1.45E-01	6.54E+00	1.1%
Barium	4.18E+01	3.00E-02	9.13E-02	7.50E-03	1.53E-01	3.04E+00	3.29E+00	1.14E+01	2.89E-01	0.0%
Chromium	1.54E+01	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00	5.83E+03	3.98E-04	0.0%
Lead	1.37E+01	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01	1.70E+01	8.42E-01	0.1%
Selenium	7.20E-01	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01	4.26E-01	7.49E-01	0.1%
Zinc	5.56E+01	3.00E-01	1.21E+00	1.80E+00	4.88E+01	4.05E+00	5.40E+01	3.41E+02	1.59E-01	0.0%
									HI =	6.18E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-338. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	1.30E-04	1.23E+00	7.50E-02	7.07E+02	1.96E+03	2.67E+03	1.29E+02	2.06E+01	46.7%
Arsenic	1.24E+01	1.20E-03	1.13E-02	6.60E-03	6.22E-02	1.96E+00	2.03E+00	9.66E+00	2.11E-01	0.5%
Barium	4.18E+01	3.00E-03	9.53E-02	7.50E-03	2.38E-01	6.61E+00	6.94E+00	2.31E+01	3.01E-01	0.7%
Chromium	1.54E+01	9.00E-04	1.05E-02	1.60E-01	1.87E+00	2.43E+00	4.32E+00	1.99E+00	2.17E+00	4.9%
Lead	1.37E+01	1.80E-03	1.87E-02	2.00E+00	2.08E+01	2.17E+00	2.30E+01	1.32E+00	1.74E+01	39.4%
Selenium	7.20E-01	5.00E-03	2.74E-03	7.60E-01	4.16E-01	1.14E-01	5.32E-01	9.40E-01	5.66E-01	1.3%
Zinc	5.56E+01	1.80E-01	7.61E+00	1.80E+00	7.61E+01	8.79E+00	9.25E+01	3.21E+01	2.88E+00	6.5%
HI =									4.41E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-339. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	8.00E-04	2.03E+00	7.50E-02	0.00E+00	1.60E+02	1.62E+02	7.63E-01	2.13E+02	98.2%
Arsenic	1.24E+01	8.00E-03	2.03E-02	6.60E-03	0.00E+00	1.60E-01	1.80E-01	4.98E-02	3.62E+00	1.7%
Barium	4.18E+01	3.00E-02	2.57E-01	7.50E-03	0.00E+00	5.40E-01	7.97E-01	3.90E+00	2.04E-01	0.1%
Chromium	1.54E+01	1.50E-03	4.74E-03	1.60E-01	0.00E+00	1.99E-01	2.04E-01	2.00E+03	1.02E-04	0.0%
Lead	1.37E+01	9.00E-03	2.53E-02	2.00E+00	0.00E+00	1.77E-01	2.02E-01	5.84E+00	3.46E-02	0.0%
Selenium	7.20E-01	5.00E-03	7.38E-04	7.60E-01	0.00E+00	9.30E-03	1.00E-02	1.46E-01	6.87E-02	0.0%
Zinc	5.56E+01	3.00E-01	3.42E+00	1.80E+00	0.00E+00	7.18E-01	4.14E+00	1.17E+02	3.54E-02	0.0%
									HI =	2.17E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-340. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	8.00E-04	3.08E-01	7.50E-02	0.00E+00	7.69E+00	8.00E+00	2.93E-01	2.73E+01	97.7%
Arsenic	1.24E+01	8.00E-03	3.08E-03	6.60E-03	0.00E+00	7.69E-03	1.08E-02	1.91E-02	5.63E-01	2.0%
Barium	4.18E+01	3.00E-02	3.89E-02	7.50E-03	0.00E+00	2.59E-02	6.48E-02	1.50E+00	4.32E-02	0.2%
Chromium	1.54E+01	1.50E-03	7.16E-04	1.60E-01	0.00E+00	9.55E-03	1.03E-02	7.68E+02	1.34E-05	0.0%
Lead	1.37E+01	9.00E-03	3.82E-03	2.00E+00	0.00E+00	8.49E-03	1.23E-02	2.24E+00	5.49E-03	0.0%
Selenium	7.20E-01	5.00E-03	1.12E-04	7.60E-01	0.00E+00	4.46E-04	5.58E-04	5.61E-02	9.94E-03	0.0%
Zinc	5.56E+01	3.00E-01	5.17E-01	1.80E+00	0.00E+00	3.45E-02	5.52E-01	4.49E+01	1.23E-02	0.0%
HI =									2.79E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-341. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.24E+04	1.30E-04	0.00E+00	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03
Arsenic	1.24E+01	1.20E-03	0.00E+00	8.00E-03	7.22E-03	6.60E-03	3.99E-02	9.03E-01	9.50E-01
Barium	4.18E+01	3.00E-03	0.00E+00	3.00E-02	9.13E-02	7.50E-03	1.53E-01	3.04E+00	3.29E+00
Chromium	1.54E+01	9.00E-04	0.00E+00	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	7.20E-01	5.00E-03	0.00E+00	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01
Zinc	5.56E+01	1.80E-01	0.00E+00	3.00E-01	1.21E+00	1.80E+00	4.88E+01	4.05E+00	5.40E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-341. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.82E+02	2.00E+01	0.00E+00	2.00E+01	6.68E+01	2.99E-01	7.9%
Arsenic	1.00E-01	1.70E-01	1.87E-02	0.00E+00	1.87E-02	4.98E+00	3.75E-03	0.1%
Barium	7.50E-03	4.40E-02	4.84E-03	0.00E+00	4.84E-03	1.19E+01	4.06E-04	0.0%
Chromium	2.80E-01	1.16E+00	1.28E-01	0.00E+00	1.28E-01	1.03E+00	1.25E-01	3.3%
Lead	1.50E-02	3.85E-01	4.23E-02	0.00E+00	4.23E-02	6.82E-01	6.20E-02	1.6%
Selenium	7.50E-01	4.28E-01	4.70E-02	0.00E+00	4.70E-02	4.85E-01	9.70E-02	2.6%
Zinc	5.00E+00	4.82E+02	5.31E+01	0.00E+00	5.31E+01	1.66E+01	3.20E+00	84.5%
HI =							3.79E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-342. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.24E+04	1.30E-04	0.00E+00	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03
Arsenic	1.24E+01	1.20E-03	0.00E+00	8.00E-03	7.22E-03	6.60E-03	3.99E-02	9.03E-01	9.50E-01
Barium	4.18E+01	3.00E-03	0.00E+00	3.00E-02	9.13E-02	7.50E-03	1.53E-01	3.04E+00	3.29E+00
Chromium	1.54E+01	9.00E-04	0.00E+00	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	7.20E-01	5.00E-03	0.00E+00	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01
Zinc	5.56E+01	1.80E-01	0.00E+00	3.00E-01	1.21E+00	1.80E+00	4.88E+01	4.05E+00	5.40E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-342. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.82E+02	2.27E+01	0.00E+00	2.27E+01	8.33E+01	2.73E-01	7.9%
Arsenic	1.00E-01	1.70E-01	2.12E-02	0.00E+00	2.12E-02	6.22E+00	3.41E-03	0.1%
Barium	7.50E-03	4.40E-02	5.50E-03	0.00E+00	5.50E-03	1.49E+01	3.70E-04	0.0%
Chromium	2.80E-01	1.16E+00	1.45E-01	0.00E+00	1.45E-01	1.28E+00	1.13E-01	3.3%
Lead	1.50E-02	3.85E-01	4.81E-02	0.00E+00	4.81E-02	8.51E-01	5.65E-02	1.6%
Selenium	7.50E-01	4.28E-01	5.34E-02	0.00E+00	5.34E-02	6.05E-01	8.83E-02	2.6%
Zinc	5.00E+00	4.82E+02	6.03E+01	0.00E+00	6.03E+01	2.07E+01	2.91E+00	84.5%
HI =							3.45E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-343. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 44

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.24E+04	1.30E-04	5.12E-03	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03
Arsenic	1.24E+01	1.20E-03	4.72E-05	8.00E-03	7.22E-03	6.60E-03	3.99E-02	9.03E-01	9.50E-01
Barium	4.18E+01	3.00E-03	3.98E-04	3.00E-02	9.13E-02	7.50E-03	1.53E-01	3.04E+00	3.29E+00
Chromium	1.54E+01	9.00E-04	4.40E-05	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00
Lead	1.37E+01	1.80E-03	7.83E-05	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	7.20E-01	5.00E-03	1.14E-05	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01
Zinc	5.56E+01	1.80E-01	3.18E-02	3.00E-01	1.21E+00	1.80E+00	4.88E+01	4.05E+00	5.40E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-343. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.82E+02	1.20E+01	2.40E+01	3.59E+01	5.46E-01	6.58E+01	97.5%
Arsenic	1.00E-01	1.70E-01	1.12E-02	2.40E-02	3.52E-02	3.56E-02	9.87E-01	1.5%
Barium	7.50E-03	4.40E-02	2.90E-03	8.08E-02	8.41E-02	2.79E+00	3.01E-02	0.0%
Chromium	2.80E-01	1.16E+00	7.65E-02	2.98E-02	1.06E-01	1.43E+03	7.43E-05	0.0%
Lead	1.50E-02	3.85E-01	2.53E-02	2.65E-02	5.19E-02	4.18E+00	1.24E-02	0.0%
Selenium	7.50E-01	4.28E-01	2.81E-02	1.39E-03	2.95E-02	1.05E-01	2.83E-01	0.4%
Zinc	5.00E+00	4.82E+02	3.17E+01	1.07E-01	3.19E+01	8.36E+01	3.81E-01	0.6%
							HI = 6.75E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-344. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.91E+03	5.00E+01	1.98E+02	88.4%
Arsenic	1.21E+01	1.00E+01	1.21E+00	0.5%
Barium	9.99E+01	5.00E+02	2.00E-01	0.1%
Cadmium	1.80E+00	5.00E-01	3.60E+00	1.6%
Chromium	6.80E+00	1.00E+00	6.80E+00	3.0%
Lead	3.14E+02	5.00E+01	6.28E+00	2.8%
Selenium	8.20E-01	1.00E+00	8.20E-01	0.4%
Zinc	3.49E+02	5.00E+01	6.98E+00	3.1%
HI =			2.24E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-345. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 45**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.91E+03	No TRV	No TRV	No HQ
Arsenic	1.21E+01	6.00E+01	2.02E-01	1.0%
Barium	9.99E+01	No TRV	No TRV	No HQ
Cadmium	1.80E+00	2.00E+01	9.00E-02	0.5%
Chromium	6.80E+00	4.00E-01	1.70E+01	86.4%
Lead	3.14E+02	5.00E+02	6.28E-01	3.2%
Selenium	8.20E-01	No TRV	No TRV	No HQ
Zinc	3.49E+02	2.00E+02	1.75E+00	8.9%
HI =			1.97E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-346. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.91E+03	8.00E-04	5.77E-01	7.50E-02	3.62E+02	7.21E+02	1.08E+03	2.22E+00	4.87E+02	93.7%
Arsenic	1.21E+01	8.00E-03	7.05E-03	6.60E-03	3.89E-02	8.81E-01	9.27E-01	1.45E-01	6.38E+00	1.2%
Barium	9.99E+01	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.27E+00	7.86E+00	1.14E+01	6.90E-01	0.1%
Cadmium	1.80E+00	1.10E-01	1.44E-02	1.10E+01	9.65E+00	1.31E-01	9.79E+00	2.05E+00	4.77E+00	0.9%
Chromium	6.80E+00	1.50E-03	7.43E-04	1.60E-01	5.30E-01	4.95E-01	1.03E+00	5.83E+03	1.76E-04	0.0%
Lead	3.14E+02	9.00E-03	2.06E-01	2.00E+00	3.06E+02	2.29E+01	3.29E+02	1.70E+01	1.93E+01	3.7%
Selenium	8.20E-01	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01	4.26E-01	8.54E-01	0.2%
Zinc	3.49E+02	3.00E-01	7.62E+00	1.80E+00	3.06E+02	2.54E+01	3.39E+02	3.41E+02	9.95E-01	0.2%
									HI =	5.20E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-347. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.91E+03	1.30E-04	9.79E-01	7.50E-02	5.65E+02	1.57E+03	2.13E+03	1.29E+02	1.65E+01	3.7%
Arsenic	1.21E+01	1.20E-03	1.10E-02	6.60E-03	6.07E-02	1.91E+00	1.98E+00	9.66E+00	2.06E-01	0.0%
Barium	9.99E+01	3.00E-03	2.28E-01	7.50E-03	5.69E-01	1.58E+01	1.66E+01	2.31E+01	7.18E-01	0.2%
Cadmium	1.80E+00	3.00E-02	4.10E-02	1.10E+01	1.50E+01	2.85E-01	1.54E+01	2.83E+00	5.44E+00	1.2%
Chromium	6.80E+00	9.00E-04	4.65E-03	1.60E-01	8.27E-01	1.07E+00	1.91E+00	1.99E+00	9.59E-01	0.2%
Lead	3.14E+02	1.80E-03	4.30E-01	2.00E+00	4.77E+02	4.96E+01	5.27E+02	1.32E+00	3.99E+02	90.4%
Selenium	8.20E-01	5.00E-03	3.12E-03	7.60E-01	4.74E-01	1.30E-01	6.06E-01	9.40E-01	6.45E-01	0.1%
Zinc	3.49E+02	1.80E-01	4.77E+01	1.80E+00	4.77E+02	5.52E+01	5.80E+02	3.21E+01	1.81E+01	4.1%
HI =									4.41E+02	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_P = Average daily dose; plant
 I_P (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-348. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.91E+03	8.00E-04	1.63E+00	7.50E-02	0.00E+00	1.28E+02	1.30E+02	7.63E-01	1.70E+02	97.0%
Arsenic	1.21E+01	8.00E-03	1.98E-02	6.60E-03	0.00E+00	1.56E-01	1.76E-01	4.98E-02	3.54E+00	2.0%
Barium	9.99E+01	3.00E-02	6.14E-01	7.50E-03	0.00E+00	1.29E+00	1.90E+00	3.90E+00	4.88E-01	0.3%
Cadmium	1.80E+00	1.10E-01	4.06E-02	1.10E+01	0.00E+00	2.32E-02	6.38E-02	7.05E-01	9.06E-02	0.1%
Chromium	6.80E+00	1.50E-03	2.09E-03	1.60E-01	0.00E+00	8.78E-02	8.99E-02	2.00E+03	4.50E-05	0.0%
Lead	3.14E+02	9.00E-03	5.79E-01	2.00E+00	0.00E+00	4.06E+00	4.63E+00	5.84E+00	7.93E-01	0.5%
Selenium	8.20E-01	5.00E-03	8.41E-04	7.60E-01	0.00E+00	1.06E-02	1.14E-02	1.46E-01	7.83E-02	0.0%
Zinc	3.49E+02	3.00E-01	2.15E+01	1.80E+00	0.00E+00	4.51E+00	2.60E+01	1.17E+02	2.22E-01	0.1%
									HI =	1.75E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-349. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.91E+03	8.00E-04	2.46E-01	7.50E-02	0.00E+00	6.14E+00	6.39E+00	2.93E-01	2.18E+01	96.1%
Arsenic	1.21E+01	8.00E-03	3.00E-03	6.60E-03	0.00E+00	7.50E-03	1.05E-02	1.91E-02	5.49E-01	2.4%
Barium	9.99E+01	3.00E-02	9.29E-02	7.50E-03	0.00E+00	6.19E-02	1.55E-01	1.50E+00	1.03E-01	0.5%
Cadmium	1.80E+00	1.10E-01	6.14E-03	1.10E+01	0.00E+00	1.12E-03	7.25E-03	2.71E-01	2.68E-02	0.1%
Chromium	6.80E+00	1.50E-03	3.16E-04	1.60E-01	0.00E+00	4.22E-03	4.53E-03	7.68E+02	5.90E-06	0.0%
Lead	3.14E+02	9.00E-03	8.76E-02	2.00E+00	0.00E+00	1.95E-01	2.82E-01	2.24E+00	1.26E-01	0.6%
Selenium	8.20E-01	5.00E-03	1.27E-04	7.60E-01	0.00E+00	5.08E-04	6.36E-04	5.61E-02	1.13E-02	0.0%
Zinc	3.49E+02	3.00E-01	3.25E+00	1.80E+00	0.00E+00	2.16E-01	3.46E+00	4.49E+01	7.71E-02	0.3%
HI =									2.27E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-350. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	9.91E+03	1.30E-04	0.00E+00	8.00E-04	5.77E-01	7.50E-02	3.62E+02	7.21E+02	1.08E+03
Arsenic	1.21E+01	1.20E-03	0.00E+00	8.00E-03	7.05E-03	6.60E-03	3.89E-02	8.81E-01	9.27E-01
Barium	9.99E+01	3.00E-03	0.00E+00	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.27E+00	7.86E+00
Cadmium	1.80E+00	3.00E-02	0.00E+00	1.10E-01	1.44E-02	1.10E+01	9.65E+00	1.31E-01	9.79E+00
Chromium	6.80E+00	9.00E-04	0.00E+00	1.50E-03	7.43E-04	1.60E-01	5.30E-01	4.95E-01	1.03E+00
Lead	3.14E+02	1.80E-03	0.00E+00	9.00E-03	2.06E-01	2.00E+00	3.06E+02	2.29E+01	3.29E+02
Selenium	8.20E-01	5.00E-03	0.00E+00	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01
Zinc	3.49E+02	1.80E-01	0.00E+00	3.00E-01	7.62E+00	1.80E+00	3.06E+02	2.54E+01	3.39E+02

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-350. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.45E+02	1.60E+01	0.00E+00	1.60E+01	6.68E+01	2.39E-01	1.1%
Arsenic	1.00E-01	1.66E-01	1.82E-02	0.00E+00	1.82E-02	4.98E+00	3.66E-03	0.0%
Barium	7.50E-03	1.05E-01	1.16E-02	0.00E+00	1.16E-02	1.19E+01	9.71E-04	0.0%
Cadmium	2.80E-02	4.90E-01	5.39E-02	0.00E+00	5.39E-02	1.46E+00	3.70E-02	0.2%
Chromium	2.80E-01	5.13E-01	5.64E-02	0.00E+00	5.64E-02	1.03E+00	5.50E-02	0.3%
Lead	1.50E-02	8.81E+00	9.69E-01	0.00E+00	9.69E-01	6.82E-01	1.42E+00	6.5%
Selenium	7.50E-01	4.87E-01	5.36E-02	0.00E+00	5.36E-02	4.85E-01	1.10E-01	0.5%
Zinc	5.00E+00	3.03E+03	3.33E+02	0.00E+00	3.33E+02	1.66E+01	2.01E+01	91.5%
HI =							2.20E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-351. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.91E+03	1.30E-04	0.00E+00	8.00E-04	5.77E-01	7.50E-02	3.62E+02	7.21E+02	1.08E+03
Arsenic	1.21E+01	1.20E-03	0.00E+00	8.00E-03	7.05E-03	6.60E-03	3.89E-02	8.81E-01	9.27E-01
Barium	9.99E+01	3.00E-03	0.00E+00	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.27E+00	7.86E+00
Cadmium	1.80E+00	3.00E-02	0.00E+00	1.10E-01	1.44E-02	1.10E+01	9.65E+00	1.31E-01	9.79E+00
Chromium	6.80E+00	9.00E-04	0.00E+00	1.50E-03	7.43E-04	1.60E-01	5.30E-01	4.95E-01	1.03E+00
Lead	3.14E+02	1.80E-03	0.00E+00	9.00E-03	2.06E-01	2.00E+00	3.06E+02	2.29E+01	3.29E+02
Selenium	8.20E-01	5.00E-03	0.00E+00	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01
Zinc	3.49E+02	1.80E-01	0.00E+00	3.00E-01	7.62E+00	1.80E+00	3.06E+02	2.54E+01	3.39E+02

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-351. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.45E+02	1.81E+01	0.00E+00	1.81E+01	8.33E+01	2.18E-01	1.1%	
Arsenic	1.00E-01	1.66E-01	2.07E-02	0.00E+00	2.07E-02	6.22E+00	3.33E-03	0.0%	
Barium	7.50E-03	1.05E-01	1.32E-02	0.00E+00	1.32E-02	1.49E+01	8.85E-04	0.0%	
Cadmium	2.80E-02	4.90E-01	6.12E-02	0.00E+00	6.12E-02	1.82E+00	3.37E-02	0.2%	
Chromium	2.80E-01	5.13E-01	6.41E-02	0.00E+00	6.41E-02	1.28E+00	5.01E-02	0.3%	
Lead	1.50E-02	8.81E+00	1.10E+00	0.00E+00	1.10E+00	8.51E-01	1.29E+00	6.5%	
Selenium	7.50E-01	4.87E-01	6.09E-02	0.00E+00	6.09E-02	6.05E-01	1.01E-01	0.5%	
Zinc	5.00E+00	3.03E+03	3.78E+02	0.00E+00	3.78E+02	2.07E+01	1.83E+01	91.5%	
HI =							2.00E+01		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-352. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 45

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.91E+03	1.30E-04	4.09E-03	8.00E-04	5.77E-01	7.50E-02	3.62E+02	7.21E+02	1.08E+03
Arsenic	1.21E+01	1.20E-03	4.61E-05	8.00E-03	7.05E-03	6.60E-03	3.89E-02	8.81E-01	9.27E-01
Barium	9.99E+01	3.00E-03	9.51E-04	3.00E-02	2.18E-01	7.50E-03	3.65E-01	7.27E+00	7.86E+00
Cadmium	1.80E+00	3.00E-02	1.71E-04	1.10E-01	1.44E-02	1.10E+01	9.65E+00	1.31E-01	9.79E+00
Chromium	6.80E+00	9.00E-04	1.94E-05	1.50E-03	7.43E-04	1.60E-01	5.30E-01	4.95E-01	1.03E+00
Lead	3.14E+02	1.80E-03	1.79E-03	9.00E-03	2.06E-01	2.00E+00	3.06E+02	2.29E+01	3.29E+02
Selenium	8.20E-01	5.00E-03	1.30E-05	5.00E-03	2.98E-04	7.60E-01	3.04E-01	5.97E-02	3.64E-01
Zinc	3.49E+02	1.80E-01	1.99E-01	3.00E-01	7.62E+00	1.80E+00	3.06E+02	2.54E+01	3.39E+02

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-352. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.45E+02	9.56E+00	1.91E+01	2.87E+01	5.46E-01	5.26E+01	92.8%
Arsenic	1.00E-01	1.66E-01	1.09E-02	2.34E-02	3.43E-02	3.56E-02	9.63E-01	1.7%
Barium	7.50E-03	1.05E-01	6.93E-03	1.93E-01	2.01E-01	2.79E+00	7.19E-02	0.1%
Cadmium	2.80E-02	4.90E-01	3.22E-02	3.48E-03	3.59E-02	5.04E-01	7.12E-02	0.1%
Chromium	2.80E-01	5.13E-01	3.38E-02	1.31E-02	4.69E-02	1.43E+03	3.28E-05	0.0%
Lead	1.50E-02	8.81E+00	5.80E-01	6.07E-01	1.19E+00	4.18E+00	2.84E-01	0.5%
Selenium	7.50E-01	4.87E-01	3.21E-02	1.58E-03	3.37E-02	1.05E-01	3.22E-01	0.6%
Zinc	5.00E+00	3.03E+03	1.99E+02	6.74E-01	2.00E+02	8.36E+01	2.39E+00	4.2%
							HI = 5.67E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-353. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.32E+03	5.00E+01	1.66E+02	91.3%
Arsenic	1.65E+01	1.00E+01	1.65E+00	0.9%
Barium	3.65E+01	5.00E+02	7.30E-02	0.0%
Cadmium	3.70E-01	5.00E-01	7.40E-01	0.4%
Chromium	1.14E+01	1.00E+00	1.14E+01	6.3%
Lead	1.24E+01	5.00E+01	2.48E-01	0.1%
Selenium	7.00E-01	1.00E+00	7.00E-01	0.4%
Zinc	5.42E+01	5.00E+01	1.08E+00	0.6%
HI =			1.82E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-354. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 46**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.32E+03	No TRV	No TRV	No HQ
Arsenic	1.65E+01	6.00E+01	2.75E-01	0.9%
Barium	3.65E+01	No TRV	No TRV	No HQ
Cadmium	3.70E-01	2.00E+01	1.85E-02	0.1%
Chromium	1.14E+01	4.00E-01	2.85E+01	98.0%
Lead	1.24E+01	5.00E+02	2.48E-02	0.1%
Selenium	7.00E-01	No TRV	No TRV	No HQ
Zinc	5.42E+01	2.00E+02	2.71E-01	0.9%
HI =				2.91E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-355. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.32E+03	8.00E-04	4.85E-01	7.50E-02	3.04E+02	6.06E+02	9.10E+02	2.22E+00	4.09E+02	97.2%
Arsenic	1.65E+01	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00	1.45E-01	8.70E+00	2.1%
Barium	3.65E+01	3.00E-02	7.97E-02	7.50E-03	1.33E-01	2.66E+00	2.87E+00	1.14E+01	2.52E-01	0.1%
Cadmium	3.70E-01	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00	2.05E+00	9.80E-01	0.2%
Chromium	1.14E+01	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00	5.83E+03	2.95E-04	0.0%
Lead	1.24E+01	9.00E-03	8.12E-03	2.00E+00	1.21E+01	9.03E-01	1.30E+01	1.70E+01	7.62E-01	0.2%
Selenium	7.00E-01	5.00E-03	2.55E-04	7.60E-01	2.59E-01	5.10E-02	3.10E-01	4.26E-01	7.29E-01	0.2%
Zinc	5.42E+01	3.00E-01	1.18E+00	1.80E+00	4.75E+01	3.95E+00	5.27E+01	3.41E+02	1.55E-01	0.0%
									HI =	4.21E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-356. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.32E+03	1.30E-04	8.22E-01	7.50E-02	4.74E+02	1.32E+03	1.79E+03	1.29E+02	1.38E+01	38.2%
Arsenic	1.65E+01	1.20E-03	1.50E-02	6.60E-03	8.28E-02	2.61E+00	2.71E+00	9.66E+00	2.80E-01	0.8%
Barium	3.65E+01	3.00E-03	8.32E-02	7.50E-03	2.08E-01	5.77E+00	6.06E+00	2.31E+01	2.62E-01	0.7%
Cadmium	3.70E-01	3.00E-02	8.44E-03	1.10E+01	3.09E+00	5.85E-02	3.16E+00	2.83E+00	1.12E+00	3.1%
Chromium	1.14E+01	9.00E-04	7.80E-03	1.60E-01	1.39E+00	1.80E+00	3.20E+00	1.99E+00	1.61E+00	4.4%
Lead	1.24E+01	1.80E-03	1.70E-02	2.00E+00	1.88E+01	1.96E+00	2.08E+01	1.32E+00	1.57E+01	43.5%
Selenium	7.00E-01	5.00E-03	2.66E-03	7.60E-01	4.04E-01	1.11E-01	5.18E-01	9.40E-01	5.51E-01	1.5%
Zinc	5.42E+01	1.80E-01	7.41E+00	1.80E+00	7.41E+01	8.57E+00	9.01E+01	3.21E+01	2.80E+00	7.7%
HI =									3.62E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_P = Average daily dose; plant
 I_P (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-357. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.32E+03	8.00E-04	1.36E+00	7.50E-02	0.00E+00	1.07E+02	1.09E+02	7.63E-01	1.43E+02	96.5%
Arsenic	1.65E+01	8.00E-03	2.71E-02	6.60E-03	0.00E+00	2.13E-01	2.40E-01	4.98E-02	4.82E+00	3.3%
Barium	3.65E+01	3.00E-02	2.24E-01	7.50E-03	0.00E+00	4.71E-01	6.96E-01	3.90E+00	1.78E-01	0.1%
Cadmium	3.70E-01	1.10E-01	8.34E-03	1.10E+01	0.00E+00	4.78E-03	1.31E-02	7.05E-01	1.86E-02	0.0%
Chromium	1.14E+01	1.50E-03	3.51E-03	1.60E-01	0.00E+00	1.47E-01	1.51E-01	2.00E+03	7.54E-05	0.0%
Lead	1.24E+01	9.00E-03	2.29E-02	2.00E+00	0.00E+00	1.60E-01	1.83E-01	5.84E+00	3.13E-02	0.0%
Selenium	7.00E-01	5.00E-03	7.18E-04	7.60E-01	0.00E+00	9.04E-03	9.76E-03	1.46E-01	6.68E-02	0.0%
Zinc	5.42E+01	3.00E-01	3.33E+00	1.80E+00	0.00E+00	7.00E-01	4.03E+00	1.17E+02	3.45E-02	0.0%
									HI =	1.48E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-358. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.32E+03	8.00E-04	2.06E-01	7.50E-02	0.00E+00	5.16E+00	5.36E+00	2.93E-01	1.83E+01	95.7%
Arsenic	1.65E+01	8.00E-03	4.09E-03	6.60E-03	0.00E+00	1.02E-02	1.43E-02	1.91E-02	7.49E-01	3.9%
Barium	3.65E+01	3.00E-02	3.39E-02	7.50E-03	0.00E+00	2.26E-02	5.66E-02	1.50E+00	3.77E-02	0.2%
Cadmium	3.70E-01	1.10E-01	1.26E-03	1.10E+01	0.00E+00	2.29E-04	1.49E-03	2.71E-01	5.51E-03	0.0%
Chromium	1.14E+01	1.50E-03	5.30E-04	1.60E-01	0.00E+00	7.07E-03	7.60E-03	7.68E+02	9.90E-06	0.0%
Lead	1.24E+01	9.00E-03	3.46E-03	2.00E+00	0.00E+00	7.69E-03	1.11E-02	2.24E+00	4.97E-03	0.0%
Selenium	7.00E-01	5.00E-03	1.09E-04	7.60E-01	0.00E+00	4.34E-04	5.43E-04	5.61E-02	9.67E-03	0.1%
Zinc	5.42E+01	3.00E-01	5.04E-01	1.80E+00	0.00E+00	3.36E-02	5.38E-01	4.49E+01	1.20E-02	0.1%
HI =									1.91E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-359. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.32E+03	1.30E-04	0.00E+00	8.00E-04	4.85E-01	7.50E-02	3.04E+02	6.06E+02	9.10E+02
Arsenic	1.65E+01	1.20E-03	0.00E+00	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00
Barium	3.65E+01	3.00E-03	0.00E+00	3.00E-02	7.97E-02	7.50E-03	1.33E-01	2.66E+00	2.87E+00
Cadmium	3.70E-01	3.00E-02	0.00E+00	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00
Chromium	1.14E+01	9.00E-04	0.00E+00	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00
Lead	1.24E+01	1.80E-03	0.00E+00	9.00E-03	8.12E-03	2.00E+00	1.21E+01	9.03E-01	1.30E+01
Selenium	7.00E-01	5.00E-03	0.00E+00	5.00E-03	2.55E-04	7.60E-01	2.59E-01	5.10E-02	3.10E-01
Zinc	5.42E+01	1.80E-01	0.00E+00	3.00E-01	1.18E+00	1.80E+00	4.75E+01	3.95E+00	5.27E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) =

1.70E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) =

7.28E-02

Appendix Table L-359. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.22E+02	1.34E+01	0.00E+00	1.34E+01	6.68E+01	2.01E-01	5.6%
Arsenic	1.00E-01	2.26E-01	2.48E-02	0.00E+00	2.48E-02	4.98E+00	4.98E-03	0.1%
Barium	7.50E-03	3.84E-02	4.23E-03	0.00E+00	4.23E-03	1.19E+01	3.55E-04	0.0%
Cadmium	2.80E-02	1.01E-01	1.11E-02	0.00E+00	1.11E-02	1.46E+00	7.60E-03	0.2%
Chromium	2.80E-01	8.60E-01	9.46E-02	0.00E+00	9.46E-02	1.03E+00	9.22E-02	2.6%
Lead	1.50E-02	3.48E-01	3.83E-02	0.00E+00	3.83E-02	6.82E-01	5.61E-02	1.6%
Selenium	7.50E-01	4.16E-01	4.57E-02	0.00E+00	4.57E-02	4.85E-01	9.43E-02	2.6%
Zinc	5.00E+00	4.70E+02	5.17E+01	0.00E+00	5.17E+01	1.66E+01	3.12E+00	87.2%
HI =							3.58E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-360. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.32E+03	1.30E-04	0.00E+00	8.00E-04	4.85E-01	7.50E-02	3.04E+02	6.06E+02	9.10E+02
Arsenic	1.65E+01	1.20E-03	0.00E+00	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00
Barium	3.65E+01	3.00E-03	0.00E+00	3.00E-02	7.97E-02	7.50E-03	1.33E-01	2.66E+00	2.87E+00
Cadmium	3.70E-01	3.00E-02	0.00E+00	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00
Chromium	1.14E+01	9.00E-04	0.00E+00	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00
Lead	1.24E+01	1.80E-03	0.00E+00	9.00E-03	8.12E-03	2.00E+00	1.21E+01	9.03E-01	1.30E+01
Selenium	7.00E-01	5.00E-03	0.00E+00	5.00E-03	2.55E-04	7.60E-01	2.59E-01	5.10E-02	3.10E-01
Zinc	5.42E+01	1.80E-01	0.00E+00	3.00E-01	1.18E+00	1.80E+00	4.75E+01	3.95E+00	5.27E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-360. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.22E+02	1.52E+01	0.00E+00	1.52E+01	8.33E+01	1.83E-01	5.6%
Arsenic	1.00E-01	2.26E-01	2.82E-02	0.00E+00	2.82E-02	6.22E+00	4.54E-03	0.1%
Barium	7.50E-03	3.84E-02	4.81E-03	0.00E+00	4.81E-03	1.49E+01	3.23E-04	0.0%
Cadmium	2.80E-02	1.01E-01	1.26E-02	0.00E+00	1.26E-02	1.82E+00	6.92E-03	0.2%
Chromium	2.80E-01	8.60E-01	1.07E-01	0.00E+00	1.07E-01	1.28E+00	8.40E-02	2.6%
Lead	1.50E-02	3.48E-01	4.35E-02	0.00E+00	4.35E-02	8.51E-01	5.11E-02	1.6%
Selenium	7.50E-01	4.16E-01	5.20E-02	0.00E+00	5.20E-02	6.05E-01	8.59E-02	2.6%
Zinc	5.00E+00	4.70E+02	5.88E+01	0.00E+00	5.88E+01	2.07E+01	2.84E+00	87.2%
HI =							3.26E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-361. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 46

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	8.32E+03	1.30E-04	3.43E-03	8.00E-04	4.85E-01	7.50E-02	3.04E+02	6.06E+02	9.10E+02
Arsenic	1.65E+01	1.20E-03	6.28E-05	8.00E-03	9.61E-03	6.60E-03	5.31E-02	1.20E+00	1.26E+00
Barium	3.65E+01	3.00E-03	3.48E-04	3.00E-02	7.97E-02	7.50E-03	1.33E-01	2.66E+00	2.87E+00
Cadmium	3.70E-01	3.00E-02	3.52E-05	1.10E-01	2.96E-03	1.10E+01	1.98E+00	2.69E-02	2.01E+00
Chromium	1.14E+01	9.00E-04	3.26E-05	1.50E-03	1.24E-03	1.60E-01	8.89E-01	8.30E-01	1.72E+00
Lead	1.24E+01	1.80E-03	7.08E-05	9.00E-03	8.12E-03	2.00E+00	1.21E+01	9.03E-01	1.30E+01
Selenium	7.00E-01	5.00E-03	1.11E-05	5.00E-03	2.55E-04	7.60E-01	2.59E-01	5.10E-02	3.10E-01
Zinc	5.42E+01	1.80E-01	3.10E-02	3.00E-01	1.18E+00	1.80E+00	4.75E+01	3.95E+00	5.27E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-361. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.22E+02	8.02E+00	1.61E+01	2.41E+01	5.46E-01	4.42E+01	95.6%
Arsenic	1.00E-01	2.26E-01	1.49E-02	3.19E-02	4.68E-02	3.56E-02	1.31E+00	2.8%
Barium	7.50E-03	3.84E-02	2.53E-03	7.05E-02	7.34E-02	2.79E+00	2.63E-02	0.1%
Cadmium	2.80E-02	1.01E-01	6.62E-03	7.15E-04	7.37E-03	5.04E-01	1.46E-02	0.0%
Chromium	2.80E-01	8.60E-01	5.66E-02	2.20E-02	7.87E-02	1.43E+03	5.50E-05	0.0%
Lead	1.50E-02	3.48E-01	2.29E-02	2.40E-02	4.69E-02	4.18E+00	1.12E-02	0.0%
Selenium	7.50E-01	4.16E-01	2.74E-02	1.35E-03	2.87E-02	1.05E-01	2.75E-01	0.6%
Zinc	5.00E+00	4.70E+02	3.10E+01	1.05E-01	3.11E+01	8.36E+01	3.72E-01	0.8%
							HI = 4.62E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-362. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI <i>x</i> 100
Inorganics				
Aluminum	1.00E+04	5.00E+01	2.00E+02	88.0%
Arsenic	1.40E+01	1.00E+01	1.40E+00	0.6%
Barium	4.35E+01	5.00E+02	8.70E-02	0.0%
Cadmium	5.70E+00	5.00E-01	1.14E+01	5.0%
Chromium	1.21E+01	1.00E+00	1.21E+01	5.3%
Lead	1.37E+01	5.00E+01	2.74E-01	0.1%
Selenium	5.10E-01	1.00E+00	5.10E-01	0.2%
Zinc	7.92E+01	5.00E+01	1.58E+00	0.7%
HI =				2.27E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-363. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 47**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.00E+04	No TRV	No TRV	No HQ
Arsenic	1.40E+01	6.00E+01	2.33E-01	0.7%
Barium	4.35E+01	No TRV	No TRV	No HQ
Cadmium	5.70E+00	2.00E+01	2.85E-01	0.9%
Chromium	1.21E+01	4.00E-01	3.03E+01	97.0%
Lead	1.37E+01	5.00E+02	2.74E-02	0.1%
Selenium	5.10E-01	No TRV	No TRV	No HQ
Zinc	7.92E+01	2.00E+02	3.96E-01	1.3%
HI =			3.12E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-364. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.00E+04	8.00E-04	5.82E-01	7.50E-02	3.65E+02	7.28E+02	1.09E+03	2.22E+00	4.92E+02	95.3%
Arsenic	1.40E+01	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00	1.45E-01	7.38E+00	1.4%
Barium	4.35E+01	3.00E-02	9.50E-02	7.50E-03	1.59E-01	3.17E+00	3.42E+00	1.14E+01	3.01E-01	0.1%
Cadmium	5.70E+00	1.10E-01	4.56E-02	1.10E+01	3.05E+01	4.15E-01	3.10E+01	2.05E+00	1.51E+01	2.9%
Chromium	1.21E+01	1.50E-03	1.32E-03	1.60E-01	9.43E-01	8.81E-01	1.83E+00	5.83E+03	3.13E-04	0.0%
Lead	1.37E+01	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01	1.70E+01	8.42E-01	0.2%
Selenium	5.10E-01	5.00E-03	1.86E-04	7.60E-01	1.89E-01	3.71E-02	2.26E-01	4.26E-01	5.31E-01	0.1%
Zinc	7.92E+01	3.00E-01	1.73E+00	1.80E+00	6.95E+01	5.77E+00	7.70E+01	3.41E+02	2.26E-01	0.0%
									HI =	5.16E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-365. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.00E+04	1.30E-04	9.88E-01	7.50E-02	5.70E+02	1.58E+03	2.15E+03	1.29E+02	1.66E+01	28.7%
Arsenic	1.40E+01	1.20E-03	1.28E-02	6.60E-03	7.02E-02	2.21E+00	2.30E+00	9.66E+00	2.38E-01	0.4%
Barium	4.35E+01	3.00E-03	9.92E-02	7.50E-03	2.48E-01	6.88E+00	7.22E+00	2.31E+01	3.13E-01	0.5%
Cadmium	5.70E+00	3.00E-02	1.30E-01	1.10E+01	4.77E+01	9.01E-01	4.87E+01	2.83E+00	1.72E+01	29.7%
Chromium	1.21E+01	9.00E-04	8.28E-03	1.60E-01	1.47E+00	1.91E+00	3.39E+00	1.99E+00	1.71E+00	2.9%
Lead	1.37E+01	1.80E-03	1.87E-02	2.00E+00	2.08E+01	2.17E+00	2.30E+01	1.32E+00	1.74E+01	30.0%
Selenium	5.10E-01	5.00E-03	1.94E-03	7.60E-01	2.95E-01	8.06E-02	3.77E-01	9.40E-01	4.01E-01	0.7%
Zinc	7.92E+01	1.80E-01	1.08E+01	1.80E+00	1.08E+02	1.25E+01	1.32E+02	3.21E+01	4.10E+00	7.1%
HI =									5.80E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-366. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.00E+04	8.00E-04	1.64E+00	7.50E-02	0.00E+00	1.29E+02	1.31E+02	7.63E-01	1.71E+02	97.3%
Arsenic	1.40E+01	8.00E-03	2.30E-02	6.60E-03	0.00E+00	1.81E-01	2.04E-01	4.98E-02	4.09E+00	2.3%
Barium	4.35E+01	3.00E-02	2.68E-01	7.50E-03	0.00E+00	5.62E-01	8.29E-01	3.90E+00	2.13E-01	0.1%
Cadmium	5.70E+00	1.10E-01	1.29E-01	1.10E+01	0.00E+00	7.36E-02	2.02E-01	7.05E-01	2.87E-01	0.2%
Chromium	1.21E+01	1.50E-03	3.72E-03	1.60E-01	0.00E+00	1.56E-01	1.60E-01	2.00E+03	8.00E-05	0.0%
Lead	1.37E+01	9.00E-03	2.53E-02	2.00E+00	0.00E+00	1.77E-01	2.02E-01	5.84E+00	3.46E-02	0.0%
Selenium	5.10E-01	5.00E-03	5.23E-04	7.60E-01	0.00E+00	6.59E-03	7.11E-03	1.46E-01	4.87E-02	0.0%
Zinc	7.92E+01	3.00E-01	4.87E+00	1.80E+00	0.00E+00	1.02E+00	5.89E+00	1.17E+02	5.04E-02	0.0%
								HI =	1.76E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-367. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.00E+04	8.00E-04	2.48E-01	7.50E-02	0.00E+00	6.20E+00	6.45E+00	2.93E-01	2.20E+01	96.5%
Arsenic	1.40E+01	8.00E-03	3.47E-03	6.60E-03	0.00E+00	8.68E-03	1.22E-02	1.91E-02	6.35E-01	2.8%
Barium	4.35E+01	3.00E-02	4.05E-02	7.50E-03	0.00E+00	2.70E-02	6.74E-02	1.50E+00	4.50E-02	0.2%
Cadmium	5.70E+00	1.10E-01	1.94E-02	1.10E+01	0.00E+00	3.53E-03	2.30E-02	2.71E-01	8.49E-02	0.4%
Chromium	1.21E+01	1.50E-03	5.63E-04	1.60E-01	0.00E+00	7.50E-03	8.06E-03	7.68E+02	1.05E-05	0.0%
Lead	1.37E+01	9.00E-03	3.82E-03	2.00E+00	0.00E+00	8.49E-03	1.23E-02	2.24E+00	5.49E-03	0.0%
Selenium	5.10E-01	5.00E-03	7.91E-05	7.60E-01	0.00E+00	3.16E-04	3.95E-04	5.61E-02	7.04E-03	0.0%
Zinc	7.92E+01	3.00E-01	7.37E-01	1.80E+00	0.00E+00	4.91E-02	7.86E-01	4.49E+01	1.75E-02	0.1%
HI =									2.28E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-368. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.00E+04	1.30E-04	0.00E+00	8.00E-04	5.82E-01	7.50E-02	3.65E+02	7.28E+02	1.09E+03
Arsenic	1.40E+01	1.20E-03	0.00E+00	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	4.35E+01	3.00E-03	0.00E+00	3.00E-02	9.50E-02	7.50E-03	1.59E-01	3.17E+00	3.42E+00
Cadmium	5.70E+00	3.00E-02	0.00E+00	1.10E-01	4.56E-02	1.10E+01	3.05E+01	4.15E-01	3.10E+01
Chromium	1.21E+01	9.00E-04	0.00E+00	1.50E-03	1.32E-03	1.60E-01	9.43E-01	8.81E-01	1.83E+00
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	5.10E-01	5.00E-03	0.00E+00	5.00E-03	1.86E-04	7.60E-01	1.89E-01	3.71E-02	2.26E-01
Zinc	7.92E+01	1.80E-01	0.00E+00	3.00E-01	1.73E+00	1.80E+00	6.95E+01	5.77E+00	7.70E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-368. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.47E+02	1.61E+01	0.00E+00	1.61E+01	6.68E+01	2.41E-01	4.7%	
Arsenic	1.00E-01	1.91E-01	2.11E-02	0.00E+00	2.11E-02	4.98E+00	4.23E-03	0.1%	
Barium	7.50E-03	4.58E-02	5.04E-03	0.00E+00	5.04E-03	1.19E+01	4.23E-04	0.0%	
Cadmium	2.80E-02	1.55E+00	1.71E-01	0.00E+00	1.71E-01	1.46E+00	1.17E-01	2.3%	
Chromium	2.80E-01	9.13E-01	1.00E-01	0.00E+00	1.00E-01	1.03E+00	9.79E-02	1.9%	
Lead	1.50E-02	3.85E-01	4.23E-02	0.00E+00	4.23E-02	6.82E-01	6.20E-02	1.2%	
Selenium	7.50E-01	3.03E-01	3.33E-02	0.00E+00	3.33E-02	4.85E-01	6.87E-02	1.3%	
Zinc	5.00E+00	6.87E+02	7.56E+01	0.00E+00	7.56E+01	1.66E+01	4.56E+00	88.5%	
HI =							5.15E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-369. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.00E+04	1.30E-04	0.00E+00	8.00E-04	5.82E-01	7.50E-02	3.65E+02	7.28E+02	1.09E+03
Arsenic	1.40E+01	1.20E-03	0.00E+00	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	4.35E+01	3.00E-03	0.00E+00	3.00E-02	9.50E-02	7.50E-03	1.59E-01	3.17E+00	3.42E+00
Cadmium	5.70E+00	3.00E-02	0.00E+00	1.10E-01	4.56E-02	1.10E+01	3.05E+01	4.15E-01	3.10E+01
Chromium	1.21E+01	9.00E-04	0.00E+00	1.50E-03	1.32E-03	1.60E-01	9.43E-01	8.81E-01	1.83E+00
Lead	1.37E+01	1.80E-03	0.00E+00	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	5.10E-01	5.00E-03	0.00E+00	5.00E-03	1.86E-04	7.60E-01	1.89E-01	3.71E-02	2.26E-01
Zinc	7.92E+01	1.80E-01	0.00E+00	3.00E-01	1.73E+00	1.80E+00	6.95E+01	5.77E+00	7.70E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-369. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	1.47E+02	1.83E+01	0.00E+00	1.83E+01	8.33E+01	2.20E-01	4.7%	
Arsenic	1.00E-01	1.91E-01	2.39E-02	0.00E+00	2.39E-02	6.22E+00	3.85E-03	0.1%	
Barium	7.50E-03	4.58E-02	5.73E-03	0.00E+00	5.73E-03	1.49E+01	3.85E-04	0.0%	
Cadmium	2.80E-02	1.55E+00	1.94E-01	0.00E+00	1.94E-01	1.82E+00	1.07E-01	2.3%	
Chromium	2.80E-01	9.13E-01	1.14E-01	0.00E+00	1.14E-01	1.28E+00	8.91E-02	1.9%	
Lead	1.50E-02	3.85E-01	4.81E-02	0.00E+00	4.81E-02	8.51E-01	5.65E-02	1.2%	
Selenium	7.50E-01	3.03E-01	3.79E-02	0.00E+00	3.79E-02	6.05E-01	6.26E-02	1.3%	
Zinc	5.00E+00	6.87E+02	8.59E+01	0.00E+00	8.59E+01	2.07E+01	4.15E+00	88.5%	
HI =							4.69E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-370. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 47

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.00E+04	1.30E-04	4.13E-03	8.00E-04	5.82E-01	7.50E-02	3.65E+02	7.28E+02	1.09E+03
Arsenic	1.40E+01	1.20E-03	5.33E-05	8.00E-03	8.15E-03	6.60E-03	4.50E-02	1.02E+00	1.07E+00
Barium	4.35E+01	3.00E-03	4.14E-04	3.00E-02	9.50E-02	7.50E-03	1.59E-01	3.17E+00	3.42E+00
Cadmium	5.70E+00	3.00E-02	5.43E-04	1.10E-01	4.56E-02	1.10E+01	3.05E+01	4.15E-01	3.10E+01
Chromium	1.21E+01	9.00E-04	3.46E-05	1.50E-03	1.32E-03	1.60E-01	9.43E-01	8.81E-01	1.83E+00
Lead	1.37E+01	1.80E-03	7.83E-05	9.00E-03	8.98E-03	2.00E+00	1.33E+01	9.97E-01	1.44E+01
Selenium	5.10E-01	5.00E-03	8.09E-06	5.00E-03	1.86E-04	7.60E-01	1.89E-01	3.71E-02	2.26E-01
Zinc	7.92E+01	1.80E-01	4.52E-02	3.00E-01	1.73E+00	1.80E+00	6.95E+01	5.77E+00	7.70E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-370. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.47E+02	9.64E+00	1.93E+01	2.90E+01	5.46E-01	5.31E+01	96.1%
Arsenic	1.00E-01	1.91E-01	1.26E-02	2.70E-02	3.97E-02	3.56E-02	1.11E+00	2.0%
Barium	7.50E-03	4.58E-02	3.02E-03	8.40E-02	8.75E-02	2.79E+00	3.13E-02	0.1%
Cadmium	2.80E-02	1.55E+00	1.02E-01	1.10E-02	1.14E-01	5.04E-01	2.25E-01	0.4%
Chromium	2.80E-01	9.13E-01	6.01E-02	2.34E-02	8.35E-02	1.43E+03	5.84E-05	0.0%
Lead	1.50E-02	3.85E-01	2.53E-02	2.65E-02	5.19E-02	4.18E+00	1.24E-02	0.0%
Selenium	7.50E-01	3.03E-01	1.99E-02	9.85E-04	2.09E-02	1.05E-01	2.00E-01	0.4%
Zinc	5.00E+00	6.87E+02	4.52E+01	1.53E-01	4.54E+01	8.36E+01	5.43E-01	1.0%
							HI = 5.52E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-371. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.01E+04	5.00E+01	2.02E+02	92.9%
Arsenic	1.31E+01	1.00E+01	1.31E+00	0.6%
Barium	3.18E+01	5.00E+02	6.36E-02	0.0%
Cadmium	1.40E-01	5.00E-01	2.80E-01	0.1%
Chromium	1.18E+01	1.00E+00	1.18E+01	5.4%
Lead	1.44E+01	5.00E+01	2.88E-01	0.1%
Selenium	7.50E-01	1.00E+00	7.50E-01	0.3%
Zinc	5.05E+01	5.00E+01	1.01E+00	0.5%
HI =			2.18E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-372. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 48**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.01E+04	No TRV	No TRV	No HQ
Arsenic	1.31E+01	6.00E+01	2.18E-01	0.7%
Barium	3.18E+01	No TRV	No TRV	No HQ
Cadmium	1.40E-01	2.00E+01	7.00E-03	0.0%
Chromium	1.18E+01	4.00E-01	2.95E+01	98.3%
Lead	1.44E+01	5.00E+02	2.88E-02	0.1%
Selenium	7.50E-01	No TRV	No TRV	No HQ
Zinc	5.05E+01	2.00E+02	2.53E-01	0.8%
HI =			3.00E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-373. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03	2.22E+00	4.97E+02	98.2%
Arsenic	1.31E+01	8.00E-03	7.63E-03	6.60E-03	4.21E-02	9.54E-01	1.00E+00	1.45E-01	6.91E+00	1.4%
Barium	3.18E+01	3.00E-02	6.95E-02	7.50E-03	1.16E-01	2.32E+00	2.50E+00	1.14E+01	2.20E-01	0.0%
Cadmium	1.40E-01	1.10E-01	1.12E-03	1.10E+01	7.50E-01	1.02E-02	7.62E-01	2.05E+00	3.71E-01	0.1%
Chromium	1.18E+01	1.50E-03	1.29E-03	1.60E-01	9.20E-01	8.59E-01	1.78E+00	5.83E+03	3.05E-04	0.0%
Lead	1.44E+01	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01	1.70E+01	8.85E-01	0.2%
Selenium	7.50E-01	5.00E-03	2.73E-04	7.60E-01	2.78E-01	5.46E-02	3.33E-01	4.26E-01	7.81E-01	0.2%
Zinc	5.05E+01	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01	3.41E+02	1.44E-01	0.0%
									HI =	5.06E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-374. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	1.30E-04	9.98E-01	7.50E-02	5.76E+02	1.60E+03	2.17E+03	1.29E+02	1.68E+01	41.1%
Arsenic	1.31E+01	1.20E-03	1.19E-02	6.60E-03	6.57E-02	2.07E+00	2.15E+00	9.66E+00	2.23E-01	0.5%
Barium	3.18E+01	3.00E-03	7.25E-02	7.50E-03	1.81E-01	5.03E+00	5.28E+00	2.31E+01	2.29E-01	0.6%
Cadmium	1.40E-01	3.00E-02	3.19E-03	1.10E+01	1.17E+00	2.21E-02	1.20E+00	2.83E+00	4.23E-01	1.0%
Chromium	1.18E+01	9.00E-04	8.07E-03	1.60E-01	1.43E+00	1.87E+00	3.31E+00	1.99E+00	1.66E+00	4.1%
Lead	1.44E+01	1.80E-03	1.97E-02	2.00E+00	2.19E+01	2.28E+00	2.42E+01	1.32E+00	1.83E+01	44.8%
Selenium	7.50E-01	5.00E-03	2.85E-03	7.60E-01	4.33E-01	1.19E-01	5.55E-01	9.40E-01	5.90E-01	1.4%
Zinc	5.05E+01	1.80E-01	6.91E+00	1.80E+00	6.91E+01	7.98E+00	8.40E+01	3.21E+01	2.61E+00	6.4%
HI =									4.08E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-375. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	8.00E-04	1.66E+00	7.50E-02	0.00E+00	1.30E+02	1.32E+02	7.63E-01	1.73E+02	97.7%
Arsenic	1.31E+01	8.00E-03	2.15E-02	6.60E-03	0.00E+00	1.69E-01	1.91E-01	4.98E-02	3.83E+00	2.2%
Barium	3.18E+01	3.00E-02	1.96E-01	7.50E-03	0.00E+00	4.11E-01	6.06E-01	3.90E+00	1.55E-01	0.1%
Cadmium	1.40E-01	1.10E-01	3.16E-03	1.10E+01	0.00E+00	1.81E-03	4.97E-03	7.05E-01	7.05E-03	0.0%
Chromium	1.18E+01	1.50E-03	3.63E-03	1.60E-01	0.00E+00	1.52E-01	1.56E-01	2.00E+03	7.81E-05	0.0%
Lead	1.44E+01	9.00E-03	2.66E-02	2.00E+00	0.00E+00	1.86E-01	2.13E-01	5.84E+00	3.64E-02	0.0%
Selenium	7.50E-01	5.00E-03	7.69E-04	7.60E-01	0.00E+00	9.69E-03	1.05E-02	1.46E-01	7.16E-02	0.0%
Zinc	5.05E+01	3.00E-01	3.11E+00	1.80E+00	0.00E+00	6.52E-01	3.76E+00	1.17E+02	3.22E-02	0.0%
								HI =	1.77E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-376. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.01E+04	8.00E-04	2.50E-01	7.50E-02	0.00E+00	6.26E+00	6.51E+00	2.93E-01	2.22E+01	97.1%
Arsenic	1.31E+01	8.00E-03	3.25E-03	6.60E-03	0.00E+00	8.12E-03	1.14E-02	1.91E-02	5.95E-01	2.6%
Barium	3.18E+01	3.00E-02	2.96E-02	7.50E-03	0.00E+00	1.97E-02	4.93E-02	1.50E+00	3.29E-02	0.1%
Cadmium	1.40E-01	1.10E-01	4.77E-04	1.10E+01	0.00E+00	8.68E-05	5.64E-04	2.71E-01	2.08E-03	0.0%
Chromium	1.18E+01	1.50E-03	5.49E-04	1.60E-01	0.00E+00	7.32E-03	7.86E-03	7.68E+02	1.02E-05	0.0%
Lead	1.44E+01	9.00E-03	4.02E-03	2.00E+00	0.00E+00	8.93E-03	1.29E-02	2.24E+00	5.77E-03	0.0%
Selenium	7.50E-01	5.00E-03	1.16E-04	7.60E-01	0.00E+00	4.65E-04	5.81E-04	5.61E-02	1.04E-02	0.0%
Zinc	5.05E+01	3.00E-01	4.70E-01	1.80E+00	0.00E+00	3.13E-02	5.01E-01	4.49E+01	1.12E-02	0.0%
HI =									2.29E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-377. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.01E+04	1.30E-04	0.00E+00	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03
Arsenic	1.31E+01	1.20E-03	0.00E+00	8.00E-03	7.63E-03	6.60E-03	4.21E-02	9.54E-01	1.00E+00
Barium	3.18E+01	3.00E-03	0.00E+00	3.00E-02	6.95E-02	7.50E-03	1.16E-01	2.32E+00	2.50E+00
Cadmium	1.40E-01	3.00E-02	0.00E+00	1.10E-01	1.12E-03	1.10E+01	7.50E-01	1.02E-02	7.62E-01
Chromium	1.18E+01	9.00E-04	0.00E+00	1.50E-03	1.29E-03	1.60E-01	9.20E-01	8.59E-01	1.78E+00
Lead	1.44E+01	1.80E-03	0.00E+00	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Selenium	7.50E-01	5.00E-03	0.00E+00	5.00E-03	2.73E-04	7.60E-01	2.78E-01	5.46E-02	3.33E-01
Zinc	5.05E+01	1.80E-01	0.00E+00	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-377. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.48E+02	1.63E+01	0.00E+00	1.63E+01	6.68E+01	2.44E-01	7.1%
Arsenic	1.00E-01	1.79E-01	1.97E-02	0.00E+00	1.97E-02	4.98E+00	3.96E-03	0.1%
Barium	7.50E-03	3.35E-02	3.68E-03	0.00E+00	3.68E-03	1.19E+01	3.09E-04	0.0%
Cadmium	2.80E-02	3.81E-02	4.19E-03	0.00E+00	4.19E-03	1.46E+00	2.87E-03	0.1%
Chromium	2.80E-01	8.90E-01	9.79E-02	0.00E+00	9.79E-02	1.03E+00	9.55E-02	2.8%
Lead	1.50E-02	4.04E-01	4.45E-02	0.00E+00	4.45E-02	6.82E-01	6.52E-02	1.9%
Selenium	7.50E-01	4.45E-01	4.90E-02	0.00E+00	4.90E-02	4.85E-01	1.01E-01	3.0%
Zinc	5.00E+00	4.38E+02	4.82E+01	0.00E+00	4.82E+01	1.66E+01	2.91E+00	85.0%
HI =							3.42E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-378. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.01E+04	1.30E-04	0.00E+00	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03
Arsenic	1.31E+01	1.20E-03	0.00E+00	8.00E-03	7.63E-03	6.60E-03	4.21E-02	9.54E-01	1.00E+00
Barium	3.18E+01	3.00E-03	0.00E+00	3.00E-02	6.95E-02	7.50E-03	1.16E-01	2.32E+00	2.50E+00
Cadmium	1.40E-01	3.00E-02	0.00E+00	1.10E-01	1.12E-03	1.10E+01	7.50E-01	1.02E-02	7.62E-01
Chromium	1.18E+01	9.00E-04	0.00E+00	1.50E-03	1.29E-03	1.60E-01	9.20E-01	8.59E-01	1.78E+00
Lead	1.44E+01	1.80E-03	0.00E+00	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Selenium	7.50E-01	5.00E-03	0.00E+00	5.00E-03	2.73E-04	7.60E-01	2.78E-01	5.46E-02	3.33E-01
Zinc	5.05E+01	1.80E-01	0.00E+00	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-378. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.48E+02	1.85E+01	0.00E+00	1.85E+01	8.33E+01	2.22E-01	7.1%
Arsenic	1.00E-01	1.79E-01	2.24E-02	0.00E+00	2.24E-02	6.22E+00	3.60E-03	0.1%
Barium	7.50E-03	3.35E-02	4.19E-03	0.00E+00	4.19E-03	1.49E+01	2.82E-04	0.0%
Cadmium	2.80E-02	3.81E-02	4.76E-03	0.00E+00	4.76E-03	1.82E+00	2.62E-03	0.1%
Chromium	2.80E-01	8.90E-01	1.11E-01	0.00E+00	1.11E-01	1.28E+00	8.69E-02	2.8%
Lead	1.50E-02	4.04E-01	5.05E-02	0.00E+00	5.05E-02	8.51E-01	5.94E-02	1.9%
Selenium	7.50E-01	4.45E-01	5.57E-02	0.00E+00	5.57E-02	6.05E-01	9.20E-02	3.0%
Zinc	5.00E+00	4.38E+02	5.48E+01	0.00E+00	5.48E+01	2.07E+01	2.65E+00	85.0%
HI =							3.11E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-379. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 48

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.01E+04	1.30E-04	4.17E-03	8.00E-04	5.88E-01	7.50E-02	3.69E+02	7.35E+02	1.10E+03
Arsenic	1.31E+01	1.20E-03	4.99E-05	8.00E-03	7.63E-03	6.60E-03	4.21E-02	9.54E-01	1.00E+00
Barium	3.18E+01	3.00E-03	3.03E-04	3.00E-02	6.95E-02	7.50E-03	1.16E-01	2.32E+00	2.50E+00
Cadmium	1.40E-01	3.00E-02	1.33E-05	1.10E-01	1.12E-03	1.10E+01	7.50E-01	1.02E-02	7.62E-01
Chromium	1.18E+01	9.00E-04	3.37E-05	1.50E-03	1.29E-03	1.60E-01	9.20E-01	8.59E-01	1.78E+00
Lead	1.44E+01	1.80E-03	8.23E-05	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Selenium	7.50E-01	5.00E-03	1.19E-05	5.00E-03	2.73E-04	7.60E-01	2.78E-01	5.46E-02	3.33E-01
Zinc	5.05E+01	1.80E-01	2.89E-02	3.00E-01	1.10E+00	1.80E+00	4.43E+01	3.68E+00	4.91E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-379. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.48E+02	9.74E+00	1.95E+01	2.93E+01	5.46E-01	5.36E+01	96.9%
Arsenic	1.00E-01	1.79E-01	1.18E-02	2.53E-02	3.72E-02	3.56E-02	1.04E+00	1.9%
Barium	7.50E-03	3.35E-02	2.20E-03	6.14E-02	6.39E-02	2.79E+00	2.29E-02	0.0%
Cadmium	2.80E-02	3.81E-02	2.51E-03	2.70E-04	2.79E-03	5.04E-01	5.53E-03	0.0%
Chromium	2.80E-01	8.90E-01	5.86E-02	2.28E-02	8.14E-02	1.43E+03	5.69E-05	0.0%
Lead	1.50E-02	4.04E-01	2.66E-02	2.78E-02	5.45E-02	4.18E+00	1.30E-02	0.0%
Selenium	7.50E-01	4.45E-01	2.93E-02	1.45E-03	3.08E-02	1.05E-01	2.94E-01	0.5%
Zinc	5.00E+00	4.38E+02	2.88E+01	9.76E-02	2.90E+01	8.36E+01	3.46E-01	0.6%
							HI = 5.53E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-380. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.26E+04	5.00E+01	2.52E+02	92.1%
Arsenic	1.76E+01	1.00E+01	1.76E+00	0.6%
Barium	3.88E+01	5.00E+02	7.76E-02	0.0%
Cadmium	8.80E-01	5.00E-01	1.76E+00	0.6%
Chromium	1.54E+01	1.00E+00	1.54E+01	5.6%
Lead	1.77E+01	5.00E+01	3.54E-01	0.1%
Selenium	9.70E-01	1.00E+00	9.70E-01	0.4%
Zinc	6.04E+01	5.00E+01	1.21E+00	0.4%
HI =			2.74E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-381. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 49**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.26E+04	No TRV	No TRV	No HQ
Arsenic	1.76E+01	6.00E+01	2.93E-01	0.7%
Barium	3.88E+01	No TRV	No TRV	No HQ
Cadmium	8.80E-01	2.00E+01	4.40E-02	0.1%
Chromium	1.54E+01	4.00E-01	3.85E+01	98.3%
Lead	1.77E+01	5.00E+02	3.54E-02	0.1%
Selenium	9.70E-01	No TRV	No TRV	No HQ
Zinc	6.04E+01	2.00E+02	3.02E-01	0.8%
HI =				3.92E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-382. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03	2.22E+00	6.20E+02	97.8%
Arsenic	1.76E+01	8.00E-03	1.03E-02	6.60E-03	5.66E-02	1.28E+00	1.35E+00	1.45E-01	9.28E+00	1.5%
Barium	3.88E+01	3.00E-02	8.47E-02	7.50E-03	1.42E-01	2.82E+00	3.05E+00	1.14E+01	2.68E-01	0.0%
Cadmium	8.80E-01	1.10E-01	7.05E-03	1.10E+01	4.72E+00	6.41E-02	4.79E+00	2.05E+00	2.33E+00	0.4%
Chromium	1.54E+01	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00	5.83E+03	3.98E-04	0.0%
Lead	1.77E+01	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01	1.70E+01	1.09E+00	0.2%
Selenium	9.70E-01	5.00E-03	3.53E-04	7.60E-01	3.59E-01	7.06E-02	4.30E-01	4.26E-01	1.01E+00	0.2%
Zinc	6.04E+01	3.00E-01	1.32E+00	1.80E+00	5.30E+01	4.40E+00	5.87E+01	3.41E+02	1.72E-01	0.0%
									HI =	6.34E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-383. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	1.30E-04	1.24E+00	7.50E-02	7.18E+02	1.99E+03	2.71E+03	1.29E+02	2.09E+01	39.7%
Arsenic	1.76E+01	1.20E-03	1.61E-02	6.60E-03	8.83E-02	2.78E+00	2.89E+00	9.66E+00	2.99E-01	0.6%
Barium	3.88E+01	3.00E-03	8.85E-02	7.50E-03	2.21E-01	6.13E+00	6.44E+00	2.31E+01	2.79E-01	0.5%
Cadmium	8.80E-01	3.00E-02	2.01E-02	1.10E+01	7.36E+00	1.39E-01	7.52E+00	2.83E+00	2.66E+00	5.0%
Chromium	1.54E+01	9.00E-04	1.05E-02	1.60E-01	1.87E+00	2.43E+00	4.32E+00	1.99E+00	2.17E+00	4.1%
Lead	1.77E+01	1.80E-03	2.42E-02	2.00E+00	2.69E+01	2.80E+00	2.97E+01	1.32E+00	2.25E+01	42.6%
Selenium	9.70E-01	5.00E-03	3.69E-03	7.60E-01	5.60E-01	1.53E-01	7.17E-01	9.40E-01	7.63E-01	1.4%
Zinc	6.04E+01	1.80E-01	8.26E+00	1.80E+00	8.26E+01	9.55E+00	1.00E+02	3.21E+01	3.13E+00	5.9%
HI =									5.27E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-384. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	2.07E+00	7.50E-02	0.00E+00	1.63E+02	1.65E+02	7.63E-01	2.16E+02	97.5%
Arsenic	1.76E+01	8.00E-03	2.89E-02	6.60E-03	0.00E+00	2.27E-01	2.56E-01	4.98E-02	5.14E+00	2.3%
Barium	3.88E+01	3.00E-02	2.39E-01	7.50E-03	0.00E+00	5.01E-01	7.40E-01	3.90E+00	1.90E-01	0.1%
Cadmium	8.80E-01	1.10E-01	1.98E-02	1.10E+01	0.00E+00	1.14E-02	3.12E-02	7.05E-01	4.43E-02	0.0%
Chromium	1.54E+01	1.50E-03	4.74E-03	1.60E-01	0.00E+00	1.99E-01	2.04E-01	2.00E+03	1.02E-04	0.0%
Lead	1.77E+01	9.00E-03	3.27E-02	2.00E+00	0.00E+00	2.29E-01	2.61E-01	5.84E+00	4.47E-02	0.0%
Selenium	9.70E-01	5.00E-03	9.94E-04	7.60E-01	0.00E+00	1.25E-02	1.35E-02	1.46E-01	9.26E-02	0.0%
Zinc	6.04E+01	3.00E-01	3.71E+00	1.80E+00	0.00E+00	7.80E-01	4.49E+00	1.17E+02	3.85E-02	0.0%
									HI =	2.22E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-385. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.26E+04	8.00E-04	3.12E-01	7.50E-02	0.00E+00	7.81E+00	8.12E+00	2.93E-01	2.77E+01	96.9%
Arsenic	1.76E+01	8.00E-03	4.36E-03	6.60E-03	0.00E+00	1.09E-02	1.53E-02	1.91E-02	7.99E-01	2.8%
Barium	3.88E+01	3.00E-02	3.61E-02	7.50E-03	0.00E+00	2.41E-02	6.01E-02	1.50E+00	4.01E-02	0.1%
Cadmium	8.80E-01	1.10E-01	3.00E-03	1.10E+01	0.00E+00	5.46E-04	3.55E-03	2.71E-01	1.31E-02	0.0%
Chromium	1.54E+01	1.50E-03	7.16E-04	1.60E-01	0.00E+00	9.55E-03	1.03E-02	7.68E+02	1.34E-05	0.0%
Lead	1.77E+01	9.00E-03	4.94E-03	2.00E+00	0.00E+00	1.10E-02	1.59E-02	2.24E+00	7.09E-03	0.0%
Selenium	9.70E-01	5.00E-03	1.50E-04	7.60E-01	0.00E+00	6.01E-04	7.52E-04	5.61E-02	1.34E-02	0.0%
Zinc	6.04E+01	3.00E-01	5.62E-01	1.80E+00	0.00E+00	3.74E-02	5.99E-01	4.49E+01	1.33E-02	0.0%
HI =									2.86E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-386. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.26E+04	1.30E-04	0.00E+00	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Arsenic	1.76E+01	1.20E-03	0.00E+00	8.00E-03	1.03E-02	6.60E-03	5.66E-02	1.28E+00	1.35E+00
Barium	3.88E+01	3.00E-03	0.00E+00	3.00E-02	8.47E-02	7.50E-03	1.42E-01	2.82E+00	3.05E+00
Cadmium	8.80E-01	3.00E-02	0.00E+00	1.10E-01	7.05E-03	1.10E+01	4.72E+00	6.41E-02	4.79E+00
Chromium	1.54E+01	9.00E-04	0.00E+00	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00
Lead	1.77E+01	1.80E-03	0.00E+00	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01
Selenium	9.70E-01	5.00E-03	0.00E+00	5.00E-03	3.53E-04	7.60E-01	3.59E-01	7.06E-02	4.30E-01
Zinc	6.04E+01	1.80E-01	0.00E+00	3.00E-01	1.32E+00	1.80E+00	5.30E+01	4.40E+00	5.87E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) =

1.70E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) =

7.28E-02

Appendix Table L-386. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	2.03E+01	0.00E+00	2.03E+01	6.68E+01	3.04E-01	7.3%
Arsenic	1.00E-01	2.41E-01	2.65E-02	0.00E+00	2.65E-02	4.98E+00	5.32E-03	0.1%
Barium	7.50E-03	4.09E-02	4.50E-03	0.00E+00	4.50E-03	1.19E+01	3.77E-04	0.0%
Cadmium	2.80E-02	2.39E-01	2.63E-02	0.00E+00	2.63E-02	1.46E+00	1.81E-02	0.4%
Chromium	2.80E-01	1.16E+00	1.28E-01	0.00E+00	1.28E-01	1.03E+00	1.25E-01	3.0%
Lead	1.50E-02	4.97E-01	5.46E-02	0.00E+00	5.46E-02	6.82E-01	8.01E-02	1.9%
Selenium	7.50E-01	5.76E-01	6.34E-02	0.00E+00	6.34E-02	4.85E-01	1.31E-01	3.2%
Zinc	5.00E+00	5.24E+02	5.76E+01	0.00E+00	5.76E+01	1.66E+01	3.48E+00	84.0%
HI =							4.14E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-387. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.26E+04	1.30E-04	0.00E+00	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Arsenic	1.76E+01	1.20E-03	0.00E+00	8.00E-03	1.03E-02	6.60E-03	5.66E-02	1.28E+00	1.35E+00
Barium	3.88E+01	3.00E-03	0.00E+00	3.00E-02	8.47E-02	7.50E-03	1.42E-01	2.82E+00	3.05E+00
Cadmium	8.80E-01	3.00E-02	0.00E+00	1.10E-01	7.05E-03	1.10E+01	4.72E+00	6.41E-02	4.79E+00
Chromium	1.54E+01	9.00E-04	0.00E+00	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00
Lead	1.77E+01	1.80E-03	0.00E+00	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01
Selenium	9.70E-01	5.00E-03	0.00E+00	5.00E-03	3.53E-04	7.60E-01	3.59E-01	7.06E-02	4.30E-01
Zinc	6.04E+01	1.80E-01	0.00E+00	3.00E-01	1.32E+00	1.80E+00	5.30E+01	4.40E+00	5.87E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-387. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	2.31E+01	0.00E+00	2.31E+01	8.33E+01	2.77E-01	7.3%
Arsenic	1.00E-01	2.41E-01	3.01E-02	0.00E+00	3.01E-02	6.22E+00	4.84E-03	0.1%
Barium	7.50E-03	4.09E-02	5.11E-03	0.00E+00	5.11E-03	1.49E+01	3.44E-04	0.0%
Cadmium	2.80E-02	2.39E-01	2.99E-02	0.00E+00	2.99E-02	1.82E+00	1.65E-02	0.4%
Chromium	2.80E-01	1.16E+00	1.45E-01	0.00E+00	1.45E-01	1.28E+00	1.13E-01	3.0%
Lead	1.50E-02	4.97E-01	6.21E-02	0.00E+00	6.21E-02	8.51E-01	7.30E-02	1.9%
Selenium	7.50E-01	5.76E-01	7.20E-02	0.00E+00	7.20E-02	6.05E-01	1.19E-01	3.2%
Zinc	5.00E+00	5.24E+02	6.55E+01	0.00E+00	6.55E+01	2.07E+01	3.17E+00	84.0%
HI =							3.77E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-388. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 49

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.26E+04	1.30E-04	5.20E-03	8.00E-04	7.34E-01	7.50E-02	4.60E+02	9.17E+02	1.38E+03
Arsenic	1.76E+01	1.20E-03	6.70E-05	8.00E-03	1.03E-02	6.60E-03	5.66E-02	1.28E+00	1.35E+00
Barium	3.88E+01	3.00E-03	3.69E-04	3.00E-02	8.47E-02	7.50E-03	1.42E-01	2.82E+00	3.05E+00
Cadmium	8.80E-01	3.00E-02	8.38E-05	1.10E-01	7.05E-03	1.10E+01	4.72E+00	6.41E-02	4.79E+00
Chromium	1.54E+01	9.00E-04	4.40E-05	1.50E-03	1.68E-03	1.60E-01	1.20E+00	1.12E+00	2.32E+00
Lead	1.77E+01	1.80E-03	1.01E-04	9.00E-03	1.16E-02	2.00E+00	1.72E+01	1.29E+00	1.85E+01
Selenium	9.70E-01	5.00E-03	1.54E-05	5.00E-03	3.53E-04	7.60E-01	3.59E-01	7.06E-02	4.30E-01
Zinc	6.04E+01	1.80E-01	3.45E-02	3.00E-01	1.32E+00	1.80E+00	5.30E+01	4.40E+00	5.87E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-388. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.85E+02	1.22E+01	2.43E+01	3.65E+01	5.46E-01	6.69E+01	96.7%
Arsenic	1.00E-01	2.41E-01	1.58E-02	3.40E-02	4.99E-02	3.56E-02	1.40E+00	2.0%
Barium	7.50E-03	4.09E-02	2.69E-03	7.50E-02	7.80E-02	2.79E+00	2.79E-02	0.0%
Cadmium	2.80E-02	2.39E-01	1.58E-02	1.70E-03	1.75E-02	5.04E-01	3.48E-02	0.1%
Chromium	2.80E-01	1.16E+00	7.65E-02	2.98E-02	1.06E-01	1.43E+03	7.43E-05	0.0%
Lead	1.50E-02	4.97E-01	3.27E-02	3.42E-02	6.70E-02	4.18E+00	1.60E-02	0.0%
Selenium	7.50E-01	5.76E-01	3.79E-02	1.87E-03	3.98E-02	1.05E-01	3.81E-01	0.6%
Zinc	5.00E+00	5.24E+02	3.45E+01	1.17E-01	3.46E+01	8.36E+01	4.14E-01	0.6%
							HI = 6.91E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-389. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.24E+04	5.00E+01	2.48E+02	92.1%
Arsenic	1.64E+01	1.00E+01	1.64E+00	0.6%
Barium	6.57E+01	5.00E+02	1.31E-01	0.0%
Cadmium	2.80E-01	5.00E-01	5.60E-01	0.2%
Chromium	1.66E+01	1.00E+00	1.66E+01	6.2%
Lead	1.44E+01	5.00E+01	2.88E-01	0.1%
Selenium	7.70E-01	1.00E+00	7.70E-01	0.3%
Zinc	6.50E+01	5.00E+01	1.30E+00	0.5%
HI =			2.69E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-390. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 50**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.24E+04	No TRV	No TRV	No HQ
Arsenic	1.64E+01	6.00E+01	2.73E-01	0.6%
Barium	6.57E+01	No TRV	No TRV	No HQ
Cadmium	2.80E-01	2.00E+01	1.40E-02	0.0%
Chromium	1.66E+01	4.00E-01	4.15E+01	98.5%
Lead	1.44E+01	5.00E+02	2.88E-02	0.1%
Selenium	7.70E-01	No TRV	No TRV	No HQ
Zinc	6.50E+01	2.00E+02	3.25E-01	0.8%
HI =			4.21E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-391. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03	2.22E+00	6.10E+02	98.1%
Arsenic	1.64E+01	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00	1.45E-01	8.65E+00	1.4%
Barium	6.57E+01	3.00E-02	1.43E-01	7.50E-03	2.40E-01	4.78E+00	5.17E+00	1.14E+01	4.54E-01	0.1%
Cadmium	2.80E-01	1.10E-01	2.24E-03	1.10E+01	1.50E+00	2.04E-02	1.52E+00	2.05E+00	7.41E-01	0.1%
Chromium	1.66E+01	1.50E-03	1.81E-03	1.60E-01	1.29E+00	1.21E+00	2.50E+00	5.83E+03	4.30E-04	0.0%
Lead	1.44E+01	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01	1.70E+01	8.85E-01	0.1%
Selenium	7.70E-01	5.00E-03	2.80E-04	7.60E-01	2.85E-01	5.61E-02	3.41E-01	4.26E-01	8.01E-01	0.1%
Zinc	6.50E+01	3.00E-01	1.42E+00	1.80E+00	5.70E+01	4.73E+00	6.32E+01	3.41E+02	1.85E-01	0.0%
									HI =	6.22E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-392. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	1.30E-04	1.23E+00	7.50E-02	7.07E+02	1.96E+03	2.67E+03	1.29E+02	2.06E+01	44.0%
Arsenic	1.64E+01	1.20E-03	1.50E-02	6.60E-03	8.23E-02	2.59E+00	2.69E+00	9.66E+00	2.79E-01	0.6%
Barium	6.57E+01	3.00E-03	1.50E-01	7.50E-03	3.74E-01	1.04E+01	1.09E+01	2.31E+01	4.72E-01	1.0%
Cadmium	2.80E-01	3.00E-02	6.38E-03	1.10E+01	2.34E+00	4.43E-02	2.39E+00	2.83E+00	8.46E-01	1.8%
Chromium	1.66E+01	9.00E-04	1.14E-02	1.60E-01	2.02E+00	2.62E+00	4.65E+00	1.99E+00	2.34E+00	5.0%
Lead	1.44E+01	1.80E-03	1.97E-02	2.00E+00	2.19E+01	2.28E+00	2.42E+01	1.32E+00	1.83E+01	39.1%
Selenium	7.70E-01	5.00E-03	2.93E-03	7.60E-01	4.45E-01	1.22E-01	5.69E-01	9.40E-01	6.06E-01	1.3%
Zinc	6.50E+01	1.80E-01	8.89E+00	1.80E+00	8.89E+01	1.03E+01	1.08E+02	3.21E+01	3.36E+00	7.2%
HI =									4.68E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-393. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	8.00E-04	2.03E+00	7.50E-02	0.00E+00	1.60E+02	1.62E+02	7.63E-01	2.13E+02	97.6%
Arsenic	1.64E+01	8.00E-03	2.69E-02	6.60E-03	0.00E+00	2.12E-01	2.39E-01	4.98E-02	4.79E+00	2.2%
Barium	6.57E+01	3.00E-02	4.04E-01	7.50E-03	0.00E+00	8.49E-01	1.25E+00	3.90E+00	3.21E-01	0.1%
Cadmium	2.80E-01	1.10E-01	6.31E-03	1.10E+01	0.00E+00	3.62E-03	9.93E-03	7.05E-01	1.41E-02	0.0%
Chromium	1.66E+01	1.50E-03	5.10E-03	1.60E-01	0.00E+00	2.14E-01	2.19E-01	2.00E+03	1.10E-04	0.0%
Lead	1.44E+01	9.00E-03	2.66E-02	2.00E+00	0.00E+00	1.86E-01	2.13E-01	5.84E+00	3.64E-02	0.0%
Selenium	7.70E-01	5.00E-03	7.89E-04	7.60E-01	0.00E+00	9.94E-03	1.07E-02	1.46E-01	7.35E-02	0.0%
Zinc	6.50E+01	3.00E-01	4.00E+00	1.80E+00	0.00E+00	8.39E-01	4.84E+00	1.17E+02	4.14E-02	0.0%
								HI =	2.18E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-394. Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.24E+04	8.00E-04	3.08E-01	7.50E-02	0.00E+00	7.69E+00	8.00E+00	2.93E-01	2.73E+01	97.0%
Arsenic	1.64E+01	8.00E-03	4.07E-03	6.60E-03	0.00E+00	1.02E-02	1.42E-02	1.91E-02	7.44E-01	2.6%
Barium	6.57E+01	3.00E-02	6.11E-02	7.50E-03	0.00E+00	4.07E-02	1.02E-01	1.50E+00	6.79E-02	0.2%
Cadmium	2.80E-01	1.10E-01	9.55E-04	1.10E+01	0.00E+00	1.74E-04	1.13E-03	2.71E-01	4.17E-03	0.0%
Chromium	1.66E+01	1.50E-03	7.72E-04	1.60E-01	0.00E+00	1.03E-02	1.11E-02	7.68E+02	1.44E-05	0.0%
Lead	1.44E+01	9.00E-03	4.02E-03	2.00E+00	0.00E+00	8.93E-03	1.29E-02	2.24E+00	5.77E-03	0.0%
Selenium	7.70E-01	5.00E-03	1.19E-04	7.60E-01	0.00E+00	4.77E-04	5.97E-04	5.61E-02	1.06E-02	0.0%
Zinc	6.50E+01	3.00E-01	6.05E-01	1.80E+00	0.00E+00	4.03E-02	6.45E-01	4.49E+01	1.44E-02	0.1%
HI =									2.81E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-395. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.24E+04	1.30E-04	0.00E+00	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03
Arsenic	1.64E+01	1.20E-03	0.00E+00	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00
Barium	6.57E+01	3.00E-03	0.00E+00	3.00E-02	1.43E-01	7.50E-03	2.40E-01	4.78E+00	5.17E+00
Cadmium	2.80E-01	3.00E-02	0.00E+00	1.10E-01	2.24E-03	1.10E+01	1.50E+00	2.04E-02	1.52E+00
Chromium	1.66E+01	9.00E-04	0.00E+00	1.50E-03	1.81E-03	1.60E-01	1.29E+00	1.21E+00	2.50E+00
Lead	1.44E+01	1.80E-03	0.00E+00	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Selenium	7.70E-01	5.00E-03	0.00E+00	5.00E-03	2.80E-04	7.60E-01	2.85E-01	5.61E-02	3.41E-01
Zinc	6.50E+01	1.80E-01	0.00E+00	3.00E-01	1.42E+00	1.80E+00	5.70E+01	4.73E+00	6.32E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-395. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.82E+02	2.00E+01	0.00E+00	2.00E+01	6.68E+01	2.99E-01	6.9%
Arsenic	1.00E-01	2.24E-01	2.47E-02	0.00E+00	2.47E-02	4.98E+00	4.95E-03	0.1%
Barium	7.50E-03	6.92E-02	7.61E-03	0.00E+00	7.61E-03	1.19E+01	6.39E-04	0.0%
Cadmium	2.80E-02	7.62E-02	8.38E-03	0.00E+00	8.38E-03	1.46E+00	5.75E-03	0.1%
Chromium	2.80E-01	1.25E+00	1.38E-01	0.00E+00	1.38E-01	1.03E+00	1.34E-01	3.1%
Lead	1.50E-02	4.04E-01	4.45E-02	0.00E+00	4.45E-02	6.82E-01	6.52E-02	1.5%
Selenium	7.50E-01	4.57E-01	5.03E-02	0.00E+00	5.03E-02	4.85E-01	1.04E-01	2.4%
Zinc	5.00E+00	5.64E+02	6.20E+01	0.00E+00	6.20E+01	1.66E+01	3.74E+00	85.9%
HI =							4.36E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-396. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.24E+04	1.30E-04	0.00E+00	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03
Arsenic	1.64E+01	1.20E-03	0.00E+00	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00
Barium	6.57E+01	3.00E-03	0.00E+00	3.00E-02	1.43E-01	7.50E-03	2.40E-01	4.78E+00	5.17E+00
Cadmium	2.80E-01	3.00E-02	0.00E+00	1.10E-01	2.24E-03	1.10E+01	1.50E+00	2.04E-02	1.52E+00
Chromium	1.66E+01	9.00E-04	0.00E+00	1.50E-03	1.81E-03	1.60E-01	1.29E+00	1.21E+00	2.50E+00
Lead	1.44E+01	1.80E-03	0.00E+00	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Selenium	7.70E-01	5.00E-03	0.00E+00	5.00E-03	2.80E-04	7.60E-01	2.85E-01	5.61E-02	3.41E-01
Zinc	6.50E+01	1.80E-01	0.00E+00	3.00E-01	1.42E+00	1.80E+00	5.70E+01	4.73E+00	6.32E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-396. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.82E+02	2.27E+01	0.00E+00	2.27E+01	8.33E+01	2.73E-01	6.9%
Arsenic	1.00E-01	2.24E-01	2.80E-02	0.00E+00	2.80E-02	6.22E+00	4.51E-03	0.1%
Barium	7.50E-03	6.92E-02	8.65E-03	0.00E+00	8.65E-03	1.49E+01	5.82E-04	0.0%
Cadmium	2.80E-02	7.62E-02	9.52E-03	0.00E+00	9.52E-03	1.82E+00	5.23E-03	0.1%
Chromium	2.80E-01	1.25E+00	1.57E-01	0.00E+00	1.57E-01	1.28E+00	1.22E-01	3.1%
Lead	1.50E-02	4.04E-01	5.05E-02	0.00E+00	5.05E-02	8.51E-01	5.94E-02	1.5%
Selenium	7.50E-01	4.57E-01	5.72E-02	0.00E+00	5.72E-02	6.05E-01	9.45E-02	2.4%
Zinc	5.00E+00	5.64E+02	7.05E+01	0.00E+00	7.05E+01	2.07E+01	3.41E+00	85.9%
HI =							3.97E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-397. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 50

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.24E+04	1.30E-04	5.12E-03	8.00E-04	7.22E-01	7.50E-02	4.53E+02	9.03E+02	1.36E+03
Arsenic	1.64E+01	1.20E-03	6.25E-05	8.00E-03	9.55E-03	6.60E-03	5.27E-02	1.19E+00	1.26E+00
Barium	6.57E+01	3.00E-03	6.26E-04	3.00E-02	1.43E-01	7.50E-03	2.40E-01	4.78E+00	5.17E+00
Cadmium	2.80E-01	3.00E-02	2.67E-05	1.10E-01	2.24E-03	1.10E+01	1.50E+00	2.04E-02	1.52E+00
Chromium	1.66E+01	9.00E-04	4.74E-05	1.50E-03	1.81E-03	1.60E-01	1.29E+00	1.21E+00	2.50E+00
Lead	1.44E+01	1.80E-03	8.23E-05	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Selenium	7.70E-01	5.00E-03	1.22E-05	5.00E-03	2.80E-04	7.60E-01	2.85E-01	5.61E-02	3.41E-01
Zinc	6.50E+01	1.80E-01	3.71E-02	3.00E-01	1.42E+00	1.80E+00	5.70E+01	4.73E+00	6.32E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-397. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.82E+02	1.20E+01	2.40E+01	3.59E+01	5.46E-01	6.58E+01	96.9%
Arsenic	1.00E-01	2.24E-01	1.48E-02	3.17E-02	4.65E-02	3.56E-02	1.31E+00	1.9%
Barium	7.50E-03	6.92E-02	4.55E-03	1.27E-01	1.32E-01	2.79E+00	4.73E-02	0.1%
Cadmium	2.80E-02	7.62E-02	5.01E-03	5.41E-04	5.58E-03	5.04E-01	1.11E-02	0.0%
Chromium	2.80E-01	1.25E+00	8.24E-02	3.21E-02	1.15E-01	1.43E+03	8.01E-05	0.0%
Lead	1.50E-02	4.04E-01	2.66E-02	2.78E-02	5.45E-02	4.18E+00	1.30E-02	0.0%
Selenium	7.50E-01	4.57E-01	3.01E-02	1.49E-03	3.16E-02	1.05E-01	3.02E-01	0.4%
Zinc	5.00E+00	5.64E+02	3.71E+01	1.26E-01	3.73E+01	8.36E+01	4.46E-01	0.7%
							HI = 6.79E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-398. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.28E+04	5.00E+01	2.56E+02	92.4%
Arsenic	1.56E+01	1.00E+01	1.56E+00	0.6%
Barium	5.30E+01	5.00E+02	1.06E-01	0.0%
Cadmium	4.30E-01	5.00E-01	8.60E-01	0.3%
Chromium	1.59E+01	1.00E+00	1.59E+01	5.7%
Lead	1.49E+01	5.00E+01	2.98E-01	0.1%
Mercury	4.00E-02	3.00E-01	1.33E-01	0.0%
Selenium	9.20E-01	1.00E+00	9.20E-01	0.3%
Zinc	5.70E+01	5.00E+01	1.14E+00	0.4%
HI =				2.77E+02

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-399. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 51**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.28E+04	No TRV	No TRV	No HQ
Arsenic	1.56E+01	6.00E+01	2.60E-01	0.6%
Barium	5.30E+01	No TRV	No TRV	No HQ
Cadmium	4.30E-01	2.00E+01	2.15E-02	0.1%
Chromium	1.59E+01	4.00E-01	3.98E+01	98.5%
Lead	1.49E+01	5.00E+02	2.98E-02	0.1%
Mercury	4.00E-02	No TRV	No TRV	No HQ
Selenium	9.20E-01	No TRV	No TRV	No HQ
Zinc	5.70E+01	2.00E+02	2.85E-01	0.7%
HI =				4.03E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-400. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03	2.22E+00	6.29E+02	98.2%
Arsenic	1.56E+01	8.00E-03	9.09E-03	6.60E-03	5.02E-02	1.14E+00	1.19E+00	1.45E-01	8.23E+00	1.3%
Barium	5.30E+01	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00	1.14E+01	3.66E-01	0.1%
Cadmium	4.30E-01	1.10E-01	3.44E-03	1.10E+01	2.30E+00	3.13E-02	2.34E+00	2.05E+00	1.14E+00	0.2%
Chromium	1.59E+01	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00	5.83E+03	4.11E-04	0.0%
Lead	1.49E+01	9.00E-03	9.76E-03	2.00E+00	1.45E+01	1.08E+00	1.56E+01	1.70E+01	9.16E-01	0.1%
Mercury	4.00E-02	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02	2.80E+00	3.60E-03	0.0%
Selenium	9.20E-01	5.00E-03	3.35E-04	7.60E-01	3.41E-01	6.70E-02	4.08E-01	4.26E-01	9.58E-01	0.1%
Zinc	5.70E+01	3.00E-01	1.24E+00	1.80E+00	5.00E+01	4.15E+00	5.54E+01	3.41E+02	1.62E-01	0.0%
									HI =	6.41E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-401. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	1.30E-04	1.26E+00	7.50E-02	7.30E+02	2.02E+03	2.75E+03	1.29E+02	2.13E+01	44.2%
Arsenic	1.56E+01	1.20E-03	1.42E-02	6.60E-03	7.82E-02	2.47E+00	2.56E+00	9.66E+00	2.65E-01	0.6%
Barium	5.30E+01	3.00E-03	1.21E-01	7.50E-03	3.02E-01	8.38E+00	8.80E+00	2.31E+01	3.81E-01	0.8%
Cadmium	4.30E-01	3.00E-02	9.80E-03	1.10E+01	3.59E+00	6.80E-02	3.67E+00	2.83E+00	1.30E+00	2.7%
Chromium	1.59E+01	9.00E-04	1.09E-02	1.60E-01	1.93E+00	2.51E+00	4.46E+00	1.99E+00	2.24E+00	4.7%
Lead	1.49E+01	1.80E-03	2.04E-02	2.00E+00	2.26E+01	2.36E+00	2.50E+01	1.32E+00	1.89E+01	39.3%
Mercury	4.00E-02	4.00E-02	1.22E-03	3.40E-01	1.03E-02	6.32E-03	1.79E-02	5.27E-01	3.39E-02	0.1%
Selenium	9.20E-01	5.00E-03	3.50E-03	7.60E-01	5.31E-01	1.45E-01	6.80E-01	9.40E-01	7.24E-01	1.5%
Zinc	5.70E+01	1.80E-01	7.80E+00	1.80E+00	7.80E+01	9.01E+00	9.48E+01	3.21E+01	2.95E+00	6.1%
HI =									4.81E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_P = Average daily dose; plant
 I_P (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-402. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	2.10E+00	7.50E-02	0.00E+00	1.65E+02	1.67E+02	7.63E-01	2.19E+02	97.8%
Arsenic	1.56E+01	8.00E-03	2.56E-02	6.60E-03	0.00E+00	2.01E-01	2.27E-01	4.98E-02	4.56E+00	2.0%
Barium	5.30E+01	3.00E-02	3.26E-01	7.50E-03	0.00E+00	6.84E-01	1.01E+00	3.90E+00	2.59E-01	0.1%
Cadmium	4.30E-01	1.10E-01	9.70E-03	1.10E+01	0.00E+00	5.55E-03	1.52E-02	7.05E-01	2.16E-02	0.0%
Chromium	1.59E+01	1.50E-03	4.89E-03	1.60E-01	0.00E+00	2.05E-01	2.10E-01	2.00E+03	1.05E-04	0.0%
Lead	1.49E+01	9.00E-03	2.75E-02	2.00E+00	0.00E+00	1.92E-01	2.20E-01	5.84E+00	3.76E-02	0.0%
Mercury	4.00E-02	1.80E-01	1.48E-03	3.40E-01	0.00E+00	5.17E-04	1.99E-03	9.59E-01	2.08E-03	0.0%
Selenium	9.20E-01	5.00E-03	9.43E-04	7.60E-01	0.00E+00	1.19E-02	1.28E-02	1.46E-01	8.78E-02	0.0%
Zinc	5.70E+01	3.00E-01	3.51E+00	1.80E+00	0.00E+00	7.36E-01	4.24E+00	1.17E+02	3.63E-02	0.0%
									HI =	2.24E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-403 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	3.17E-01	7.50E-02	0.00E+00	7.94E+00	8.25E+00	2.93E-01	2.82E+01	97.2%
Arsenic	1.56E+01	8.00E-03	3.87E-03	6.60E-03	0.00E+00	9.67E-03	1.35E-02	1.91E-02	7.08E-01	2.4%
Barium	5.30E+01	3.00E-02	4.93E-02	7.50E-03	0.00E+00	3.29E-02	8.22E-02	1.50E+00	5.48E-02	0.2%
Cadmium	4.30E-01	1.10E-01	1.47E-03	1.10E+01	0.00E+00	2.67E-04	1.73E-03	2.71E-01	6.40E-03	0.0%
Chromium	1.59E+01	1.50E-03	7.39E-04	1.60E-01	0.00E+00	9.86E-03	1.06E-02	7.68E+02	1.38E-05	0.0%
Lead	1.49E+01	9.00E-03	4.16E-03	2.00E+00	0.00E+00	9.24E-03	1.34E-02	2.24E+00	5.97E-03	0.0%
Mercury	4.00E-02	1.80E-01	2.23E-04	3.40E-01	0.00E+00	2.48E-05	2.48E-04	3.68E-01	6.73E-04	0.0%
Selenium	9.20E-01	5.00E-03	1.43E-04	7.60E-01	0.00E+00	5.70E-04	7.13E-04	5.61E-02	1.27E-02	0.0%
Zinc	5.70E+01	3.00E-01	5.30E-01	1.80E+00	0.00E+00	3.53E-02	5.65E-01	4.49E+01	1.26E-02	0.0%
HI =									2.90E+01	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-404. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.28E+04	1.30E-04	0.00E+00	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03
Arsenic	1.56E+01	1.20E-03	0.00E+00	8.00E-03	9.09E-03	6.60E-03	5.02E-02	1.14E+00	1.19E+00
Barium	5.30E+01	3.00E-03	0.00E+00	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00
Cadmium	4.30E-01	3.00E-02	0.00E+00	1.10E-01	3.44E-03	1.10E+01	2.30E+00	3.13E-02	2.34E+00
Chromium	1.59E+01	9.00E-04	0.00E+00	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00
Lead	1.49E+01	1.80E-03	0.00E+00	9.00E-03	9.76E-03	2.00E+00	1.45E+01	1.08E+00	1.56E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	9.20E-01	5.00E-03	0.00E+00	5.00E-03	3.35E-04	7.60E-01	3.41E-01	6.70E-02	4.08E-01
Zinc	5.70E+01	1.80E-01	0.00E+00	3.00E-01	1.24E+00	1.80E+00	5.00E+01	4.15E+00	5.54E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-404. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	2.06E+01	0.00E+00	2.06E+01	6.68E+01	3.09E-01	7.7%
Arsenic	1.00E-01	2.13E-01	2.35E-02	0.00E+00	2.35E-02	4.98E+00	4.71E-03	0.1%
Barium	7.50E-03	5.58E-02	6.14E-03	0.00E+00	6.14E-03	1.19E+01	5.15E-04	0.0%
Cadmium	2.80E-02	1.17E-01	1.29E-02	0.00E+00	1.29E-02	1.46E+00	8.83E-03	0.2%
Chromium	2.80E-01	1.20E+00	1.32E-01	0.00E+00	1.32E-01	1.03E+00	1.29E-01	3.2%
Lead	1.50E-02	4.18E-01	4.60E-02	0.00E+00	4.60E-02	6.82E-01	6.74E-02	1.7%
Mercury	1.30E+01	2.34E-01	2.57E-02	0.00E+00	2.57E-02	2.72E-01	9.46E-02	2.4%
Selenium	7.50E-01	5.46E-01	6.01E-02	0.00E+00	6.01E-02	4.85E-01	1.24E-01	3.1%
Zinc	5.00E+00	4.94E+02	5.44E+01	0.00E+00	5.44E+01	1.66E+01	3.28E+00	81.6%
HI =							4.02E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-405. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.28E+04	1.30E-04	0.00E+00	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03
Arsenic	1.56E+01	1.20E-03	0.00E+00	8.00E-03	9.09E-03	6.60E-03	5.02E-02	1.14E+00	1.19E+00
Barium	5.30E+01	3.00E-03	0.00E+00	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00
Cadmium	4.30E-01	3.00E-02	0.00E+00	1.10E-01	3.44E-03	1.10E+01	2.30E+00	3.13E-02	2.34E+00
Chromium	1.59E+01	9.00E-04	0.00E+00	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00
Lead	1.49E+01	1.80E-03	0.00E+00	9.00E-03	9.76E-03	2.00E+00	1.45E+01	1.08E+00	1.56E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	9.20E-01	5.00E-03	0.00E+00	5.00E-03	3.35E-04	7.60E-01	3.41E-01	6.70E-02	4.08E-01
Zinc	5.70E+01	1.80E-01	0.00E+00	3.00E-01	1.24E+00	1.80E+00	5.00E+01	4.15E+00	5.54E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-405. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	2.34E+01	0.00E+00	2.34E+01	8.33E+01	2.81E-01	7.7%
Arsenic	1.00E-01	2.13E-01	2.67E-02	0.00E+00	2.67E-02	6.22E+00	4.29E-03	0.1%
Barium	7.50E-03	5.58E-02	6.98E-03	0.00E+00	6.98E-03	1.49E+01	4.69E-04	0.0%
Cadmium	2.80E-02	1.17E-01	1.46E-02	0.00E+00	1.46E-02	1.82E+00	8.04E-03	0.2%
Chromium	2.80E-01	1.20E+00	1.50E-01	0.00E+00	1.50E-01	1.28E+00	1.17E-01	3.2%
Lead	1.50E-02	4.18E-01	5.23E-02	0.00E+00	5.23E-02	8.51E-01	6.14E-02	1.7%
Mercury	1.30E+01	2.34E-01	2.92E-02	0.00E+00	2.92E-02	3.39E-01	8.61E-02	2.4%
Selenium	7.50E-01	5.46E-01	6.83E-02	0.00E+00	6.83E-02	6.05E-01	1.13E-01	3.1%
Zinc	5.00E+00	4.94E+02	6.18E+01	0.00E+00	6.18E+01	2.07E+01	2.99E+00	81.6%
HI =								3.66E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-406. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 51

Analyte	EPC (mg/kg)	SP_r	ADD_p (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADD_p (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADD_A (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADD_S (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.28E+04	1.30E-04	5.28E-03	8.00E-04	7.45E-01	7.50E-02	4.68E+02	9.32E+02	1.40E+03
Arsenic	1.56E+01	1.20E-03	5.94E-05	8.00E-03	9.09E-03	6.60E-03	5.02E-02	1.14E+00	1.19E+00
Barium	5.30E+01	3.00E-03	5.05E-04	3.00E-02	1.16E-01	7.50E-03	1.94E-01	3.86E+00	4.17E+00
Cadmium	4.30E-01	3.00E-02	4.09E-05	1.10E-01	3.44E-03	1.10E+01	2.30E+00	3.13E-02	2.34E+00
Chromium	1.59E+01	9.00E-04	4.54E-05	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00
Lead	1.49E+01	1.80E-03	8.51E-05	9.00E-03	9.76E-03	2.00E+00	1.45E+01	1.08E+00	1.56E+01
Mercury	4.00E-02	4.00E-02	5.08E-06	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	9.20E-01	5.00E-03	1.46E-05	5.00E-03	3.35E-04	7.60E-01	3.41E-01	6.70E-02	4.08E-01
Zinc	5.70E+01	1.80E-01	3.26E-02	3.00E-01	1.24E+00	1.80E+00	5.00E+01	4.15E+00	5.54E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-406. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	1.23E+01	2.47E+01	3.71E+01	5.46E-01	6.79E+01	97.0%
Arsenic	1.00E-01	2.13E-01	1.40E-02	3.01E-02	4.42E-02	3.56E-02	1.24E+00	1.8%
Barium	7.50E-03	5.58E-02	3.67E-03	1.02E-01	1.07E-01	2.79E+00	3.82E-02	0.1%
Cadmium	2.80E-02	1.17E-01	7.70E-03	8.31E-04	8.57E-03	5.04E-01	1.70E-02	0.0%
Chromium	2.80E-01	1.20E+00	7.89E-02	3.07E-02	1.10E-01	1.43E+03	7.67E-05	0.0%
Lead	1.50E-02	4.18E-01	2.75E-02	2.88E-02	5.64E-02	4.18E+00	1.35E-02	0.0%
Mercury	1.30E+01	2.34E-01	1.54E-02	7.73E-05	1.55E-02	6.86E-01	2.25E-02	0.0%
Selenium	7.50E-01	5.46E-01	3.60E-02	1.78E-03	3.78E-02	1.05E-01	3.61E-01	0.5%
Zinc	5.00E+00	4.94E+02	3.25E+01	1.10E-01	3.27E+01	8.36E+01	3.91E-01	0.6%
							HI = 7.00E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-407. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI <i>x</i> 100
Inorganics				
Aluminum	1.13E+04	5.00E+01	2.26E+02	93.1%
Arsenic	1.35E+01	1.00E+01	1.35E+00	0.6%
Barium	6.29E+01	5.00E+02	1.26E-01	0.1%
Cadmium	2.00E-01	5.00E-01	4.00E-01	0.2%
Chromium	1.34E+01	1.00E+00	1.34E+01	5.5%
Lead	1.44E+01	5.00E+01	2.88E-01	0.1%
Zinc	5.82E+01	5.00E+01	1.16E+00	0.5%
HI =				2.43E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-408. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 52**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.13E+04	No TRV	No TRV	No HQ
Arsenic	1.35E+01	6.00E+01	2.25E-01	0.7%
Barium	6.29E+01	No TRV	No TRV	No HQ
Cadmium	2.00E-01	2.00E+01	1.00E-02	0.0%
Chromium	1.34E+01	4.00E-01	3.35E+01	98.4%
Lead	1.44E+01	5.00E+02	2.88E-02	0.1%
Zinc	5.82E+01	2.00E+02	2.91E-01	0.9%
HI =				3.41E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-409. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03	2.22E+00	5.56E+02	98.4%
Arsenic	1.35E+01	8.00E-03	7.86E-03	6.60E-03	4.34E-02	9.83E-01	1.03E+00	1.45E-01	7.12E+00	1.3%
Barium	6.29E+01	3.00E-02	1.37E-01	7.50E-03	2.30E-01	4.58E+00	4.95E+00	1.14E+01	4.35E-01	0.1%
Cadmium	2.00E-01	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00	2.05E+00	5.30E-01	0.1%
Chromium	1.34E+01	1.50E-03	1.46E-03	1.60E-01	1.04E+00	9.76E-01	2.02E+00	5.83E+03	3.47E-04	0.0%
Lead	1.44E+01	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01	1.70E+01	8.85E-01	0.2%
Zinc	5.82E+01	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.24E+00	5.65E+01	3.41E+02	1.66E-01	0.0%
									HI =	5.65E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-410. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	1.30E-04	1.12E+00	7.50E-02	6.44E+02	1.79E+03	2.43E+03	1.29E+02	1.88E+01	43.4%
Arsenic	1.35E+01	1.20E-03	1.23E-02	6.60E-03	6.77E-02	2.13E+00	2.21E+00	9.66E+00	2.29E-01	0.5%
Barium	6.29E+01	3.00E-03	1.43E-01	7.50E-03	3.59E-01	9.94E+00	1.04E+01	2.31E+01	4.52E-01	1.0%
Cadmium	2.00E-01	3.00E-02	4.56E-03	1.10E+01	1.67E+00	3.16E-02	1.71E+00	2.83E+00	6.05E-01	1.4%
Chromium	1.34E+01	9.00E-04	9.17E-03	1.60E-01	1.63E+00	2.12E+00	3.76E+00	1.99E+00	1.89E+00	4.4%
Lead	1.44E+01	1.80E-03	1.97E-02	2.00E+00	2.19E+01	2.28E+00	2.42E+01	1.32E+00	1.83E+01	42.3%
Zinc	5.82E+01	1.80E-01	7.96E+00	1.80E+00	7.96E+01	9.20E+00	9.68E+01	3.21E+01	3.01E+00	7.0%
HI =									4.33E+01	

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-411. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	8.00E-04	1.85E+00	7.50E-02	0.00E+00	1.46E+02	1.48E+02	7.63E-01	1.94E+02	97.8%
Arsenic	1.35E+01	8.00E-03	2.21E-02	6.60E-03	0.00E+00	1.74E-01	1.96E-01	4.98E-02	3.95E+00	2.0%
Barium	6.29E+01	3.00E-02	3.87E-01	7.50E-03	0.00E+00	8.12E-01	1.20E+00	3.90E+00	3.07E-01	0.2%
Cadmium	2.00E-01	1.10E-01	4.51E-03	1.10E+01	0.00E+00	2.58E-03	7.09E-03	7.05E-01	1.01E-02	0.0%
Chromium	1.34E+01	1.50E-03	4.12E-03	1.60E-01	0.00E+00	1.73E-01	1.77E-01	2.00E+03	8.86E-05	0.0%
Lead	1.44E+01	9.00E-03	2.66E-02	2.00E+00	0.00E+00	1.86E-01	2.13E-01	5.84E+00	3.64E-02	0.0%
Zinc	5.82E+01	3.00E-01	3.58E+00	1.80E+00	0.00E+00	7.52E-01	4.33E+00	1.17E+02	3.71E-02	0.0%
									HI =	1.98E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-412 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	8.00E-04	2.80E-01	7.50E-02	0.00E+00	7.01E+00	7.29E+00	2.93E-01	2.49E+01	97.3%
Arsenic	1.35E+01	8.00E-03	3.35E-03	6.60E-03	0.00E+00	8.37E-03	1.17E-02	1.91E-02	6.13E-01	2.4%
Barium	6.29E+01	3.00E-02	5.85E-02	7.50E-03	0.00E+00	3.90E-02	9.75E-02	1.50E+00	6.50E-02	0.3%
Cadmium	2.00E-01	1.10E-01	6.82E-04	1.10E+01	0.00E+00	1.24E-04	8.06E-04	2.71E-01	2.98E-03	0.0%
Chromium	1.34E+01	1.50E-03	6.23E-04	1.60E-01	0.00E+00	8.31E-03	8.93E-03	7.68E+02	1.16E-05	0.0%
Lead	1.44E+01	9.00E-03	4.02E-03	2.00E+00	0.00E+00	8.93E-03	1.29E-02	2.24E+00	5.77E-03	0.0%
Zinc	5.82E+01	3.00E-01	5.41E-01	1.80E+00	0.00E+00	3.61E-02	5.77E-01	4.49E+01	1.29E-02	0.1%
HI =									2.56E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-413. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.13E+04	1.30E-04	0.00E+00	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03
Arsenic	1.35E+01	1.20E-03	0.00E+00	8.00E-03	7.86E-03	6.60E-03	4.34E-02	9.83E-01	1.03E+00
Barium	6.29E+01	3.00E-03	0.00E+00	3.00E-02	1.37E-01	7.50E-03	2.30E-01	4.58E+00	4.95E+00
Cadmium	2.00E-01	3.00E-02	0.00E+00	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00
Chromium	1.34E+01	9.00E-04	0.00E+00	1.50E-03	1.46E-03	1.60E-01	1.04E+00	9.76E-01	2.02E+00
Lead	1.44E+01	1.80E-03	0.00E+00	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Zinc	5.82E+01	1.80E-01	0.00E+00	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.24E+00	5.65E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) =

1.70E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

Appendix Table L-413. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) C _S x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.66E+02	1.82E+01	0.00E+00	1.82E+01	6.68E+01	2.73E-01	7.2%
Arsenic	1.00E-01	1.85E-01	2.03E-02	0.00E+00	2.03E-02	4.98E+00	4.08E-03	0.1%
Barium	7.50E-03	6.62E-02	7.29E-03	0.00E+00	7.29E-03	1.19E+01	6.12E-04	0.0%
Cadmium	2.80E-02	5.44E-02	5.98E-03	0.00E+00	5.98E-03	1.46E+00	4.11E-03	0.1%
Chromium	2.80E-01	1.01E+00	1.11E-01	0.00E+00	1.11E-01	1.03E+00	1.08E-01	2.8%
Lead	1.50E-02	4.04E-01	4.45E-02	0.00E+00	4.45E-02	6.82E-01	6.52E-02	1.7%
Zinc	5.00E+00	5.05E+02	5.55E+01	0.00E+00	5.55E+01	1.66E+01	3.35E+00	88.0%
HI =							3.81E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-414. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.13E+04	1.30E-04	0.00E+00	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03
Arsenic	1.35E+01	1.20E-03	0.00E+00	8.00E-03	7.86E-03	6.60E-03	4.34E-02	9.83E-01	1.03E+00
Barium	6.29E+01	3.00E-03	0.00E+00	3.00E-02	1.37E-01	7.50E-03	2.30E-01	4.58E+00	4.95E+00
Cadmium	2.00E-01	3.00E-02	0.00E+00	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00
Chromium	1.34E+01	9.00E-04	0.00E+00	1.50E-03	1.46E-03	1.60E-01	1.04E+00	9.76E-01	2.02E+00
Lead	1.44E+01	1.80E-03	0.00E+00	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Zinc	5.82E+01	1.80E-01	0.00E+00	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.24E+00	5.65E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-414. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.66E+02	2.07E+01	0.00E+00	2.07E+01	8.33E+01	2.48E-01	7.2%
Arsenic	1.00E-01	1.85E-01	2.31E-02	0.00E+00	2.31E-02	6.22E+00	3.71E-03	0.1%
Barium	7.50E-03	6.62E-02	8.28E-03	0.00E+00	8.28E-03	1.49E+01	5.57E-04	0.0%
Cadmium	2.80E-02	5.44E-02	6.80E-03	0.00E+00	6.80E-03	1.82E+00	3.74E-03	0.1%
Chromium	2.80E-01	1.01E+00	1.26E-01	0.00E+00	1.26E-01	1.28E+00	9.87E-02	2.8%
Lead	1.50E-02	4.04E-01	5.05E-02	0.00E+00	5.05E-02	8.51E-01	5.94E-02	1.7%
Zinc	5.00E+00	5.05E+02	6.31E+01	0.00E+00	6.31E+01	2.07E+01	3.05E+00	88.0%
HI =							3.47E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-415. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 52

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.13E+04	1.30E-04	4.66E-03	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03
Arsenic	1.35E+01	1.20E-03	5.14E-05	8.00E-03	7.86E-03	6.60E-03	4.34E-02	9.83E-01	1.03E+00
Barium	6.29E+01	3.00E-03	5.99E-04	3.00E-02	1.37E-01	7.50E-03	2.30E-01	4.58E+00	4.95E+00
Cadmium	2.00E-01	3.00E-02	1.90E-05	1.10E-01	1.60E-03	1.10E+01	1.07E+00	1.46E-02	1.09E+00
Chromium	1.34E+01	9.00E-04	3.83E-05	1.50E-03	1.46E-03	1.60E-01	1.04E+00	9.76E-01	2.02E+00
Lead	1.44E+01	1.80E-03	8.23E-05	9.00E-03	9.43E-03	2.00E+00	1.40E+01	1.05E+00	1.51E+01
Zinc	5.82E+01	1.80E-01	3.33E-02	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.24E+00	5.65E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-415. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.66E+02	1.09E+01	2.18E+01	3.27E+01	5.46E-01	6.00E+01	97.5%
Arsenic	1.00E-01	1.85E-01	1.22E-02	2.61E-02	3.83E-02	3.56E-02	1.07E+00	1.7%
Barium	7.50E-03	6.62E-02	4.36E-03	1.22E-01	1.26E-01	2.79E+00	4.53E-02	0.1%
Cadmium	2.80E-02	5.44E-02	3.58E-03	3.86E-04	3.99E-03	5.04E-01	7.91E-03	0.0%
Chromium	2.80E-01	1.01E+00	6.65E-02	2.59E-02	9.25E-02	1.43E+03	6.46E-05	0.0%
Lead	1.50E-02	4.04E-01	2.66E-02	2.78E-02	5.45E-02	4.18E+00	1.30E-02	0.0%
Zinc	5.00E+00	5.05E+02	3.32E+01	1.12E-01	3.34E+01	8.36E+01	3.99E-01	0.6%
							HI = 6.15E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-416. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.46E+04	5.00E+01	2.92E+02	87.9%
Arsenic	1.46E+01	1.00E+01	1.46E+00	0.4%
Barium	5.75E+01	5.00E+02	1.15E-01	0.0%
Cadmium	1.00E+01	5.00E-01	2.00E+01	6.0%
Chromium	1.59E+01	1.00E+00	1.59E+01	4.8%
Lead	2.15E+01	5.00E+01	4.30E-01	0.1%
Mercury	4.00E-02	3.00E-01	1.33E-01	0.0%
Selenium	7.20E-01	1.00E+00	7.20E-01	0.2%
Zinc	6.77E+01	5.00E+01	1.35E+00	0.4%
HI =				3.32E+02

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-417. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 53**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.46E+04	No TRV	No TRV	No HQ
Arsenic	1.46E+01	6.00E+01	2.43E-01	0.6%
Barium	5.75E+01	No TRV	No TRV	No HQ
Cadmium	1.00E+01	2.00E+01	5.00E-01	1.2%
Chromium	1.59E+01	4.00E-01	3.98E+01	97.2%
Lead	2.15E+01	5.00E+02	4.30E-02	0.1%
Mercury	4.00E-02	No TRV	No TRV	No HQ
Selenium	7.20E-01	No TRV	No TRV	No HQ
Zinc	6.77E+01	2.00E+02	3.39E-01	0.8%
HI =				4.09E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-418. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.46E+04	8.00E-04	8.50E-01	7.50E-02	5.33E+02	1.06E+03	1.60E+03	2.22E+00	7.18E+02	95.1%
Arsenic	1.46E+01	8.00E-03	8.50E-03	6.60E-03	4.69E-02	1.06E+00	1.12E+00	1.45E-01	7.70E+00	1.0%
Barium	5.75E+01	3.00E-02	1.26E-01	7.50E-03	2.10E-01	4.19E+00	4.52E+00	1.14E+01	3.97E-01	0.1%
Cadmium	1.00E+01	1.10E-01	8.01E-02	1.10E+01	5.36E+01	7.28E-01	5.44E+01	2.05E+00	2.65E+01	3.5%
Chromium	1.59E+01	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00	5.83E+03	4.11E-04	0.0%
Lead	2.15E+01	9.00E-03	1.41E-02	2.00E+00	2.09E+01	1.57E+00	2.25E+01	1.70E+01	1.32E+00	0.2%
Mercury	4.00E-02	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02	2.80E+00	3.60E-03	0.0%
Selenium	7.20E-01	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01	4.26E-01	7.49E-01	0.1%
Zinc	6.77E+01	3.00E-01	1.48E+00	1.80E+00	5.94E+01	4.93E+00	6.58E+01	3.41E+02	1.93E-01	0.0%
									HI =	7.55E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-419. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.46E+04	1.30E-04	1.44E+00	7.50E-02	8.32E+02	2.31E+03	3.14E+03	1.29E+02	2.43E+01	27.3%
Arsenic	1.46E+01	1.20E-03	1.33E-02	6.60E-03	7.32E-02	2.31E+00	2.39E+00	9.66E+00	2.48E-01	0.3%
Barium	5.75E+01	3.00E-03	1.31E-01	7.50E-03	3.28E-01	9.09E+00	9.55E+00	2.31E+01	4.13E-01	0.5%
Cadmium	1.00E+01	3.00E-02	2.28E-01	1.10E+01	8.36E+01	1.58E+00	8.54E+01	2.83E+00	3.02E+01	34.0%
Chromium	1.59E+01	9.00E-04	1.09E-02	1.60E-01	1.93E+00	2.51E+00	4.46E+00	1.99E+00	2.24E+00	2.5%
Lead	2.15E+01	1.80E-03	2.94E-02	2.00E+00	3.27E+01	3.40E+00	3.61E+01	1.32E+00	2.73E+01	30.7%
Mercury	4.00E-02	4.00E-02	1.22E-03	3.40E-01	1.03E-02	6.32E-03	1.79E-02	5.27E-01	3.39E-02	0.0%
Selenium	7.20E-01	5.00E-03	2.74E-03	7.60E-01	4.16E-01	1.14E-01	5.32E-01	9.40E-01	5.66E-01	0.6%
Zinc	6.77E+01	1.80E-01	9.26E+00	1.80E+00	9.26E+01	1.07E+01	1.13E+02	3.21E+01	3.50E+00	3.9%
HI =									8.88E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-420. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.46E+04	8.00E-04	2.39E+00	7.50E-02	0.00E+00	1.89E+02	1.91E+02	7.63E-01	2.50E+02	98.0%
Arsenic	1.46E+01	8.00E-03	2.39E-02	6.60E-03	0.00E+00	1.89E-01	2.13E-01	4.98E-02	4.27E+00	1.7%
Barium	5.75E+01	3.00E-02	3.54E-01	7.50E-03	0.00E+00	7.43E-01	1.10E+00	3.90E+00	2.81E-01	0.1%
Cadmium	1.00E+01	1.10E-01	2.26E-01	1.10E+01	0.00E+00	1.29E-01	3.55E-01	7.05E-01	5.03E-01	0.2%
Chromium	1.59E+01	1.50E-03	4.89E-03	1.60E-01	0.00E+00	2.05E-01	2.10E-01	2.00E+03	1.05E-04	0.0%
Lead	2.15E+01	9.00E-03	3.97E-02	2.00E+00	0.00E+00	2.78E-01	3.17E-01	5.84E+00	5.43E-02	0.0%
Mercury	4.00E-02	1.80E-01	1.48E-03	3.40E-01	0.00E+00	5.17E-04	1.99E-03	9.59E-01	2.08E-03	0.0%
Selenium	7.20E-01	5.00E-03	7.38E-04	7.60E-01	0.00E+00	9.30E-03	1.00E-02	1.46E-01	6.87E-02	0.0%
Zinc	6.77E+01	3.00E-01	4.16E+00	1.80E+00	0.00E+00	8.74E-01	5.04E+00	1.17E+02	4.31E-02	0.0%
									HI =	2.56E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-421 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.46E+04	8.00E-04	3.62E-01	7.50E-02	0.00E+00	9.05E+00	9.41E+00	2.93E-01	3.21E+01	97.3%
Arsenic	1.46E+01	8.00E-03	3.62E-03	6.60E-03	0.00E+00	9.05E-03	1.27E-02	1.91E-02	6.63E-01	2.0%
Barium	5.75E+01	3.00E-02	5.35E-02	7.50E-03	0.00E+00	3.57E-02	8.91E-02	1.50E+00	5.95E-02	0.2%
Cadmium	1.00E+01	1.10E-01	3.41E-02	1.10E+01	0.00E+00	6.20E-03	4.03E-02	2.71E-01	1.49E-01	0.5%
Chromium	1.59E+01	1.50E-03	7.39E-04	1.60E-01	0.00E+00	9.86E-03	1.06E-02	7.68E+02	1.38E-05	0.0%
Lead	2.15E+01	9.00E-03	6.00E-03	2.00E+00	0.00E+00	1.33E-02	1.93E-02	2.24E+00	8.61E-03	0.0%
Mercury	4.00E-02	1.80E-01	2.23E-04	3.40E-01	0.00E+00	2.48E-05	2.48E-04	3.68E-01	6.73E-04	0.0%
Selenium	7.20E-01	5.00E-03	1.12E-04	7.60E-01	0.00E+00	4.46E-04	5.58E-04	5.61E-02	9.94E-03	0.0%
Zinc	6.77E+01	3.00E-01	6.30E-01	1.80E+00	0.00E+00	4.20E-02	6.72E-01	4.49E+01	1.50E-02	0.0%
HI =									3.30E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-422. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.46E+04	1.30E-04	0.00E+00	8.00E-04	8.50E-01	7.50E-02	5.33E+02	1.06E+03	1.60E+03
Arsenic	1.46E+01	1.20E-03	0.00E+00	8.00E-03	8.50E-03	6.60E-03	4.69E-02	1.06E+00	1.12E+00
Barium	5.75E+01	3.00E-03	0.00E+00	3.00E-02	1.26E-01	7.50E-03	2.10E-01	4.19E+00	4.52E+00
Cadmium	1.00E+01	3.00E-02	0.00E+00	1.10E-01	8.01E-02	1.10E+01	5.36E+01	7.28E-01	5.44E+01
Chromium	1.59E+01	9.00E-04	0.00E+00	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00
Lead	2.15E+01	1.80E-03	0.00E+00	9.00E-03	1.41E-02	2.00E+00	2.09E+01	1.57E+00	2.25E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	7.20E-01	5.00E-03	0.00E+00	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01
Zinc	6.77E+01	1.80E-01	0.00E+00	3.00E-01	1.48E+00	1.80E+00	5.94E+01	4.93E+00	6.58E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-422. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.14E+02	2.35E+01	0.00E+00	2.35E+01	6.68E+01	3.52E-01	7.2%
Arsenic	1.00E-01	2.00E-01	2.20E-02	0.00E+00	2.20E-02	4.98E+00	4.41E-03	0.1%
Barium	7.50E-03	6.06E-02	6.66E-03	0.00E+00	6.66E-03	1.19E+01	5.59E-04	0.0%
Cadmium	2.80E-02	2.72E+00	2.99E-01	0.00E+00	2.99E-01	1.46E+00	2.05E-01	4.2%
Chromium	2.80E-01	1.20E+00	1.32E-01	0.00E+00	1.32E-01	1.03E+00	1.29E-01	2.6%
Lead	1.50E-02	6.03E-01	6.64E-02	0.00E+00	6.64E-02	6.82E-01	9.73E-02	2.0%
Mercury	1.30E+01	2.34E-01	2.57E-02	0.00E+00	2.57E-02	2.72E-01	9.46E-02	1.9%
Selenium	7.50E-01	4.28E-01	4.70E-02	0.00E+00	4.70E-02	4.85E-01	9.70E-02	2.0%
Zinc	5.00E+00	5.87E+02	6.46E+01	0.00E+00	6.46E+01	1.66E+01	3.90E+00	79.9%
HI =							4.88E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-423. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.46E+04	1.30E-04	0.00E+00	8.00E-04	8.50E-01	7.50E-02	5.33E+02	1.06E+03	1.60E+03
Arsenic	1.46E+01	1.20E-03	0.00E+00	8.00E-03	8.50E-03	6.60E-03	4.69E-02	1.06E+00	1.12E+00
Barium	5.75E+01	3.00E-03	0.00E+00	3.00E-02	1.26E-01	7.50E-03	2.10E-01	4.19E+00	4.52E+00
Cadmium	1.00E+01	3.00E-02	0.00E+00	1.10E-01	8.01E-02	1.10E+01	5.36E+01	7.28E-01	5.44E+01
Chromium	1.59E+01	9.00E-04	0.00E+00	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00
Lead	2.15E+01	1.80E-03	0.00E+00	9.00E-03	1.41E-02	2.00E+00	2.09E+01	1.57E+00	2.25E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	7.20E-01	5.00E-03	0.00E+00	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01
Zinc	6.77E+01	1.80E-01	0.00E+00	3.00E-01	1.48E+00	1.80E+00	5.94E+01	4.93E+00	6.58E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-423. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
Inorganics									
Aluminum	7.50E-02	2.14E+02	2.67E+01	0.00E+00	2.67E+01	8.33E+01	3.21E-01	7.2%	
Arsenic	1.00E-01	2.00E-01	2.50E-02	0.00E+00	2.50E-02	6.22E+00	4.02E-03	0.1%	
Barium	7.50E-03	6.06E-02	7.57E-03	0.00E+00	7.57E-03	1.49E+01	5.09E-04	0.0%	
Cadmium	2.80E-02	2.72E+00	3.40E-01	0.00E+00	3.40E-01	1.82E+00	1.87E-01	4.2%	
Chromium	2.80E-01	1.20E+00	1.50E-01	0.00E+00	1.50E-01	1.28E+00	1.17E-01	2.6%	
Lead	1.50E-02	6.03E-01	7.54E-02	0.00E+00	7.54E-02	8.51E-01	8.86E-02	2.0%	
Mercury	1.30E+01	2.34E-01	2.92E-02	0.00E+00	2.92E-02	3.39E-01	8.61E-02	1.9%	
Selenium	7.50E-01	4.28E-01	5.34E-02	0.00E+00	5.34E-02	6.05E-01	8.83E-02	2.0%	
Zinc	5.00E+00	5.87E+02	7.34E+01	0.00E+00	7.34E+01	2.07E+01	3.55E+00	79.9%	
HI =							4.44E+00		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-424. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 53

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.46E+04	1.30E-04	6.02E-03	8.00E-04	8.50E-01	7.50E-02	5.33E+02	1.06E+03	1.60E+03
Arsenic	1.46E+01	1.20E-03	5.56E-05	8.00E-03	8.50E-03	6.60E-03	4.69E-02	1.06E+00	1.12E+00
Barium	5.75E+01	3.00E-03	5.48E-04	3.00E-02	1.26E-01	7.50E-03	2.10E-01	4.19E+00	4.52E+00
Cadmium	1.00E+01	3.00E-02	9.52E-04	1.10E-01	8.01E-02	1.10E+01	5.36E+01	7.28E-01	5.44E+01
Chromium	1.59E+01	9.00E-04	4.54E-05	1.50E-03	1.74E-03	1.60E-01	1.24E+00	1.16E+00	2.40E+00
Lead	2.15E+01	1.80E-03	1.23E-04	9.00E-03	1.41E-02	2.00E+00	2.09E+01	1.57E+00	2.25E+01
Mercury	4.00E-02	4.00E-02	5.08E-06	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	7.20E-01	5.00E-03	1.14E-05	5.00E-03	2.62E-04	7.60E-01	2.67E-01	5.24E-02	3.19E-01
Zinc	6.77E+01	1.80E-01	3.87E-02	3.00E-01	1.48E+00	1.80E+00	5.94E+01	4.93E+00	6.58E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_s = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-424. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.14E+02	1.41E+01	2.82E+01	4.23E+01	5.46E-01	7.75E+01	97.0%
Arsenic	1.00E-01	2.00E-01	1.31E-02	2.82E-02	4.14E-02	3.56E-02	1.16E+00	1.5%
Barium	7.50E-03	6.06E-02	3.99E-03	1.11E-01	1.16E-01	2.79E+00	4.14E-02	0.1%
Cadmium	2.80E-02	2.72E+00	1.79E-01	1.93E-02	1.99E-01	5.04E-01	3.95E-01	0.5%
Chromium	2.80E-01	1.20E+00	7.89E-02	3.07E-02	1.10E-01	1.43E+03	7.67E-05	0.0%
Lead	1.50E-02	6.03E-01	3.97E-02	4.15E-02	8.14E-02	4.18E+00	1.95E-02	0.0%
Mercury	1.30E+01	2.34E-01	1.54E-02	7.73E-05	1.55E-02	6.86E-01	2.25E-02	0.0%
Selenium	7.50E-01	4.28E-01	2.81E-02	1.39E-03	2.95E-02	1.05E-01	2.83E-01	0.4%
Zinc	5.00E+00	5.87E+02	3.87E+01	1.31E-01	3.88E+01	8.36E+01	4.64E-01	0.6%
							HI = 7.99E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-425. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.16E+04	5.00E+01	2.32E+02	92.2%
Arsenic	1.52E+01	1.00E+01	1.52E+00	0.6%
Barium	6.33E+01	5.00E+02	1.27E-01	0.1%
Cadmium	4.10E-01	5.00E-01	8.20E-01	0.3%
Chromium	1.40E+01	1.00E+00	1.40E+01	5.6%
Lead	3.25E+01	5.00E+01	6.50E-01	0.3%
Mercury	4.00E-02	3.00E-01	1.33E-01	0.1%
Selenium	9.60E-01	1.00E+00	9.60E-01	0.4%
Zinc	6.72E+01	5.00E+01	1.34E+00	0.5%
HI =			2.52E+02	

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-426. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 54**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.16E+04	No TRV	No TRV	No HQ
Arsenic	1.52E+01	6.00E+01	2.53E-01	0.7%
Barium	6.33E+01	No TRV	No TRV	No HQ
Cadmium	4.10E-01	2.00E+01	2.05E-02	0.1%
Chromium	1.40E+01	4.00E-01	3.50E+01	98.1%
Lead	3.25E+01	5.00E+02	6.50E-02	0.2%
Mercury	4.00E-02	No TRV	No TRV	No HQ
Selenium	9.60E-01	No TRV	No TRV	No HQ
Zinc	6.72E+01	2.00E+02	3.36E-01	0.9%
HI =			3.57E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-427. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.16E+04	8.00E-04	6.76E-01	7.50E-02	4.24E+02	8.44E+02	1.27E+03	2.22E+00	5.70E+02	97.8%
Arsenic	1.52E+01	8.00E-03	8.85E-03	6.60E-03	4.89E-02	1.11E+00	1.16E+00	1.45E-01	8.02E+00	1.4%
Barium	6.33E+01	3.00E-02	1.38E-01	7.50E-03	2.31E-01	4.61E+00	4.98E+00	1.14E+01	4.37E-01	0.1%
Cadmium	4.10E-01	1.10E-01	3.28E-03	1.10E+01	2.20E+00	2.98E-02	2.23E+00	2.05E+00	1.09E+00	0.2%
Chromium	1.40E+01	1.50E-03	1.53E-03	1.60E-01	1.09E+00	1.02E+00	2.11E+00	5.83E+03	3.62E-04	0.0%
Lead	3.25E+01	9.00E-03	2.13E-02	2.00E+00	3.17E+01	2.37E+00	3.41E+01	1.70E+01	2.00E+00	0.3%
Mercury	4.00E-02	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02	2.80E+00	3.60E-03	0.0%
Selenium	9.60E-01	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01	4.26E-01	9.99E-01	0.2%
Zinc	6.72E+01	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01	3.41E+02	1.92E-01	0.0%
									HI =	5.83E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-428. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.16E+04	1.30E-04	1.15E+00	7.50E-02	6.61E+02	1.83E+03	2.50E+03	1.29E+02	1.93E+01	28.0%
Arsenic	1.52E+01	1.20E-03	1.39E-02	6.60E-03	7.62E-02	2.40E+00	2.49E+00	9.66E+00	2.58E-01	0.4%
Barium	6.33E+01	3.00E-03	1.44E-01	7.50E-03	3.61E-01	1.00E+01	1.05E+01	2.31E+01	4.55E-01	0.7%
Cadmium	4.10E-01	3.00E-02	9.35E-03	1.10E+01	3.43E+00	6.48E-02	3.50E+00	2.83E+00	1.24E+00	1.8%
Chromium	1.40E+01	9.00E-04	9.58E-03	1.60E-01	1.70E+00	2.21E+00	3.93E+00	1.99E+00	1.97E+00	2.9%
Lead	3.25E+01	1.80E-03	4.45E-02	2.00E+00	4.94E+01	5.14E+00	5.46E+01	1.32E+00	4.13E+01	60.0%
Mercury	4.00E-02	4.00E-02	1.22E-03	3.40E-01	1.03E-02	6.32E-03	1.79E-02	5.27E-01	3.39E-02	0.0%
Selenium	9.60E-01	5.00E-03	3.65E-03	7.60E-01	5.54E-01	1.52E-01	7.10E-01	9.40E-01	7.55E-01	1.1%
Zinc	6.72E+01	1.80E-01	9.19E+00	1.80E+00	9.19E+01	1.06E+01	1.12E+02	3.21E+01	3.48E+00	5.1%
HI =									6.88E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-429. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.16E+04	8.00E-04	1.90E+00	7.50E-02	0.00E+00	1.50E+02	1.52E+02	7.63E-01	1.99E+02	97.6%
Arsenic	1.52E+01	8.00E-03	2.49E-02	6.60E-03	0.00E+00	1.96E-01	2.21E-01	4.98E-02	4.44E+00	2.2%
Barium	6.33E+01	3.00E-02	3.89E-01	7.50E-03	0.00E+00	8.18E-01	1.21E+00	3.90E+00	3.09E-01	0.2%
Cadmium	4.10E-01	1.10E-01	9.25E-03	1.10E+01	0.00E+00	5.30E-03	1.45E-02	7.05E-01	2.06E-02	0.0%
Chromium	1.40E+01	1.50E-03	4.31E-03	1.60E-01	0.00E+00	1.81E-01	1.85E-01	2.00E+03	9.26E-05	0.0%
Lead	3.25E+01	9.00E-03	6.00E-02	2.00E+00	0.00E+00	4.20E-01	4.80E-01	5.84E+00	8.21E-02	0.0%
Mercury	4.00E-02	1.80E-01	1.48E-03	3.40E-01	0.00E+00	5.17E-04	1.99E-03	9.59E-01	2.08E-03	0.0%
Selenium	9.60E-01	5.00E-03	9.84E-04	7.60E-01	0.00E+00	1.24E-02	1.34E-02	1.46E-01	9.16E-02	0.0%
Zinc	6.72E+01	3.00E-01	4.13E+00	1.80E+00	0.00E+00	8.68E-01	5.00E+00	1.17E+02	4.28E-02	0.0%
									HI =	2.04E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-430 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.16E+04	8.00E-04	2.88E-01	7.50E-02	0.00E+00	7.19E+00	7.48E+00	2.93E-01	2.55E+01	96.9%
Arsenic	1.52E+01	8.00E-03	3.77E-03	6.60E-03	0.00E+00	9.42E-03	1.32E-02	1.91E-02	6.90E-01	2.6%
Barium	6.33E+01	3.00E-02	5.89E-02	7.50E-03	0.00E+00	3.92E-02	9.81E-02	1.50E+00	6.55E-02	0.2%
Cadmium	4.10E-01	1.10E-01	1.40E-03	1.10E+01	0.00E+00	2.54E-04	1.65E-03	2.71E-01	6.11E-03	0.0%
Chromium	1.40E+01	1.50E-03	6.51E-04	1.60E-01	0.00E+00	8.68E-03	9.33E-03	7.68E+02	1.22E-05	0.0%
Lead	3.25E+01	9.00E-03	9.07E-03	2.00E+00	0.00E+00	2.02E-02	2.92E-02	2.24E+00	1.30E-02	0.0%
Mercury	4.00E-02	1.80E-01	2.23E-04	3.40E-01	0.00E+00	2.48E-05	2.48E-04	3.68E-01	6.73E-04	0.0%
Selenium	9.60E-01	5.00E-03	1.49E-04	7.60E-01	0.00E+00	5.95E-04	7.44E-04	5.61E-02	1.33E-02	0.1%
Zinc	6.72E+01	3.00E-01	6.25E-01	1.80E+00	0.00E+00	4.17E-02	6.67E-01	4.49E+01	1.49E-02	0.1%
HI =									2.63E+01	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-431. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.16E+04	1.30E-04	0.00E+00	8.00E-04	6.76E-01	7.50E-02	4.24E+02	8.44E+02	1.27E+03
Arsenic	1.52E+01	1.20E-03	0.00E+00	8.00E-03	8.85E-03	6.60E-03	4.89E-02	1.11E+00	1.16E+00
Barium	6.33E+01	3.00E-03	0.00E+00	3.00E-02	1.38E-01	7.50E-03	2.31E-01	4.61E+00	4.98E+00
Cadmium	4.10E-01	3.00E-02	0.00E+00	1.10E-01	3.28E-03	1.10E+01	2.20E+00	2.98E-02	2.23E+00
Chromium	1.40E+01	9.00E-04	0.00E+00	1.50E-03	1.53E-03	1.60E-01	1.09E+00	1.02E+00	2.11E+00
Lead	3.25E+01	1.80E-03	0.00E+00	9.00E-03	2.13E-02	2.00E+00	3.17E+01	2.37E+00	3.41E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	9.60E-01	5.00E-03	0.00E+00	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01
Zinc	6.72E+01	1.80E-01	0.00E+00	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-431. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.70E+02	1.87E+01	0.00E+00	1.87E+01	6.68E+01	2.80E-01	6.0%
Arsenic	1.00E-01	2.08E-01	2.29E-02	0.00E+00	2.29E-02	4.98E+00	4.59E-03	0.1%
Barium	7.50E-03	6.67E-02	7.33E-03	0.00E+00	7.33E-03	1.19E+01	6.16E-04	0.0%
Cadmium	2.80E-02	1.12E-01	1.23E-02	0.00E+00	1.23E-02	1.46E+00	8.42E-03	0.2%
Chromium	2.80E-01	1.06E+00	1.16E-01	0.00E+00	1.16E-01	1.03E+00	1.13E-01	2.4%
Lead	1.50E-02	9.12E-01	1.00E-01	0.00E+00	1.00E-01	6.82E-01	1.47E-01	3.2%
Mercury	1.30E+01	2.34E-01	2.57E-02	0.00E+00	2.57E-02	2.72E-01	9.46E-02	2.0%
Selenium	7.50E-01	5.70E-01	6.27E-02	0.00E+00	6.27E-02	4.85E-01	1.29E-01	2.8%
Zinc	5.00E+00	5.83E+02	6.41E+01	0.00E+00	6.41E+01	1.66E+01	3.87E+00	83.3%
HI =							4.65E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-432. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.16E+04	1.30E-04	0.00E+00	8.00E-04	6.76E-01	7.50E-02	4.24E+02	8.44E+02	1.27E+03
Arsenic	1.52E+01	1.20E-03	0.00E+00	8.00E-03	8.85E-03	6.60E-03	4.89E-02	1.11E+00	1.16E+00
Barium	6.33E+01	3.00E-03	0.00E+00	3.00E-02	1.38E-01	7.50E-03	2.31E-01	4.61E+00	4.98E+00
Cadmium	4.10E-01	3.00E-02	0.00E+00	1.10E-01	3.28E-03	1.10E+01	2.20E+00	2.98E-02	2.23E+00
Chromium	1.40E+01	9.00E-04	0.00E+00	1.50E-03	1.53E-03	1.60E-01	1.09E+00	1.02E+00	2.11E+00
Lead	3.25E+01	1.80E-03	0.00E+00	9.00E-03	2.13E-02	2.00E+00	3.17E+01	2.37E+00	3.41E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	9.60E-01	5.00E-03	0.00E+00	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01
Zinc	6.72E+01	1.80E-01	0.00E+00	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-432. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.70E+02	2.12E+01	0.00E+00	2.12E+01	8.33E+01	2.55E-01	6.0%
Arsenic	1.00E-01	2.08E-01	2.60E-02	0.00E+00	2.60E-02	6.22E+00	4.18E-03	0.1%
Barium	7.50E-03	6.67E-02	8.33E-03	0.00E+00	8.33E-03	1.49E+01	5.61E-04	0.0%
Cadmium	2.80E-02	1.12E-01	1.39E-02	0.00E+00	1.39E-02	1.82E+00	7.67E-03	0.2%
Chromium	2.80E-01	1.06E+00	1.32E-01	0.00E+00	1.32E-01	1.28E+00	1.03E-01	2.4%
Lead	1.50E-02	9.12E-01	1.14E-01	0.00E+00	1.14E-01	8.51E-01	1.34E-01	3.2%
Mercury	1.30E+01	2.34E-01	2.92E-02	0.00E+00	2.92E-02	3.39E-01	8.61E-02	2.0%
Selenium	7.50E-01	5.70E-01	7.13E-02	0.00E+00	7.13E-02	6.05E-01	1.18E-01	2.8%
Zinc	5.00E+00	5.83E+02	7.29E+01	0.00E+00	7.29E+01	2.07E+01	3.52E+00	83.3%
HI =								4.23E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-433. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 54

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.16E+04	1.30E-04	4.79E-03	8.00E-04	6.76E-01	7.50E-02	4.24E+02	8.44E+02	1.27E+03
Arsenic	1.52E+01	1.20E-03	5.79E-05	8.00E-03	8.85E-03	6.60E-03	4.89E-02	1.11E+00	1.16E+00
Barium	6.33E+01	3.00E-03	6.03E-04	3.00E-02	1.38E-01	7.50E-03	2.31E-01	4.61E+00	4.98E+00
Cadmium	4.10E-01	3.00E-02	3.90E-05	1.10E-01	3.28E-03	1.10E+01	2.20E+00	2.98E-02	2.23E+00
Chromium	1.40E+01	9.00E-04	4.00E-05	1.50E-03	1.53E-03	1.60E-01	1.09E+00	1.02E+00	2.11E+00
Lead	3.25E+01	1.80E-03	1.86E-04	9.00E-03	2.13E-02	2.00E+00	3.17E+01	2.37E+00	3.41E+01
Mercury	4.00E-02	4.00E-02	5.08E-06	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	9.60E-01	5.00E-03	1.52E-05	5.00E-03	3.49E-04	7.60E-01	3.55E-01	6.99E-02	4.26E-01
Zinc	6.72E+01	1.80E-01	3.84E-02	3.00E-01	1.47E+00	1.80E+00	5.89E+01	4.89E+00	6.53E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-433. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.70E+02	1.12E+01	2.24E+01	3.36E+01	5.46E-01	6.16E+01	96.6%
Arsenic	1.00E-01	2.08E-01	1.37E-02	2.94E-02	4.31E-02	3.56E-02	1.21E+00	1.9%
Barium	7.50E-03	6.67E-02	4.39E-03	1.22E-01	1.27E-01	2.79E+00	4.56E-02	0.1%
Cadmium	2.80E-02	1.12E-01	7.34E-03	7.92E-04	8.17E-03	5.04E-01	1.62E-02	0.0%
Chromium	2.80E-01	1.06E+00	6.95E-02	2.70E-02	9.66E-02	1.43E+03	6.75E-05	0.0%
Lead	1.50E-02	9.12E-01	6.00E-02	6.28E-02	1.23E-01	4.18E+00	2.94E-02	0.0%
Mercury	1.30E+01	2.34E-01	1.54E-02	7.73E-05	1.55E-02	6.86E-01	2.25E-02	0.0%
Selenium	7.50E-01	5.70E-01	3.75E-02	1.85E-03	3.94E-02	1.05E-01	3.77E-01	0.6%
Zinc	5.00E+00	5.83E+02	3.84E+01	1.30E-01	3.85E+01	8.36E+01	4.61E-01	0.7%
							HI = 6.37E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-434. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.27E+03	5.00E+01	1.65E+02	91.5%
Arsenic	9.70E+00	1.00E+01	9.70E-01	0.5%
Barium	4.15E+01	5.00E+02	8.30E-02	0.0%
Calcium	2.10E+03	No TRV	No TRV	No HQ
Chromium	1.01E+01	1.00E+00	1.01E+01	5.6%
Cobalt	5.50E+00	2.00E+01	2.75E-01	0.2%
Copper	1.31E+01	1.00E+02	1.31E-01	0.1%
Iron	1.76E+04	No TRV	No TRV	No HQ
Lead	1.02E+01	5.00E+01	2.04E-01	0.1%
Magnesium	1.93E+03	No TRV	No TRV	No HQ
Mercury	4.00E-02	3.00E-01	1.33E-01	0.1%
Nickel	1.22E+01	3.00E+01	4.07E-01	0.2%
Potassium	5.43E+02	No TRV	No TRV	No HQ
Selenium	7.90E-01	1.00E+00	7.90E-01	0.4%
Sodium	1.63E+02	No TRV	No TRV	No HQ
Thallium	1.40E+00	1.00E+00	1.40E+00	0.8%
Zinc	3.99E+01	5.00E+01	7.98E-01	0.4%
Methylene Chloride	1.20E-02	No TRV	No TRV	No HQ
HI =				1.81E+02

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-435. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 55**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	8.27E+03	No TRV	No TRV	No HQ
Arsenic	9.70E+00	6.00E+01	1.62E-01	0.6%
Barium	4.15E+01	No TRV	No TRV	No HQ
Calcium	2.10E+03	No TRV	No TRV	No HQ
Chromium	1.01E+01	4.00E-01	2.53E+01	97.3%
Cobalt	5.50E+00	No TRV	No TRV	No HQ
Copper	1.31E+01	5.00E+01	2.62E-01	1.0%
Iron	1.76E+04	No TRV	No TRV	No HQ
Lead	1.02E+01	5.00E+02	2.04E-02	0.1%
Magnesium	1.93E+03	No TRV	No TRV	No HQ
Mercury	4.00E-02	No TRV	No TRV	No HQ
Nickel	1.22E+01	2.00E+02	6.10E-02	0.2%
Potassium	5.43E+02	No TRV	No TRV	No HQ
Selenium	7.90E-01	No TRV	No TRV	No HQ
Sodium	1.63E+02	No TRV	No TRV	No HQ
Thallium	1.40E+00	No TRV	No TRV	No HQ
Zinc	3.99E+01	2.00E+02	2.00E-01	0.8%
Methylene Chloride	1.20E-02	No TRV	No TRV	No HQ
			HI =	2.60E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-436. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.27E+03	8.00E-04	4.82E-01	7.50E-02	3.02E+02	6.02E+02	9.05E+02	2.22E+00	4.07E+02	87.8%
Arsenic	9.70E+00	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01	7.43E-01	1.45E-01	5.12E+00	1.1%
Barium	4.15E+01	3.00E-02	9.06E-02	7.50E-03	1.52E-01	3.02E+00	3.26E+00	1.14E+01	2.87E-01	0.1%
Calcium	2.10E+03	7.00E-01	1.07E+02	1.00E+00	1.02E+03	1.53E+02	1.28E+03	No TRV	No TRV	No HQ
Chromium	1.01E+01	1.50E-03	1.10E-03	1.60E-01	7.87E-01	7.35E-01	1.52E+00	5.83E+03	2.61E-04	0.0%
Cobalt	5.50E+00	4.00E-03	1.60E-03	1.00E+00	2.68E+00	4.00E-01	3.08E+00	No TRV	No TRV	No HQ
Copper	1.31E+01	8.00E-02	7.63E-02	1.60E-01	1.02E+00	9.54E-01	2.05E+00	3.24E+01	6.32E-02	0.0%
Iron	1.76E+04	8.00E-04	1.03E+00	1.00E+00	8.57E+03	1.28E+03	9.86E+03	No TRV	No TRV	No HQ
Lead	1.02E+01	9.00E-03	6.68E-03	2.00E+00	9.94E+00	7.43E-01	1.07E+01	1.70E+01	6.27E-01	0.1%
Magnesium	1.93E+03	2.00E-01	2.81E+01	1.00E+00	9.40E+02	1.41E+02	1.11E+03	No TRV	No TRV	No HQ
Mercury	4.00E-02	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02	2.80E+00	3.60E-03	0.0%
Nickel	1.22E+01	1.20E-02	1.07E-02	2.30E-01	1.37E+00	8.88E-01	2.27E+00	8.52E+01	2.66E-02	0.0%
Potassium	5.43E+02	2.00E-01	7.91E+00	1.00E+00	2.65E+02	3.95E+01	3.12E+02	No TRV	No TRV	No HQ
Selenium	7.90E-01	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01	4.26E-01	8.22E-01	0.2%
Sodium	1.63E+02	1.50E-02	1.78E-01	1.00E+00	7.94E+01	1.19E+01	9.15E+01	No TRV	No TRV	No HQ
Thallium	1.40E+00	8.00E-04	8.15E-05	1.00E+00	6.82E-01	1.02E-01	7.84E-01	1.59E-02	4.92E+01	10.6%
Zinc	3.99E+01	3.00E-01	8.71E-01	1.80E+00	3.50E+01	2.90E+00	3.88E+01	3.41E+02	1.14E-01	0.0%
Methylene Chloride	1.20E-02	2.00E-02	1.75E-05	5.00E-02	2.92E-04	8.74E-04	1.18E-03	1.25E+01	9.50E-05	0.0%
									HI =	4.63E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-437. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.27E+03	1.30E-04	8.17E-01	7.50E-02	4.71E+02	1.31E+03	1.78E+03	1.29E+02	1.37E+01	43.8%
Arsenic	9.70E+00	1.20E-03	8.85E-03	6.60E-03	4.87E-02	1.53E+00	1.59E+00	9.66E+00	1.65E-01	0.5%
Barium	4.15E+01	3.00E-03	9.46E-02	7.50E-03	2.37E-01	6.56E+00	6.89E+00	2.31E+01	2.98E-01	1.0%
Calcium	2.10E+03	7.00E-02	1.12E+02	1.00E+00	1.60E+03	3.32E+02	2.04E+03	No TRV	No TRV	No HQ
Chromium	1.01E+01	9.00E-04	6.91E-03	1.60E-01	1.23E+00	1.60E+00	2.83E+00	1.99E+00	1.42E+00	4.5%
Cobalt	5.50E+00	1.40E-03	5.85E-03	1.00E+00	4.18E+00	8.69E-01	5.06E+00	No TRV	No TRV	No HQ
Copper	1.31E+01	5.00E-02	4.98E-01	1.60E-01	1.59E+00	2.07E+00	4.16E+00	7.55E+01	5.51E-02	0.2%
Iron	1.76E+04	2.00E-04	2.68E+00	1.00E+00	1.34E+04	2.78E+03	1.62E+04	No TRV	No TRV	No HQ
Lead	1.02E+01	1.80E-03	1.40E-02	2.00E+00	1.55E+01	1.61E+00	1.71E+01	1.32E+00	1.30E+01	41.3%
Magnesium	1.93E+03	1.10E-01	1.61E+02	1.00E+00	1.47E+03	3.05E+02	1.93E+03	No TRV	No TRV	No HQ
Mercury	4.00E-02	4.00E-02	1.22E-03	3.40E-01	1.03E-02	6.32E-03	1.79E-02	5.27E-01	3.39E-02	0.1%
Nickel	1.22E+01	1.20E-02	1.11E-01	2.30E-01	2.13E+00	1.93E+00	4.17E+00	1.37E+02	3.05E-02	0.1%
Potassium	5.43E+02	1.10E-01	4.54E+01	1.00E+00	4.13E+02	8.58E+01	5.44E+02	No TRV	No TRV	No HQ
Selenium	7.90E-01	5.00E-03	3.00E-03	7.60E-01	4.56E-01	1.25E-01	5.84E-01	9.40E-01	6.21E-01	2.0%
Sodium	1.63E+02	1.10E-02	1.36E+00	1.00E+00	1.24E+02	2.58E+01	1.51E+02	No TRV	No TRV	No HQ
Thallium	1.40E+00	8.00E-05	8.51E-05	1.00E+00	1.06E+00	2.21E-01	1.29E+00	No TRV	No TRV	No HQ
Zinc	3.99E+01	1.80E-01	5.46E+00	1.80E+00	5.46E+01	6.31E+00	6.63E+01	3.21E+01	2.06E+00	6.6%
Methylene Chloride	1.20E-02	2.00E-02	1.82E-04	5.00E-02	4.56E-04	1.90E-03	2.54E-03	No TRV	No TRV	No HQ
HI =									3.14E+01	

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 7.60E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-438. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.27E+03	8.00E-04	1.36E+00	7.50E-02	0.00E+00	1.07E+02	1.08E+02	7.63E-01	1.42E+02	95.6%
Arsenic	9.70E+00	8.00E-03	1.59E-02	6.60E-03	0.00E+00	1.25E-01	1.41E-01	4.98E-02	2.84E+00	1.9%
Barium	4.15E+01	3.00E-02	2.55E-01	7.50E-03	0.00E+00	5.36E-01	7.91E-01	3.90E+00	2.03E-01	0.1%
Calcium	2.10E+03	7.00E-01	3.01E+02	1.00E+00	0.00E+00	2.71E+01	3.28E+02	No TRV	No TRV	No HQ
Chromium	1.01E+01	1.50E-03	3.11E-03	1.60E-01	0.00E+00	1.30E-01	1.34E-01	2.00E+03	6.68E-05	0.0%
Cobalt	5.50E+00	4.00E-03	4.51E-03	1.00E+00	0.00E+00	7.10E-02	7.55E-02	No TRV	No TRV	No HQ
Copper	1.31E+01	8.00E-02	2.15E-01	1.60E-01	0.00E+00	1.69E-01	3.84E-01	1.11E+01	3.45E-02	0.0%
Iron	1.76E+04	8.00E-04	2.89E+00	1.00E+00	0.00E+00	2.27E+02	2.30E+02	No TRV	No TRV	No HQ
Lead	1.02E+01	9.00E-03	1.88E-02	2.00E+00	0.00E+00	1.32E-01	1.51E-01	5.84E+00	2.58E-02	0.0%
Magnesium	1.93E+03	2.00E-01	7.91E+01	1.00E+00	0.00E+00	2.49E+01	1.04E+02	No TRV	No TRV	No HQ
Mercury	4.00E-02	1.80E-01	1.48E-03	3.40E-01	0.00E+00	5.17E-04	1.99E-03	9.59E-01	2.08E-03	0.0%
Nickel	1.22E+01	1.20E-02	3.00E-02	2.30E-01	0.00E+00	1.58E-01	1.88E-01	2.92E+01	6.42E-03	0.0%
Potassium	5.43E+02	2.00E-01	2.23E+01	1.00E+00	0.00E+00	7.01E+00	2.93E+01	No TRV	No TRV	No HQ
Selenium	7.90E-01	5.00E-03	8.10E-04	7.60E-01	0.00E+00	1.02E-02	1.10E-02	1.46E-01	7.54E-02	0.1%
Sodium	1.63E+02	1.50E-02	5.01E-01	1.00E+00	0.00E+00	2.11E+00	2.61E+00	No TRV	No TRV	No HQ
Thallium	1.40E+00	8.00E-04	2.30E-04	1.00E+00	0.00E+00	1.81E-02	1.83E-02	5.46E-03	3.35E+00	2.3%
Zinc	3.99E+01	3.00E-01	2.45E+00	1.80E+00	0.00E+00	5.15E-01	2.97E+00	1.17E+02	2.54E-02	0.0%
Methylene Chloride	1.20E-02	2.00E-02	4.92E-05	5.00E-02	0.00E+00	1.55E-04	2.04E-04	4.27E+00	4.78E-05	0.0%
									HI =	1.48E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-439 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	8.27E+03	8.00E-04	2.05E-01	7.50E-02	0.00E+00	5.13E+00	5.33E+00	2.93E-01	1.82E+01	95.0%
Arsenic	9.70E+00	8.00E-03	2.41E-03	6.60E-03	0.00E+00	6.01E-03	8.42E-03	1.91E-02	4.40E-01	2.3%
Barium	4.15E+01	3.00E-02	3.86E-02	7.50E-03	0.00E+00	2.57E-02	6.43E-02	1.50E+00	4.29E-02	0.2%
Calcium	2.10E+03	7.00E-01	4.56E+01	1.00E+00	0.00E+00	1.30E+00	4.69E+01	No TRV	No TRV	No HQ
Chromium	1.01E+01	1.50E-03	4.70E-04	1.60E-01	0.00E+00	6.26E-03	6.73E-03	7.68E+02	8.77E-06	0.0%
Cobalt	5.50E+00	4.00E-03	6.82E-04	1.00E+00	0.00E+00	3.41E-03	4.09E-03	No TRV	No TRV	No HQ
Copper	1.31E+01	8.00E-02	3.25E-02	1.60E-01	0.00E+00	8.12E-03	4.06E-02	4.27E+00	9.51E-03	0.0%
Iron	1.76E+04	8.00E-04	4.36E-01	1.00E+00	0.00E+00	1.09E+01	1.13E+01	No TRV	No TRV	No HQ
Lead	1.02E+01	9.00E-03	2.85E-03	2.00E+00	0.00E+00	6.32E-03	9.17E-03	2.24E+00	4.09E-03	0.0%
Magnesium	1.93E+03	2.00E-01	1.20E+01	1.00E+00	0.00E+00	1.20E+00	1.32E+01	No TRV	No TRV	No HQ
Mercury	4.00E-02	1.80E-01	2.23E-04	3.40E-01	0.00E+00	2.48E-05	2.48E-04	3.68E-01	6.73E-04	0.0%
Nickel	1.22E+01	1.20E-02	4.54E-03	2.30E-01	0.00E+00	7.56E-03	1.21E-02	1.12E+01	1.08E-03	0.0%
Potassium	5.43E+02	2.00E-01	3.37E+00	1.00E+00	0.00E+00	3.37E-01	3.70E+00	No TRV	No TRV	No HQ
Selenium	7.90E-01	5.00E-03	1.22E-04	7.60E-01	0.00E+00	4.90E-04	6.12E-04	5.61E-02	1.09E-02	0.1%
Sodium	1.63E+02	1.50E-02	7.58E-02	1.00E+00	0.00E+00	1.01E-01	1.77E-01	No TRV	No TRV	No HQ
Thallium	1.40E+00	8.00E-04	3.47E-05	1.00E+00	0.00E+00	8.68E-04	9.03E-04	2.10E-03	4.30E-01	2.2%
Zinc	3.99E+01	3.00E-01	3.71E-01	1.80E+00	0.00E+00	2.47E-02	3.96E-01	4.49E+01	8.82E-03	0.0%
Methylene Chloride	1.20E-02	2.00E-02	7.44E-06	5.00E-02	0.00E+00	7.44E-06	1.49E-05	1.64E+00	9.07E-06	0.0%
									HI =	1.91E+01

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-440. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.27E+03	1.30E-04	0.00E+00	8.00E-04	4.82E-01	7.50E-02	3.02E+02	6.02E+02	9.05E+02
Arsenic	9.70E+00	1.20E-03	0.00E+00	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01	7.43E-01
Barium	4.15E+01	3.00E-03	0.00E+00	3.00E-02	9.06E-02	7.50E-03	1.52E-01	3.02E+00	3.26E+00
Calcium	2.10E+03	7.00E-02	0.00E+00	7.00E-01	1.07E+02	1.00E+00	1.02E+03	1.53E+02	1.28E+03
Chromium	1.01E+01	9.00E-04	0.00E+00	1.50E-03	1.10E-03	1.60E-01	7.87E-01	7.35E-01	1.52E+00
Cobalt	5.50E+00	1.40E-03	0.00E+00	4.00E-03	1.60E-03	1.00E+00	2.68E+00	4.00E-01	3.08E+00
Copper	1.31E+01	5.00E-02	0.00E+00	8.00E-02	7.63E-02	1.60E-01	1.02E+00	9.54E-01	2.05E+00
Iron	1.76E+04	2.00E-04	0.00E+00	8.00E-04	1.03E+00	1.00E+00	8.57E+03	1.28E+03	9.86E+03
Lead	1.02E+01	1.80E-03	0.00E+00	9.00E-03	6.68E-03	2.00E+00	9.94E+00	7.43E-01	1.07E+01
Magnesium	1.93E+03	1.10E-01	0.00E+00	2.00E-01	2.81E+01	1.00E+00	9.40E+02	1.41E+02	1.11E+03
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Nickel	1.22E+01	1.20E-02	0.00E+00	1.20E-02	1.07E-02	2.30E-01	1.37E+00	8.88E-01	2.27E+00
Potassium	5.43E+02	1.10E-01	0.00E+00	2.00E-01	7.91E+00	1.00E+00	2.65E+02	3.95E+01	3.12E+02
Selenium	7.90E-01	5.00E-03	0.00E+00	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Sodium	1.63E+02	1.10E-02	0.00E+00	1.50E-02	1.78E-01	1.00E+00	7.94E+01	1.19E+01	9.15E+01
Thallium	1.40E+00	8.00E-05	0.00E+00	8.00E-04	8.15E-05	1.00E+00	6.82E-01	1.02E-01	7.84E-01
Zinc	3.99E+01	1.80E-01	0.00E+00	3.00E-01	8.71E-01	1.80E+00	3.50E+01	2.90E+00	3.88E+01
Methylene Chloride	1.20E-02	2.00E-02	0.00E+00	2.00E-02	1.75E-05	5.00E-02	2.92E-04	8.74E-04	1.18E-03

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_s = Average daily dose; soil
 I_{s,s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-440. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.21E+02	1.33E+01	0.00E+00	1.33E+01	6.68E+01	2.00E-01	7.0%
Arsenic	1.00E-01	1.33E-01	1.46E-02	0.00E+00	1.46E-02	4.98E+00	2.93E-03	0.1%
Barium	7.50E-03	4.37E-02	4.81E-03	0.00E+00	4.81E-03	1.19E+01	4.04E-04	0.0%
Calcium	1.00E+00	2.29E+03	2.52E+02	0.00E+00	2.52E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	7.62E-01	8.38E-02	0.00E+00	8.38E-02	1.03E+00	8.17E-02	2.9%
Cobalt	1.00E+00	5.50E+00	6.05E-01	0.00E+00	6.05E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.83E+00	2.01E-01	0.00E+00	2.01E-01	3.89E+01	5.17E-03	0.2%
Iron	1.00E+00	1.76E+04	1.94E+03	0.00E+00	1.94E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.86E-01	3.15E-02	0.00E+00	3.15E-02	6.82E-01	4.62E-02	1.6%
Magnesium	1.00E+00	1.98E+03	2.18E+02	0.00E+00	2.18E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	2.34E-01	2.57E-02	0.00E+00	2.57E-02	2.72E-01	9.46E-02	3.3%
Nickel	3.00E-01	1.21E+00	1.34E-01	0.00E+00	1.34E-01	7.06E+01	1.89E-03	0.1%
Potassium	1.00E+00	5.57E+02	6.13E+01	0.00E+00	6.13E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	4.69E-01	5.16E-02	0.00E+00	5.16E-02	4.85E-01	1.06E-01	3.8%
Sodium	1.00E+00	1.63E+02	1.80E+01	0.00E+00	1.80E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.40E+00	1.54E-01	0.00E+00	1.54E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	3.46E+02	3.81E+01	0.00E+00	3.81E+01	1.66E+01	2.30E+00	81.0%
Methylene Chloride	3.00E-05	6.34E-08	6.97E-09	0.00E+00	6.97E-09	No TRV	No TRV	No HQ
							HI =	2.84E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-441. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	SP _r	ADD _p (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADD _p (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADD _A (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADD _S (mg/kgBW/d) EPC x IS-s x AUF-s
Inorganics								
Aluminum	8.27E+03	1.30E-04	0.00E+00	8.00E-04	4.82E-01	7.50E-02	3.02E+02	6.02E+02
Arsenic	9.70E+00	1.20E-03	0.00E+00	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01
Barium	4.15E+01	3.00E-03	0.00E+00	3.00E-02	9.06E-02	7.50E-03	1.52E-01	3.02E+00
Calcium	2.10E+03	7.00E-02	0.00E+00	7.00E-01	1.07E+02	1.00E+00	1.02E+03	1.53E+02
Chromium	1.01E+01	9.00E-04	0.00E+00	1.50E-03	1.10E-03	1.60E-01	7.87E-01	7.35E-01
Cobalt	5.50E+00	1.40E-03	0.00E+00	4.00E-03	1.60E-03	1.00E+00	2.68E+00	4.00E-01
Copper	1.31E+01	5.00E-02	0.00E+00	8.00E-02	7.63E-02	1.60E-01	1.02E+00	9.54E-01
Iron	1.76E+04	2.00E-04	0.00E+00	8.00E-04	1.03E+00	1.00E+00	8.57E+03	1.28E+03
Lead	1.02E+01	1.80E-03	0.00E+00	9.00E-03	6.68E-03	2.00E+00	9.94E+00	7.43E-01
Magnesium	1.93E+03	1.10E-01	0.00E+00	2.00E-01	2.81E+01	1.00E+00	9.40E+02	1.41E+02
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03
Nickel	1.22E+01	1.20E-02	0.00E+00	1.20E-02	1.07E-02	2.30E-01	1.37E+00	8.88E-01
Potassium	5.43E+02	1.10E-01	0.00E+00	2.00E-01	7.91E+00	1.00E+00	2.65E+02	3.95E+01
Selenium	7.90E-01	5.00E-03	0.00E+00	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02
Sodium	1.63E+02	1.10E-02	0.00E+00	1.50E-02	1.78E-01	1.00E+00	7.94E+01	1.19E+01
Thallium	1.40E+00	8.00E-05	0.00E+00	8.00E-04	8.15E-05	1.00E+00	6.82E-01	1.02E-01
Zinc	3.99E+01	1.80E-01	0.00E+00	3.00E-01	8.71E-01	1.80E+00	3.50E+01	2.90E+00
Methylene Chloride	1.20E-02	2.00E-02	0.00E+00	2.00E-02	1.75E-05	5.00E-02	2.92E-04	8.74E-04

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-441. (Continued) (Right Side)

Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
	Inorganics								
9.05E+02	Aluminum	7.50E-02	1.21E+02	1.51E+01	0.00E+00	1.51E+01	8.33E+01	1.82E-01	7.0%
7.43E-01	Arsenic	1.00E-01	1.33E-01	1.66E-02	0.00E+00	1.66E-02	6.22E+00	2.67E-03	0.1%
3.26E+00	Barium	7.50E-03	4.37E-02	5.46E-03	0.00E+00	5.46E-03	1.49E+01	3.68E-04	0.0%
1.28E+03	Calcium	1.00E+00	2.29E+03	2.86E+02	0.00E+00	2.86E+02	No TRV	No TRV	No HQ
1.52E+00	Chromium	2.80E-01	7.62E-01	9.52E-02	0.00E+00	9.52E-02	1.28E+00	7.44E-02	2.9%
3.08E+00	Cobalt	1.00E+00	5.50E+00	6.88E-01	0.00E+00	6.88E-01	No TRV	No TRV	No HQ
2.05E+00	Copper	5.00E-01	1.83E+00	2.29E-01	0.00E+00	2.29E-01	4.86E+01	4.71E-03	0.2%
9.86E+03	Iron	1.00E+00	1.76E+04	2.20E+03	0.00E+00	2.20E+03	No TRV	No TRV	No HQ
1.07E+01	Lead	1.50E-02	2.86E-01	3.58E-02	0.00E+00	3.58E-02	8.51E-01	4.20E-02	1.6%
1.11E+03	Magnesium	1.00E+00	1.98E+03	2.48E+02	0.00E+00	2.48E+02	No TRV	No TRV	No HQ
1.01E-02	Mercury	1.30E+01	2.34E-01	2.92E-02	0.00E+00	2.92E-02	3.39E-01	8.61E-02	3.3%
2.27E+00	Nickel	3.00E-01	1.21E+00	1.52E-01	0.00E+00	1.52E-01	8.81E+01	1.72E-03	0.1%
3.12E+02	Potassium	1.00E+00	5.57E+02	6.96E+01	0.00E+00	6.96E+01	No TRV	No TRV	No HQ
3.50E-01	Selenium	7.50E-01	4.69E-01	5.86E-02	0.00E+00	5.86E-02	6.05E-01	9.69E-02	3.8%
9.15E+01	Sodium	1.00E+00	1.63E+02	2.04E+01	0.00E+00	2.04E+01	No TRV	No TRV	No HQ
7.84E-01	Thallium	1.00E+00	1.40E+00	1.75E-01	0.00E+00	1.75E-01	No TRV	No TRV	No HQ
3.88E+01	Zinc	5.00E+00	3.46E+02	4.33E+01	0.00E+00	4.33E+01	2.07E+01	2.09E+00	81.0%
1.18E-03	Methylene Chloride	3.00E-05	6.34E-08	7.92E-09	0.00E+00	7.92E-09	No TRV	No TRV	No HQ
								HI = 2.58E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-442. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 55

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	8.27E+03	1.30E-04	3.41E-03	8.00E-04	4.82E-01	7.50E-02	3.02E+02	6.02E+02	9.05E+02
Arsenic	9.70E+00	1.20E-03	3.69E-05	8.00E-03	5.65E-03	6.60E-03	3.12E-02	7.06E-01	7.43E-01
Barium	4.15E+01	3.00E-03	3.95E-04	3.00E-02	9.06E-02	7.50E-03	1.52E-01	3.02E+00	3.26E+00
Calcium	2.10E+03	7.00E-02	4.67E-01	7.00E-01	1.07E+02	1.00E+00	1.02E+03	1.53E+02	1.28E+03
Chromium	1.01E+01	9.00E-04	2.89E-05	1.50E-03	1.10E-03	1.60E-01	7.87E-01	7.35E-01	1.52E+00
Cobalt	5.50E+00	1.40E-03	2.44E-05	4.00E-03	1.60E-03	1.00E+00	2.68E+00	4.00E-01	3.08E+00
Copper	1.31E+01	5.00E-02	2.08E-03	8.00E-02	7.63E-02	1.60E-01	1.02E+00	9.54E-01	2.05E+00
Iron	1.76E+04	2.00E-04	1.12E-02	8.00E-04	1.03E+00	1.00E+00	8.57E+03	1.28E+03	9.86E+03
Lead	1.02E+01	1.80E-03	5.83E-05	9.00E-03	6.68E-03	2.00E+00	9.94E+00	7.43E-01	1.07E+01
Magnesium	1.93E+03	1.10E-01	6.74E-01	2.00E-01	2.81E+01	1.00E+00	9.40E+02	1.41E+02	1.11E+03
Mercury	4.00E-02	4.00E-02	5.08E-06	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Nickel	1.22E+01	1.20E-02	4.65E-04	1.20E-02	1.07E-02	2.30E-01	1.37E+00	8.88E-01	2.27E+00
Potassium	5.43E+02	1.10E-01	1.90E-01	2.00E-01	7.91E+00	1.00E+00	2.65E+02	3.95E+01	3.12E+02
Selenium	7.90E-01	5.00E-03	1.25E-05	5.00E-03	2.88E-04	7.60E-01	2.93E-01	5.75E-02	3.50E-01
Sodium	1.63E+02	1.10E-02	5.69E-03	1.50E-02	1.78E-01	1.00E+00	7.94E+01	1.19E+01	9.15E+01
Thallium	1.40E+00	8.00E-05	3.55E-07	8.00E-04	8.15E-05	1.00E+00	6.82E-01	1.02E-01	7.84E-01
Zinc	3.99E+01	1.80E-01	2.28E-02	3.00E-01	8.71E-01	1.80E+00	3.50E+01	2.90E+00	3.88E+01
Methylene Chloride	1.20E-02	2.00E-02	7.62E-07	2.00E-02	1.75E-05	5.00E-02	2.92E-04	8.74E-04	1.18E-03

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) = 4.87E-01

ADD_s = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) = 6.58E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-442. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.21E+02	7.98E+00	1.60E+01	2.40E+01	5.46E-01	4.39E+01	63.1%
Arsenic	1.00E-01	1.33E-01	8.73E-03	1.87E-02	2.75E-02	3.56E-02	7.72E-01	1.1%
Barium	7.50E-03	4.37E-02	2.88E-03	8.02E-02	8.35E-02	2.79E+00	2.99E-02	0.0%
Calcium	1.00E+00	2.29E+03	1.51E+02	4.06E+00	1.55E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	7.62E-01	5.01E-02	1.95E-02	6.97E-02	1.43E+03	4.87E-05	0.0%
Cobalt	1.00E+00	5.50E+00	3.62E-01	1.06E-02	3.73E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.83E+00	1.21E-01	2.53E-02	1.48E-01	7.96E+00	1.86E-02	0.0%
Iron	1.00E+00	1.76E+04	1.16E+03	3.40E+01	1.19E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.86E-01	1.88E-02	1.97E-02	3.86E-02	4.18E+00	9.23E-03	0.0%
Magnesium	1.00E+00	1.98E+03	1.30E+02	3.73E+00	1.35E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	2.34E-01	1.54E-02	7.73E-05	1.55E-02	6.86E-01	2.25E-02	0.0%
Nickel	3.00E-01	1.21E+00	7.99E-02	2.36E-02	1.04E-01	2.09E+01	4.97E-03	0.0%
Potassium	1.00E+00	5.57E+02	3.67E+01	1.05E+00	3.79E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	4.69E-01	3.09E-02	1.53E-03	3.24E-02	1.05E-01	3.10E-01	0.4%
Sodium	1.00E+00	1.63E+02	1.08E+01	3.15E-01	1.11E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.40E+00	9.22E-02	2.70E-03	9.49E-02	3.91E-03	2.43E+01	34.9%
Zinc	5.00E+00	3.46E+02	2.28E+01	7.71E-02	2.29E+01	8.36E+01	2.74E-01	0.4%
Methylene Chloride	3.00E-05	6.34E-08	4.17E-09	2.32E-05	2.39E-05	3.06E+00	7.83E-06	0.0%
							HI = 6.96E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-443. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.32E+03	5.00E+01	1.86E+02	89.9%
Arsenic	1.20E+01	1.00E+01	1.20E+00	0.6%
Barium	6.66E+01	5.00E+02	1.33E-01	0.1%
Cadmium	3.10E-01	5.00E-01	6.20E-01	0.3%
Chromium	1.55E+01	1.00E+00	1.55E+01	7.5%
Lead	4.52E+01	5.00E+01	9.04E-01	0.4%
Mercury	4.00E-02	3.00E-01	1.33E-01	0.1%
Selenium	1.20E+00	1.00E+00	1.20E+00	0.6%
Zinc	5.81E+01	5.00E+01	1.16E+00	0.6%
HI =				2.07E+02

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-444. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 56**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	9.32E+03	No TRV	No TRV	No HQ
Arsenic	1.20E+01	6.00E+01	2.00E-01	0.5%
Barium	6.66E+01	No TRV	No TRV	No HQ
Cadmium	3.10E-01	2.00E+01	1.55E-02	0.0%
Chromium	1.55E+01	4.00E-01	3.88E+01	98.5%
Lead	4.52E+01	5.00E+02	9.04E-02	0.2%
Mercury	4.00E-02	No TRV	No TRV	No HQ
Selenium	1.20E+00	No TRV	No TRV	No HQ
Zinc	5.81E+01	2.00E+02	2.91E-01	0.7%
HI =				3.93E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-445. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.32E+03	8.00E-04	5.43E-01	7.50E-02	3.41E+02	6.78E+02	1.02E+03	2.22E+00	4.58E+02	97.5%
Arsenic	1.20E+01	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01	1.45E-01	6.33E+00	1.3%
Barium	6.66E+01	3.00E-02	1.45E-01	7.50E-03	2.43E-01	4.85E+00	5.24E+00	1.14E+01	4.60E-01	0.1%
Cadmium	3.10E-01	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00	2.05E+00	8.21E-01	0.2%
Chromium	1.55E+01	1.50E-03	1.69E-03	1.60E-01	1.21E+00	1.13E+00	2.34E+00	5.83E+03	4.01E-04	0.0%
Lead	4.52E+01	9.00E-03	2.96E-02	2.00E+00	4.40E+01	3.29E+00	4.74E+01	1.70E+01	2.78E+00	0.6%
Mercury	4.00E-02	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02	2.80E+00	3.60E-03	0.0%
Selenium	1.20E+00	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01	4.26E-01	1.25E+00	0.3%
Zinc	5.81E+01	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.23E+00	5.64E+01	3.41E+02	1.66E-01	0.0%
									HI =	4.70E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-446. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.32E+03	1.30E-04	9.21E-01	7.50E-02	5.31E+02	1.47E+03	2.01E+03	1.29E+02	1.55E+01	19.2%
Arsenic	1.20E+01	1.20E-03	1.09E-02	6.60E-03	6.02E-02	1.90E+00	1.97E+00	9.66E+00	2.04E-01	0.3%
Barium	6.66E+01	3.00E-03	1.52E-01	7.50E-03	3.80E-01	1.05E+01	1.11E+01	2.31E+01	4.79E-01	0.6%
Cadmium	3.10E-01	3.00E-02	7.07E-03	1.10E+01	2.59E+00	4.90E-02	2.65E+00	2.83E+00	9.37E-01	1.2%
Chromium	1.55E+01	9.00E-04	1.06E-02	1.60E-01	1.88E+00	2.45E+00	4.35E+00	1.99E+00	2.19E+00	2.7%
Lead	4.52E+01	1.80E-03	6.18E-02	2.00E+00	6.87E+01	7.15E+00	7.59E+01	1.32E+00	5.74E+01	71.1%
Mercury	4.00E-02	4.00E-02	1.22E-03	3.40E-01	1.03E-02	6.32E-03	1.79E-02	5.27E-01	3.39E-02	0.0%
Selenium	1.20E+00	5.00E-03	4.56E-03	7.60E-01	6.93E-01	1.90E-01	8.87E-01	9.40E-01	9.44E-01	1.2%
Zinc	5.81E+01	1.80E-01	7.95E+00	1.80E+00	7.95E+01	9.18E+00	9.66E+01	3.21E+01	3.01E+00	3.7%
HI =									8.07E+01	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-447. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.32E+03	8.00E-04	1.53E+00	7.50E-02	0.00E+00	1.20E+02	1.22E+02	7.63E-01	1.60E+02	97.5%
Arsenic	1.20E+01	8.00E-03	1.97E-02	6.60E-03	0.00E+00	1.55E-01	1.75E-01	4.98E-02	3.51E+00	2.1%
Barium	6.66E+01	3.00E-02	4.10E-01	7.50E-03	0.00E+00	8.60E-01	1.27E+00	3.90E+00	3.25E-01	0.2%
Cadmium	3.10E-01	1.10E-01	6.99E-03	1.10E+01	0.00E+00	4.00E-03	1.10E-02	7.05E-01	1.56E-02	0.0%
Chromium	1.55E+01	1.50E-03	4.77E-03	1.60E-01	0.00E+00	2.00E-01	2.05E-01	2.00E+03	1.03E-04	0.0%
Lead	4.52E+01	9.00E-03	8.34E-02	2.00E+00	0.00E+00	5.84E-01	6.67E-01	5.84E+00	1.14E-01	0.1%
Mercury	4.00E-02	1.80E-01	1.48E-03	3.40E-01	0.00E+00	5.17E-04	1.99E-03	9.59E-01	2.08E-03	0.0%
Selenium	1.20E+00	5.00E-03	1.23E-03	7.60E-01	0.00E+00	1.55E-02	1.67E-02	1.46E-01	1.15E-01	0.1%
Zinc	5.81E+01	3.00E-01	3.57E+00	1.80E+00	0.00E+00	7.50E-01	4.32E+00	1.17E+02	3.70E-02	0.0%
HI =									1.64E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-448 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	9.32E+03	8.00E-04	2.31E-01	7.50E-02	0.00E+00	5.78E+00	6.01E+00	2.93E-01	2.05E+01	96.9%
Arsenic	1.20E+01	8.00E-03	2.98E-03	6.60E-03	0.00E+00	7.44E-03	1.04E-02	1.91E-02	5.45E-01	2.6%
Barium	6.66E+01	3.00E-02	6.19E-02	7.50E-03	0.00E+00	4.13E-02	1.03E-01	1.50E+00	6.89E-02	0.3%
Cadmium	3.10E-01	1.10E-01	1.06E-03	1.10E+01	0.00E+00	1.92E-04	1.25E-03	2.71E-01	4.62E-03	0.0%
Chromium	1.55E+01	1.50E-03	7.21E-04	1.60E-01	0.00E+00	9.61E-03	1.03E-02	7.68E+02	1.35E-05	0.0%
Lead	4.52E+01	9.00E-03	1.26E-02	2.00E+00	0.00E+00	2.80E-02	4.06E-02	2.24E+00	1.81E-02	0.1%
Mercury	4.00E-02	1.80E-01	2.23E-04	3.40E-01	0.00E+00	2.48E-05	2.48E-04	3.68E-01	6.73E-04	0.0%
Selenium	1.20E+00	5.00E-03	1.86E-04	7.60E-01	0.00E+00	7.44E-04	9.30E-04	5.61E-02	1.66E-02	0.1%
Zinc	5.81E+01	3.00E-01	5.40E-01	1.80E+00	0.00E+00	3.60E-02	5.76E-01	4.49E+01	1.28E-02	0.1%
HI =									2.12E+01	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-449. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	9.32E+03	1.30E-04	0.00E+00	8.00E-04	5.43E-01	7.50E-02	3.41E+02	6.78E+02	1.02E+03
Arsenic	1.20E+01	1.20E-03	0.00E+00	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01
Barium	6.66E+01	3.00E-03	0.00E+00	3.00E-02	1.45E-01	7.50E-03	2.43E-01	4.85E+00	5.24E+00
Cadmium	3.10E-01	3.00E-02	0.00E+00	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00
Chromium	1.55E+01	9.00E-04	0.00E+00	1.50E-03	1.69E-03	1.60E-01	1.21E+00	1.13E+00	2.34E+00
Lead	4.52E+01	1.80E-03	0.00E+00	9.00E-03	2.96E-02	2.00E+00	4.40E+01	3.29E+00	4.74E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	1.20E+00	5.00E-03	0.00E+00	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01
Zinc	5.81E+01	1.80E-01	0.00E+00	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.23E+00	5.64E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-449. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.37E+02	1.50E+01	0.00E+00	1.50E+01	6.68E+01	2.25E-01	5.4%
Arsenic	1.00E-01	1.64E-01	1.81E-02	0.00E+00	1.81E-02	4.98E+00	3.63E-03	0.1%
Barium	7.50E-03	7.01E-02	7.72E-03	0.00E+00	7.72E-03	1.19E+01	6.48E-04	0.0%
Cadmium	2.80E-02	8.43E-02	9.28E-03	0.00E+00	9.28E-03	1.46E+00	6.36E-03	0.2%
Chromium	2.80E-01	1.17E+00	1.29E-01	0.00E+00	1.29E-01	1.03E+00	1.25E-01	3.0%
Lead	1.50E-02	1.27E+00	1.40E-01	0.00E+00	1.40E-01	6.82E-01	2.05E-01	4.9%
Mercury	1.30E+01	2.34E-01	2.57E-02	0.00E+00	2.57E-02	2.72E-01	9.46E-02	2.3%
Selenium	7.50E-01	7.13E-01	7.84E-02	0.00E+00	7.84E-02	4.85E-01	1.62E-01	3.9%
Zinc	5.00E+00	5.04E+02	5.54E+01	0.00E+00	5.54E+01	1.66E+01	3.34E+00	80.3%
HI =							4.17E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-450. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.32E+03	1.30E-04	0.00E+00	8.00E-04	5.43E-01	7.50E-02	3.41E+02	6.78E+02	1.02E+03
Arsenic	1.20E+01	1.20E-03	0.00E+00	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01
Barium	6.66E+01	3.00E-03	0.00E+00	3.00E-02	1.45E-01	7.50E-03	2.43E-01	4.85E+00	5.24E+00
Cadmium	3.10E-01	3.00E-02	0.00E+00	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00
Chromium	1.55E+01	9.00E-04	0.00E+00	1.50E-03	1.69E-03	1.60E-01	1.21E+00	1.13E+00	2.34E+00
Lead	4.52E+01	1.80E-03	0.00E+00	9.00E-03	2.96E-02	2.00E+00	4.40E+01	3.29E+00	4.74E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	1.20E+00	5.00E-03	0.00E+00	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01
Zinc	5.81E+01	1.80E-01	0.00E+00	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.23E+00	5.64E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-450. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.37E+02	1.71E+01	0.00E+00	1.71E+01	8.33E+01	2.05E-01	5.4%
Arsenic	1.00E-01	1.64E-01	2.05E-02	0.00E+00	2.05E-02	6.22E+00	3.30E-03	0.1%
Barium	7.50E-03	7.01E-02	8.77E-03	0.00E+00	8.77E-03	1.49E+01	5.90E-04	0.0%
Cadmium	2.80E-02	8.43E-02	1.05E-02	0.00E+00	1.05E-02	1.82E+00	5.80E-03	0.2%
Chromium	2.80E-01	1.17E+00	1.46E-01	0.00E+00	1.46E-01	1.28E+00	1.14E-01	3.0%
Lead	1.50E-02	1.27E+00	1.59E-01	0.00E+00	1.59E-01	8.51E-01	1.86E-01	4.9%
Mercury	1.30E+01	2.34E-01	2.92E-02	0.00E+00	2.92E-02	3.39E-01	8.61E-02	2.3%
Selenium	7.50E-01	7.13E-01	8.91E-02	0.00E+00	8.91E-02	6.05E-01	1.47E-01	3.9%
Zinc	5.00E+00	5.04E+02	6.30E+01	0.00E+00	6.30E+01	2.07E+01	3.05E+00	80.3%
HI =								3.79E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-451. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 56

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	9.32E+03	1.30E-04	3.85E-03	8.00E-04	5.43E-01	7.50E-02	3.41E+02	6.78E+02	1.02E+03
Arsenic	1.20E+01	1.20E-03	4.57E-05	8.00E-03	6.99E-03	6.60E-03	3.86E-02	8.74E-01	9.19E-01
Barium	6.66E+01	3.00E-03	6.34E-04	3.00E-02	1.45E-01	7.50E-03	2.43E-01	4.85E+00	5.24E+00
Cadmium	3.10E-01	3.00E-02	2.95E-05	1.10E-01	2.48E-03	1.10E+01	1.66E+00	2.26E-02	1.69E+00
Chromium	1.55E+01	9.00E-04	4.43E-05	1.50E-03	1.69E-03	1.60E-01	1.21E+00	1.13E+00	2.34E+00
Lead	4.52E+01	1.80E-03	2.58E-04	9.00E-03	2.96E-02	2.00E+00	4.40E+01	3.29E+00	4.74E+01
Mercury	4.00E-02	4.00E-02	5.08E-06	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	1.20E+00	5.00E-03	1.90E-05	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01
Zinc	5.81E+01	1.80E-01	3.32E-02	3.00E-01	1.27E+00	1.80E+00	5.10E+01	4.23E+00	5.64E+01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-451. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.37E+02	8.99E+00	1.80E+01	2.70E+01	5.46E-01	4.95E+01	96.2%
Arsenic	1.00E-01	1.64E-01	1.08E-02	2.32E-02	3.40E-02	3.56E-02	9.55E-01	1.9%
Barium	7.50E-03	7.01E-02	4.62E-03	1.29E-01	1.34E-01	2.79E+00	4.80E-02	0.1%
Cadmium	2.80E-02	8.43E-02	5.55E-03	5.99E-04	6.18E-03	5.04E-01	1.23E-02	0.0%
Chromium	2.80E-01	1.17E+00	7.70E-02	2.99E-02	1.07E-01	1.43E+03	7.48E-05	0.0%
Lead	1.50E-02	1.27E+00	8.35E-02	8.73E-02	1.71E-01	4.18E+00	4.09E-02	0.1%
Mercury	1.30E+01	2.34E-01	1.54E-02	7.73E-05	1.55E-02	6.86E-01	2.25E-02	0.0%
Selenium	7.50E-01	7.13E-01	4.69E-02	2.32E-03	4.92E-02	1.05E-01	4.71E-01	0.9%
Zinc	5.00E+00	5.04E+02	3.32E+01	1.12E-01	3.33E+01	8.36E+01	3.98E-01	0.8%
							HI = 5.14E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-452. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.61E+04	5.00E+01	3.22E+02	44.2%
Antimony	1.29E+01	5.00E+00	2.58E+00	0.4%
Arsenic	2.10E+01	1.00E+01	2.10E+00	0.3%
Barium	2.04E+02	5.00E+02	4.08E-01	0.1%
Beryllium	5.36E-01	1.00E+01	5.36E-02	0.0%
Cadmium	8.00E+01	5.00E-01	1.60E+02	22.0%
Calcium	1.53E+04	No TRV	No TRV	No HQ
Chromium	1.89E+02	1.00E+00	1.89E+02	26.0%
Cobalt	1.22E+01	2.00E+01	6.12E-01	0.1%
Copper	6.53E+02	1.00E+02	6.53E+00	0.9%
Cyanide	6.40E-02	No TRV	No TRV	No HQ
Iron	3.13E+04	No TRV	No TRV	No HQ
Lead	1.02E+03	5.00E+01	2.04E+01	2.8%
Magnesium	5.04E+03	No TRV	No TRV	No HQ
Mercury	1.10E+00	3.00E-01	3.67E+00	0.5%
Nickel	3.62E+01	3.00E+01	1.21E+00	0.2%
Potassium	2.61E+03	No TRV	No TRV	No HQ
Selenium	8.19E-01	1.00E+00	8.19E-01	0.1%
Silver	6.40E+00	2.00E+00	3.20E+00	0.4%
Sodium	2.23E+02	No TRV	No TRV	No HQ
Thallium	4.18E-01	1.00E+00	4.18E-01	0.1%
Zinc	7.72E+02	5.00E+01	1.54E+01	2.1%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	3.00E+01	4.17E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+02	1.16E-02	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI = 7.28E+02				

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-453. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 58**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.61E+04	No TRV	No TRV	No HQ
Antimony	1.29E+01	No TRV	No TRV	No HQ
Arsenic	2.10E+01	6.00E+01	3.49E-01	0.1%
Barium	2.04E+02	No TRV	No TRV	No HQ
Beryllium	5.36E-01	No TRV	No TRV	No HQ
Cadmium	8.00E+01	2.00E+01	4.00E+00	0.8%
Calcium	1.53E+04	No TRV	No TRV	No HQ
Chromium	1.89E+02	4.00E-01	4.73E+02	95.3%
Cobalt	1.22E+01	No TRV	No TRV	No HQ
Copper	6.53E+02	5.00E+01	1.31E+01	2.6%
Cyanide	6.40E-02	No TRV	No TRV	No HQ
Iron	3.13E+04	No TRV	No TRV	No HQ
Lead	1.02E+03	5.00E+02	2.04E+00	0.4%
Magnesium	5.04E+03	No TRV	No TRV	No HQ
Mercury	1.10E+00	No TRV	No TRV	No HQ
Nickel	3.62E+01	2.00E+02	1.81E-01	0.0%
Potassium	2.61E+03	No TRV	No TRV	No HQ
Selenium	8.19E-01	No TRV	No TRV	No HQ
Silver	6.40E+00	No TRV	No TRV	No HQ
Sodium	2.23E+02	No TRV	No TRV	No HQ
Thallium	4.18E-01	No TRV	No TRV	No HQ
Zinc	7.72E+02	2.00E+02	3.86E+00	0.8%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.40E+02	8.93E-04	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	No TRV	No TRV	No HQ
RDX	1.16E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				4.96E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-454. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.61E+04	8.00E-04	9.37E-01	7.50E-02	5.88E+02	1.17E+03	1.76E+03	2.22E+00	7.91E+02	71.3%
Antimony	1.29E+01	4.00E-02	3.76E-02	5.00E-02	3.14E-01	9.39E-01	1.29E+00	1.44E-01	8.96E+00	0.8%
Arsenic	2.10E+01	8.00E-03	1.22E-02	6.60E-03	6.74E-02	1.53E+00	1.60E+00	1.45E-01	1.11E+01	1.0%
Barium	2.04E+02	3.00E-02	4.46E-01	7.50E-03	7.45E-01	1.49E+01	1.60E+01	1.14E+01	1.41E+00	0.1%
Beryllium	5.36E-01	2.00E-03	7.80E-05	5.00E-02	1.31E-02	3.90E-02	5.22E-02	1.41E+00	3.71E-02	0.0%
Cadmium	8.00E+01	1.10E-01	6.41E-01	1.10E+01	4.29E+02	5.82E+00	4.35E+02	2.05E+00	2.12E+02	19.1%
Calcium	1.53E+04	7.00E-01	7.77E+02	1.00E+00	7.43E+03	1.11E+03	9.32E+03	No TRV	No TRV	No HQ
Chromium	1.89E+02	1.50E-03	2.06E-02	1.60E-01	1.47E+01	1.38E+01	2.85E+01	5.83E+03	4.89E-03	0.0%
Cobalt	1.22E+01	4.00E-03	3.56E-03	1.00E+00	5.96E+00	8.91E-01	6.86E+00	No TRV	No TRV	No HQ
Copper	6.53E+02	8.00E-02	3.80E+00	1.60E-01	5.09E+01	4.75E+01	1.02E+02	3.24E+01	3.15E+00	0.3%
Cyanide	6.40E-02	1.00E+00	4.66E-03	0.00E+00	0.00E+00	4.66E-03	9.32E-03	1.38E-02	6.78E-05	0.0%
Iron	3.13E+04	8.00E-04	1.82E+00	1.00E+00	1.52E+04	2.28E+03	1.75E+04	No TRV	No TRV	No HQ
Lead	1.02E+03	9.00E-03	6.68E-01	2.00E+00	9.94E+02	7.43E+01	1.07E+03	1.70E+01	6.27E+01	5.7%
Magnesium	5.04E+03	2.00E-01	7.34E+01	1.00E+00	2.46E+03	3.67E+02	2.90E+03	No TRV	No TRV	No HQ
Mercury	1.10E+00	1.80E-01	1.44E-02	3.40E-01	1.82E-01	8.01E-02	2.77E-01	2.80E+00	9.89E-02	0.0%
Nickel	3.62E+01	1.20E-02	3.16E-02	2.30E-01	4.05E+00	2.63E+00	6.72E+00	8.52E+01	7.89E-02	0.0%
Potassium	2.61E+03	2.00E-01	3.80E+01	1.00E+00	1.27E+03	1.90E+02	1.50E+03	No TRV	No TRV	No HQ
Selenium	8.19E-01	5.00E-03	2.98E-04	7.60E-01	3.03E-01	5.96E-02	3.63E-01	4.26E-01	8.53E-01	0.1%
Silver	6.40E+00	8.00E-02	3.73E-02	1.50E-01	4.68E-01	4.66E-01	9.71E-01	No TRV	No TRV	No HQ
Sodium	2.23E+02	1.50E-02	2.44E-01	1.00E+00	1.09E+02	1.62E+01	1.25E+02	No TRV	No TRV	No HQ
Thallium	4.18E-01	8.00E-04	2.43E-05	1.00E+00	2.03E-01	3.04E-02	2.34E-01	1.59E-02	1.47E+01	1.3%
Zinc	7.72E+02	3.00E-01	1.69E+01	1.80E+00	6.77E+02	5.62E+01	7.50E+02	3.41E+02	2.20E+00	0.2%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	3.41E+00	2.32E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	1.49E+00	9.46E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00	3.27E+00	5.79E-01	0.1%
Nitrobenzene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01	8.44E+00	8.70E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	1.11E+03

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-455. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.61E+04	1.30E-04	1.59E+00	7.50E-02	9.17E+02	2.54E+03	3.46E+03	1.29E+02	2.68E+01	1.6%
Antimony	1.29E+01	6.00E-03	5.88E-02	5.00E-02	4.90E-01	2.04E+00	2.59E+00	No TRV	No TRV	No HQ
Arsenic	2.10E+01	1.20E-03	1.91E-02	6.60E-03	1.05E-01	3.31E+00	3.44E+00	9.66E+00	3.56E-01	0.0%
Barium	2.04E+02	3.00E-03	4.65E-01	7.50E-03	1.16E+00	3.22E+01	3.39E+01	2.31E+01	1.47E+00	0.1%
Beryllium	5.36E-01	3.00E-04	1.22E-04	5.00E-02	2.04E-02	8.47E-02	1.05E-01	No TRV	No TRV	No HQ
Cadmium	8.00E+01	3.00E-02	1.82E+00	1.10E+01	6.69E+02	1.26E+01	6.83E+02	2.83E+00	2.42E+02	14.8%
Calcium	1.53E+04	7.00E-02	8.11E+02	1.00E+00	1.16E+04	2.41E+03	1.48E+04	No TRV	No TRV	No HQ
Chromium	1.89E+02	9.00E-04	1.29E-01	1.60E-01	2.30E+01	2.99E+01	5.30E+01	1.99E+00	2.67E+01	1.6%
Cobalt	1.22E+01	1.40E-03	1.30E-02	1.00E+00	9.30E+00	1.93E+00	1.13E+01	No TRV	No TRV	No HQ
Copper	6.53E+02	5.00E-02	2.48E+01	1.60E-01	7.94E+01	1.03E+02	2.07E+02	7.55E+01	2.75E+00	0.2%
Cyanide	6.40E-02	1.00E+00	4.86E-02	0.00E+00	0.00E+00	1.01E-02	5.88E-02	No TRV	No TRV	No HQ
Iron	3.13E+04	2.00E-04	4.75E+00	1.00E+00	2.38E+04	4.94E+03	2.87E+04	No TRV	No TRV	No HQ
Lead	1.02E+03	1.80E-03	1.40E+00	2.00E+00	1.55E+03	1.61E+02	1.71E+03	1.32E+00	1.30E+03	79.1%
Magnesium	5.04E+03	1.10E-01	4.22E+02	1.00E+00	3.83E+03	7.97E+02	5.05E+03	No TRV	No TRV	No HQ
Mercury	1.10E+00	4.00E-02	3.34E-02	3.40E-01	2.84E-01	1.74E-01	4.92E-01	5.27E-01	9.34E-01	0.1%
Nickel	3.62E+01	1.20E-02	3.30E-01	2.30E-01	6.32E+00	5.72E+00	1.24E+01	1.37E+02	9.04E-02	0.0%
Potassium	2.61E+03	1.10E-01	2.18E+02	1.00E+00	1.99E+03	4.13E+02	2.62E+03	No TRV	No TRV	No HQ
Selenium	8.19E-01	5.00E-03	3.11E-03	7.60E-01	4.73E-01	1.29E-01	6.06E-01	9.40E-01	6.44E-01	0.0%
Silver	6.40E+00	2.00E-02	9.73E-02	1.50E-01	7.30E-01	1.01E+00	1.84E+00	No TRV	No TRV	No HQ
Sodium	2.23E+02	1.10E-02	1.86E+00	1.00E+00	1.69E+02	3.53E+01	2.07E+02	No TRV	No TRV	No HQ
Thallium	4.18E-01	8.00E-05	2.54E-05	1.00E+00	3.17E-01	6.60E-02	3.83E-01	No TRV	No TRV	No HQ
Zinc	7.72E+02	1.80E-01	1.06E+02	1.80E+00	1.06E+03	1.22E+02	1.28E+03	3.21E+01	3.99E+01	2.4%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	2.27E+00	1.00E+00	2.27E+00	4.73E-01	5.02E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	8.82E-01	1.00E+00	8.82E-01	1.83E-01	1.95E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
HI =									1.64E+03	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_a(kg/kgBW/ 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-456. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.61E+04	8.00E-04	2.64E+00	7.50E-02	0.00E+00	2.08E+02	2.10E+02	7.63E-01	2.76E+02	92.1%
Antimony	1.29E+01	4.00E-02	1.06E-01	5.00E-02	0.00E+00	1.67E-01	2.72E-01	4.94E-02	5.51E+00	1.8%
Arsenic	2.10E+01	8.00E-03	3.44E-02	6.60E-03	0.00E+00	2.71E-01	3.05E-01	4.98E-02	6.12E+00	2.0%
Barium	2.04E+02	3.00E-02	1.25E+00	7.50E-03	0.00E+00	2.63E+00	3.89E+00	3.90E+00	9.97E-01	0.3%
Beryllium	5.36E-01	2.00E-03	2.20E-04	5.00E-02	0.00E+00	6.92E-03	7.14E-03	4.82E-01	1.48E-02	0.0%
Cadmium	8.00E+01	1.10E-01	1.80E+00	1.10E+01	0.00E+00	1.03E+00	2.84E+00	7.05E-01	4.03E+00	1.3%
Calcium	1.53E+04	7.00E-01	2.19E+03	1.00E+00	0.00E+00	1.97E+02	2.39E+03	No TRV	No TRV	No HQ
Chromium	1.89E+02	1.50E-03	5.81E-02	1.60E-01	0.00E+00	2.44E+00	2.50E+00	2.00E+03	1.25E-03	0.0%
Cobalt	1.22E+01	4.00E-03	1.00E-02	1.00E+00	0.00E+00	1.58E-01	1.68E-01	No TRV	No TRV	No HQ
Copper	6.53E+02	8.00E-02	1.07E+01	1.60E-01	0.00E+00	8.43E+00	1.91E+01	1.11E+01	1.72E+00	0.6%
Cyanide	6.40E-02	1.00E+00	1.31E-02	0.00E+00	0.00E+00	8.27E-04	1.39E-02	4.72E+01	2.96E-04	0.0%
Iron	3.13E+04	8.00E-04	5.13E+00	1.00E+00	0.00E+00	4.04E+02	4.09E+02	No TRV	No TRV	No HQ
Lead	1.02E+03	9.00E-03	1.88E+00	2.00E+00	0.00E+00	1.32E+01	1.51E+01	5.84E+00	2.58E+00	0.9%
Magnesium	5.04E+03	2.00E-01	2.07E+02	1.00E+00	0.00E+00	6.51E+01	2.72E+02	No TRV	No TRV	No HQ
Mercury	1.10E+00	1.80E-01	4.06E-02	3.40E-01	0.00E+00	1.42E-02	5.48E-02	9.59E-01	5.71E-02	0.0%
Nickel	3.62E+01	1.20E-02	8.90E-02	2.30E-01	0.00E+00	4.67E-01	5.56E-01	2.92E+01	1.90E-02	0.0%
Potassium	2.61E+03	2.00E-01	1.07E+02	1.00E+00	0.00E+00	3.37E+01	1.41E+02	No TRV	No TRV	No HQ
Selenium	8.19E-01	5.00E-03	8.40E-04	7.60E-01	0.00E+00	1.06E-02	1.14E-02	1.46E-01	7.82E-02	0.0%
Silver	6.40E+00	8.00E-02	1.05E-01	1.50E-01	0.00E+00	8.27E-02	1.88E-01	No TRV	No TRV	No HQ
Sodium	2.23E+02	1.50E-02	6.86E-01	1.00E+00	0.00E+00	2.88E+00	3.57E+00	No TRV	No TRV	No HQ
Thallium	4.18E-01	8.00E-04	6.85E-05	1.00E+00	0.00E+00	5.39E-03	5.46E-03	5.46E-03	1.00E+00	0.3%
Zinc	7.72E+02	3.00E-01	4.75E+01	1.80E+00	0.00E+00	9.97E+00	5.74E+01	1.17E+02	4.91E-01	0.2%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	1.17E+00	2.33E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	5.11E-01	4.76E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	6.13E-01	1.00E+00	0.00E+00	3.86E-02	6.52E-01	1.12E+00	5.81E-01	0.2%
Nitrobenzene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	2.38E-01	1.00E+00	0.00E+00	1.50E-02	2.53E-01	2.89E+00	8.74E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	3.00E+02

Appendix Table L-456. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-457 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.61E+04	8.00E-04	3.99E-01	7.50E-02	0.00E+00	9.98E+00	1.04E+01	2.93E-01	3.54E+01	87.1%
Antimony	1.29E+01	4.00E-02	1.60E-02	5.00E-02	0.00E+00	8.00E-03	2.40E-02	1.90E-02	1.26E+00	3.1%
Arsenic	2.10E+01	8.00E-03	5.20E-03	6.60E-03	0.00E+00	1.30E-02	1.82E-02	1.91E-02	9.51E-01	2.3%
Barium	2.04E+02	3.00E-02	1.90E-01	7.50E-03	0.00E+00	1.26E-01	3.16E-01	1.50E+00	2.11E-01	0.5%
Beryllium	5.36E-01	2.00E-03	3.32E-05	5.00E-02	0.00E+00	3.32E-04	3.66E-04	1.85E-01	1.97E-03	0.0%
Cadmium	8.00E+01	1.10E-01	2.73E-01	1.10E+01	0.00E+00	4.96E-02	3.22E-01	2.71E-01	1.19E+00	2.9%
Calcium	1.53E+04	7.00E-01	3.31E+02	1.00E+00	0.00E+00	9.46E+00	3.40E+02	No TRV	No TRV	No HQ
Chromium	1.89E+02	1.50E-03	8.79E-03	1.60E-01	0.00E+00	1.17E-01	1.26E-01	7.68E+02	1.64E-04	0.0%
Cobalt	1.22E+01	4.00E-03	1.52E-03	1.00E+00	0.00E+00	7.59E-03	9.11E-03	No TRV	No TRV	No HQ
Copper	6.53E+02	8.00E-02	1.62E+00	1.60E-01	0.00E+00	4.05E-01	2.02E+00	4.27E+00	4.74E-01	1.2%
Cyanide	6.40E-02	1.00E+00	1.98E-03	0.00E+00	0.00E+00	3.97E-05	2.02E-03	1.81E+01	1.12E-04	0.0%
Iron	3.13E+04	8.00E-04	7.75E-01	1.00E+00	0.00E+00	1.94E+01	2.02E+01	No TRV	No TRV	No HQ
Lead	1.02E+03	9.00E-03	2.85E-01	2.00E+00	0.00E+00	6.32E-01	9.17E-01	2.24E+00	4.09E-01	1.0%
Magnesium	5.04E+03	2.00E-01	3.13E+01	1.00E+00	0.00E+00	3.13E+00	3.44E+01	No TRV	No TRV	No HQ
Mercury	1.10E+00	1.80E-01	6.14E-03	3.40E-01	0.00E+00	6.82E-04	6.82E-03	3.68E-01	1.85E-02	0.0%
Nickel	3.62E+01	1.20E-02	1.35E-02	2.30E-01	0.00E+00	2.24E-02	3.59E-02	1.12E+01	3.20E-03	0.0%
Potassium	2.61E+03	2.00E-01	1.62E+01	1.00E+00	0.00E+00	1.62E+00	1.78E+01	No TRV	No TRV	No HQ
Selenium	8.19E-01	5.00E-03	1.27E-04	7.60E-01	0.00E+00	5.08E-04	6.35E-04	5.61E-02	1.13E-02	0.0%
Silver	6.40E+00	8.00E-02	1.59E-02	1.50E-01	0.00E+00	3.97E-03	1.98E-02	No TRV	No TRV	No HQ
Sodium	2.23E+02	1.50E-02	1.04E-01	1.00E+00	0.00E+00	1.38E-01	2.42E-01	No TRV	No TRV	No HQ
Thallium	4.18E-01	8.00E-04	1.04E-05	1.00E+00	0.00E+00	2.59E-04	2.69E-04	2.10E-03	1.28E-01	0.3%
Zinc	7.72E+02	3.00E-01	7.18E+00	1.80E+00	0.00E+00	4.78E-01	7.66E+00	4.49E+01	1.71E-01	0.4%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.3%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	4.49E-01	8.81E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	1.96E-01	9.03E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	2.99E+00	1.00E+00	9.27E-02	1.00E+00	0.00E+00	1.85E-03	9.45E-02	4.31E-01	2.20E-01	0.5%
Nitrobenzene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	No TRV	No TRV	No HQ
RDX	1.16E+00	1.00E+00	3.60E-02	1.00E+00	0.00E+00	7.19E-04	3.67E-02	1.11E+00	3.30E-02	0.1%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
									HI =	4.07E+01

EPC = Exposure point concentration

I_A(kg/kgBW/d) = 0.00E+00

SP_v = Soil-to-plant; vegetative

ADD_S = Average daily dose; soil

Appendix Table L-457 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP_v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-458. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.61E+04	1.30E-04	0.00E+00	8.00E-04	9.37E-01	7.50E-02	5.88E+02	1.17E+03	1.76E+03
Antimony	1.29E+01	6.00E-03	0.00E+00	4.00E-02	3.76E-02	5.00E-02	3.14E-01	9.39E-01	1.29E+00
Arsenic	2.10E+01	1.20E-03	0.00E+00	8.00E-03	1.22E-02	6.60E-03	6.74E-02	1.53E+00	1.60E+00
Barium	2.04E+02	3.00E-03	0.00E+00	3.00E-02	4.46E-01	7.50E-03	7.45E-01	1.49E+01	1.60E+01
Beryllium	5.36E-01	3.00E-04	0.00E+00	2.00E-03	7.80E-05	5.00E-02	1.31E-02	3.90E-02	5.22E-02
Cadmium	8.00E+01	3.00E-02	0.00E+00	1.10E-01	6.41E-01	1.10E+01	4.29E+02	5.82E+00	4.35E+02
Calcium	1.53E+04	7.00E-02	0.00E+00	7.00E-01	7.77E+02	1.00E+00	7.43E+03	1.11E+03	9.32E+03
Chromium	1.89E+02	9.00E-04	0.00E+00	1.50E-03	2.06E-02	1.60E-01	1.47E+01	1.38E+01	2.85E+01
Cobalt	1.22E+01	1.40E-03	0.00E+00	4.00E-03	3.56E-03	1.00E+00	5.96E+00	8.91E-01	6.86E+00
Copper	6.53E+02	5.00E-02	0.00E+00	8.00E-02	3.80E+00	1.60E-01	5.09E+01	4.75E+01	1.02E+02
Cyanide	6.40E-02	1.00E+00	0.00E+00	1.00E+00	4.66E-03	0.00E+00	0.00E+00	4.66E-03	9.32E-03
Iron	3.13E+04	2.00E-04	0.00E+00	8.00E-04	1.82E+00	1.00E+00	1.52E+04	2.28E+03	1.75E+04
Lead	1.02E+03	1.80E-03	0.00E+00	9.00E-03	6.68E-01	2.00E+00	9.94E+02	7.43E+01	1.07E+03
Magnesium	5.04E+03	1.10E-01	0.00E+00	2.00E-01	7.34E+01	1.00E+00	2.46E+03	3.67E+02	2.90E+03
Mercury	1.10E+00	4.00E-02	0.00E+00	1.80E-01	1.44E-02	3.40E-01	1.82E-01	8.01E-02	2.77E-01
Nickel	3.62E+01	1.20E-02	0.00E+00	1.20E-02	3.16E-02	2.30E-01	4.05E+00	2.63E+00	6.72E+00
Potassium	2.61E+03	1.10E-01	0.00E+00	2.00E-01	3.80E+01	1.00E+00	1.27E+03	1.90E+02	1.50E+03
Selenium	8.19E-01	5.00E-03	0.00E+00	5.00E-03	2.98E-04	7.60E-01	3.03E-01	5.96E-02	3.63E-01
Silver	6.40E+00	2.00E-02	0.00E+00	8.00E-02	3.73E-02	1.50E-01	4.68E-01	4.66E-01	9.71E-01
Sodium	2.23E+02	1.10E-02	0.00E+00	1.50E-02	2.44E-01	1.00E+00	1.09E+02	1.62E+01	1.25E+02
Thallium	4.18E-01	8.00E-05	0.00E+00	8.00E-04	2.43E-05	1.00E+00	2.03E-01	3.04E-02	2.34E-01
Zinc	7.72E+02	1.80E-01	0.00E+00	3.00E-01	1.69E+01	1.80E+00	6.77E+02	5.62E+01	7.50E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-458. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.36E+02	2.59E+01	0.00E+00	2.59E+01	6.68E+01	3.88E-01	0.7%
Antimony	5.00E-02	1.15E-01	1.27E-02	0.00E+00	1.27E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.87E-01	3.15E-02	0.00E+00	3.15E-02	4.98E+00	6.33E-03	0.0%
Barium	7.50E-03	2.15E-01	2.36E-02	0.00E+00	2.36E-02	1.19E+01	1.98E-03	0.0%
Beryllium	5.00E-02	4.66E-03	5.12E-04	0.00E+00	5.12E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.18E+01	2.39E+00	0.00E+00	2.39E+00	1.46E+00	1.64E+00	3.0%
Calcium	1.00E+00	1.66E+04	1.83E+03	0.00E+00	1.83E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.43E+01	1.57E+00	0.00E+00	1.57E+00	1.03E+00	1.53E+00	2.8%
Cobalt	1.00E+00	1.22E+01	1.35E+00	0.00E+00	1.35E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	9.13E+01	1.00E+01	0.00E+00	1.00E+01	3.89E+01	2.58E-01	0.5%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	3.13E+04	3.44E+03	0.00E+00	3.44E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.86E+01	3.15E+00	0.00E+00	3.15E+00	6.82E-01	4.62E+00	8.3%
Magnesium	1.00E+00	5.17E+03	5.69E+02	0.00E+00	5.69E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	6.42E+00	7.07E-01	0.00E+00	7.07E-01	2.72E-01	2.60E+00	4.7%
Nickel	3.00E-01	3.60E+00	3.96E-01	0.00E+00	3.96E-01	7.06E+01	5.61E-03	0.0%
Potassium	1.00E+00	2.68E+03	2.95E+02	0.00E+00	2.95E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	4.86E-01	5.35E-02	0.00E+00	5.35E-02	4.85E-01	1.10E-01	0.2%
Silver	1.50E-01	2.60E-01	2.86E-02	0.00E+00	2.86E-02	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.23E+02	2.46E+01	0.00E+00	2.46E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	4.18E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	6.69E+03	7.36E+02	0.00E+00	7.36E+02	1.66E+01	4.44E+01	79.9%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.26E-07	0.00E+00	5.26E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	3.72E-01	0.00E+00	3.72E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.32E-07	0.00E+00	3.32E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.44E-01	0.00E+00	1.44E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	5.56E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-458. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-458. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-459. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.61E+04	1.30E-04	0.00E+00	8.00E-04	9.37E-01	7.50E-02	5.88E+02	1.17E+03	1.76E+03
Antimony	1.29E+01	6.00E-03	0.00E+00	4.00E-02	3.76E-02	5.00E-02	3.14E-01	9.39E-01	1.29E+00
Arsenic	2.10E+01	1.20E-03	0.00E+00	8.00E-03	1.22E-02	6.60E-03	6.74E-02	1.53E+00	1.60E+00
Barium	2.04E+02	3.00E-03	0.00E+00	3.00E-02	4.46E-01	7.50E-03	7.45E-01	1.49E+01	1.60E+01
Beryllium	5.36E-01	3.00E-04	0.00E+00	2.00E-03	7.80E-05	5.00E-02	1.31E-02	3.90E-02	5.22E-02
Cadmium	8.00E+01	3.00E-02	0.00E+00	1.10E-01	6.41E-01	1.10E+01	4.29E+02	5.82E+00	4.35E+02
Calcium	1.53E+04	7.00E-02	0.00E+00	7.00E-01	7.77E+02	1.00E+00	7.43E+03	1.11E+03	9.32E+03
Chromium	1.89E+02	9.00E-04	0.00E+00	1.50E-03	2.06E-02	1.60E-01	1.47E+01	1.38E+01	2.85E+01
Cobalt	1.22E+01	1.40E-03	0.00E+00	4.00E-03	3.56E-03	1.00E+00	5.96E+00	8.91E-01	6.86E+00
Copper	6.53E+02	5.00E-02	0.00E+00	8.00E-02	3.80E+00	1.60E-01	5.09E+01	4.75E+01	1.02E+02
Cyanide	6.40E-02	1.00E+00	0.00E+00	1.00E+00	4.66E-03	0.00E+00	0.00E+00	4.66E-03	9.32E-03
Iron	3.13E+04	2.00E-04	0.00E+00	8.00E-04	1.82E+00	1.00E+00	1.52E+04	2.28E+03	1.75E+04
Lead	1.02E+03	1.80E-03	0.00E+00	9.00E-03	6.68E-01	2.00E+00	9.94E+02	7.43E+01	1.07E+03
Magnesium	5.04E+03	1.10E-01	0.00E+00	2.00E-01	7.34E+01	1.00E+00	2.46E+03	3.67E+02	2.90E+03
Mercury	1.10E+00	4.00E-02	0.00E+00	1.80E-01	1.44E-02	3.40E-01	1.82E-01	8.01E-02	2.77E-01
Nickel	3.62E+01	1.20E-02	0.00E+00	1.20E-02	3.16E-02	2.30E-01	4.05E+00	2.63E+00	6.72E+00
Potassium	2.61E+03	1.10E-01	0.00E+00	2.00E-01	3.80E+01	1.00E+00	1.27E+03	1.90E+02	1.50E+03
Selenium	8.19E-01	5.00E-03	0.00E+00	5.00E-03	2.98E-04	7.60E-01	3.03E-01	5.96E-02	3.63E-01
Silver	6.40E+00	2.00E-02	0.00E+00	8.00E-02	3.73E-02	1.50E-01	4.68E-01	4.68E-01	9.71E-01
Sodium	2.23E+02	1.10E-02	0.00E+00	1.50E-02	2.44E-01	1.00E+00	1.09E+02	1.62E+01	1.25E+02
Thallium	4.18E-01	8.00E-05	0.00E+00	8.00E-04	2.43E-05	1.00E+00	2.03E-01	3.04E-02	2.34E-01
Zinc	7.72E+02	1.80E-01	0.00E+00	3.00E-01	1.69E+01	1.80E+00	6.77E+02	5.62E+01	7.50E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	0.00E+00	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	0.00E+00	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

AUF-s = Shrew AUF =

1.00E+00

Appendix Table L-459. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.36E+02	2.95E+01	0.00E+00	2.95E+01	8.33E+01	3.54E-01	0.7%
Antimony	5.00E-02	1.15E-01	1.44E-02	0.00E+00	1.44E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.87E-01	3.58E-02	0.00E+00	3.58E-02	6.22E+00	5.76E-03	0.0%
Barium	7.50E-03	2.15E-01	2.69E-02	0.00E+00	2.69E-02	1.49E+01	1.81E-03	0.0%
Beryllium	5.00E-02	4.66E-03	5.82E-04	0.00E+00	5.82E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.18E+01	2.72E+00	0.00E+00	2.72E+00	1.82E+00	1.50E+00	3.0%
Calcium	1.00E+00	1.66E+04	2.08E+03	0.00E+00	2.08E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.43E+01	1.78E+00	0.00E+00	1.78E+00	1.28E+00	1.39E+00	2.8%
Cobalt	1.00E+00	1.22E+01	1.53E+00	0.00E+00	1.53E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	9.13E+01	1.14E+01	0.00E+00	1.14E+01	4.86E+01	2.35E-01	0.5%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	3.13E+04	3.91E+03	0.00E+00	3.91E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.86E+01	3.58E+00	0.00E+00	3.58E+00	8.51E-01	4.20E+00	8.3%
Magnesium	1.00E+00	5.17E+03	6.47E+02	0.00E+00	6.47E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	6.42E+00	8.03E-01	0.00E+00	8.03E-01	3.39E-01	2.37E+00	4.7%
Nickel	3.00E-01	3.60E+00	4.50E-01	0.00E+00	4.50E-01	8.81E+01	5.11E-03	0.0%
Potassium	1.00E+00	2.68E+03	3.35E+02	0.00E+00	3.35E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	4.86E-01	6.08E-02	0.00E+00	6.08E-02	6.05E-01	1.00E-01	0.2%
Silver	1.50E-01	2.60E-01	3.25E-02	0.00E+00	3.25E-02	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.23E+02	2.79E+01	0.00E+00	2.79E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	4.18E-01	5.22E-02	0.00E+00	5.22E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	6.69E+03	8.37E+02	0.00E+00	8.37E+02	2.07E+01	4.05E+01	79.9%
1,3,5-Trinitrobenzen	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.78E-06	5.98E-07	0.00E+00	5.98E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	4.22E-01	0.00E+00	4.22E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	3.02E-06	3.78E-07	0.00E+00	3.78E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	1.64E-01	0.00E+00	1.64E-01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
							HI = 5.06E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-459. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-459. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-460. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.61E+04	1.30E-04	6.64E-03	8.00E-04	9.37E-01	7.50E-02	5.88E+02	1.17E+03	1.76E+03
Antimony	1.29E+01	6.00E-03	2.46E-04	4.00E-02	3.76E-02	5.00E-02	3.14E-01	9.39E-01	1.29E+00
Arsenic	2.10E+01	1.20E-03	7.98E-05	8.00E-03	1.22E-02	6.60E-03	6.74E-02	1.53E+00	1.60E+00
Barium	2.04E+02	3.00E-03	1.94E-03	3.00E-02	4.46E-01	7.50E-03	7.45E-01	1.49E+01	1.60E+01
Beryllium	5.36E-01	3.00E-04	5.10E-07	2.00E-03	7.80E-05	5.00E-02	1.31E-02	3.90E-02	5.22E-02
Cadmium	8.00E+01	3.00E-02	7.62E-03	1.10E-01	6.41E-01	1.10E+01	4.29E+02	5.82E+00	4.35E+02
Calcium	1.53E+04	7.00E-02	3.39E+00	7.00E-01	7.77E+02	1.00E+00	7.43E+03	1.11E+03	9.32E+03
Chromium	1.89E+02	9.00E-04	5.40E-04	1.50E-03	2.06E-02	1.60E-01	1.47E+01	1.38E+01	2.85E+01
Cobalt	1.22E+01	1.40E-03	5.44E-05	4.00E-03	3.56E-03	1.00E+00	5.96E+00	8.91E-01	6.86E+00
Copper	6.53E+02	5.00E-02	1.04E-01	8.00E-02	3.80E+00	1.60E-01	5.09E+01	4.75E+01	1.02E+02
Cyanide	6.40E-02	1.00E+00	2.03E-04	1.00E+00	4.66E-03	0.00E+00	0.00E+00	4.66E-03	9.32E-03
Iron	3.13E+04	2.00E-04	1.99E-02	8.00E-04	1.82E+00	1.00E+00	1.52E+04	2.28E+03	1.75E+04
Lead	1.02E+03	1.80E-03	5.83E-03	9.00E-03	6.68E-01	2.00E+00	9.94E+02	7.43E+01	1.07E+03
Magnesium	5.04E+03	1.10E-01	1.76E+00	2.00E-01	7.34E+01	1.00E+00	2.46E+03	3.67E+02	2.90E+03
Mercury	1.10E+00	4.00E-02	1.40E-04	1.80E-01	1.44E-02	3.40E-01	1.82E-01	8.01E-02	2.77E-01
Nickel	3.62E+01	1.20E-02	1.38E-03	1.20E-02	3.16E-02	2.30E-01	4.05E+00	2.63E+00	6.72E+00
Potassium	2.61E+03	1.10E-01	9.12E-01	2.00E-01	3.80E+01	1.00E+00	1.27E+03	1.90E+02	1.50E+03
Selenium	8.19E-01	5.00E-03	1.30E-05	5.00E-03	2.98E-04	7.60E-01	3.03E-01	5.96E-02	3.63E-01
Silver	6.40E+00	2.00E-02	4.06E-04	8.00E-02	3.73E-02	1.50E-01	4.68E-01	4.66E-01	9.71E-01
Sodium	2.23E+02	1.10E-02	7.79E-03	1.50E-02	2.44E-01	1.00E+00	1.09E+02	1.62E+01	1.25E+02
Thallium	4.18E-01	8.00E-05	1.06E-07	8.00E-04	2.43E-05	1.00E+00	2.03E-01	3.04E-02	2.34E-01
Zinc	7.72E+02	1.80E-01	4.41E-01	3.00E-01	1.69E+01	1.80E+00	6.77E+02	5.62E+01	7.50E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.99E+00	1.00E+00	9.49E-03	1.00E+00	2.18E-01	1.00E+00	1.46E+00	2.18E-01	1.89E+00
Nitrobenzene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02
RDX	1.16E+00	1.00E+00	3.68E-03	1.00E+00	8.44E-02	1.00E+00	5.65E-01	8.44E-02	7.34E-01

Appendix Table L-460. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.36E+02	1.55E+01	3.11E+01	4.66E+01	5.46E-01	8.54E+01	79.7%
Antimony	5.00E-02	1.15E-01	7.59E-03	2.49E-02	3.28E-02	3.54E-02	9.27E-01	0.9%
Arsenic	1.00E-01	2.87E-01	1.89E-02	4.05E-02	5.94E-02	3.56E-02	1.67E+00	1.6%
Barium	7.50E-03	2.15E-01	1.41E-02	3.94E-01	4.10E-01	2.79E+00	1.47E-01	0.1%
Beryllium	5.00E-02	4.66E-03	3.07E-04	1.04E-03	1.34E-03	3.45E-01	3.89E-03	0.0%
Cadmium	2.80E-02	2.18E+01	1.43E+00	1.55E-01	1.59E+00	5.04E-01	3.16E+00	3.0%
Calcium	1.00E+00	1.66E+04	1.10E+03	2.95E+01	1.13E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.43E+01	9.38E-01	3.65E-01	1.30E+00	1.43E+03	9.12E-04	0.0%
Cobalt	1.00E+00	1.22E+01	8.06E-01	2.36E-02	8.30E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	9.13E+01	6.01E+00	1.26E+00	7.37E+00	7.96E+00	9.27E-01	0.9%
Cyanide	0.00E+00	0.00E+00	0.00E+00	1.24E-04	3.27E-04	3.37E+01	9.68E-06	0.0%
Iron	1.00E+00	3.13E+04	2.06E+03	6.04E+01	2.12E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.86E+01	1.88E+00	1.97E+00	3.86E+00	4.18E+00	9.23E-01	0.9%
Magnesium	1.00E+00	5.17E+03	3.41E+02	9.74E+00	3.52E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	6.42E+00	4.23E-01	2.13E-03	4.25E-01	6.86E-01	6.19E-01	0.6%
Nickel	3.00E-01	3.60E+00	2.37E-01	6.99E-02	3.08E-01	2.09E+01	1.47E-02	0.0%
Potassium	1.00E+00	2.68E+03	1.76E+02	5.05E+00	1.82E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	4.86E-01	3.20E-02	1.58E-03	3.36E-02	1.05E-01	3.22E-01	0.3%
Silver	1.50E-01	2.60E-01	1.71E-02	1.24E-02	2.99E-02	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.23E+02	1.47E+01	4.31E-01	1.51E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	4.18E-01	2.75E-02	8.07E-04	2.83E-02	3.91E-03	7.24E+00	6.8%
Zinc	5.00E+00	6.69E+03	4.41E+02	1.49E+00	4.43E+02	8.36E+01	5.29E+00	4.9%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	8.36E-01	1.19E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.78E-06	3.15E-07	2.76E-04	2.86E-04	3.66E-01	7.81E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	3.38E+00	2.22E-01	5.78E-03	2.38E-01	8.02E-01	2.96E-01	0.3%
Nitrobenzene	1.20E-04	3.02E-06	1.99E-07	2.76E-04	2.86E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	1.31E+00	8.63E-02	2.24E-03	9.22E-02	2.07E+00	4.45E-02	0.0%

Appendix Table L-460. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 58

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-460. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
HI = 1.07E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-461. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.42E+04	5.00E+01	2.84E+02	71.0%
Antimony	2.79E+01	5.00E+00	5.58E+00	1.4%
Arsenic	1.27E+01	1.00E+01	1.27E+00	0.3%
Barium	1.38E+02	5.00E+02	2.76E-01	0.1%
Beryllium	1.88E-01	1.00E+01	1.88E-02	0.0%
Cadmium	2.29E+00	5.00E-01	4.57E+00	1.1%
Calcium	2.81E+03	No TRV	No TRV	No HQ
Chromium	5.98E+01	1.00E+00	5.98E+01	14.9%
Cobalt	1.02E+01	2.00E+01	5.11E-01	0.1%
Copper	1.05E+02	1.00E+02	1.05E+00	0.3%
Cyanide	3.34E-01	No TRV	No TRV	No HQ
Iron	2.48E+04	No TRV	No TRV	No HQ
Lead	8.81E+02	5.00E+01	1.76E+01	4.4%
Magnesium	3.36E+03	No TRV	No TRV	No HQ
Mercury	5.20E-02	3.00E-01	1.73E-01	0.0%
Nickel	2.65E+01	3.00E+01	8.85E-01	0.2%
Potassium	1.98E+03	No TRV	No TRV	No HQ
Selenium	1.01E+00	1.00E+00	1.01E+00	0.3%
Silver	2.12E+00	2.00E+00	1.06E+00	0.3%
Sodium	1.49E+02	No TRV	No TRV	No HQ
Thallium	3.34E-01	1.00E+00	3.34E-01	0.1%
Zinc	1.04E+03	5.00E+01	2.08E+01	5.2%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.30E+01	3.00E+01	1.10E+00	0.3%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.20E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.33E-01	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+02	6.60E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =				4.00E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-462. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 59**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.42E+04	No TRV	No TRV	No HQ
Antimony	2.79E+01	No TRV	No TRV	No HQ
Arsenic	1.27E+01	6.00E+01	2.12E-01	0.1%
Barium	1.38E+02	No TRV	No TRV	No HQ
Beryllium	1.88E-01	No TRV	No TRV	No HQ
Cadmium	2.29E+00	2.00E+01	1.14E-01	0.1%
Calcium	2.81E+03	No TRV	No TRV	No HQ
Chromium	5.98E+01	4.00E-01	1.50E+02	93.9%
Cobalt	1.02E+01	No TRV	No TRV	No HQ
Copper	1.05E+02	5.00E+01	2.10E+00	1.3%
Cyanide	3.34E-01	No TRV	No TRV	No HQ
Iron	2.48E+04	No TRV	No TRV	No HQ
Lead	8.81E+02	5.00E+02	1.76E+00	1.1%
Magnesium	3.36E+03	No TRV	No TRV	No HQ
Mercury	5.20E-02	No TRV	No TRV	No HQ
Nickel	2.65E+01	2.00E+02	1.33E-01	0.1%
Potassium	1.98E+03	No TRV	No TRV	No HQ
Selenium	1.01E+00	No TRV	No TRV	No HQ
Silver	2.12E+00	No TRV	No TRV	No HQ
Sodium	1.49E+02	No TRV	No TRV	No HQ
Thallium	3.34E-01	No TRV	No TRV	No HQ
Zinc	1.04E+03	2.00E+02	5.20E+00	3.3%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.30E+01	1.40E+02	2.36E-01	0.1%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.20E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.33E-01	No TRV	No TRV	No HQ
RDX	6.60E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				1.59E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-463. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	8.00E-04	8.27E-01	7.50E-02	5.19E+02	1.03E+03	1.55E+03	2.22E+00	6.98E+02	86.4%
Antimony	2.79E+01	4.00E-02	8.12E-02	5.00E-02	6.80E-01	2.03E+00	2.79E+00	1.44E-01	1.94E+01	2.4%
Arsenic	1.27E+01	8.00E-03	7.39E-03	6.60E-03	4.08E-02	9.24E-01	9.72E-01	1.45E-01	6.69E+00	0.8%
Barium	1.38E+02	3.00E-02	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.08E+01	1.14E+01	9.53E-01	0.1%
Beryllium	1.88E-01	2.00E-03	2.74E-05	5.00E-02	4.58E-03	1.37E-02	1.83E-02	1.41E+00	1.30E-02	0.0%
Cadmium	2.29E+00	1.10E-01	1.83E-02	1.10E+01	1.22E+01	1.66E-01	1.24E+01	2.05E+00	6.05E+00	0.7%
Calcium	2.81E+03	7.00E-01	1.43E+02	1.00E+00	1.37E+03	2.05E+02	1.72E+03	No TRV	No TRV	No HQ
Chromium	5.98E+01	1.50E-03	6.53E-03	1.60E-01	4.66E+00	4.35E+00	9.02E+00	5.83E+03	1.55E-03	0.0%
Cobalt	1.02E+01	4.00E-03	2.98E-03	1.00E+00	4.98E+00	7.44E-01	5.73E+00	No TRV	No TRV	No HQ
Copper	1.05E+02	8.00E-02	6.12E-01	1.60E-01	8.18E+00	7.64E+00	1.64E+01	3.24E+01	5.07E-01	0.1%
Cyanide	3.34E-01	1.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02	4.86E-02	1.38E+02	3.53E-04	0.0%
Iron	2.48E+04	8.00E-04	1.44E+00	1.00E+00	1.21E+04	1.81E+03	1.39E+04	No TRV	No TRV	No HQ
Lead	8.81E+02	9.00E-03	5.77E-01	2.00E+00	8.59E+02	6.42E+01	9.23E+02	1.70E+01	5.42E+01	6.7%
Magnesium	3.36E+03	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.45E+02	1.93E+03	No TRV	No TRV	No HQ
Mercury	5.20E-02	1.80E-01	6.82E-04	3.40E-01	8.62E-03	3.79E-03	1.31E-02	2.80E+00	4.68E-03	0.0%
Nickel	2.65E+01	1.20E-02	2.32E-02	2.30E-01	2.97E+00	1.93E+00	4.93E+00	8.52E+01	5.79E-02	0.0%
Potassium	1.98E+03	2.00E-01	2.89E+01	1.00E+00	9.66E+02	1.44E+02	1.14E+03	No TRV	No TRV	No HQ
Selenium	1.01E+00	5.00E-03	3.68E-04	7.60E-01	3.75E-01	7.37E-02	4.49E-01	4.26E-01	1.05E+00	0.1%
Silver	2.12E+00	8.00E-02	1.24E-02	1.50E-01	1.55E-01	1.55E-01	3.22E-01	No TRV	No TRV	No HQ
Sodium	1.49E+02	1.50E-02	1.63E-01	1.00E+00	7.27E+01	1.09E+01	8.37E+01	No TRV	No TRV	No HQ
Thallium	3.34E-01	8.00E-04	1.94E-05	1.00E+00	1.63E-01	2.43E-02	1.87E-01	1.59E-02	1.17E+01	1.5%
Zinc	1.04E+03	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03	3.41E+02	2.96E+00	0.4%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	3.30E+01	1.00E+00	2.40E+00	1.00E+00	1.61E+01	2.40E+00	2.09E+01	3.41E+00	6.13E+00	0.8%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02	1.49E+00	8.80E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.20E-01	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02	3.27E+00	2.32E-02	0.0%
Nitrobenzene	1.33E-01	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01	8.44E+00	4.95E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	8.09E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-464. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	1.30E-04	1.40E+00	7.50E-02	8.09E+02	2.24E+03	3.06E+03	1.29E+02	2.36E+01	1.9%
Antimony	2.79E+01	6.00E-03	1.27E-01	5.00E-02	1.06E+00	4.41E+00	5.60E+00	No TRV	No TRV	No HQ
Arsenic	1.27E+01	1.20E-03	1.16E-02	6.60E-03	6.37E-02	2.01E+00	2.08E+00	9.66E+00	2.16E-01	0.0%
Barium	1.38E+02	3.00E-03	3.14E-01	7.50E-03	7.86E-01	2.18E+01	2.29E+01	2.31E+01	9.92E-01	0.1%
Beryllium	1.88E-01	3.00E-04	4.29E-05	5.00E-02	7.15E-03	2.97E-02	3.69E-02	No TRV	No TRV	No HQ
Cadmium	2.29E+00	3.00E-02	5.21E-02	1.10E+01	1.91E+01	3.61E-01	1.95E+01	2.83E+00	6.91E+00	0.6%
Calcium	2.81E+03	7.00E-02	1.49E+02	1.00E+00	2.14E+03	4.44E+02	2.73E+03	No TRV	No TRV	No HQ
Chromium	5.98E+01	9.00E-04	4.09E-02	1.60E-01	7.27E+00	9.45E+00	1.68E+01	1.99E+00	8.43E+00	0.7%
Cobalt	1.02E+01	1.40E-03	1.09E-02	1.00E+00	7.77E+00	1.62E+00	9.39E+00	No TRV	No TRV	No HQ
Copper	1.05E+02	5.00E-02	3.99E+00	1.60E-01	1.28E+01	1.66E+01	3.34E+01	7.55E+01	4.42E-01	0.0%
Cyanide	3.34E-01	1.00E+00	2.54E-01	0.00E+00	0.00E+00	5.28E-02	3.06E-01	No TRV	No TRV	No HQ
Iron	2.48E+04	2.00E-04	3.77E+00	1.00E+00	1.88E+04	3.92E+03	2.28E+04	No TRV	No TRV	No HQ
Lead	8.81E+02	1.80E-03	1.21E+00	2.00E+00	1.34E+03	1.39E+02	1.48E+03	1.32E+00	1.12E+03	92.2%
Magnesium	3.36E+03	1.10E-01	2.81E+02	1.00E+00	2.55E+03	5.31E+02	3.37E+03	No TRV	No TRV	No HQ
Mercury	5.20E-02	4.00E-02	1.58E-03	3.40E-01	1.34E-02	8.23E-03	2.33E-02	5.27E-01	4.42E-02	0.0%
Nickel	2.65E+01	1.20E-02	2.42E-01	2.30E-01	4.64E+00	4.20E+00	9.08E+00	1.37E+02	6.63E-02	0.0%
Potassium	1.98E+03	1.10E-01	1.66E+02	1.00E+00	1.51E+03	3.13E+02	1.99E+03	No TRV	No TRV	No HQ
Selenium	1.01E+00	5.00E-03	3.85E-03	7.60E-01	5.85E-01	1.60E-01	7.48E-01	9.40E-01	7.96E-01	0.1%
Silver	2.12E+00	2.00E-02	3.23E-02	1.50E-01	2.42E-01	3.36E-01	6.10E-01	No TRV	No TRV	No HQ
Sodium	1.49E+02	1.10E-02	1.25E+00	1.00E+00	1.13E+02	2.36E+01	1.38E+02	No TRV	No TRV	No HQ
Thallium	3.34E-01	8.00E-05	2.03E-05	1.00E+00	2.54E-01	5.28E-02	3.06E-01	No TRV	No TRV	No HQ
Zinc	1.04E+03	1.80E-01	1.42E+02	1.80E+00	1.42E+03	1.64E+02	1.73E+03	3.21E+01	5.38E+01	4.4%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.30E+01	1.00E+00	2.51E+01	1.00E+00	2.51E+01	5.22E+00	5.54E+01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	2.00E-02	2.02E-03	5.00E-02	5.05E-03	2.10E-02	2.81E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	1.20E-01	1.00E+00	9.12E-02	1.00E+00	9.12E-02	1.90E-02	2.01E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.33E-01	2.00E-02	2.02E-03	5.00E-02	5.05E-03	2.10E-02	2.81E-02	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	5.02E-01	1.00E+00	5.02E-01	1.04E-01	1.11E+00	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
HI =									1.21E+03	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_a(kg/kgBW/ 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-465. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	8.00E-04	2.33E+00	7.50E-02	0.00E+00	1.83E+02	1.86E+02	7.63E-01	2.44E+02	90.0%
Antimony	2.79E+01	4.00E-02	2.29E-01	5.00E-02	0.00E+00	3.60E-01	5.89E-01	4.94E-02	1.19E+01	4.4%
Arsenic	1.27E+01	8.00E-03	2.08E-02	6.60E-03	0.00E+00	1.64E-01	1.85E-01	4.98E-02	3.71E+00	1.4%
Barium	1.38E+02	3.00E-02	8.48E-01	7.50E-03	0.00E+00	1.78E+00	2.63E+00	3.90E+00	6.74E-01	0.2%
Beryllium	1.88E-01	2.00E-03	7.71E-05	5.00E-02	0.00E+00	2.43E-03	2.51E-03	4.82E-01	5.20E-03	0.0%
Cadmium	2.29E+00	1.10E-01	5.15E-02	1.10E+01	0.00E+00	2.95E-02	8.10E-02	7.05E-01	1.15E-01	0.0%
Calcium	2.81E+03	7.00E-01	4.03E+02	1.00E+00	0.00E+00	3.63E+01	4.40E+02	No TRV	No TRV	No HQ
Chromium	5.98E+01	1.50E-03	1.84E-02	1.60E-01	0.00E+00	7.72E-01	7.91E-01	2.00E+03	3.96E-04	0.0%
Cobalt	1.02E+01	4.00E-03	8.38E-03	1.00E+00	0.00E+00	1.32E-01	1.40E-01	No TRV	No TRV	No HQ
Copper	1.05E+02	8.00E-02	1.72E+00	1.60E-01	0.00E+00	1.36E+00	3.08E+00	1.11E+01	2.77E-01	0.1%
Cyanide	3.34E-01	1.00E+00	6.84E-02	0.00E+00	0.00E+00	4.31E-03	7.27E-02	4.72E+01	1.54E-03	0.0%
Iron	2.48E+04	8.00E-04	4.07E+00	1.00E+00	0.00E+00	3.20E+02	3.24E+02	No TRV	No TRV	No HQ
Lead	8.81E+02	9.00E-03	1.63E+00	2.00E+00	0.00E+00	1.14E+01	1.30E+01	5.84E+00	2.23E+00	0.8%
Magnesium	3.36E+03	2.00E-01	1.38E+02	1.00E+00	0.00E+00	4.34E+01	1.81E+02	No TRV	No TRV	No HQ
Mercury	5.20E-02	1.80E-01	1.92E-03	3.40E-01	0.00E+00	6.72E-04	2.59E-03	9.59E-01	2.70E-03	0.0%
Nickel	2.65E+01	1.20E-02	6.53E-02	2.30E-01	0.00E+00	3.43E-01	4.08E-01	2.92E+01	1.40E-02	0.0%
Potassium	1.98E+03	2.00E-01	8.13E+01	1.00E+00	0.00E+00	2.56E+01	1.07E+02	No TRV	No TRV	No HQ
Selenium	1.01E+00	5.00E-03	1.04E-03	7.60E-01	0.00E+00	1.31E-02	1.41E-02	1.46E-01	9.66E-02	0.0%
Silver	2.12E+00	8.00E-02	3.48E-02	1.50E-01	0.00E+00	2.74E-02	6.22E-02	No TRV	No TRV	No HQ
Sodium	1.49E+02	1.50E-02	4.59E-01	1.00E+00	0.00E+00	1.93E+00	2.39E+00	No TRV	No TRV	No HQ
Thallium	3.34E-01	8.00E-04	5.47E-05	1.00E+00	0.00E+00	4.31E-03	4.36E-03	5.46E-03	7.99E-01	0.3%
Zinc	1.04E+03	3.00E-01	6.40E+01	1.80E+00	0.00E+00	1.34E+01	7.74E+01	1.17E+02	6.62E-01	0.2%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	3.30E+01	1.00E+00	6.77E+00	1.00E+00	0.00E+00	4.26E-01	7.19E+00	1.17E+00	6.15E+00	2.3%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	5.45E-04	5.00E-02	0.00E+00	1.72E-03	2.26E-03	5.11E-01	4.43E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.20E-01	1.00E+00	2.46E-02	1.00E+00	0.00E+00	1.55E-03	2.61E-02	1.12E+00	2.33E-02	0.0%
Nitrobenzene	1.33E-01	2.00E-02	5.45E-04	5.00E-02	0.00E+00	1.72E-03	2.26E-03	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	1.35E-01	1.00E+00	0.00E+00	8.52E-03	1.44E-01	2.89E+00	4.97E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	2.71E+02

Appendix Table L-465. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP_v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF_v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-466 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	8.00E-04	3.52E-01	7.50E-02	0.00E+00	8.80E+00	9.16E+00	2.93E-01	3.13E+01	82.2%
Antimony	2.79E+01	4.00E-02	3.46E-02	5.00E-02	0.00E+00	1.73E-02	5.19E-02	1.90E-02	2.73E+00	7.2%
Arsenic	1.27E+01	8.00E-03	3.15E-03	6.60E-03	0.00E+00	7.87E-03	1.10E-02	1.91E-02	5.76E-01	1.5%
Barium	1.38E+02	3.00E-02	1.28E-01	7.50E-03	0.00E+00	8.55E-02	2.14E-01	1.50E+00	1.43E-01	0.4%
Beryllium	1.88E-01	2.00E-03	1.17E-05	5.00E-02	0.00E+00	1.17E-04	1.28E-04	1.85E-01	6.93E-04	0.0%
Cadmium	2.29E+00	1.10E-01	7.79E-03	1.10E+01	0.00E+00	1.42E-03	9.21E-03	2.71E-01	3.40E-02	0.1%
Calcium	2.81E+03	7.00E-01	6.10E+01	1.00E+00	0.00E+00	1.74E+00	6.27E+01	No TRV	No TRV	No HQ
Chromium	5.98E+01	1.50E-03	2.78E-03	1.60E-01	0.00E+00	3.71E-02	3.99E-02	7.68E+02	5.19E-05	0.0%
Cobalt	1.02E+01	4.00E-03	1.27E-03	1.00E+00	0.00E+00	6.34E-03	7.60E-03	No TRV	No TRV	No HQ
Copper	1.05E+02	8.00E-02	2.60E-01	1.60E-01	0.00E+00	6.51E-02	3.26E-01	4.27E+00	7.62E-02	0.2%
Cyanide	3.34E-01	1.00E+00	1.03E-02	0.00E+00	0.00E+00	2.07E-04	1.06E-02	1.81E+01	5.83E-04	0.0%
Iron	2.48E+04	8.00E-04	6.15E-01	1.00E+00	0.00E+00	1.54E+01	1.60E+01	No TRV	No TRV	No HQ
Lead	8.81E+02	9.00E-03	2.46E-01	2.00E+00	0.00E+00	5.46E-01	7.92E-01	2.24E+00	3.53E-01	0.9%
Magnesium	3.36E+03	2.00E-01	2.08E+01	1.00E+00	0.00E+00	2.08E+00	2.29E+01	No TRV	No TRV	No HQ
Mercury	5.20E-02	1.80E-01	2.90E-04	3.40E-01	0.00E+00	3.23E-05	3.23E-04	3.68E-01	8.76E-04	0.0%
Nickel	2.65E+01	1.20E-02	9.87E-03	2.30E-01	0.00E+00	1.65E-02	2.63E-02	1.12E+01	2.35E-03	0.0%
Potassium	1.98E+03	2.00E-01	1.23E+01	1.00E+00	0.00E+00	1.23E+00	1.35E+01	No TRV	No TRV	No HQ
Selenium	1.01E+00	5.00E-03	1.57E-04	7.60E-01	0.00E+00	6.27E-04	7.84E-04	5.61E-02	1.40E-02	0.0%
Silver	2.12E+00	8.00E-02	5.27E-03	1.50E-01	0.00E+00	1.32E-03	6.58E-03	No TRV	No TRV	No HQ
Sodium	1.49E+02	1.50E-02	6.94E-02	1.00E+00	0.00E+00	9.25E-02	1.62E-01	No TRV	No TRV	No HQ
Thallium	3.34E-01	8.00E-04	8.28E-06	1.00E+00	0.00E+00	2.07E-04	2.15E-04	2.10E-03	1.03E-01	0.3%
Zinc	1.04E+03	3.00E-01	9.67E+00	1.80E+00	0.00E+00	6.45E-01	1.03E+01	4.49E+01	2.30E-01	0.6%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.3%
2,4,6-Trinitrotoluene	3.30E+01	1.00E+00	1.02E+00	1.00E+00	0.00E+00	2.05E-02	1.04E+00	4.49E-01	2.32E+00	6.1%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	8.25E-05	5.00E-02	0.00E+00	8.25E-05	1.65E-04	1.96E-01	8.40E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.20E-01	1.00E+00	3.72E-03	1.00E+00	0.00E+00	7.44E-05	3.79E-03	4.31E-01	8.81E-03	0.0%
Nitrobenzene	1.33E-01	2.00E-02	8.25E-05	5.00E-02	0.00E+00	8.25E-05	1.65E-04	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	2.05E-02	1.00E+00	0.00E+00	4.09E-04	2.09E-02	1.11E+00	1.88E-02	0.0%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
								HI =	3.80E+01	

EPC = Exposure point concentration

I_A(kg/kgBW/d) = 0.00E+00

SP_v = Soil-to-plant; vegetative

ADD_S = Average daily dose; soil

Appendix Table L-466 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP_v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-467. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.42E+04	1.30E-04	0.00E+00	8.00E-04	8.27E-01	7.50E-02	5.19E+02	1.03E+03	1.55E+03
Antimony	2.79E+01	6.00E-03	0.00E+00	4.00E-02	8.12E-02	5.00E-02	6.80E-01	2.03E+00	2.79E+00
Arsenic	1.27E+01	1.20E-03	0.00E+00	8.00E-03	7.39E-03	6.60E-03	4.08E-02	9.24E-01	9.72E-01
Barium	1.38E+02	3.00E-03	0.00E+00	3.00E-02	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.08E+01
Beryllium	1.88E-01	3.00E-04	0.00E+00	2.00E-03	2.74E-05	5.00E-02	4.58E-03	1.37E-02	1.83E-02
Cadmium	2.29E+00	3.00E-02	0.00E+00	1.10E-01	1.83E-02	1.10E+01	1.22E+01	1.66E-01	1.24E+01
Calcium	2.81E+03	7.00E-02	0.00E+00	7.00E-01	1.43E+02	1.00E+00	1.37E+03	2.05E+02	1.72E+03
Chromium	5.98E+01	9.00E-04	0.00E+00	1.50E-03	6.53E-03	1.60E-01	4.66E+00	4.35E+00	9.02E+00
Cobalt	1.02E+01	1.40E-03	0.00E+00	4.00E-03	2.98E-03	1.00E+00	4.98E+00	7.44E-01	5.73E+00
Copper	1.05E+02	5.00E-02	0.00E+00	8.00E-02	6.12E-01	1.60E-01	8.18E+00	7.64E+00	1.64E+01
Cyanide	3.34E-01	1.00E+00	0.00E+00	1.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02	4.86E-02
Iron	2.48E+04	2.00E-04	0.00E+00	8.00E-04	1.44E+00	1.00E+00	1.21E+04	1.81E+03	1.39E+04
Lead	8.81E+02	1.80E-03	0.00E+00	9.00E-03	5.77E-01	2.00E+00	8.59E+02	6.42E+01	9.23E+02
Magnesium	3.36E+03	1.10E-01	0.00E+00	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.45E+02	1.93E+03
Mercury	5.20E-02	4.00E-02	0.00E+00	1.80E-01	6.82E-04	3.40E-01	8.62E-03	3.79E-03	1.31E-02
Nickel	2.65E+01	1.20E-02	0.00E+00	1.20E-02	2.32E-02	2.30E-01	2.97E+00	1.93E+00	4.93E+00
Potassium	1.98E+03	1.10E-01	0.00E+00	2.00E-01	2.89E+01	1.00E+00	9.66E+02	1.44E+02	1.14E+03
Selenium	1.01E+00	5.00E-03	0.00E+00	5.00E-03	3.68E-04	7.60E-01	3.75E-01	7.37E-02	4.49E-01
Silver	2.12E+00	2.00E-02	0.00E+00	8.00E-02	1.24E-02	1.50E-01	1.55E-01	1.55E-01	3.22E-01
Sodium	1.49E+02	1.10E-02	0.00E+00	1.50E-02	1.63E-01	1.00E+00	7.27E+01	1.09E+01	8.37E+01
Thallium	3.34E-01	8.00E-05	0.00E+00	8.00E-04	1.94E-05	1.00E+00	1.63E-01	2.43E-02	1.87E-01
Zinc	1.04E+03	1.80E-01	0.00E+00	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.30E+01	1.00E+00	0.00E+00	1.00E+00	2.40E+00	1.00E+00	1.61E+01	2.40E+00	2.09E+01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.20E-01	1.00E+00	0.00E+00	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
Nitrobenzene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
RDX	6.60E-01	1.00E+00	0.00E+00	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-467. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.08E+02	2.29E+01	0.00E+00	2.29E+01	6.68E+01	3.43E-01	0.5%
Antimony	5.00E-02	2.49E-01	2.74E-02	0.00E+00	2.74E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.74E-01	1.91E-02	0.00E+00	1.91E-02	4.98E+00	3.83E-03	0.0%
Barium	7.50E-03	1.45E-01	1.60E-02	0.00E+00	1.60E-02	1.19E+01	1.34E-03	0.0%
Beryllium	5.00E-02	1.63E-03	1.80E-04	0.00E+00	1.80E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	6.22E-01	6.84E-02	0.00E+00	6.84E-02	1.46E+00	4.69E-02	0.1%
Calcium	1.00E+00	3.07E+03	3.37E+02	0.00E+00	3.37E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	4.51E+00	4.96E-01	0.00E+00	4.96E-01	1.03E+00	4.84E-01	0.7%
Cobalt	1.00E+00	1.02E+01	1.12E+00	0.00E+00	1.12E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	1.47E+01	1.61E+00	0.00E+00	1.61E+00	3.89E+01	4.15E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.48E+04	2.73E+03	0.00E+00	2.73E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.47E+01	2.72E+00	0.00E+00	2.72E+00	6.82E-01	3.99E+00	6.1%
Magnesium	1.00E+00	3.45E+03	3.79E+02	0.00E+00	3.79E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.04E-01	3.34E-02	0.00E+00	3.34E-02	2.72E-01	1.23E-01	0.2%
Nickel	3.00E-01	2.64E+00	2.90E-01	0.00E+00	2.90E-01	7.06E+01	4.11E-03	0.0%
Potassium	1.00E+00	2.03E+03	2.24E+02	0.00E+00	2.24E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	6.01E-01	6.61E-02	0.00E+00	6.61E-02	4.85E-01	1.36E-01	0.2%
Silver	1.50E-01	8.63E-02	9.49E-03	0.00E+00	9.49E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.49E+02	1.64E+01	0.00E+00	1.64E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.34E-01	3.67E-02	0.00E+00	3.67E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	9.02E+03	9.92E+02	0.00E+00	9.92E+02	1.66E+01	5.99E+01	92.0%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.73E+01	4.10E+00	0.00E+00	4.10E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.45E-06	4.90E-07	0.00E+00	4.90E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.36E-01	1.49E-02	0.00E+00	1.49E-02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.81E-06	3.09E-07	0.00E+00	3.09E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	8.20E-02	0.00E+00	8.20E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
						HI =	6.50E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-467. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-467. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-468. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.42E+04	1.30E-04	0.00E+00	8.00E-04	8.27E-01	7.50E-02	5.19E+02	1.03E+03	1.55E+03
Antimony	2.79E+01	6.00E-03	0.00E+00	4.00E-02	8.12E-02	5.00E-02	6.80E-01	2.03E+00	2.79E+00
Arsenic	1.27E+01	1.20E-03	0.00E+00	8.00E-03	7.39E-03	6.60E-03	4.08E-02	9.24E-01	9.72E-01
Barium	1.38E+02	3.00E-03	0.00E+00	3.00E-02	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.08E+01
Beryllium	1.88E-01	3.00E-04	0.00E+00	2.00E-03	2.74E-05	5.00E-02	4.58E-03	1.37E-02	1.83E-02
Cadmium	2.29E+00	3.00E-02	0.00E+00	1.10E-01	1.83E-02	1.10E+01	1.22E+01	1.66E-01	1.24E+01
Calcium	2.81E+03	7.00E-02	0.00E+00	7.00E-01	1.43E+02	1.00E+00	1.37E+03	2.05E+02	1.72E+03
Chromium	5.98E+01	9.00E-04	0.00E+00	1.50E-03	6.53E-03	1.60E-01	4.66E+00	4.35E+00	9.02E+00
Cobalt	1.02E+01	1.40E-03	0.00E+00	4.00E-03	2.98E-03	1.00E+00	4.98E+00	7.44E-01	5.73E+00
Copper	1.05E+02	5.00E-02	0.00E+00	8.00E-02	6.12E-01	1.60E-01	8.18E+00	7.64E+00	1.64E+01
Cyanide	3.34E-01	1.00E+00	0.00E+00	1.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02	4.86E-02
Iron	2.48E+04	2.00E-04	0.00E+00	8.00E-04	1.44E+00	1.00E+00	1.21E+04	1.81E+03	1.39E+04
Lead	8.81E+02	1.80E-03	0.00E+00	9.00E-03	5.77E-01	2.00E+00	8.59E+02	6.42E+01	9.23E+02
Magnesium	3.36E+03	1.10E-01	0.00E+00	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.45E+02	1.93E+03
Mercury	5.20E-02	4.00E-02	0.00E+00	1.80E-01	6.82E-04	3.40E-01	8.62E-03	3.79E-03	1.31E-02
Nickel	2.65E+01	1.20E-02	0.00E+00	1.20E-02	2.32E-02	2.30E-01	2.97E+00	1.93E+00	4.93E+00
Potassium	1.98E+03	1.10E-01	0.00E+00	2.00E-01	2.89E+01	1.00E+00	9.66E+02	1.44E+02	1.14E+03
Selenium	1.01E+00	5.00E-03	0.00E+00	5.00E-03	3.68E-04	7.60E-01	3.75E-01	7.37E-02	4.49E-01
Silver	2.12E+00	2.00E-02	0.00E+00	8.00E-02	1.24E-02	1.50E-01	1.55E-01	1.55E-01	3.22E-01
Sodium	1.49E+02	1.10E-02	0.00E+00	1.50E-02	1.63E-01	1.00E+00	7.27E+01	1.09E+01	8.37E+01
Thallium	3.34E-01	8.00E-05	0.00E+00	8.00E-04	1.94E-05	1.00E+00	1.63E-01	2.43E-02	1.87E-01
Zinc	1.04E+03	1.80E-01	0.00E+00	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.30E+01	1.00E+00	0.00E+00	1.00E+00	2.40E+00	1.00E+00	1.61E+01	2.40E+00	2.09E+01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.20E-01	1.00E+00	0.00E+00	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
Nitrobenzene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
RDX	6.60E-01	1.00E+00	0.00E+00	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

AUF-s = Shrew AUF =

1.00E+00

Appendix Table L-468. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.08E+02	2.60E+01	0.00E+00	2.60E+01	8.33E+01	3.12E-01	0.5%
Antimony	5.00E-02	2.49E-01	3.12E-02	0.00E+00	3.12E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.74E-01	2.17E-02	0.00E+00	2.17E-02	6.22E+00	3.49E-03	0.0%
Barium	7.50E-03	1.45E-01	1.82E-02	0.00E+00	1.82E-02	1.49E+01	1.22E-03	0.0%
Beryllium	5.00E-02	1.63E-03	2.04E-04	0.00E+00	2.04E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	6.22E-01	7.77E-02	0.00E+00	7.77E-02	1.82E+00	4.27E-02	0.1%
Calcium	1.00E+00	3.07E+03	3.83E+02	0.00E+00	3.83E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	4.51E+00	5.64E-01	0.00E+00	5.64E-01	1.28E+00	4.41E-01	0.7%
Cobalt	1.00E+00	1.02E+01	1.28E+00	0.00E+00	1.28E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	1.47E+01	1.83E+00	0.00E+00	1.83E+00	4.86E+01	3.78E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.48E+04	3.10E+03	0.00E+00	3.10E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.47E+01	3.09E+00	0.00E+00	3.09E+00	8.51E-01	3.63E+00	6.1%
Magnesium	1.00E+00	3.45E+03	4.31E+02	0.00E+00	4.31E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.04E-01	3.80E-02	0.00E+00	3.80E-02	3.39E-01	1.12E-01	0.2%
Nickel	3.00E-01	2.64E+00	3.30E-01	0.00E+00	3.30E-01	8.81E+01	3.75E-03	0.0%
Potassium	1.00E+00	2.03E+03	2.54E+02	0.00E+00	2.54E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	6.01E-01	7.51E-02	0.00E+00	7.51E-02	6.05E-01	1.24E-01	0.2%
Silver	1.50E-01	8.63E-02	1.08E-02	0.00E+00	1.08E-02	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.49E+02	1.87E+01	0.00E+00	1.87E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.34E-01	4.17E-02	0.00E+00	4.17E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	9.02E+03	1.13E+03	0.00E+00	1.13E+03	2.07E+01	5.45E+01	92.0%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.73E+01	4.66E+00	0.00E+00	4.66E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.45E-06	5.56E-07	0.00E+00	5.56E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.36E-01	1.70E-02	0.00E+00	1.70E-02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.81E-06	3.51E-07	0.00E+00	3.51E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	9.32E-02	0.00E+00	9.32E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
						HI =	5.92E+01	

BAF_v = Animal-to-animal; vertebrates

Appendix Table L-468. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-468. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
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Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-469. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.42E+04	1.30E-04	5.86E-03	8.00E-04	8.27E-01	7.50E-02	5.19E+02	1.03E+03	1.55E+03
Antimony	2.79E+01	6.00E-03	5.31E-04	4.00E-02	8.12E-02	5.00E-02	6.80E-01	2.03E+00	2.79E+00
Arsenic	1.27E+01	1.20E-03	4.83E-05	8.00E-03	7.39E-03	6.60E-03	4.08E-02	9.24E-01	9.72E-01
Barium	1.38E+02	3.00E-03	1.31E-03	3.00E-02	3.01E-01	7.50E-03	5.04E-01	1.00E+01	1.08E+01
Beryllium	1.88E-01	3.00E-04	1.79E-07	2.00E-03	2.74E-05	5.00E-02	4.58E-03	1.37E-02	1.83E-02
Cadmium	2.29E+00	3.00E-02	2.18E-04	1.10E-01	1.83E-02	1.10E+01	1.22E+01	1.66E-01	1.24E+01
Calcium	2.81E+03	7.00E-02	6.24E-01	7.00E-01	1.43E+02	1.00E+00	1.37E+03	2.05E+02	1.72E+03
Chromium	5.98E+01	9.00E-04	1.71E-04	1.50E-03	6.53E-03	1.60E-01	4.66E+00	4.35E+00	9.02E+00
Cobalt	1.02E+01	1.40E-03	4.54E-05	4.00E-03	2.98E-03	1.00E+00	4.98E+00	7.44E-01	5.73E+00
Copper	1.05E+02	5.00E-02	1.67E-02	8.00E-02	6.12E-01	1.60E-01	8.18E+00	7.64E+00	1.64E+01
Cyanide	3.34E-01	1.00E+00	1.06E-03	1.00E+00	2.43E-02	0.00E+00	0.00E+00	2.43E-02	4.86E-02
Iron	2.48E+04	2.00E-04	1.57E-02	8.00E-04	1.44E+00	1.00E+00	1.21E+04	1.81E+03	1.39E+04
Lead	8.81E+02	1.80E-03	5.03E-03	9.00E-03	5.77E-01	2.00E+00	8.59E+02	6.42E+01	9.23E+02
Magnesium	3.36E+03	1.10E-01	1.17E+00	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.45E+02	1.93E+03
Mercury	5.20E-02	4.00E-02	6.61E-06	1.80E-01	6.82E-04	3.40E-01	8.62E-03	3.79E-03	1.31E-02
Nickel	2.65E+01	1.20E-02	1.01E-03	1.20E-02	2.32E-02	2.30E-01	2.97E+00	1.93E+00	4.93E+00
Potassium	1.98E+03	1.10E-01	6.92E-01	2.00E-01	2.89E+01	1.00E+00	9.66E+02	1.44E+02	1.14E+03
Selenium	1.01E+00	5.00E-03	1.61E-05	5.00E-03	3.68E-04	7.60E-01	3.75E-01	7.37E-02	4.49E-01
Silver	2.12E+00	2.00E-02	1.35E-04	8.00E-02	1.24E-02	1.50E-01	1.55E-01	1.55E-01	3.22E-01
Sodium	1.49E+02	1.10E-02	5.21E-03	1.50E-02	1.63E-01	1.00E+00	7.27E+01	1.09E+01	8.37E+01
Thallium	3.34E-01	8.00E-05	8.47E-08	8.00E-04	1.94E-05	1.00E+00	1.63E-01	2.43E-02	1.87E-01
Zinc	1.04E+03	1.80E-01	5.94E-01	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.30E+01	1.00E+00	1.05E-01	1.00E+00	2.40E+00	1.00E+00	1.61E+01	2.40E+00	2.09E+01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.33E-01	2.00E-02	8.44E-06	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.20E-01	1.00E+00	3.81E-04	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
Nitrobenzene	1.33E-01	2.00E-02	8.44E-06	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
RDX	6.60E-01	1.00E+00	2.09E-03	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01

Appendix Table L-469. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.08E+02	1.37E+01	2.74E+01	4.11E+01	5.46E-01	7.54E+01	78.3%
Antimony	5.00E-02	2.49E-01	1.64E-02	5.39E-02	7.08E-02	3.54E-02	2.00E+00	2.1%
Arsenic	1.00E-01	1.74E-01	1.14E-02	2.45E-02	3.60E-02	3.56E-02	1.01E+00	1.0%
Barium	7.50E-03	1.45E-01	9.56E-03	2.66E-01	2.77E-01	2.79E+00	9.93E-02	0.1%
Beryllium	5.00E-02	1.63E-03	1.08E-04	3.63E-04	4.71E-04	3.45E-01	1.37E-03	0.0%
Cadmium	2.80E-02	6.22E-01	4.09E-02	4.41E-03	4.55E-02	5.04E-01	9.03E-02	0.1%
Calcium	1.00E+00	3.07E+03	2.02E+02	5.43E+00	2.08E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	4.51E+00	2.97E-01	1.16E-01	4.13E-01	1.43E+03	2.88E-04	0.0%
Cobalt	1.00E+00	1.02E+01	6.73E-01	1.97E-02	6.93E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.47E+01	9.66E-01	2.03E-01	1.19E+00	7.96E+00	1.49E-01	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.45E-04	1.70E-03	3.37E+01	5.05E-05	0.0%
Iron	1.00E+00	2.48E+04	1.63E+03	4.79E+01	1.68E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.47E+01	1.63E+00	1.70E+00	3.34E+00	4.18E+00	7.98E-01	0.8%
Magnesium	1.00E+00	3.45E+03	2.27E+02	6.49E+00	2.35E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.04E-01	2.00E-02	1.01E-04	2.01E-02	6.86E-01	2.93E-02	0.0%
Nickel	3.00E-01	2.64E+00	1.74E-01	5.13E-02	2.26E-01	2.09E+01	1.08E-02	0.0%
Potassium	1.00E+00	2.03E+03	1.34E+02	3.83E+00	1.38E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	6.01E-01	3.96E-02	1.96E-03	4.15E-02	1.05E-01	3.97E-01	0.4%
Silver	1.50E-01	8.63E-02	5.68E-03	4.10E-03	9.92E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.49E+02	9.84E+00	2.88E-01	1.01E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.34E-01	2.20E-02	6.45E-04	2.26E-02	3.91E-03	5.79E+00	6.0%
Zinc	5.00E+00	9.02E+03	5.94E+02	2.01E+00	5.96E+02	8.36E+01	7.13E+00	7.4%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	3.73E+01	2.45E+00	6.38E-02	2.62E+00	8.36E-01	3.14E+00	3.3%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.45E-06	2.93E-07	2.57E-04	2.66E-04	3.66E-01	7.26E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.36E-01	8.93E-03	2.32E-04	9.54E-03	8.02E-01	1.19E-02	0.0%
Nitrobenzene	1.20E-04	2.81E-06	1.85E-07	2.57E-04	2.66E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	4.91E-02	1.28E-03	5.25E-02	2.07E+00	2.53E-02	0.0%

Appendix Table L-469. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 59

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-469. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
HI = 9.63E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-470. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	3.27E+04	5.00E+01	6.55E+02	68.9%
Antimony	1.72E+01	5.00E+00	3.45E+00	0.4%
Arsenic	1.36E+01	1.00E+01	1.36E+00	0.1%
Barium	3.79E+02	5.00E+02	7.58E-01	0.1%
Beryllium	2.41E-01	1.00E+01	2.41E-02	0.0%
Cadmium	4.28E+01	5.00E-01	8.56E+01	9.0%
Calcium	5.11E+03	No TRV	No TRV	No HQ
Chromium	4.11E+01	1.00E+00	4.11E+01	4.3%
Cobalt	9.80E+00	2.00E+01	4.90E-01	0.1%
Copper	4.10E+03	1.00E+02	4.10E+01	4.3%
Cyanide	3.24E-01	No TRV	No TRV	No HQ
Iron	3.74E+04	No TRV	No TRV	No HQ
Lead	2.15E+03	5.00E+01	4.30E+01	4.5%
Magnesium	3.12E+03	No TRV	No TRV	No HQ
Mercury	1.01E-01	3.00E-01	3.38E-01	0.0%
Nickel	3.73E+01	3.00E+01	1.24E+00	0.1%
Potassium	3.05E+03	No TRV	No TRV	No HQ
Selenium	1.89E+00	1.00E+00	1.89E+00	0.2%
Silver	5.14E+00	2.00E+00	2.57E+00	0.3%
Sodium	1.08E+03	No TRV	No TRV	No HQ
Thallium	3.24E-01	1.00E+00	3.24E-01	0.0%
Zinc	3.60E+03	5.00E+01	7.20E+01	7.6%
Organics				
2-Methylnaphthalene	1.50E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	4.30E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.00E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	9.30E-02	No TRV	No TRV	No HQ
Chrysene	5.00E-02	No TRV	No TRV	No HQ
Fluoranthene	8.80E-02	No TRV	No TRV	No HQ
Phenanthrene	1.40E-01	No TRV	No TRV	No HQ
Pyrene	1.10E-01	3.00E+01	3.67E-03	0.0%
Explosives				
1,3,5-Trinitrobenzene	1.30E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.00E-01	3.00E+01	1.00E-02	0.0%
2,4-Dinitrotoluene	6.50E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.70E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.40E-01	No TRV	No TRV	No HQ

Appendix Table L-470. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Nitrobenzene	1.33E-01	No TRV	No TRV	No HQ
Nitrocellulose	5.80E+00	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+02	6.60E-03	0.0%
Tetryl	4.80E-01	2.50E+01	1.92E-02	0.0%
HI =				9.50E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-471. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 60**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	3.27E+04	No TRV	No TRV	No HQ
Antimony	1.72E+01	No TRV	No TRV	No HQ
Arsenic	1.36E+01	6.00E+01	2.27E-01	0.1%
Barium	3.79E+02	No TRV	No TRV	No HQ
Beryllium	2.41E-01	No TRV	No TRV	No HQ
Cadmium	4.28E+01	2.00E+01	2.14E+00	1.0%
Calcium	5.11E+03	No TRV	No TRV	No HQ
Chromium	4.11E+01	4.00E-01	1.03E+02	49.0%
Cobalt	9.80E+00	No TRV	No TRV	No HQ
Copper	4.10E+03	5.00E+01	8.20E+01	39.1%
Cyanide	3.24E-01	No TRV	No TRV	No HQ
Iron	3.74E+04	No TRV	No TRV	No HQ
Lead	2.15E+03	5.00E+02	4.30E+00	2.1%
Magnesium	3.12E+03	No TRV	No TRV	No HQ
Mercury	1.01E-01	No TRV	No TRV	No HQ
Nickel	3.73E+01	2.00E+02	1.87E-01	0.1%
Potassium	3.05E+03	No TRV	No TRV	No HQ
Selenium	1.89E+00	No TRV	No TRV	No HQ
Silver	5.14E+00	No TRV	No TRV	No HQ
Sodium	1.08E+03	No TRV	No TRV	No HQ
Thallium	3.24E-01	No TRV	No TRV	No HQ
Zinc	3.60E+03	2.00E+02	1.80E+01	8.6%
Organics				
2-Methylnaphthalene	1.50E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	4.30E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.00E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	9.30E-02	No TRV	No TRV	No HQ
Chrysene	5.00E-02	No TRV	No TRV	No HQ
Fluoranthene	8.80E-02	No TRV	No TRV	No HQ
Phenanthrene	1.40E-01	No TRV	No TRV	No HQ
Pyrene	1.10E-01	3.00E+01	3.67E-03	0.0%
Explosives				
1,3,5-Trinitrobenzene	1.30E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.00E-01	1.40E+02	2.14E-03	0.0%
2,4-Dinitrotoluene	6.50E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.70E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	2.40E-01	No TRV	No TRV	No HQ

**Appendix Table L-471. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 60**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Nitrobenzene	1.33E-01	No TRV	No TRV	No HQ
Nitrocellulose	5.80E+00	No TRV	No TRV	No HQ
RDX	6.60E-01	No TRV	No TRV	No HQ
Tetryl	4.80E-01	No TRV	No TRV	No HQ
HI =				2.10E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-472. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _N	TRV (mg/kgBW/d)	Site HQ ADD _{total} /TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	3.27E+04	8.00E-04	1.91E+00	7.50E-02	1.20E+03	2.38E+03	3.58E+03	2.22E+00	1.61E+03	83.8%
Antimony	1.72E+01	4.00E-02	5.02E-02	5.00E-02	4.20E-01	1.25E+00	1.72E+00	1.44E-01	1.20E+01	0.6%
Arsenic	1.36E+01	8.00E-03	7.93E-03	6.60E-03	4.38E-02	9.92E-01	1.04E+00	1.45E-01	7.18E+00	0.4%
Barium	3.79E+02	3.00E-02	8.28E-01	7.50E-03	1.39E+00	2.76E+01	2.98E+01	1.14E+01	2.62E+00	0.1%
Beryllium	2.41E-01	2.00E-03	3.51E-05	5.00E-02	5.87E-03	1.75E-02	2.35E-02	1.41E+00	1.67E-02	0.0%
Cadmium	4.28E+01	1.10E-01	3.43E-01	1.10E+01	2.29E+02	3.12E+00	2.33E+02	2.05E+00	1.13E+02	5.9%
Calcium	5.11E+03	7.00E-01	2.61E+02	1.00E+00	2.49E+03	3.72E+02	3.12E+03	No TRV	No TRV	No HQ
Chromium	4.11E+01	1.50E-03	4.49E-03	1.60E-01	3.20E+00	2.99E+00	6.20E+00	5.83E+03	1.06E-03	0.0%
Cobalt	9.80E+00	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00	No TRV	No TRV	No HQ
Copper	4.10E+03	8.00E-02	2.39E+01	1.60E-01	3.20E+02	2.98E+02	6.42E+02	3.24E+01	1.98E+01	1.0%
Cyanide	3.24E-01	1.00E+00	2.36E-02	0.00E+00	0.00E+00	2.36E-02	4.72E-02	1.38E+02	3.43E-04	0.0%
Iron	3.74E+04	8.00E-04	2.18E+00	1.00E+00	1.82E+04	2.72E+03	2.09E+04	No TRV	No TRV	No HQ
Lead	2.15E+03	9.00E-03	1.41E+00	2.00E+00	2.09E+03	1.57E+02	2.25E+03	1.70E+01	1.32E+02	6.9%
Magnesium	3.12E+03	2.00E-01	4.55E+01	1.00E+00	1.52E+03	2.27E+02	1.79E+03	No TRV	No TRV	No HQ
Mercury	1.01E-01	1.80E-01	1.33E-03	3.40E-01	1.68E-02	7.37E-03	2.55E-02	2.80E+00	9.11E-03	0.0%
Nickel	3.73E+01	1.20E-02	3.26E-02	2.30E-01	4.18E+00	2.72E+00	6.93E+00	8.52E+01	8.13E-02	0.0%
Potassium	3.05E+03	2.00E-01	4.44E+01	1.00E+00	1.49E+03	2.22E+02	1.75E+03	No TRV	No TRV	No HQ
Selenium	1.89E+00	5.00E-03	6.89E-04	7.60E-01	7.01E-01	1.38E-01	8.39E-01	4.26E-01	1.97E+00	0.1%
Silver	5.14E+00	8.00E-02	2.99E-02	1.50E-01	3.76E-01	3.74E-01	7.80E-01	No TRV	No TRV	No HQ
Sodium	1.08E+03	1.50E-02	1.18E+00	1.00E+00	5.26E+02	7.86E+01	6.06E+02	No TRV	No TRV	No HQ
Thallium	3.24E-01	8.00E-04	1.89E-05	1.00E+00	1.58E-01	2.36E-02	1.82E-01	1.59E-02	1.14E+01	0.6%
Zinc	3.60E+03	3.00E-01	7.86E+01	1.80E+00	3.16E+03	2.62E+02	3.50E+03	3.41E+02	1.03E+01	0.5%
Organics										
2-Methylnaphthalene	1.50E-01	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02	No TRV	No TRV	No HQ
Benzo(a)anthracene	4.30E-02	3.90E-03	1.22E-05	5.00E-02	1.05E-03	3.13E-03	4.19E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.00E-02	2.60E-03	1.14E-05	5.00E-02	1.46E-03	4.37E-03	5.84E-03	1.15E+00	5.07E-03	0.0%
Benzo(b)fluoranthene	9.30E-02	2.30E-03	1.56E-05	5.00E-02	2.27E-03	6.77E-03	9.05E-03	No TRV	No TRV	No HQ
Chrysene	5.00E-02	3.90E-03	1.42E-05	5.00E-02	1.22E-03	3.64E-03	4.87E-03	No TRV	No TRV	No HQ
Fluoranthene	8.80E-02	2.00E-02	1.28E-04	5.00E-02	2.14E-03	6.41E-03	8.68E-03	No TRV	No TRV	No HQ
Phenanthrene	1.40E-01	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02	No TRV	No TRV	No HQ
Pyrene	1.10E-01	6.70E-03	5.37E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	1.30E-01	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	3.00E-01	1.00E+00	2.18E-02	1.00E+00	1.46E-01	2.18E-02	1.90E-01	3.41E+00	5.57E-02	0.0%
2,4-Dinitrotoluene	6.50E-02	1.00E+00	4.73E-03	1.00E+00	3.17E-02	4.73E-03	4.11E-02	1.56E+01	2.64E-03	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02	1.49E+00	8.80E-03	0.0%
2-Nitrotoluene	1.70E-01	1.00E+00	1.24E-02	1.00E+00	8.28E-02	1.24E-02	1.08E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	2.40E-01	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01	3.27E+00	4.64E-02	0.0%
Nitrobenzene	1.33E-01	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02	No TRV	No TRV	No HQ
Nitrocellulose	5.80E+00	1.00E+00	4.22E-01	1.00E+00	2.83E+00	4.22E-01	3.67E+00	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01	8.44E+00	4.95E-02	0.0%
Tetryl	4.80E-01	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01	2.57E+00	1.18E-01	0.0%

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

HI = 1.92E+03

Appendix Table L-473. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _r + ADD _λ + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	3.27E+04	1.30E-04	3.23E+00	7.50E-02	1.87E+03	5.18E+03	7.04E+03	1.29E+02	5.44E+01	1.7%
Antimony	1.72E+01	6.00E-03	7.86E-02	5.00E-02	6.55E-01	2.72E+00	3.46E+00	No TRV	No TRV	No HQ
Arsenic	1.36E+01	1.20E-03	1.24E-02	6.60E-03	6.83E-02	2.15E+00	2.23E+00	9.66E+00	2.31E-01	0.0%
Barium	3.79E-02	3.00E-03	8.65E-01	7.50E-03	2.16E+00	5.99E+01	6.30E+01	2.31E+01	2.73E+00	0.1%
Beryllium	2.41E-01	3.00E-04	5.49E-05	5.00E-02	9.16E-03	3.81E-02	4.73E-02	No TRV	No TRV	No HQ
Cadmium	4.28E+01	3.00E-02	9.76E-01	1.10E+01	3.58E+02	6.77E+00	3.66E+02	2.83E+00	1.29E+02	4.1%
Calcium	5.11E+03	7.00E-02	2.72E+02	1.00E+00	3.89E+03	8.08E+02	4.97E+03	No TRV	No TRV	No HQ
Chromium	4.11E+01	9.00E-04	2.81E-02	1.60E-01	5.00E+00	6.50E+00	1.15E+01	1.99E+00	5.80E+00	0.2%
Cobalt	9.80E+00	1.40E-03	1.04E-02	1.00E+00	7.45E+00	1.55E+00	9.01E+00	No TRV	No TRV	No HQ
Copper	4.10E+03	5.00E-02	1.56E+02	1.60E-01	4.99E+02	6.48E+02	1.30E+03	7.55E+01	1.73E+01	0.6%
Cyanide	3.24E-01	1.00E+00	2.46E-01	0.00E+00	0.00E+00	5.13E-02	2.98E-01	No TRV	No TRV	No HQ
Iron	3.74E+04	2.00E-04	5.68E+00	1.00E+00	2.84E+04	5.91E+03	3.43E+04	No TRV	No TRV	No HQ
Lead	2.15E+03	1.80E-03	2.94E+00	2.00E+00	3.27E+03	3.40E+02	3.61E+03	1.32E+00	2.73E+03	87.3%
Magnesium	3.12E+03	1.10E-01	2.61E+02	1.00E+00	2.37E+03	4.94E+02	3.13E+03	No TRV	No TRV	No HQ
Mercury	1.01E-01	4.00E-02	3.08E-03	3.40E-01	2.62E-02	1.60E-02	4.53E-02	5.27E-01	8.60E-02	0.0%
Nickel	3.73E+01	1.20E-02	3.40E-01	2.30E-01	6.52E+00	5.90E+00	1.28E+01	1.37E+02	9.32E-02	0.0%
Potassium	3.05E+03	1.10E-01	2.55E+02	1.00E+00	2.32E+03	4.82E+02	3.06E+03	No TRV	No TRV	No HQ
Selenium	1.89E+00	5.00E-03	7.19E-03	7.60E-01	1.09E+00	2.99E-01	1.40E+00	9.40E-01	1.49E+00	0.0%
Silver	5.14E+00	2.00E-02	7.81E-02	1.50E-01	5.86E-01	8.13E-01	1.48E+00	No TRV	No TRV	No HQ
Sodium	1.08E+03	1.10E-02	9.03E+00	1.00E+00	8.21E+02	1.71E+02	1.00E+03	No TRV	No TRV	No HQ
Thallium	3.24E-01	8.00E-05	1.97E-05	1.00E+00	2.46E-01	5.13E-02	2.98E-01	No TRV	No TRV	No HQ
Zinc	3.60E+03	1.80E-01	4.92E+02	1.80E+00	4.92E+03	5.69E+02	5.99E+03	3.21E+01	1.86E+02	6.0%
Organics										
2-Methylnaphthalene	1.50E-01	2.00E-02	2.28E-03	5.00E-02	5.70E-03	2.37E-02	3.17E-02	No TRV	No TRV	No HQ
Benzo(a)anthracene	4.30E-02	3.90E-03	1.27E-04	5.00E-02	1.63E-03	6.80E-03	8.56E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.00E-02	2.60E-03	1.19E-04	5.00E-02	2.28E-03	9.48E-03	1.19E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	9.30E-02	2.30E-03	1.63E-04	5.00E-02	3.53E-03	1.47E-02	1.84E-02	No TRV	No TRV	No HQ
Chrysene	5.00E-02	3.90E-03	1.48E-04	5.00E-02	1.90E-03	7.90E-03	9.95E-03	No TRV	No TRV	No HQ
Fluoranthene	8.80E-02	2.00E-02	1.34E-03	5.00E-02	3.34E-03	1.39E-02	1.86E-02	No TRV	No TRV	No HQ
Phenanthrene	1.40E-01	2.00E-02	2.13E-03	5.00E-02	5.32E-03	2.21E-02	2.96E-02	No TRV	No TRV	No HQ
Pyrene	1.10E-01	6.70E-03	5.60E-04	5.00E-02	4.18E-03	1.74E-02	2.21E-02	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	1.30E-01	1.00E+00	9.88E-02	1.00E+00	9.88E-02	2.06E-02	2.18E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.00E-01	1.00E+00	2.28E-01	1.00E+00	2.28E-01	4.74E-02	5.03E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	6.50E-02	1.00E+00	4.94E-02	1.00E+00	4.94E-02	1.03E-02	1.09E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.33E-01	2.00E-02	2.02E-03	5.00E-02	5.05E-03	2.10E-02	2.81E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.70E-01	1.00E+00	1.29E-01	1.00E+00	1.29E-01	2.69E-02	2.85E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	2.40E-01	1.00E+00	1.82E-01	1.00E+00	1.82E-01	3.79E-02	4.03E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.33E-01	2.00E-02	2.02E-03	5.00E-02	5.05E-03	2.10E-02	2.81E-02	No TRV	No TRV	No HQ
Nitrocellulose	5.80E+00	1.00E+00	4.41E+00	1.00E+00	4.41E+00	9.17E-01	9.73E+00	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	5.02E-01	1.00E+00	5.02E-01	1.04E-01	1.11E+00	No TRV	No TRV	No HQ
Tetryl	4.80E-01	1.00E+00	3.65E-01	1.00E+00	3.65E-01	7.59E-02	8.05E-01	No TRV	No TRV	No HQ
									HI =	3.13E+03

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_r = Average daily dose; plant
 I_r (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_λ = Average daily dose; animal

I_λ(kg/kgBW/c7.60E-01
 ADD_λ = Average daily dose; soil
 I_s (kg/kgBW/c1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-474. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	3.27E+04	8.00E-04	5.37E+00	7.50E-02	0.00E+00	4.23E+02	4.28E+02	7.63E-01	5.61E+02	94.2%
Antimony	1.72E+01	4.00E-02	1.41E-01	5.00E-02	0.00E+00	2.23E-01	3.64E-01	4.94E-02	7.36E+00	1.2%
Arsenic	1.36E+01	8.00E-03	2.23E-02	6.60E-03	0.00E+00	1.76E-01	1.98E-01	4.98E-02	3.98E+00	0.7%
Barium	3.79E+02	3.00E-02	2.33E+00	7.50E-03	0.00E+00	4.90E+00	7.23E+00	3.90E+00	1.85E+00	0.3%
Beryllium	2.41E-01	2.00E-03	9.88E-05	5.00E-02	0.00E+00	3.11E-03	3.21E-03	4.82E-01	6.66E-03	0.0%
Cadmium	4.28E+01	1.10E-01	9.65E-01	1.10E+01	0.00E+00	5.53E-01	1.52E+00	7.05E-01	2.15E+00	0.4%
Calcium	5.11E+03	7.00E-01	7.34E+02	1.00E+00	0.00E+00	6.60E+01	8.00E+02	No TRV	No TRV	No HQ
Chromium	4.11E+01	1.50E-03	1.26E-02	1.60E-01	0.00E+00	5.31E-01	5.43E-01	2.00E+03	2.72E-04	0.0%
Cobalt	9.80E+00	4.00E-03	8.04E-03	1.00E+00	0.00E+00	1.27E-01	1.35E-01	No TRV	No TRV	No HQ
Copper	4.10E+03	8.00E-02	6.72E+01	1.60E-01	0.00E+00	5.30E+01	1.20E+02	1.11E+01	1.08E+01	1.8%
Cyanide	3.24E-01	1.00E+00	6.65E-02	0.00E+00	0.00E+00	4.19E-03	7.07E-02	4.72E+01	1.50E-03	0.0%
Iron	3.74E+04	8.00E-04	6.13E+00	1.00E+00	0.00E+00	4.83E+02	4.89E+02	No TRV	No TRV	No HQ
Lead	2.15E+03	9.00E-03	3.97E+00	2.00E+00	0.00E+00	2.78E+01	3.17E+01	5.84E+00	5.43E+00	0.9%
Magnesium	3.12E+03	2.00E-01	1.28E+02	1.00E+00	0.00E+00	4.03E+01	1.68E+02	No TRV	No TRV	No HQ
Mercury	1.01E-01	1.80E-01	3.74E-03	3.40E-01	0.00E+00	1.31E-03	5.05E-03	9.59E-01	5.26E-03	0.0%
Nickel	3.73E+01	1.20E-02	9.18E-02	2.30E-01	0.00E+00	4.82E-01	5.74E-01	2.92E+01	1.96E-02	0.0%
Potassium	3.05E+03	2.00E-01	1.25E+02	1.00E+00	0.00E+00	3.94E+01	1.64E+02	No TRV	No TRV	No HQ
Selenium	1.89E+00	5.00E-03	1.94E-03	7.60E-01	0.00E+00	2.44E-02	2.64E-02	1.46E-01	1.81E-01	0.0%
Silver	5.14E+00	8.00E-02	8.43E-02	1.50E-01	0.00E+00	6.64E-02	1.51E-01	No TRV	No TRV	No HQ
Sodium	1.08E+03	1.50E-02	3.32E+00	1.00E+00	0.00E+00	1.39E+01	1.73E+01	No TRV	No TRV	No HQ
Thallium	3.24E-01	8.00E-04	5.32E-05	1.00E+00	0.00E+00	4.19E-03	4.24E-03	5.46E-03	7.77E-01	0.1%
Zinc	3.60E+03	3.00E-01	2.21E+02	1.80E+00	0.00E+00	4.65E+01	2.68E+02	1.17E+02	2.29E+00	0.4%
Organics										
2-Methylnaphthalene	1.50E-01	2.00E-02	6.15E-04	5.00E-02	0.00E+00	1.94E-03	2.55E-03	No TRV	No TRV	No HQ
Benzo(a)anthracene	4.30E-02	3.90E-03	3.44E-05	5.00E-02	0.00E+00	5.55E-04	5.90E-04	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.00E-02	2.60E-03	3.20E-05	5.00E-02	0.00E+00	7.75E-04	8.07E-04	3.95E-01	2.04E-03	0.0%
Benzo(b)fluoranthene	9.30E-02	2.30E-03	4.38E-05	5.00E-02	0.00E+00	1.20E-03	1.24E-03	No TRV	No TRV	No HQ
Chrysene	5.00E-02	3.90E-03	4.00E-05	5.00E-02	0.00E+00	6.46E-04	6.86E-04	No TRV	No TRV	No HQ
Fluoranthene	8.80E-02	2.00E-02	3.61E-04	5.00E-02	0.00E+00	1.14E-03	1.50E-03	No TRV	No TRV	No HQ
Phenanthrene	1.40E-01	2.00E-02	5.74E-04	5.00E-02	0.00E+00	1.81E-03	2.38E-03	No TRV	No TRV	No HQ
Pyrene	1.10E-01	6.70E-03	1.51E-04	5.00E-02	0.00E+00	1.42E-03	1.57E-03	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	1.30E-01	1.00E+00	2.67E-02	1.00E+00	0.00E+00	1.68E-03	2.83E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	3.00E-01	1.00E+00	6.15E-02	1.00E+00	0.00E+00	3.87E-03	6.54E-02	1.17E+00	5.59E-02	0.0%

Appendix Table L-474. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _v	ADDP	BAF _v	ADDA	ADDS	ADD _{total}	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
			(mg/kgBW/d) EPC x SP _v x IP x AUF		(mg/kgBW/d) EPC x BAF _v x IA x AUF		(mg/kgBW/d) EPC x IS x AUF			
2,4-Dinitrotoluene	6.50E-02	1.00E+00	1.33E-02	1.00E+00	0.00E+00	8.39E-04	1.42E-02	5.34E+00	2.65E-03	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	5.45E-04	5.00E-02	0.00E+00	1.72E-03	2.26E-03	5.11E-01	4.43E-03	0.0%
2-Nitrotoluene	1.70E-01	1.00E+00	3.49E-02	1.00E+00	0.00E+00	2.20E-03	3.70E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	2.40E-01	1.00E+00	4.92E-02	1.00E+00	0.00E+00	3.10E-03	5.23E-02	1.12E+00	4.66E-02	0.0%
Nitrobenzene	1.33E-01	2.00E-02	5.45E-04	5.00E-02	0.00E+00	1.72E-03	2.26E-03	No TRV	No TRV	No HQ
Nitrocellulose	5.80E+00	1.00E+00	1.19E+00	1.00E+00	0.00E+00	7.49E-02	1.26E+00	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	1.35E-01	1.00E+00	0.00E+00	8.52E-03	1.44E-01	2.89E+00	4.97E-02	0.0%
Tetryl	4.80E-01	1.00E+00	9.84E-02	1.00E+00	0.00E+00	6.20E-03	1.05E-01	8.80E-01	1.19E-01	0.0%
HI =									5.96E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-475 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	3.27E+04	8.00E-04	8.12E-01	7.50E-02	0.00E+00	2.03E+01	2.11E+01	2.93E-01	7.21E+01	89.9%
Antimony	1.72E+01	4.00E-02	2.14E-02	5.00E-02	0.00E+00	1.07E-02	3.20E-02	1.90E-02	1.69E+00	2.1%
Arsenic	1.36E+01	8.00E-03	3.38E-03	6.60E-03	0.00E+00	8.44E-03	1.18E-02	1.91E-02	6.18E-01	0.8%
Barium	3.79E+02	3.00E-02	3.53E-01	7.50E-03	0.00E+00	2.35E-01	5.88E-01	1.50E+00	3.92E-01	0.5%
Beryllium	2.41E-01	2.00E-03	1.49E-05	5.00E-02	0.00E+00	1.49E-04	1.64E-04	1.85E-01	8.88E-04	0.0%
Cadmium	4.28E+01	1.10E-01	1.46E-01	1.10E+01	0.00E+00	2.65E-02	1.72E-01	2.71E-01	6.37E-01	0.8%
Calcium	5.11E+03	7.00E-01	1.11E+02	1.00E+00	0.00E+00	3.17E+00	1.14E+02	No TRV	No TRV	No HQ
Chromium	4.11E+01	1.50E-03	1.91E-03	1.60E-01	0.00E+00	2.55E-02	2.74E-02	7.68E+02	3.57E-05	0.0%
Cobalt	9.80E+00	4.00E-03	1.22E-03	1.00E+00	0.00E+00	6.08E-03	7.29E-03	No TRV	No TRV	No HQ
Copper	4.10E+03	8.00E-02	1.02E+01	1.60E-01	0.00E+00	2.54E+00	1.27E+01	4.27E+00	2.98E+00	3.7%
Cyanide	3.24E-01	1.00E+00	1.01E-02	0.00E+00	0.00E+00	2.01E-04	1.03E-02	1.81E+01	5.66E-04	0.0%
Iron	3.74E+04	8.00E-04	9.27E-01	1.00E+00	0.00E+00	2.32E+01	2.41E+01	No TRV	No TRV	No HQ
Lead	2.15E+03	9.00E-03	6.00E-01	2.00E+00	0.00E+00	1.33E+00	1.93E+00	2.24E+00	8.61E-01	1.1%
Magnesium	3.12E+03	2.00E-01	1.94E+01	1.00E+00	0.00E+00	1.94E+00	2.13E+01	No TRV	No TRV	No HQ
Mercury	1.01E-01	1.80E-01	5.65E-04	3.40E-01	0.00E+00	6.28E-05	6.28E-04	3.68E-01	1.70E-03	0.0%
Nickel	3.73E+01	1.20E-02	1.39E-02	2.30E-01	0.00E+00	2.31E-02	3.70E-02	1.12E+01	3.30E-03	0.0%
Potassium	3.05E+03	2.00E-01	1.89E+01	1.00E+00	0.00E+00	1.89E+00	2.08E+01	No TRV	No TRV	No HQ
Selenium	1.89E+00	5.00E-03	2.93E-04	7.60E-01	0.00E+00	1.17E-03	1.47E-03	5.61E-02	2.61E-02	0.0%
Silver	5.14E+00	8.00E-02	1.27E-02	1.50E-01	0.00E+00	3.19E-03	1.59E-02	No TRV	No TRV	No HQ
Sodium	1.08E+03	1.50E-02	5.02E-01	1.00E+00	0.00E+00	6.70E-01	1.17E+00	No TRV	No TRV	No HQ
Thallium	3.24E-01	8.00E-04	8.04E-06	1.00E+00	0.00E+00	2.01E-04	2.09E-04	2.10E-03	9.97E-02	0.1%
Zinc	3.60E+03	3.00E-01	3.35E+01	1.80E+00	0.00E+00	2.23E+00	3.57E+01	4.49E+01	7.96E-01	1.0%
Organics										
2-Methylnaphthalene	1.50E-01	2.00E-02	9.30E-05	5.00E-02	0.00E+00	9.30E-05	1.86E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	4.30E-02	3.90E-03	5.20E-06	5.00E-02	0.00E+00	2.67E-05	3.19E-05	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.00E-02	2.60E-03	4.84E-06	5.00E-02	0.00E+00	3.72E-05	4.20E-05	1.52E-01	2.77E-04	0.0%
Benzo(b)fluoranthene	9.30E-02	2.30E-03	6.63E-06	5.00E-02	0.00E+00	5.77E-05	6.43E-05	No TRV	No TRV	No HQ
Chrysene	5.00E-02	3.90E-03	6.05E-06	5.00E-02	0.00E+00	3.10E-05	3.70E-05	No TRV	No TRV	No HQ
Fluoranthene	8.80E-02	2.00E-02	5.46E-05	5.00E-02	0.00E+00	5.46E-05	1.09E-04	No TRV	No TRV	No HQ
Phenanthrene	1.40E-01	2.00E-02	8.68E-05	5.00E-02	0.00E+00	8.68E-05	1.74E-04	No TRV	No TRV	No HQ
Pyrene	1.10E-01	6.70E-03	2.28E-05	5.00E-02	0.00E+00	6.82E-05	9.10E-05	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	1.30E-01	1.00E+00	4.03E-03	1.00E+00	0.00E+00	8.06E-05	4.11E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.2%
2,4,6-Trinitrotoluene	3.00E-01	1.00E+00	9.30E-03	1.00E+00	0.00E+00	1.86E-04	9.49E-03	4.49E-01	2.11E-02	0.0%
2,4-Dinitrotoluene	6.50E-02	1.00E+00	2.02E-03	1.00E+00	0.00E+00	4.03E-05	2.06E-03	2.05E+00	1.00E-03	0.0%
2,6-Dinitrotoluene	1.33E-01	2.00E-02	8.25E-05	5.00E-02	0.00E+00	8.25E-05	1.65E-04	1.96E-01	8.40E-04	0.0%

Appendix Table L-475 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
2-Nitrotoluene	1.70E-01	1.00E+00	5.27E-03	1.00E+00	0.00E+00	1.05E-04	5.38E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	2.40E-01	1.00E+00	7.44E-03	1.00E+00	0.00E+00	1.49E-04	7.59E-03	4.31E-01	1.76E-02	0.0%
Nitrobenzene	1.33E-01	2.00E-02	8.25E-05	5.00E-02	0.00E+00	8.25E-05	1.65E-04	No TRV	No TRV	No HQ
Nitrocellulose	5.80E+00	1.00E+00	1.80E-01	1.00E+00	0.00E+00	3.60E-03	1.83E-01	No TRV	No TRV	No HQ
RDX	6.60E-01	1.00E+00	2.05E-02	1.00E+00	0.00E+00	4.09E-04	2.09E-02	1.11E+00	1.88E-02	0.0%
Tetryl	4.80E-01	1.00E+00	1.49E-02	1.00E+00	0.00E+00	2.98E-04	1.52E-02	3.38E-01	4.49E-02	0.1%
HI =									8.02E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-476. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	3.27E+04	1.30E-04	0.00E+00	8.00E-04	1.91E+00	7.50E-02	1.20E+03	2.38E+03	3.58E+03
Antimony	1.72E+01	6.00E-03	0.00E+00	4.00E-02	5.02E-02	5.00E-02	4.20E-01	1.25E+00	1.72E+00
Arsenic	1.36E+01	1.20E-03	0.00E+00	8.00E-03	7.93E-03	6.60E-03	4.38E-02	9.92E-01	1.04E+00
Barium	3.79E+02	3.00E-03	0.00E+00	3.00E-02	8.28E-01	7.50E-03	1.39E+00	2.76E+01	2.98E+01
Beryllium	2.41E-01	3.00E-04	0.00E+00	2.00E-03	3.51E-05	5.00E-02	5.87E-03	1.75E-02	2.35E-02
Cadmium	4.28E+01	3.00E-02	0.00E+00	1.10E-01	3.43E-01	1.10E+01	2.29E+02	3.12E+00	2.33E+02
Calcium	5.11E+03	7.00E-02	0.00E+00	7.00E-01	2.61E+02	1.00E+00	2.49E+03	3.72E+02	3.12E+03
Chromium	4.11E+01	9.00E-04	0.00E+00	1.50E-03	4.49E-03	1.60E-01	3.20E+00	2.99E+00	6.20E+00
Cobalt	9.80E+00	1.40E-03	0.00E+00	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00
Copper	4.10E+03	5.00E-02	0.00E+00	8.00E-02	2.39E+01	1.60E-01	3.20E+02	2.98E+02	6.42E+02
Cyanide	3.24E-01	1.00E+00	0.00E+00	1.00E+00	2.36E-02	0.00E+00	0.00E+00	2.36E-02	4.72E-02
Iron	3.74E+04	2.00E-04	0.00E+00	8.00E-04	2.18E+00	1.00E+00	1.82E+04	2.72E+03	2.09E+04
Lead	2.15E+03	1.80E-03	0.00E+00	9.00E-03	1.41E+00	2.00E+00	2.09E+03	1.57E+02	2.25E+03
Magnesium	3.12E+03	1.10E-01	0.00E+00	2.00E-01	4.55E+01	1.00E+00	1.52E+03	2.27E+02	1.79E+03
Mercury	1.01E-01	4.00E-02	0.00E+00	1.80E-01	1.33E-03	3.40E-01	1.68E-02	7.37E-03	2.55E-02
Nickel	3.73E+01	1.20E-02	0.00E+00	1.20E-02	3.26E-02	2.30E-01	4.18E+00	2.72E+00	6.93E+00
Potassium	3.05E+03	1.10E-01	0.00E+00	2.00E-01	4.44E+01	1.00E+00	1.49E+03	2.22E+02	1.75E+03
Selenium	1.89E+00	5.00E-03	0.00E+00	5.00E-03	6.89E-04	7.60E-01	7.01E-01	1.38E-01	8.39E-01
Silver	5.14E+00	2.00E-02	0.00E+00	8.00E-02	2.99E-02	1.50E-01	3.76E-01	3.74E-01	7.80E-01
Sodium	1.08E+03	1.10E-02	0.00E+00	1.50E-02	1.18E+00	1.00E+00	5.26E+02	7.86E+01	6.06E+02
Thallium	3.24E-01	8.00E-05	0.00E+00	8.00E-04	1.89E-05	1.00E+00	1.58E-01	2.36E-02	1.82E-01
Zinc	3.60E+03	1.80E-01	0.00E+00	3.00E-01	7.86E+01	1.80E+00	3.16E+03	2.62E+02	3.50E+03
Organics									
2-Methylnaphthalene	1.50E-01	2.00E-02	0.00E+00	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02
Benzo(a)anthracene	4.30E-02	3.90E-03	0.00E+00	3.90E-03	1.22E-05	5.00E-02	1.05E-03	3.13E-03	4.19E-03
Benzo(a)pyrene	6.00E-02	2.60E-03	0.00E+00	2.60E-03	1.14E-05	5.00E-02	1.46E-03	4.37E-03	5.84E-03
Benzo(b)fluoranthene	9.30E-02	2.30E-03	0.00E+00	2.30E-03	1.56E-05	5.00E-02	2.27E-03	6.77E-03	9.05E-03
Chrysene	5.00E-02	3.90E-03	0.00E+00	3.90E-03	1.42E-05	5.00E-02	1.22E-03	3.64E-03	4.87E-03
Fluoranthene	8.80E-02	2.00E-02	0.00E+00	2.00E-02	1.28E-04	5.00E-02	2.14E-03	6.41E-03	8.68E-03
Phenanthrene	1.40E-01	2.00E-02	0.00E+00	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02
Pyrene	1.10E-01	6.70E-03	0.00E+00	6.70E-03	5.37E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02
Explosives									
1,3,5-Trinitrobenzene	1.30E-01	1.00E+00	0.00E+00	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.00E-01	1.00E+00	0.00E+00	1.00E+00	2.18E-02	1.00E+00	1.46E-01	2.18E-02	1.90E-01
2,4-Dinitrotoluene	6.50E-02	1.00E+00	0.00E+00	1.00E+00	4.73E-03	1.00E+00	3.17E-02	4.73E-03	4.11E-02
2,6-Dinitrotoluene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02

Appendix Table L-476. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	4.80E+02	5.28E+01	0.00E+00	5.28E+01	6.68E+01	7.90E-01	0.4%
Antimony	5.00E-02	1.54E-01	1.69E-02	0.00E+00	1.69E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.86E-01	2.05E-02	0.00E+00	2.05E-02	4.98E+00	4.11E-03	0.0%
Barium	7.50E-03	3.99E-01	4.39E-02	0.00E+00	4.39E-02	1.19E+01	3.69E-03	0.0%
Beryllium	5.00E-02	2.09E-03	2.30E-04	0.00E+00	2.30E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.16E+01	1.28E+00	0.00E+00	1.28E+00	1.46E+00	8.79E-01	0.4%
Calcium	1.00E+00	5.58E+03	6.14E+02	0.00E+00	6.14E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	3.10E+00	3.41E-01	0.00E+00	3.41E-01	1.03E+00	3.33E-01	0.2%
Cobalt	1.00E+00	9.80E+00	1.08E+00	0.00E+00	1.08E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	5.73E+02	6.30E+01	0.00E+00	6.30E+01	3.89E+01	1.62E+00	0.7%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	3.74E+04	4.11E+03	0.00E+00	4.11E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	6.03E+01	6.64E+00	0.00E+00	6.64E+00	6.82E-01	9.73E+00	4.4%
Magnesium	1.00E+00	3.21E+03	3.53E+02	0.00E+00	3.53E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	5.92E-01	6.51E-02	0.00E+00	6.51E-02	2.72E-01	2.40E-01	0.1%
Nickel	3.00E-01	3.71E+00	4.08E-01	0.00E+00	4.08E-01	7.06E+01	5.78E-03	0.0%
Potassium	1.00E+00	3.13E+03	3.44E+02	0.00E+00	3.44E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.12E+00	1.24E-01	0.00E+00	1.24E-01	4.85E-01	2.55E-01	0.1%
Silver	1.50E-01	2.09E-01	2.30E-02	0.00E+00	2.30E-02	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.08E+03	1.19E+02	0.00E+00	1.19E+02	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.24E-01	3.57E-02	0.00E+00	3.57E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	3.12E+04	3.44E+03	0.00E+00	3.44E+03	1.66E+01	2.07E+02	93.7%
2-Methylnaphthalene	1.90E-08	5.02E-10	5.52E-11	0.00E+00	5.52E-11	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	5.69E-03	6.26E-04	0.00E+00	6.26E-04	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.56E-02	1.72E-03	0.00E+00	1.72E-03	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.90E+00	3.07E-02	3.38E-03	0.00E+00	3.38E-03	No TRV	No TRV	No HQ
Chrysene	7.60E-01	6.61E-03	7.27E-04	0.00E+00	7.27E-04	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	2.01E-03	2.22E-04	0.00E+00	2.22E-04	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.18E-03	1.30E-04	0.00E+00	1.30E-04	No TRV	No TRV	No HQ
Pyrene	3.00E-01	5.75E-03	6.33E-04	0.00E+00	6.33E-04	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	1.47E-01	1.62E-02	0.00E+00	1.62E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.39E-01	3.73E-02	0.00E+00	3.73E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	7.35E-02	8.08E-03	0.00E+00	8.08E-03	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.45E-06	4.90E-07	0.00E+00	4.90E-07	No TRV	No TRV	No HQ

Appendix Table L-476. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
2-Nitrotoluene	1.70E-01	1.00E+00	0.00E+00	1.00E+00	1.24E-02	1.00E+00	8.28E-02	1.24E-02	1.08E-01
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.40E-01	1.00E+00	0.00E+00	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01
Nitrobenzene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
Nitrocellulose	5.80E+00	1.00E+00	0.00E+00	1.00E+00	4.22E-01	1.00E+00	2.83E+00	4.22E-01	3.67E+00
RDX	6.60E-01	1.00E+00	0.00E+00	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01
Tetryl	4.80E-01	1.00E+00	0.00E+00	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-476. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
2-Nitrotoluene	1.00E+00	1.92E-01	2.11E-02	0.00E+00	2.11E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	2.71E-01	2.98E-02	0.00E+00	2.98E-02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.81E-06	3.09E-07	0.00E+00	3.09E-07	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	6.55E+00	7.21E-01	0.00E+00	7.21E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	8.20E-02	0.00E+00	8.20E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	5.42E-01	5.97E-02	0.00E+00	5.97E-02	No TRV	No TRV	No HQ
HI =							2.21E+02	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-477. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	3.27E+04	1.30E-04	0.00E+00	8.00E-04	1.91E+00	7.50E-02	1.20E+03	2.38E+03	3.58E+03
Antimony	1.72E+01	6.00E-03	0.00E+00	4.00E-02	5.02E-02	5.00E-02	4.20E-01	1.25E+00	1.72E+00
Arsenic	1.36E+01	1.20E-03	0.00E+00	8.00E-03	7.93E-03	6.60E-03	4.38E-02	9.92E-01	1.04E+00
Barium	3.79E+02	3.00E-03	0.00E+00	3.00E-02	8.28E-01	7.50E-03	1.39E+00	2.76E+01	2.98E+01
Beryllium	2.41E-01	3.00E-04	0.00E+00	2.00E-03	3.51E-05	5.00E-02	5.87E-03	1.75E-02	2.35E-02
Cadmium	4.28E+01	3.00E-02	0.00E+00	1.10E-01	3.43E-01	1.10E+01	2.29E+02	3.12E+00	2.33E+02
Calcium	5.11E+03	7.00E-02	0.00E+00	7.00E-01	2.61E+02	1.00E+00	2.49E+03	3.72E+02	3.12E+03
Chromium	4.11E+01	9.00E-04	0.00E+00	1.50E-03	4.49E-03	1.60E-01	3.20E+00	2.99E+00	6.20E+00
Cobalt	9.80E+00	1.40E-03	0.00E+00	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00
Copper	4.10E+03	5.00E-02	0.00E+00	8.00E-02	2.39E+01	1.60E-01	3.20E+02	2.98E+02	6.42E+02
Cyanide	3.24E-01	1.00E+00	0.00E+00	1.00E+00	2.36E-02	0.00E+00	0.00E+00	2.36E-02	4.72E-02
Iron	3.74E+04	2.00E-04	0.00E+00	8.00E-04	2.18E+00	1.00E+00	1.82E+04	2.72E+03	2.09E+04
Lead	2.15E+03	1.80E-03	0.00E+00	9.00E-03	1.41E+00	2.00E+00	2.09E+03	1.57E+02	2.25E+03
Magnesium	3.12E+03	1.10E-01	0.00E+00	2.00E-01	4.55E+01	1.00E+00	1.52E+03	2.27E+02	1.79E+03
Mercury	1.01E-01	4.00E-02	0.00E+00	1.80E-01	1.33E-03	3.40E-01	1.68E-02	7.37E-03	2.55E-02
Nickel	3.73E+01	1.20E-02	0.00E+00	1.20E-02	3.26E-02	2.30E-01	4.18E+00	2.72E+00	6.93E+00
Potassium	3.05E+03	1.10E-01	0.00E+00	2.00E-01	4.44E+01	1.00E+00	1.49E+03	2.22E+02	1.75E+03
Selenium	1.89E+00	5.00E-03	0.00E+00	5.00E-03	6.89E-04	7.60E-01	7.01E-01	1.38E-01	8.39E-01
Silver	5.14E+00	2.00E-02	0.00E+00	8.00E-02	2.99E-02	1.50E-01	3.76E-01	3.74E-01	7.80E-01
Sodium	1.08E+03	1.10E-02	0.00E+00	1.50E-02	1.18E+00	1.00E+00	5.26E+02	7.86E+01	6.06E+02
Thallium	3.24E-01	8.00E-05	0.00E+00	8.00E-04	1.89E-05	1.00E+00	1.58E-01	2.36E-02	1.82E-01
Zinc	3.60E+03	1.80E-01	0.00E+00	3.00E-01	7.86E+01	1.80E+00	3.16E+03	2.62E+02	3.50E+03
Organics									
2-Methylnaphthalene	1.50E-01	2.00E-02	0.00E+00	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02
Benzo(a)anthracene	4.30E-02	3.90E-03	0.00E+00	3.90E-03	1.22E-05	5.00E-02	1.05E-03	3.13E-03	4.19E-03
Benzo(a)pyrene	6.00E-02	2.60E-03	0.00E+00	2.60E-03	1.14E-05	5.00E-02	1.46E-03	4.37E-03	5.84E-03
Benzo(b)fluoranthene	9.30E-02	2.30E-03	0.00E+00	2.30E-03	1.56E-05	5.00E-02	2.27E-03	6.77E-03	9.05E-03
Chrysene	5.00E-02	3.90E-03	0.00E+00	3.90E-03	1.42E-05	5.00E-02	1.22E-03	3.64E-03	4.87E-03
Fluoranthene	8.80E-02	2.00E-02	0.00E+00	2.00E-02	1.28E-04	5.00E-02	2.14E-03	6.41E-03	8.68E-03
Phenanthrene	1.40E-01	2.00E-02	0.00E+00	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02
Pyrene	1.10E-01	6.70E-03	0.00E+00	6.70E-03	5.37E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02
Explosives									
1,3,5-Trinitrobenzene	1.30E-01	1.00E+00	0.00E+00	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.00E-01	1.00E+00	0.00E+00	1.00E+00	2.18E-02	1.00E+00	1.46E-01	2.18E-02	1.90E-01
2,4-Dinitrotoluene	6.50E-02	1.00E+00	0.00E+00	1.00E+00	4.73E-03	1.00E+00	3.17E-02	4.73E-03	4.11E-02
2,6-Dinitrotoluene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02

Appendix Table L-477. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	4.80E+02	6.00E+01	0.00E+00	6.00E+01	8.33E+01	7.20E-01	0.4%
Antimony	5.00E-02	1.54E-01	1.92E-02	0.00E+00	1.92E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.86E-01	2.33E-02	0.00E+00	2.33E-02	6.22E+00	3.75E-03	0.0%
Barium	7.50E-03	3.99E-01	4.99E-02	0.00E+00	4.99E-02	1.49E+01	3.36E-03	0.0%
Beryllium	5.00E-02	2.09E-03	2.62E-04	0.00E+00	2.62E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.16E+01	1.46E+00	0.00E+00	1.46E+00	1.82E+00	8.00E-01	0.4%
Calcium	1.00E+00	5.58E+03	6.97E+02	0.00E+00	6.97E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	3.10E+00	3.88E-01	0.00E+00	3.88E-01	1.28E+00	3.03E-01	0.2%
Cobalt	1.00E+00	9.80E+00	1.23E+00	0.00E+00	1.23E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	5.73E+02	7.16E+01	0.00E+00	7.16E+01	4.86E+01	1.47E+00	0.7%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	3.74E+04	4.67E+03	0.00E+00	4.67E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	6.03E+01	7.54E+00	0.00E+00	7.54E+00	8.51E-01	8.86E+00	4.4%
Magnesium	1.00E+00	3.21E+03	4.01E+02	0.00E+00	4.01E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	5.92E-01	7.39E-02	0.00E+00	7.39E-02	3.39E-01	2.18E-01	0.1%
Nickel	3.00E-01	3.71E+00	4.64E-01	0.00E+00	4.64E-01	8.81E+01	5.27E-03	0.0%
Potassium	1.00E+00	3.13E+03	3.91E+02	0.00E+00	3.91E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.12E+00	1.41E-01	0.00E+00	1.41E-01	6.05E-01	2.32E-01	0.1%
Silver	1.50E-01	2.09E-01	2.61E-02	0.00E+00	2.61E-02	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.08E+03	1.35E+02	0.00E+00	1.35E+02	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.24E-01	4.05E-02	0.00E+00	4.05E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	3.12E+04	3.90E+03	0.00E+00	3.90E+03	2.07E+01	1.89E+02	93.7%
2-Methylnaphthalen	1.90E-08	5.02E-10	6.27E-11	0.00E+00	6.27E-11	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	5.69E-03	7.11E-04	0.00E+00	7.11E-04	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.56E-02	1.96E-03	0.00E+00	1.96E-03	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.90E+00	3.07E-02	3.84E-03	0.00E+00	3.84E-03	No TRV	No TRV	No HQ
Chrysene	7.60E-01	6.61E-03	8.27E-04	0.00E+00	8.27E-04	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	2.01E-03	2.52E-04	0.00E+00	2.52E-04	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.18E-03	1.48E-04	0.00E+00	1.48E-04	No TRV	No TRV	No HQ
Pyrene	3.00E-01	5.75E-03	7.19E-04	0.00E+00	7.19E-04	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	1.47E-01	1.84E-02	0.00E+00	1.84E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.39E-01	4.24E-02	0.00E+00	4.24E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	7.35E-02	9.18E-03	0.00E+00	9.18E-03	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.45E-06	5.56E-07	0.00E+00	5.56E-07	No TRV	No TRV	No HQ

Appendix Table L-477. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
2-Nitrotoluene	1.70E-01	1.00E+00	0.00E+00	1.00E+00	1.24E-02	1.00E+00	8.28E-02	1.24E-02	1.08E-01
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.40E-01	1.00E+00	0.00E+00	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01
Nitrobenzene	1.33E-01	2.00E-02	0.00E+00	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
Nitrocellulose	5.80E+00	1.00E+00	0.00E+00	1.00E+00	4.22E-01	1.00E+00	2.83E+00	4.22E-01	3.67E+00
RDX	6.60E-01	1.00E+00	0.00E+00	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01
Tetryl	4.80E-01	1.00E+00	0.00E+00	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-477. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
2-Nitrotoluene	1.00E+00	1.92E-01	2.40E-02	0.00E+00	2.40E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	2.71E-01	3.39E-02	0.00E+00	3.39E-02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.81E-06	3.51E-07	0.00E+00	3.51E-07	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	6.55E+00	8.19E-01	0.00E+00	8.19E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	9.32E-02	0.00E+00	9.32E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	5.42E-01	6.78E-02	0.00E+00	6.78E-02	No TRV	No TRV	No HQ
HI =							2.01E+02	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-478. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	3.27E+04	1.30E-04	1.35E-02	8.00E-04	1.91E+00	7.50E-02	1.20E+03	2.38E+03	3.58E+03
Antimony	1.72E+01	6.00E-03	3.28E-04	4.00E-02	5.02E-02	5.00E-02	4.20E-01	1.25E+00	1.72E+00
Arsenic	1.36E+01	1.20E-03	5.19E-05	8.00E-03	7.93E-03	6.60E-03	4.38E-02	9.92E-01	1.04E+00
Barium	3.79E+02	3.00E-03	3.61E-03	3.00E-02	8.28E-01	7.50E-03	1.39E+00	2.76E+01	2.98E+01
Beryllium	2.41E-01	3.00E-04	2.29E-07	2.00E-03	3.51E-05	5.00E-02	5.87E-03	1.75E-02	2.35E-02
Cadmium	4.28E+01	3.00E-02	4.08E-03	1.10E-01	3.43E-01	1.10E+01	2.29E+02	3.12E+00	2.33E+02
Calcium	5.11E+03	7.00E-02	1.14E+00	7.00E-01	2.61E+02	1.00E+00	2.49E+03	3.72E+02	3.12E+03
Chromium	4.11E+01	9.00E-04	1.17E-04	1.50E-03	4.49E-03	1.60E-01	3.20E+00	2.99E+00	6.20E+00
Cobalt	9.80E+00	1.40E-03	4.35E-05	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00
Copper	4.10E+03	5.00E-02	6.51E-01	8.00E-02	2.39E+01	1.60E-01	3.20E+02	2.98E+02	6.42E+02
Cyanide	3.24E-01	1.00E+00	1.03E-03	1.00E+00	2.36E-02	0.00E+00	0.00E+00	2.36E-02	4.72E-02
Iron	3.74E+04	2.00E-04	2.37E-02	8.00E-04	2.18E+00	1.00E+00	1.82E+04	2.72E+03	2.09E+04
Lead	2.15E+03	1.80E-03	1.23E-02	9.00E-03	1.41E+00	2.00E+00	2.09E+03	1.57E+02	2.25E+03
Magnesium	3.12E+03	1.10E-01	1.09E+00	2.00E-01	4.55E+01	1.00E+00	1.52E+03	2.27E+02	1.79E+03
Mercury	1.01E-01	4.00E-02	1.29E-05	1.80E-01	1.33E-03	3.40E-01	1.68E-02	7.37E-03	2.55E-02
Nickel	3.73E+01	1.20E-02	1.42E-03	1.20E-02	3.26E-02	2.30E-01	4.18E+00	2.72E+00	6.93E+00
Potassium	3.05E+03	1.10E-01	1.06E+00	2.00E-01	4.44E+01	1.00E+00	1.49E+03	2.22E+02	1.75E+03
Selenium	1.89E+00	5.00E-03	3.00E-05	5.00E-03	6.89E-04	7.60E-01	7.01E-01	1.38E-01	8.39E-01
Silver	5.14E+00	2.00E-02	3.26E-04	8.00E-02	2.99E-02	1.50E-01	3.76E-01	3.74E-01	7.80E-01
Sodium	1.08E+03	1.10E-02	3.77E-02	1.50E-02	1.18E+00	1.00E+00	5.26E+02	7.86E+01	6.06E+02
Thallium	3.24E-01	8.00E-05	8.23E-08	8.00E-04	1.89E-05	1.00E+00	1.58E-01	2.36E-02	1.82E-01
Zinc	3.60E+03	1.80E-01	2.06E+00	3.00E-01	7.86E+01	1.80E+00	3.16E+03	2.62E+02	3.50E+03
Organics									
2-Methylnaphthalene	1.50E-01	2.00E-02	9.52E-06	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02
Benzo(a)anthracene	4.30E-02	3.90E-03	5.32E-07	3.90E-03	1.22E-05	5.00E-02	1.05E-03	3.13E-03	4.19E-03
Benzo(a)pyrene	6.00E-02	2.60E-03	4.95E-07	2.60E-03	1.14E-05	5.00E-02	1.46E-03	4.37E-03	5.84E-03
Benzo(b)fluoranthene	9.30E-02	2.30E-03	6.79E-07	2.30E-03	1.56E-05	5.00E-02	2.27E-03	6.77E-03	9.05E-03
Chrysene	5.00E-02	3.90E-03	6.19E-07	3.90E-03	1.42E-05	5.00E-02	1.22E-03	3.64E-03	4.87E-03
Fluoranthene	8.80E-02	2.00E-02	5.59E-06	2.00E-02	1.28E-04	5.00E-02	2.14E-03	6.41E-03	8.68E-03
Phenanthrene	1.40E-01	2.00E-02	8.89E-06	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02
Pyrene	1.10E-01	6.70E-03	2.34E-06	6.70E-03	5.37E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02
Explosives									
1,3,5-Trinitrobenzene	1.30E-01	1.00E+00	4.13E-04	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02

Appendix Table L-478. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	4.80E+02	3.16E+01	6.33E+01	9.48E+01	5.46E-01	1.74E+02	80.1%
Antimony	5.00E-02	1.54E-01	1.01E-02	3.33E-02	4.38E-02	3.54E-02	1.24E+00	0.6%
Arsenic	1.00E-01	1.86E-01	1.23E-02	2.63E-02	3.86E-02	3.56E-02	1.08E+00	0.5%
Barium	7.50E-03	3.99E-01	2.63E-02	7.33E-01	7.63E-01	2.79E+00	2.73E-01	0.1%
Beryllium	5.00E-02	2.09E-03	1.38E-04	4.66E-04	6.04E-04	3.45E-01	1.75E-03	0.0%
Cadmium	2.80E-02	1.16E+01	7.66E-01	8.27E-02	8.53E-01	5.04E-01	1.69E+00	0.8%
Calcium	1.00E+00	5.58E+03	3.67E+02	9.88E+00	3.78E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	3.10E+00	2.04E-01	7.94E-02	2.84E-01	1.43E+03	1.98E-04	0.0%
Cobalt	1.00E+00	9.80E+00	6.45E-01	1.89E-02	6.64E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	5.73E+02	3.77E+01	7.92E+00	4.63E+01	7.96E+00	5.82E+00	2.7%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.27E-04	1.66E-03	3.37E+01	4.91E-05	0.0%
Iron	1.00E+00	3.74E+04	2.46E+03	7.22E+01	2.53E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	6.03E+01	3.97E+00	4.15E+00	8.14E+00	4.18E+00	1.95E+00	0.9%
Magnesium	1.00E+00	3.21E+03	2.11E+02	6.04E+00	2.18E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	5.92E-01	3.89E-02	1.96E-04	3.91E-02	6.86E-01	5.70E-02	0.0%
Nickel	3.00E-01	3.71E+00	2.44E-01	7.21E-02	3.18E-01	2.09E+01	1.52E-02	0.0%
Potassium	1.00E+00	3.13E+03	2.06E+02	5.89E+00	2.13E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.12E+00	7.40E-02	3.66E-03	7.77E-02	1.05E-01	7.43E-01	0.3%
Silver	1.50E-01	2.09E-01	1.38E-02	9.93E-03	2.40E-02	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.08E+03	7.12E+01	2.09E+00	7.34E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.24E-01	2.13E-02	6.27E-04	2.20E-02	3.91E-03	5.62E+00	2.6%
Zinc	5.00E+00	3.12E+04	2.06E+03	6.96E+00	2.06E+03	8.36E+01	2.47E+01	11.4%
2-Methylnaphthalene	1.90E-08	5.02E-10	3.30E-11	2.90E-04	2.99E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	5.69E-03	3.74E-04	8.31E-05	4.58E-04	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.56E-02	1.03E-03	1.16E-04	1.15E-03	2.83E-01	4.05E-03	0.0%
Benzo(b)fluoranthene	1.90E+00	3.07E-02	2.02E-03	1.80E-04	2.20E-03	No TRV	No TRV	No HQ
Chrysene	7.60E-01	6.61E-03	4.35E-04	9.66E-05	5.32E-04	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	2.01E-03	1.33E-04	1.70E-04	3.08E-04	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.18E-03	7.79E-05	2.70E-04	3.57E-04	No TRV	No TRV	No HQ
Pyrene	3.00E-01	5.75E-03	3.79E-04	2.13E-04	5.94E-04	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	1.47E-01	9.67E-03	2.51E-04	1.03E-02	1.68E+00	6.15E-03	0.0%

Appendix Table L-478. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 60

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.00E-01	1.00E+00	9.52E-04	1.00E+00	2.18E-02	1.00E+00	1.46E-01	2.18E-02	1.90E-01
2,4-Dinitrotoluene	6.50E-02	1.00E+00	2.06E-04	1.00E+00	4.73E-03	1.00E+00	3.17E-02	4.73E-03	4.11E-02
2,6-Dinitrotoluene	1.33E-01	2.00E-02	8.44E-06	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
2-Nitrotoluene	1.70E-01	1.00E+00	5.40E-04	1.00E+00	1.24E-02	1.00E+00	8.28E-02	1.24E-02	1.08E-01
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	2.40E-01	1.00E+00	7.62E-04	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01
Nitrobenzene	1.33E-01	2.00E-02	8.44E-06	2.00E-02	1.94E-04	5.00E-02	3.24E-03	9.68E-03	1.31E-02
Nitrocellulose	5.80E+00	1.00E+00	1.84E-02	1.00E+00	4.22E-01	1.00E+00	2.83E+00	4.22E-01	3.67E+00
RDX	6.60E-01	1.00E+00	2.09E-03	1.00E+00	4.80E-02	1.00E+00	3.22E-01	4.80E-02	4.18E-01
Tetryl	4.80E-01	1.00E+00	1.52E-03	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-478. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.1%
2,4,6-Trinitrotoluene	1.00E+00	3.39E-01	2.23E-02	5.80E-04	2.38E-02	8.36E-01	2.85E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	7.35E-02	4.83E-03	1.26E-04	5.17E-03	3.82E+00	1.35E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.45E-06	2.93E-07	2.57E-04	2.66E-04	3.66E-01	7.26E-04	0.0%
2-Nitrotoluene	1.00E+00	1.92E-01	1.26E-02	3.28E-04	1.35E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	2.71E-01	1.79E-02	4.64E-04	1.91E-02	8.02E-01	2.38E-02	0.0%
Nitrobenzene	1.20E-04	2.81E-06	1.85E-07	2.57E-04	2.66E-04	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	6.55E+00	4.31E-01	1.12E-02	4.61E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	7.46E-01	4.91E-02	1.28E-03	5.25E-02	2.07E+00	2.53E-02	0.0%
Tetryl	1.00E+00	5.42E-01	3.57E-02	9.27E-04	3.82E-02	6.30E-01	6.06E-02	0.0%
HI = 2.17E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-479. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.17E+04	5.00E+01	2.34E+02	54.7%
Antimony	6.01E-01	5.00E+00	1.20E-01	0.0%
Arsenic	1.41E+01	1.00E+01	1.41E+00	0.3%
Barium	2.55E+02	5.00E+02	5.10E-01	0.1%
Beryllium	2.71E-01	1.00E+01	2.71E-02	0.0%
Cadmium	5.26E+01	5.00E-01	1.05E+02	24.6%
Calcium	1.01E+04	No TRV	No TRV	No HQ
Chromium	2.91E+01	1.00E+00	2.91E+01	6.8%
Cobalt	9.75E+00	2.00E+01	4.88E-01	0.1%
Copper	4.87E+02	1.00E+02	4.87E+00	1.1%
Cyanide	3.21E-01	No TRV	No TRV	No HQ
Iron	2.62E+04	No TRV	No TRV	No HQ
Lead	3.93E+02	5.00E+01	7.86E+00	1.8%
Magnesium	3.36E+03	No TRV	No TRV	No HQ
Mercury	6.81E-02	3.00E-01	2.27E-01	0.1%
Nickel	7.58E+01	3.00E+01	2.53E+00	0.6%
Potassium	1.40E+03	No TRV	No TRV	No HQ
Selenium	2.39E+00	1.00E+00	2.39E+00	0.6%
Silver	6.93E-01	2.00E+00	3.47E-01	0.1%
Sodium	1.08E+02	No TRV	No TRV	No HQ
Thallium	3.21E-01	1.00E+00	3.21E-01	0.1%
Zinc	1.92E+03	5.00E+01	3.84E+01	9.0%
Explosives				
1,3,5-Trinitrobenzene	5.50E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.39E-01	3.00E+01	1.13E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.20E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.40E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.31E-01	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	5.45E-01	1.00E+02	5.45E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =			4.28E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-479. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
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**Appendix Table L-480. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 61**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.17E+04	No TRV	No TRV	No HQ
Antimony	6.01E-01	No TRV	No TRV	No HQ
Arsenic	1.41E+01	6.00E+01	2.35E-01	0.2%
Barium	2.55E+02	No TRV	No TRV	No HQ
Beryllium	2.71E-01	No TRV	No TRV	No HQ
Cadmium	5.26E+01	2.00E+01	2.63E+00	2.7%
Calcium	1.01E+04	No TRV	No TRV	No HQ
Chromium	2.91E+01	4.00E-01	7.27E+01	75.7%
Cobalt	9.75E+00	No TRV	No TRV	No HQ
Copper	4.87E+02	5.00E+01	9.74E+00	10.1%
Cyanide	3.21E-01	No TRV	No TRV	No HQ
Iron	2.62E+04	No TRV	No TRV	No HQ
Lead	3.93E+02	5.00E+02	7.86E-01	0.8%
Magnesium	3.36E+03	No TRV	No TRV	No HQ
Mercury	6.81E-02	No TRV	No TRV	No HQ
Nickel	7.58E+01	2.00E+02	3.79E-01	0.4%
Potassium	1.40E+03	No TRV	No TRV	No HQ
Selenium	2.39E+00	No TRV	No TRV	No HQ
Silver	6.93E-01	No TRV	No TRV	No HQ
Sodium	1.08E+02	No TRV	No TRV	No HQ
Thallium	3.21E-01	No TRV	No TRV	No HQ
Zinc	1.92E+03	2.00E+02	9.60E+00	10.0%
Explosives				
1,3,5-Trinitrobenzene	5.50E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.39E-01	1.40E+02	2.42E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.20E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.40E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.31E-01	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	5.45E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				9.60E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-481. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.17E+04	8.00E-04	6.81E-01	7.50E-02	4.27E+02	8.51E+02	1.28E+03	2.22E+00	5.75E+02	74.6%
Antimony	6.01E-01	4.00E-02	1.75E-03	5.00E-02	1.46E-02	4.37E-02	6.01E-02	1.44E-01	4.17E-01	0.1%
Arsenic	1.41E+01	8.00E-03	8.20E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00	1.45E-01	7.43E+00	1.0%
Barium	2.55E+02	3.00E-02	5.56E-01	7.50E-03	9.31E-01	1.85E+01	2.00E+01	1.14E+01	1.76E+00	0.2%
Beryllium	2.71E-01	2.00E-03	3.94E-05	5.00E-02	6.59E-03	1.97E-02	2.63E-02	1.41E+00	1.87E-02	0.0%
Cadmium	5.26E+01	1.10E-01	4.21E-01	1.10E+01	2.82E+02	3.83E+00	2.86E+02	2.05E+00	1.39E+02	18.1%
Calcium	1.01E+04	7.00E-01	5.15E+02	1.00E+00	4.92E+03	7.35E+02	6.17E+03	No TRV	No TRV	No HQ
Chromium	2.91E+01	1.50E-03	3.17E-03	1.60E-01	2.27E+00	2.12E+00	4.38E+00	5.83E+03	7.52E-04	0.0%
Cobalt	9.75E+00	4.00E-03	2.84E-03	1.00E+00	4.75E+00	7.10E-01	5.46E+00	No TRV	No TRV	No HQ
Copper	4.87E+02	8.00E-02	2.84E+00	1.60E-01	3.80E+01	3.55E+01	7.63E+01	3.24E+01	2.35E+00	0.3%
Cyanide	3.21E-01	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.67E-02	1.38E-02	3.39E-04	0.0%
Iron	2.62E+04	8.00E-04	1.52E+00	1.00E+00	1.27E+04	1.90E+03	1.47E+04	No TRV	No TRV	No HQ
Lead	3.93E+02	9.00E-03	2.57E-01	2.00E+00	3.83E+02	2.86E+01	4.12E+02	1.70E+01	2.42E+01	3.1%
Magnesium	3.36E+03	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.44E+02	1.93E+03	No TRV	No TRV	No HQ
Mercury	6.81E-02	1.80E-01	8.92E-04	3.40E-01	1.13E-02	4.95E-03	1.71E-02	2.80E+00	6.12E-03	0.0%
Nickel	7.58E+01	1.20E-02	6.62E-02	2.30E-01	8.49E+00	5.52E+00	1.41E+01	8.52E+01	1.65E-01	0.0%
Potassium	1.40E+03	2.00E-01	2.04E+01	1.00E+00	6.82E+02	1.02E+02	8.04E+02	No TRV	No TRV	No HQ
Selenium	2.39E+00	5.00E-03	8.69E-04	7.60E-01	8.84E-01	1.74E-01	1.06E+00	4.26E-01	2.48E+00	0.3%
Silver	6.93E-01	8.00E-02	4.04E-03	1.50E-01	5.07E-02	5.05E-02	1.05E-01	No TRV	No TRV	No HQ
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 HQ
Thallium	3.21E-01	8.00E-04	1.87E-05	1.00E+00	1.56E-01	2.33E-02	1.80E-01	1.59E-02	1.13E+01	1.5%
Zinc	1.92E+03	3.00E-01	4.19E+01	1.80E+00	1.68E+03	1.40E+02	1.87E+03	3.41E+02	5.47E+00	0.7%
Explosives										
1,3,5-Trinitrobenzene	5.50E-02	1.00E+00	4.00E-03	1.00E+00	2.68E-02	4.00E-03	3.48E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	3.39E-01	1.00E+00	2.47E-02	1.00E+00	1.65E-01	2.47E-02	2.15E-01	3.41E+00	6.29E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02	1.49E+00	8.66E-03	0.0%
2-Nitrotoluene	1.20E-01	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.40E-01	1.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02	3.27E+00	2.71E-02	0.0%
Nitrobenzene	1.31E-01	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01	No TRV	No TRV	No HQ
RDX	5.45E-01	1.00E+00	3.97E-02	1.00E+00	2.66E-01	3.97E-02	3.45E-01	8.44E+00	4.09E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	7.70E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-482. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.17E+04	1.30E-04	1.15E+00	7.50E-02	6.66E+02	1.85E+03	2.52E+03	1.29E+02	1.94E+01	2.5%
Antimony	6.01E-01	6.00E-03	2.74E-03	5.00E-02	2.28E-02	9.50E-02	1.21E-01	No TRV	No TRV	No HQ
Arsenic	1.41E+01	1.20E-03	1.28E-02	6.60E-03	7.06E-02	2.23E+00	2.31E+00	9.66E+00	2.39E-01	0.0%
Barium	2.55E+02	3.00E-03	5.81E-01	7.50E-03	1.45E+00	4.03E+01	4.23E+01	2.31E+01	1.83E+00	0.2%
Beryllium	2.71E-01	3.00E-04	6.17E-05	5.00E-02	1.03E-02	4.28E-02	5.31E-02	No TRV	No TRV	No HQ
Cadmium	5.26E+01	3.00E-02	1.20E+00	1.10E+01	4.40E+02	8.32E+00	4.49E+02	2.83E+00	1.59E+02	20.2%
Calcium	1.01E+04	7.00E-02	5.37E+02	1.00E+00	7.68E+03	1.60E+03	9.81E+03	No TRV	No TRV	No HQ
Chromium	2.91E+01	9.00E-04	1.99E-02	1.60E-01	3.53E+00	4.59E+00	8.15E+00	1.99E+00	4.10E+00	0.5%
Cobalt	9.75E+00	1.40E-03	1.04E-02	1.00E+00	7.41E+00	1.54E+00	8.96E+00	No TRV	No TRV	No HQ
Copper	4.87E+02	5.00E-02	1.85E+01	1.60E-01	5.92E+01	7.70E+01	1.55E+02	7.55E+01	2.05E+00	0.3%
Cyanide	3.21E-01	1.00E+00	2.44E-01	0.00E+00	0.00E+00	5.07E-02	2.94E-01	No TRV	No TRV	No HQ
Iron	2.62E+04	2.00E-04	3.98E+00	1.00E+00	1.99E+04	4.14E+03	2.40E+04	No TRV	No TRV	No HQ
Lead	3.93E+02	1.80E-03	5.38E-01	2.00E+00	5.97E+02	6.21E+01	6.60E+02	1.32E+00	4.99E+02	63.4%
Magnesium	3.36E+03	1.10E-01	2.81E+02	1.00E+00	2.55E+03	5.31E+02	3.36E+03	No TRV	No TRV	No HQ
Mercury	6.81E-02	4.00E-02	2.07E-03	3.40E-01	1.76E+02	1.08E-02	3.04E-02	5.27E-01	5.78E-02	0.0%
Nickel	7.58E+01	1.20E-02	6.91E-01	2.30E-01	1.32E+01	1.20E+01	2.59E+01	1.37E+02	1.89E-01	0.0%
Potassium	1.40E+03	1.10E-01	1.17E+02	1.00E+00	1.06E+03	2.21E+02	1.40E+03	No TRV	No TRV	No HQ
Selenium	2.39E+00	5.00E-03	9.07E-03	7.60E-01	1.38E+00	3.77E-01	1.77E+00	9.40E-01	1.88E+00	0.2%
Silver	6.93E-01	2.00E-02	1.05E-02	1.50E-01	7.90E-02	1.10E-01	1.99E-01	No TRV	No TRV	No HQ
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 HQ
Thallium	3.21E-01	8.00E-05	1.95E-05	1.00E+00	2.44E-01	5.07E-02	2.94E-01	No TRV	No TRV	No HQ
Zinc	1.92E+03	1.80E-01	2.63E+02	1.80E+00	2.63E+03	3.04E+02	3.19E+03	3.21E+01	9.94E+01	12.6%
Explosives										
1,3,5-Trinitrobenzene	5.50E-02	1.00E+00	4.18E-02	1.00E+00	4.18E-02	8.69E-03	9.23E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.39E-01	1.00E+00	2.58E-01	1.00E+00	2.58E-01	5.36E-02	5.69E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.99E-03	5.00E-02	4.98E-03	2.07E-02	2.77E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.20E-01	1.00E+00	9.12E-02	1.00E+00	9.12E-02	1.90E-02	2.01E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	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	No HQ
Nitrobenzene	1.31E-01	2.00E-02	1.99E-03	5.00E-02	4.98E-03	2.07E-02	2.77E-02	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	7.60E-01	1.00E+00	7.60E-01	1.58E-01	1.68E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	9.50E-01	1.00E+00	9.50E-01	1.98E-01	2.10E+00	No TRV	No TRV	No HQ
RDX	5.45E-01	1.00E+00	4.14E-01	1.00E+00	4.14E-01	8.62E-02	9.15E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
									HI =	7.87E+02

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_a(kg/kgBW/c/ 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-483. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.17E+04	8.00E-04	1.92E+00	7.50E-02	0.00E+00	1.51E+02	1.53E+02	7.63E-01	2.00E+02	93.8%
Antimony	6.01E-01	4.00E-02	4.93E-03	5.00E-02	0.00E+00	7.76E-03	1.27E-02	4.94E-02	2.57E-01	0.1%
Arsenic	1.41E+01	8.00E-03	2.31E-02	6.60E-03	0.00E+00	1.82E-01	2.05E-01	4.98E-02	4.12E+00	1.9%
Barium	2.55E+02	3.00E-02	1.57E+00	7.50E-03	0.00E+00	3.29E+00	4.86E+00	3.90E+00	1.24E+00	0.6%
Beryllium	2.71E-01	2.00E-03	1.11E-04	5.00E-02	0.00E+00	3.49E-03	3.61E-03	4.82E-01	7.48E-03	0.0%
Cadmium	5.26E+01	1.10E-01	1.19E+00	1.10E+01	0.00E+00	6.79E-01	1.87E+00	7.05E-01	2.65E+00	1.2%
Calcium	1.01E+04	7.00E-01	1.45E+03	1.00E+00	0.00E+00	1.30E+02	1.58E+03	No TRV	No TRV	No HQ
Chromium	2.91E+01	1.50E-03	8.94E-03	1.60E-01	0.00E+00	3.75E-01	3.84E-01	2.00E+03	1.92E-04	0.0%
Cobalt	9.75E+00	4.00E-03	8.00E-03	1.00E+00	0.00E+00	1.26E-01	1.34E-01	No TRV	No TRV	No HQ
Copper	4.87E+02	8.00E-02	7.99E+00	1.60E-01	0.00E+00	6.29E+00	1.43E+01	1.11E+01	1.28E+00	0.6%
Cyanide	3.21E-01	1.00E+00	6.57E-02	0.00E+00	0.00E+00	4.14E-03	6.99E-02	4.72E+01	1.48E-03	0.0%
Iron	2.62E+04	8.00E-04	4.29E+00	1.00E+00	0.00E+00	3.38E+02	3.42E+02	No TRV	No TRV	No HQ
Lead	3.93E+02	9.00E-03	7.25E-01	2.00E+00	0.00E+00	5.08E+00	5.80E+00	5.84E+00	9.93E-01	0.5%
Magnesium	3.36E+03	2.00E-01	1.38E+02	1.00E+00	0.00E+00	4.34E+01	1.81E+02	No TRV	No TRV	No HQ
Mercury	6.81E-02	1.80E-01	2.51E-03	3.40E-01	0.00E+00	8.79E-04	3.39E-03	9.59E-01	3.54E-03	0.0%
Nickel	7.58E+01	1.20E-02	1.86E-01	2.30E-01	0.00E+00	9.79E-01	1.17E+00	2.92E+01	3.99E-02	0.0%
Potassium	1.40E+03	2.00E-01	5.74E+01	1.00E+00	0.00E+00	1.81E+01	7.55E+01	No TRV	No TRV	No HQ
Selenium	2.39E+00	5.00E-03	2.45E-03	7.60E-01	0.00E+00	3.08E-02	3.33E-02	1.46E-01	2.28E-01	0.1%
Silver	6.93E-01	8.00E-02	1.14E-02	1.50E-01	0.00E+00	8.96E-03	2.03E-02	No TRV	No TRV	No HQ
Sodium	1.08E+02	1.50E-02	3.32E-01	1.00E+00	0.00E+00	1.39E+00	1.73E+00	No TRV	No TRV	No HQ
Thallium	3.21E-01	8.00E-04	5.26E-05	1.00E+00	0.00E+00	4.14E-03	4.19E-03	5.46E-03	7.68E-01	0.4%
Zinc	1.92E+03	3.00E-01	1.18E+02	1.80E+00	0.00E+00	2.48E+01	1.43E+02	1.17E+02	1.22E+00	0.6%
Explosives										
1,3,5-Trinitrobenzene	5.50E-02	1.00E+00	1.13E-02	1.00E+00	0.00E+00	7.10E-04	1.20E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	3.39E-01	1.00E+00	6.95E-02	1.00E+00	0.00E+00	4.38E-03	7.39E-02	1.17E+00	6.32E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	5.37E-04	5.00E-02	0.00E+00	1.69E-03	2.23E-03	5.11E-01	4.36E-03	0.0%
2-Nitrotoluene	1.20E-01	1.00E+00	2.46E-02	1.00E+00	0.00E+00	1.55E-03	2.61E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.40E-01	1.00E+00	2.87E-02	1.00E+00	0.00E+00	1.81E-03	3.05E-02	1.12E+00	2.72E-02	0.0%
Nitrobenzene	1.31E-01	2.00E-02	5.37E-04	5.00E-02	0.00E+00	1.69E-03	2.23E-03	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	2.05E-01	1.00E+00	0.00E+00	1.29E-02	2.18E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	2.56E-01	1.00E+00	0.00E+00	1.61E-02	2.72E-01	No TRV	No TRV	No HQ
RDX	5.45E-01	1.00E+00	1.12E-01	1.00E+00	0.00E+00	7.04E-03	1.19E-01	2.89E+00	4.10E-02	0.0%

Appendix Table L-483. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 61

Analyte	EPC	SP _v	ADDP	BAF _v	ADDA	ADDS	ADD _{total}	TRV	Site HQ	%HI
	(mg/kg)		(mg/kgBW/d) EPC x SP _v x IP x AUF		(mg/kgBW/d) EPC x BAF _v x IA x AUF		(mg/kgBW/d) EPC x IS x AUF		(mg/kgBW/d) ADD _p + ADD _A + ADD _s	
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
HI =									2.14E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-484 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.17E+04	8.00E-04	2.90E-01	7.50E-02	0.00E+00	7.25E+00	7.54E+00	2.93E-01	2.57E+01	89.5%
Antimony	6.01E-01	4.00E-02	7.45E-04	5.00E-02	0.00E+00	3.73E-04	1.12E-03	1.90E-02	5.89E-02	0.2%
Arsenic	1.41E+01	8.00E-03	3.49E-03	6.60E-03	0.00E+00	8.73E-03	1.22E-02	1.91E-02	6.39E-01	2.2%
Barium	2.55E+02	3.00E-02	2.37E-01	7.50E-03	0.00E+00	1.58E-01	3.95E-01	1.50E+00	2.63E-01	0.9%
Beryllium	2.71E-01	2.00E-03	1.68E-05	5.00E-02	0.00E+00	1.68E-04	1.85E-04	1.85E-01	9.97E-04	0.0%
Cadmium	5.26E+01	1.10E-01	1.79E-01	1.10E+01	0.00E+00	3.26E-02	2.12E-01	2.71E-01	7.83E-01	2.7%
Calcium	1.01E+04	7.00E-01	2.19E+02	1.00E+00	0.00E+00	6.26E+00	2.25E+02	No TRV	No TRV	No HQ
Chromium	2.91E+01	1.50E-03	1.35E-03	1.60E-01	0.00E+00	1.80E-02	1.94E-02	7.68E+02	2.52E-05	0.0%
Cobalt	9.75E+00	4.00E-03	1.21E-03	1.00E+00	0.00E+00	6.05E-03	7.25E-03	No TRV	No TRV	No HQ
Copper	4.87E+02	8.00E-02	1.21E+00	1.60E-01	0.00E+00	3.02E-01	1.51E+00	4.27E+00	3.53E-01	1.2%
Cyanide	3.21E-01	1.00E+00	9.94E-03	0.00E+00	0.00E+00	1.99E-04	1.01E-02	1.81E+01	5.60E-04	0.0%
Iron	2.62E+04	8.00E-04	6.49E-01	1.00E+00	0.00E+00	1.62E+01	1.69E+01	No TRV	No TRV	No HQ
Lead	3.93E+02	9.00E-03	1.10E-01	2.00E+00	0.00E+00	2.44E-01	3.53E-01	2.24E+00	1.57E-01	0.5%
Magnesium	3.36E+03	2.00E-01	2.08E+01	1.00E+00	0.00E+00	2.08E+00	2.29E+01	No TRV	No TRV	No HQ
Mercury	6.81E-02	1.80E-01	3.80E-04	3.40E-01	0.00E+00	4.22E-05	4.22E-04	3.68E-01	1.15E-03	0.0%
Nickel	7.58E+01	1.20E-02	2.82E-02	2.30E-01	0.00E+00	4.70E-02	7.52E-02	1.12E+01	6.70E-03	0.0%
Potassium	1.40E+03	2.00E-01	8.68E+00	1.00E+00	0.00E+00	8.68E-01	9.55E+00	No TRV	No TRV	No HQ
Selenium	2.39E+00	5.00E-03	3.70E-04	7.60E-01	0.00E+00	1.48E-03	1.85E-03	5.61E-02	3.30E-02	0.1%
Silver	6.93E-01	8.00E-02	1.72E-03	1.50E-01	0.00E+00	4.30E-04	2.15E-03	No TRV	No TRV	No HQ
Sodium	1.08E+02	1.50E-02	5.02E-02	1.00E+00	0.00E+00	6.70E-02	1.17E-01	No TRV	No TRV	No HQ
Thallium	3.21E-01	8.00E-04	7.95E-06	1.00E+00	0.00E+00	1.99E-04	2.07E-04	2.10E-03	9.85E-02	0.3%
Zinc	1.92E+03	3.00E-01	1.79E+01	1.80E+00	0.00E+00	1.19E+00	1.90E+01	4.49E+01	4.24E-01	1.5%
Explosives										
1,3,5-Trinitrobenzene	5.50E-02	1.00E+00	1.71E-03	1.00E+00	0.00E+00	3.41E-05	1.74E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.4%
2,4,6-Trinitrotoluene	3.39E-01	1.00E+00	1.05E-02	1.00E+00	0.00E+00	2.10E-04	1.07E-02	4.49E-01	2.39E-02	0.1%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.12E-05	5.00E-02	0.00E+00	8.12E-05	1.62E-04	1.96E-01	8.27E-04	0.0%
2-Nitrotoluene	1.20E-01	1.00E+00	3.72E-03	1.00E+00	0.00E+00	7.44E-05	3.79E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.40E-01	1.00E+00	4.34E-03	1.00E+00	0.00E+00	8.68E-05	4.43E-03	4.31E-01	1.03E-02	0.0%
Nitrobenzene	1.31E-01	2.00E-02	8.12E-05	5.00E-02	0.00E+00	8.12E-05	1.62E-04	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	3.10E-02	1.00E+00	0.00E+00	6.20E-04	3.16E-02	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	3.88E-02	1.00E+00	0.00E+00	7.75E-04	3.95E-02	No TRV	No TRV	No HQ
RDX	5.45E-01	1.00E+00	1.69E-02	1.00E+00	0.00E+00	3.38E-04	1.72E-02	1.11E+00	1.55E-02	0.1%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
									HI =	2.88E+01

Appendix Table L-484 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-485. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.17E+04	1.30E-04	0.00E+00	8.00E-04	6.81E-01	7.50E-02	4.27E+02	8.51E+02	1.28E+03
Antimony	6.01E-01	6.00E-03	0.00E+00	4.00E-02	1.75E-03	5.00E-02	1.46E-02	4.37E-02	6.01E-02
Arsenic	1.41E+01	1.20E-03	0.00E+00	8.00E-03	8.20E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00
Barium	2.55E+02	3.00E-03	0.00E+00	3.00E-02	5.56E-01	7.50E-03	9.31E-01	1.85E+01	2.00E+01
Beryllium	2.71E-01	3.00E-04	0.00E+00	2.00E-03	3.94E-05	5.00E-02	6.59E-03	1.97E-02	2.63E-02
Cadmium	5.26E+01	3.00E-02	0.00E+00	1.10E-01	4.21E-01	1.10E+01	2.82E+02	3.83E+00	2.86E+02
Calcium	1.01E+04	7.00E-02	0.00E+00	7.00E-01	5.15E+02	1.00E+00	4.92E+03	7.35E+02	6.17E+03
Chromium	2.91E+01	9.00E-04	0.00E+00	1.50E-03	3.17E-03	1.60E-01	2.27E+00	2.12E+00	4.38E+00
Cobalt	9.75E+00	1.40E-03	0.00E+00	4.00E-03	2.84E-03	1.00E+00	4.75E+00	7.10E-01	5.46E+00
Copper	4.87E+02	5.00E-02	0.00E+00	8.00E-02	2.84E+00	1.60E-01	3.80E+01	3.55E+01	7.63E+01
Cyanide	3.21E-01	1.00E+00	0.00E+00	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.67E-02
Iron	2.62E+04	2.00E-04	0.00E+00	8.00E-04	1.52E+00	1.00E+00	1.27E+04	1.90E+03	1.47E+04
Lead	3.93E+02	1.80E-03	0.00E+00	9.00E-03	2.57E-01	2.00E+00	3.83E+02	2.86E+01	4.12E+02
Magnesium	3.36E+03	1.10E-01	0.00E+00	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.44E+02	1.93E+03
Mercury	6.81E-02	4.00E-02	0.00E+00	1.80E-01	8.92E-04	3.40E-01	1.13E-02	4.95E-03	1.71E-02
Nickel	7.58E+01	1.20E-02	0.00E+00	1.20E-02	6.62E-02	2.30E-01	8.49E+00	5.52E+00	1.41E+01
Potassium	1.40E+03	1.10E-01	0.00E+00	2.00E-01	2.04E+01	1.00E+00	6.82E+02	1.02E+02	8.04E+02
Selenium	2.39E+00	5.00E-03	0.00E+00	5.00E-03	8.69E-04	7.60E-01	8.84E-01	1.74E-01	1.06E+00
Silver	6.93E-01	2.00E-02	0.00E+00	8.00E-02	4.04E-03	1.50E-01	5.07E-02	5.05E-02	1.05E-01
Sodium	1.08E+02	1.10E-02	0.00E+00	1.50E-02	1.18E-01	1.00E+00	5.26E+01	7.86E+00	6.06E+01
Thallium	3.21E-01	8.00E-05	0.00E+00	8.00E-04	1.87E-05	1.00E+00	1.56E-01	2.33E-02	1.80E-01
Zinc	1.92E+03	1.80E-01	0.00E+00	3.00E-01	4.19E+01	1.80E+00	1.68E+03	1.40E+02	1.87E+03
Explosives									
1,3,5-Trinitrobenzene	5.50E-02	1.00E+00	0.00E+00	1.00E+00	4.00E-03	1.00E+00	2.68E-02	4.00E-03	3.48E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.39E-01	1.00E+00	0.00E+00	1.00E+00	2.47E-02	1.00E+00	1.65E-01	2.47E-02	2.15E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	1.20E-01	1.00E+00	0.00E+00	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.40E-01	1.00E+00	0.00E+00	1.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02
Nitrobenzene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
Nitrocellulose	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	5.45E-01	1.00E+00	0.00E+00	1.00E+00	3.97E-02	1.00E+00	2.66E-01	3.97E-02	3.45E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

Appendix Table L-485. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.71E+02	1.88E+01	0.00E+00	1.88E+01	6.68E+01	2.82E-01	0.2%
Antimony	5.00E-02	5.37E-03	5.91E-04	0.00E+00	5.91E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.93E-01	2.12E-02	0.00E+00	2.12E-02	4.98E+00	4.25E-03	0.0%
Barium	7.50E-03	2.68E-01	2.95E-02	0.00E+00	2.95E-02	1.19E+01	2.48E-03	0.0%
Beryllium	5.00E-02	2.35E-03	2.59E-04	0.00E+00	2.59E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.43E+01	1.57E+00	0.00E+00	1.57E+00	1.46E+00	1.08E+00	0.9%
Calcium	1.00E+00	1.10E+04	1.21E+03	0.00E+00	1.21E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.19E+00	2.41E-01	0.00E+00	2.41E-01	1.03E+00	2.35E-01	0.2%
Cobalt	1.00E+00	9.76E+00	1.07E+00	0.00E+00	1.07E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	6.81E+01	7.49E+00	0.00E+00	7.49E+00	3.89E+01	1.92E-01	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.62E+04	2.88E+03	0.00E+00	2.88E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.10E+01	1.21E+00	0.00E+00	1.21E+00	6.82E-01	1.78E+00	1.6%
Magnesium	1.00E+00	3.45E+03	3.79E+02	0.00E+00	3.79E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.97E-01	4.37E-02	0.00E+00	4.37E-02	2.72E-01	1.61E-01	0.1%
Nickel	3.00E-01	7.54E+00	8.29E-01	0.00E+00	8.29E-01	7.06E+01	1.17E-02	0.0%
Potassium	1.00E+00	1.44E+03	1.58E+02	0.00E+00	1.58E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.42E+00	1.56E-01	0.00E+00	1.56E-01	4.85E-01	3.22E-01	0.3%
Silver	1.50E-01	2.82E-02	3.10E-03	0.00E+00	3.10E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.08E+02	1.19E+01	0.00E+00	1.19E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.21E-01	3.53E-02	0.00E+00	3.53E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.67E+04	1.83E+03	0.00E+00	1.83E+03	1.66E+01	1.11E+02	96.4%
1,3,5-Trinitrobenzene	1.00E+00	6.22E-02	6.84E-03	0.00E+00	6.84E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.83E-01	4.21E-02	0.00E+00	4.21E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	4.82E-07	0.00E+00	4.82E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.36E-01	1.49E-02	0.00E+00	1.49E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.58E-01	1.74E-02	0.00E+00	1.74E-02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.77E-06	3.05E-07	0.00E+00	3.05E-07	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.13E+00	1.24E-01	0.00E+00	1.24E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.55E-01	0.00E+00	1.55E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	6.16E-01	6.77E-02	0.00E+00	6.77E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ

Appendix Table L-485. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-485. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
HI = 1.15E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-486. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.17E+04	1.30E-04	0.00E+00	8.00E-04	6.81E-01	7.50E-02	4.27E+02	8.51E+02	1.28E+03
Antimony	6.01E-01	6.00E-03	0.00E+00	4.00E-02	1.75E-03	5.00E-02	1.46E-02	4.37E-02	6.01E-02
Arsenic	1.41E+01	1.20E-03	0.00E+00	8.00E-03	8.20E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00
Barium	2.55E+02	3.00E-03	0.00E+00	3.00E-02	5.56E-01	7.50E-03	9.31E-01	1.85E+01	2.00E+01
Beryllium	2.71E-01	3.00E-04	0.00E+00	2.00E-03	3.94E-05	5.00E-02	6.59E-03	1.97E-02	2.63E-02
Cadmium	5.26E+01	3.00E-02	0.00E+00	1.10E-01	4.21E-01	1.10E+01	2.82E+02	3.83E+00	2.86E+02
Calcium	1.01E+04	7.00E-02	0.00E+00	7.00E-01	5.15E+02	1.00E+00	4.92E+03	7.35E+02	6.17E+03
Chromium	2.91E+01	9.00E-04	0.00E+00	1.50E-03	3.17E-03	1.60E-01	2.27E+00	2.12E+00	4.38E+00
Cobalt	9.75E+00	1.40E-03	0.00E+00	4.00E-03	2.84E-03	1.00E+00	4.75E+00	7.10E-01	5.46E+00
Copper	4.87E+02	5.00E-02	0.00E+00	8.00E-02	2.84E+00	1.60E-01	3.80E+01	3.55E+01	7.63E+01
Cyanide	3.21E-01	1.00E+00	0.00E+00	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.67E-02
Iron	2.62E+04	2.00E-04	0.00E+00	8.00E-04	1.52E+00	1.00E+00	1.27E+04	1.90E+03	1.47E+04
Lead	3.93E+02	1.80E-03	0.00E+00	9.00E-03	2.57E-01	2.00E+00	3.83E+02	2.86E+01	4.12E+02
Magnesium	3.36E+03	1.10E-01	0.00E+00	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.44E+02	1.93E+03
Mercury	6.81E-02	4.00E-02	0.00E+00	1.80E-01	8.92E-04	3.40E-01	1.13E-02	4.95E-03	1.71E-02
Nickel	7.58E+01	1.20E-02	0.00E+00	1.20E-02	6.62E-02	2.30E-01	8.49E+00	5.52E+00	1.41E+01
Potassium	1.40E+03	1.10E-01	0.00E+00	2.00E-01	2.04E+01	1.00E+00	6.82E+02	1.02E+02	8.04E+02
Selenium	2.39E+00	5.00E-03	0.00E+00	5.00E-03	8.69E-04	7.60E-01	8.84E-01	1.74E-01	1.06E+00
Silver	6.93E-01	2.00E-02	0.00E+00	8.00E-02	4.04E-03	1.50E-01	5.07E-02	5.05E-02	1.05E-01
Sodium	1.08E+02	1.10E-02	0.00E+00	1.50E-02	1.18E-01	1.00E+00	5.26E+01	7.86E+00	6.06E+01
Thallium	3.21E-01	8.00E-05	0.00E+00	8.00E-04	1.87E-05	1.00E+00	1.56E-01	2.33E-02	1.80E-01
Zinc	1.92E+03	1.80E-01	0.00E+00	3.00E-01	4.19E+01	1.80E+00	1.68E+03	1.40E+02	1.87E+03
Explosives									
1,3,5-Trinitrobenzene	5.50E-02	1.00E+00	0.00E+00	1.00E+00	4.00E-03	1.00E+00	2.68E-02	4.00E-03	3.48E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.39E-01	1.00E+00	0.00E+00	1.00E+00	2.47E-02	1.00E+00	1.65E-01	2.47E-02	2.15E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	1.20E-01	1.00E+00	0.00E+00	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.40E-01	1.00E+00	0.00E+00	1.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02
Nitrobenzene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
Nitrocellulose	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	5.45E-01	1.00E+00	0.00E+00	1.00E+00	3.97E-02	1.00E+00	2.66E-01	3.97E-02	3.45E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

Appendix Table L-486. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.71E+02	2.14E+01	0.00E+00	2.14E+01	8.33E+01	2.57E-01	0.2%
Antimony	5.00E-02	5.37E-03	6.71E-04	0.00E+00	6.71E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.93E-01	2.41E-02	0.00E+00	2.41E-02	6.22E+00	3.87E-03	0.0%
Barium	7.50E-03	2.68E-01	3.35E-02	0.00E+00	3.35E-02	1.49E+01	2.26E-03	0.0%
Beryllium	5.00E-02	2.35E-03	2.94E-04	0.00E+00	2.94E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.43E+01	1.79E+00	0.00E+00	1.79E+00	1.82E+00	9.83E-01	0.9%
Calcium	1.00E+00	1.10E+04	1.38E+03	0.00E+00	1.38E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.19E+00	2.74E-01	0.00E+00	2.74E-01	1.28E+00	2.14E-01	0.2%
Cobalt	1.00E+00	9.76E+00	1.22E+00	0.00E+00	1.22E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	6.81E+01	8.51E+00	0.00E+00	8.51E+00	4.86E+01	1.75E-01	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.62E+04	3.27E+03	0.00E+00	3.27E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.10E+01	1.38E+00	0.00E+00	1.38E+00	8.51E-01	1.62E+00	1.6%
Magnesium	1.00E+00	3.45E+03	4.31E+02	0.00E+00	4.31E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.97E-01	4.97E-02	0.00E+00	4.97E-02	3.39E-01	1.47E-01	0.1%
Nickel	3.00E-01	7.54E+00	9.42E-01	0.00E+00	9.42E-01	8.81E+01	1.07E-02	0.0%
Potassium	1.00E+00	1.44E+03	1.80E+02	0.00E+00	1.80E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.42E+00	1.77E-01	0.00E+00	1.77E-01	6.05E-01	2.93E-01	0.3%
Silver	1.50E-01	2.82E-02	3.52E-03	0.00E+00	3.52E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.08E+02	1.35E+01	0.00E+00	1.35E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.21E-01	4.01E-02	0.00E+00	4.01E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.67E+04	2.08E+03	0.00E+00	2.08E+03	2.07E+01	1.01E+02	96.4%
1,3,5-Trinitrobenzen	1.00E+00	6.22E-02	7.77E-03	0.00E+00	7.77E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.83E-01	4.79E-02	0.00E+00	4.79E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	5.48E-07	0.00E+00	5.48E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.36E-01	1.70E-02	0.00E+00	1.70E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.58E-01	1.98E-02	0.00E+00	1.98E-02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.77E-06	3.46E-07	0.00E+00	3.46E-07	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.13E+00	1.41E-01	0.00E+00	1.41E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.77E-01	0.00E+00	1.77E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	6.16E-01	7.70E-02	0.00E+00	7.70E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ

Appendix Table L-486. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-486. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
HI =							1.04E+02	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-487. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.17E+04	1.30E-04	4.82E-03	8.00E-04	6.81E-01	7.50E-02	4.27E+02	8.51E+02	1.28E+03
Antimony	6.01E-01	6.00E-03	1.14E-05	4.00E-02	1.75E-03	5.00E-02	1.46E-02	4.37E-02	6.01E-02
Arsenic	1.41E+01	1.20E-03	5.36E-05	8.00E-03	8.20E-03	6.60E-03	4.53E-02	1.03E+00	1.08E+00
Barium	2.55E+02	3.00E-03	2.43E-03	3.00E-02	5.56E-01	7.50E-03	9.31E-01	1.85E+01	2.00E+01
Beryllium	2.71E-01	3.00E-04	2.58E-07	2.00E-03	3.94E-05	5.00E-02	6.59E-03	1.97E-02	2.63E-02
Cadmium	5.26E+01	3.00E-02	5.01E-03	1.10E-01	4.21E-01	1.10E+01	2.82E+02	3.83E+00	2.86E+02
Calcium	1.01E+04	7.00E-02	2.24E+00	7.00E-01	5.15E+02	1.00E+00	4.92E+03	7.35E+02	6.17E+03
Chromium	2.91E+01	9.00E-04	8.30E-05	1.50E-03	3.17E-03	1.60E-01	2.27E+00	2.12E+00	4.38E+00
Cobalt	9.75E+00	1.40E-03	4.33E-05	4.00E-03	2.84E-03	1.00E+00	4.75E+00	7.10E-01	5.46E+00
Copper	4.87E+02	5.00E-02	7.73E-02	8.00E-02	2.84E+00	1.60E-01	3.80E+01	3.55E+01	7.63E+01
Cyanide	3.21E-01	1.00E+00	1.02E-03	1.00E+00	2.33E-02	0.00E+00	0.00E+00	2.33E-02	4.67E-02
Iron	2.62E+04	2.00E-04	1.66E-02	8.00E-04	1.52E+00	1.00E+00	1.27E+04	1.90E+03	1.47E+04
Lead	3.93E+02	1.80E-03	2.25E-03	9.00E-03	2.57E-01	2.00E+00	3.83E+02	2.86E+01	4.12E+02
Magnesium	3.36E+03	1.10E-01	1.17E+00	2.00E-01	4.89E+01	1.00E+00	1.64E+03	2.44E+02	1.93E+03
Mercury	6.81E-02	4.00E-02	8.64E-06	1.80E-01	8.92E-04	3.40E-01	1.13E-02	4.95E-03	1.71E-02
Nickel	7.58E+01	1.20E-02	2.89E-03	1.20E-02	6.62E-02	2.30E-01	8.49E+00	5.52E+00	1.41E+01
Potassium	1.40E+03	1.10E-01	4.89E-01	2.00E-01	2.04E+01	1.00E+00	6.82E+02	1.02E+02	8.04E+02
Selenium	2.39E+00	5.00E-03	3.79E-05	5.00E-03	8.69E-04	7.60E-01	8.84E-01	1.74E-01	1.06E+00
Silver	6.93E-01	2.00E-02	4.40E-05	8.00E-02	4.04E-03	1.50E-01	5.07E-02	5.05E-02	1.05E-01
Sodium	1.08E+02	1.10E-02	3.77E-03	1.50E-02	1.18E-01	1.00E+00	5.26E+01	7.86E+00	6.06E+01
Thallium	3.21E-01	8.00E-05	8.14E-08	8.00E-04	1.87E-05	1.00E+00	1.56E-01	2.33E-02	1.80E-01
Zinc	1.92E+03	1.80E-01	1.10E+00	3.00E-01	4.19E+01	1.80E+00	1.68E+03	1.40E+02	1.87E+03
Explosives									
1,3,5-Trinitrobenzene	5.50E-02	1.00E+00	1.75E-04	1.00E+00	4.00E-03	1.00E+00	2.68E-02	4.00E-03	3.48E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.39E-01	1.00E+00	1.08E-03	1.00E+00	2.47E-02	1.00E+00	1.65E-01	2.47E-02	2.15E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.32E-06	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	1.20E-01	1.00E+00	3.81E-04	1.00E+00	8.74E-03	1.00E+00	5.85E-02	8.74E-03	7.59E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.40E-01	1.00E+00	4.44E-04	1.00E+00	1.02E-02	1.00E+00	6.82E-02	1.02E-02	8.86E-02
Nitrobenzene	1.31E-01	2.00E-02	8.32E-06	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
Nitrocellulose	1.00E+00	1.00E+00	3.17E-03	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01

Appendix Table L-487. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.71E+02	1.13E+01	2.26E+01	3.39E+01	5.46E-01	6.20E+01	71.7%
Antimony	5.00E-02	5.37E-03	3.53E-04	1.16E-03	1.53E-03	3.54E-02	4.32E-02	0.0%
Arsenic	1.00E-01	1.93E-01	1.27E-02	2.72E-02	3.99E-02	3.56E-02	1.12E+00	1.3%
Barium	7.50E-03	2.68E-01	1.77E-02	4.92E-01	5.12E-01	2.79E+00	1.83E-01	0.2%
Beryllium	5.00E-02	2.35E-03	1.55E-04	5.23E-04	6.78E-04	3.45E-01	1.96E-03	0.0%
Cadmium	2.80E-02	1.43E+01	9.42E-01	1.02E-01	1.05E+00	5.04E-01	2.08E+00	2.4%
Calcium	1.00E+00	1.10E+04	7.25E+02	1.95E+01	7.47E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.19E+00	1.44E-01	5.61E-02	2.01E-01	1.43E+03	1.40E-04	0.0%
Cobalt	1.00E+00	9.76E+00	6.42E-01	1.88E-02	6.61E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	6.81E+01	4.48E+00	9.41E-01	5.50E+00	7.96E+00	6.91E-01	0.8%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.19E-04	1.64E-03	3.37E+01	4.85E-05	0.0%
Iron	1.00E+00	2.62E+04	1.72E+03	5.05E+01	1.77E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.10E+01	7.26E-01	7.59E-01	1.49E+00	4.18E+00	3.56E-01	0.4%
Magnesium	1.00E+00	3.45E+03	2.27E+02	6.49E+00	2.34E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	3.97E-01	2.62E-02	1.31E-04	2.63E-02	6.86E-01	3.83E-02	0.0%
Nickel	3.00E-01	7.54E+00	4.96E-01	1.46E-01	6.46E-01	2.09E+01	3.09E-02	0.0%
Potassium	1.00E+00	1.44E+03	9.46E+01	2.70E+00	9.77E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	1.42E+00	9.33E-02	4.61E-03	9.80E-02	1.05E-01	9.37E-01	1.1%
Silver	1.50E-01	2.82E-02	1.85E-03	1.34E-03	3.24E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.08E+02	7.12E+00	2.09E-01	7.34E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.21E-01	2.11E-02	6.19E-04	2.17E-02	3.91E-03	5.56E+00	6.4%
Zinc	5.00E+00	1.67E+04	1.10E+03	3.71E+00	1.10E+03	8.36E+01	1.32E+01	15.2%
1,3,5-Trinitrobenzene	1.00E+00	6.22E-02	4.09E-03	1.06E-04	4.37E-03	1.68E+00	2.60E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	3.83E-01	2.52E-02	6.55E-04	2.69E-02	8.36E-01	3.22E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.38E-06	2.89E-07	2.53E-04	2.62E-04	3.66E-01	7.15E-04	0.0%
2-Nitrotoluene	1.00E+00	1.36E-01	8.93E-03	2.32E-04	9.54E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.58E-01	1.04E-02	2.70E-04	1.11E-02	8.02E-01	1.39E-02	0.0%
Nitrobenzene	1.20E-04	2.77E-06	1.82E-07	2.53E-04	2.62E-04	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.13E+00	7.44E-02	1.93E-03	7.95E-02	No TRV	No TRV	No HQ

Appendix Table L-487. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 61

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Nitroglycerin	1.25E+00	1.00E+00	3.97E-03	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	5.45E-01	1.00E+00	1.73E-03	1.00E+00	3.97E-02	1.00E+00	2.66E-01	3.97E-02	3.45E-01
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-487. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADD_S (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Nitroglycerin	1.00E+00	1.41E+00	9.30E-02	2.42E-03	9.94E-02	No TRV	No TRV	No HQ
RDX	1.00E+00	6.16E-01	4.05E-02	1.05E-03	4.33E-02	2.07E+00	2.09E-02	0.0%
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
HI = 8.65E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-488. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.25E+04	5.00E+01	2.49E+02	75.5%
Antimony	1.36E+00	5.00E+00	2.72E-01	0.1%
Arsenic	1.22E+01	1.00E+01	1.22E+00	0.4%
Barium	2.63E+02	5.00E+02	5.25E-01	0.2%
Beryllium	9.70E-01	1.00E+01	9.70E-02	0.0%
Cadmium	7.80E+00	5.00E-01	1.56E+01	4.7%
Calcium	4.10E+04	No TRV	No TRV	No HQ
Chromium	2.20E+01	1.00E+00	2.20E+01	6.7%
Cobalt	8.60E+00	2.00E+01	4.30E-01	0.1%
Copper	1.32E+02	1.00E+02	1.32E+00	0.4%
Cyanide	3.44E-01	No TRV	No TRV	No HQ
Iron	2.50E+04	No TRV	No TRV	No HQ
Lead	4.81E+02	5.00E+01	9.62E+00	2.9%
Magnesium	4.80E+03	No TRV	No TRV	No HQ
Mercury	7.32E-02	3.00E-01	2.44E-01	0.1%
Nickel	2.23E+01	3.00E+01	7.44E-01	0.2%
Potassium	1.58E+03	No TRV	No TRV	No HQ
Selenium	1.18E+00	1.00E+00	1.18E+00	0.4%
Silver	5.80E-01	2.00E+00	2.90E-01	0.1%
Sodium	2.72E+02	No TRV	No TRV	No HQ
Thallium	3.44E-01	1.00E+00	3.44E-01	0.1%
Zinc	1.19E+03	5.00E+01	2.38E+01	7.2%
Explosives				
1,3,5-Trinitrobenzene	4.90E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.02E+01	3.00E+01	1.01E+00	0.3%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	3.80E+01	No TRV	No TRV	No HQ
Nitrobenzene	1.31E-01	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	2.26E+02	1.00E+02	2.26E+00	0.7%
Tetryl	2.30E-01	2.50E+01	9.20E-03	0.0%
HI =			3.30E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-488. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
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**Appendix Table L-489. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 62**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.25E+04	No TRV	No TRV	No HQ
Antimony	1.36E+00	No TRV	No TRV	No HQ
Arsenic	1.22E+01	6.00E+01	2.04E-01	0.3%
Barium	2.63E+02	No TRV	No TRV	No HQ
Beryllium	9.70E-01	No TRV	No TRV	No HQ
Cadmium	7.80E+00	2.00E+01	3.90E-01	0.6%
Calcium	4.10E+04	No TRV	No TRV	No HQ
Chromium	2.20E+01	4.00E-01	5.51E+01	84.0%
Cobalt	8.60E+00	No TRV	No TRV	No HQ
Copper	1.32E+02	5.00E+01	2.64E+00	4.0%
Cyanide	3.44E-01	No TRV	No TRV	No HQ
Iron	2.50E+04	No TRV	No TRV	No HQ
Lead	4.81E+02	5.00E+02	9.62E-01	1.5%
Magnesium	4.80E+03	No TRV	No TRV	No HQ
Mercury	7.32E-02	No TRV	No TRV	No HQ
Nickel	2.23E+01	2.00E+02	1.12E-01	0.2%
Potassium	1.58E+03	No TRV	No TRV	No HQ
Selenium	1.18E+00	No TRV	No TRV	No HQ
Silver	5.80E-01	No TRV	No TRV	No HQ
Sodium	2.72E+02	No TRV	No TRV	No HQ
Thallium	3.44E-01	No TRV	No TRV	No HQ
Zinc	1.19E+03	2.00E+02	5.95E+00	9.1%
Explosives				
1,3,5-Trinitrobenzene	4.90E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.02E+01	1.40E+02	2.16E-01	0.3%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	3.80E+01	No TRV	No TRV	No HQ
Nitrobenzene	1.31E-01	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	2.26E+02	No TRV	No TRV	No HQ
Tetryl	2.30E-01	No TRV	No TRV	No HQ
HI =				6.55E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-490. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	8.00E-04	7.26E-01	7.50E-02	4.55E+02	9.07E+02	1.36E+03	2.22E+00	6.13E+02	85.1%
Antimony	1.36E+00	4.00E-02	3.96E-03	5.00E-02	3.31E-02	9.90E-02	1.36E-01	1.44E-01	9.45E-01	0.1%
Arsenic	1.22E+01	8.00E-03	7.11E-03	6.60E-03	3.93E-02	8.89E-01	9.35E-01	1.45E-01	6.44E+00	0.9%
Barium	2.63E+02	3.00E-02	5.74E-01	7.50E-03	9.60E-01	1.91E+01	2.07E+01	1.14E+01	1.82E+00	0.3%
Beryllium	9.70E-01	2.00E-03	1.41E-04	5.00E-02	2.36E-02	7.06E-02	9.44E-02	1.41E+00	6.71E-02	0.0%
Cadmium	7.80E+00	1.10E-01	6.25E-02	1.10E+01	4.18E+01	5.68E-01	4.24E+01	2.05E+00	2.07E+01	2.9%
Calcium	4.10E+04	7.00E-01	2.09E+03	1.00E+00	2.00E+04	2.98E+03	2.50E+04	No TRV	No TRV	No HQ
Chromium	2.20E+01	1.50E-03	2.41E-03	1.60E-01	1.72E+00	1.60E+00	3.32E+00	5.83E+03	5.70E-04	0.0%
Cobalt	8.60E+00	4.00E-03	2.50E-03	1.00E+00	4.19E+00	6.26E-01	4.82E+00	No TRV	No TRV	No HQ
Copper	1.32E+02	8.00E-02	7.69E-01	1.60E-01	1.03E+01	9.61E+00	2.07E+01	3.24E+01	6.37E-01	0.1%
Cyanide	3.44E-01	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	5.01E-02	1.38E+02	3.64E-04	0.0%
Iron	2.50E+04	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.82E+03	1.40E+04	No TRV	No TRV	No HQ
Lead	4.81E+02	9.00E-03	3.15E-01	2.00E+00	4.69E+02	3.50E+01	5.04E+02	1.70E+01	2.96E+01	4.1%
Magnesium	4.80E+03	2.00E-01	6.99E+01	1.00E+00	2.34E+03	3.49E+02	2.76E+03	No TRV	No TRV	No HQ
Mercury	7.32E-02	1.80E-01	9.59E-04	3.40E-01	1.21E-02	5.33E-03	1.84E-02	2.80E+00	6.58E-03	0.0%
Nickel	2.23E+01	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.15E+00	8.52E+01	4.87E-02	0.0%
Potassium	1.58E+03	2.00E-01	2.30E+01	1.00E+00	7.71E+02	1.15E+02	9.09E+02	No TRV	No TRV	No HQ
Selenium	1.18E+00	5.00E-03	4.29E-04	7.60E-01	4.36E-01	8.58E-02	5.22E-01	4.26E-01	1.23E+00	0.2%
Silver	5.80E-01	8.00E-02	3.38E-03	1.50E-01	4.24E-02	4.22E-02	8.80E-02	No TRV	No TRV	No HQ
Sodium	2.72E+02	1.50E-02	2.97E-01	1.00E+00	1.33E+02	1.98E+01	1.53E+02	No TRV	No TRV	No HQ
Thallium	3.44E-01	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.93E-01	1.59E-02	1.21E+01	1.7%
Zinc	1.19E+03	3.00E-01	2.60E+01	1.80E+00	1.04E+03	8.66E+01	1.16E+03	3.41E+02	3.39E+00	0.5%
Explosives										
1,3,5-Trinitrobenzene	4.90E-01	1.00E+00	3.57E-02	1.00E+00	2.39E-01	3.57E-02	3.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	3.02E+01	1.00E+00	2.20E+00	1.00E+00	1.47E+01	2.20E+00	1.91E+01	3.41E+00	5.61E+00	0.8%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02	1.49E+00	8.66E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	3.80E+01	1.00E+00	2.77E+00	1.00E+00	1.85E+01	2.77E+00	2.40E+01	3.27E+00	7.35E+00	1.0%
Nitrobenzene	1.31E-01	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01	No TRV	No TRV	No HQ
RDX	2.26E+02	1.00E+00	1.65E+01	1.00E+00	1.10E+02	1.65E+01	1.43E+02	8.44E+00	1.69E+01	2.4%
Tetryl	2.30E-01	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01	2.57E+00	5.67E-02	0.0%
								HI =	7.20E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-491. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	1.30E-04	1.23E+00	7.50E-02	7.10E+02	1.97E+03	2.68E+03	1.29E+02	2.07E+01	2.9%
Antimony	1.36E+00	6.00E-03	6.20E-03	5.00E-02	5.17E-02	2.15E-01	2.73E-01	No TRV	No TRV	No HQ
Arsenic	1.22E+01	1.20E-03	1.11E-02	6.60E-03	6.12E-02	1.93E+00	2.00E+00	9.66E+00	2.07E-01	0.0%
Barium	2.63E+02	3.00E-03	5.99E-01	7.50E-03	1.50E+00	4.15E+01	4.36E+01	2.31E+01	1.89E+00	0.3%
Beryllium	9.70E-01	3.00E-04	2.21E-04	5.00E-02	3.69E-02	1.53E-01	1.90E-01	No TRV	No TRV	No HQ
Cadmium	7.80E+00	3.00E-02	1.78E-01	1.10E+01	6.52E+01	1.23E+00	6.66E+01	2.83E+00	2.36E+01	3.3%
Calcium	4.10E+04	7.00E-02	2.18E+03	1.00E+00	3.12E+04	6.48E+03	3.98E+04	No TRV	No TRV	No HQ
Chromium	2.20E+01	9.00E-04	1.51E-02	1.60E-01	2.68E+00	3.48E+00	6.18E+00	1.99E+00	3.11E+00	0.4%
Cobalt	8.60E+00	1.40E-03	9.15E-03	1.00E+00	6.34E+00	1.36E+00	7.90E+00	No TRV	No TRV	No HQ
Copper	1.32E+02	5.00E-02	5.02E+00	1.60E-01	1.61E+01	2.09E+01	4.19E+01	7.55E+01	5.55E-01	0.1%
Cyanide	3.44E-01	1.00E+00	2.61E-01	0.00E+00	0.00E+00	5.43E-02	3.16E-01	No TRV	No TRV	No HQ
Iron	2.50E+04	2.00E-04	3.80E+00	1.00E+00	1.90E+04	3.95E+03	2.30E+04	No TRV	No TRV	No HQ
Lead	4.81E+02	1.80E-03	6.58E-01	2.00E+00	7.31E+02	7.60E+01	8.08E+02	1.32E+00	6.11E+02	84.4%
Magnesium	4.80E+03	1.10E-01	4.01E+02	1.00E+00	3.65E+03	7.58E+02	4.81E+03	No TRV	No TRV	No HQ
Mercury	7.32E-02	4.00E-02	2.23E-03	3.40E-01	1.89E-02	1.16E-02	3.27E-02	5.27E-01	6.21E-02	0.0%
Nickel	2.23E+01	1.20E-02	2.04E-01	2.30E-01	3.90E+00	3.53E+00	7.63E+00	1.37E+02	5.58E-02	0.0%
Potassium	1.58E+03	1.10E-01	1.32E+02	1.00E+00	1.20E+03	2.50E+02	1.58E+03	No TRV	No TRV	No HQ
Selenium	1.18E+00	5.00E-03	4.48E-03	7.60E-01	6.80E-01	1.86E-01	8.71E-01	9.40E-01	9.27E-01	0.1%
Silver	5.80E-01	2.00E-02	8.82E-03	1.50E-01	6.61E-02	9.17E-02	1.67E-01	No TRV	No TRV	No HQ
Sodium	2.72E+02	1.10E-02	2.27E+00	1.00E+00	2.07E+02	4.30E+01	2.52E+02	No TRV	No TRV	No HQ
Thallium	3.44E-01	8.00E-05	2.09E-05	1.00E+00	2.61E-01	5.43E-02	3.16E-01	No TRV	No TRV	No HQ
Zinc	1.19E+03	1.80E-01	1.63E+02	1.80E+00	1.63E+03	1.88E+02	1.98E+03	3.21E+01	6.15E+01	8.5%
Explosives										
1,3,5-Trinitrobenzene	4.90E-01	1.00E+00	3.72E-01	1.00E+00	3.72E-01	7.75E-02	8.22E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.02E+01	1.00E+00	2.30E+01	1.00E+00	2.30E+01	4.77E+00	5.07E+01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.99E-03	5.00E-02	4.98E-03	2.07E-02	2.77E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	3.80E+01	1.00E+00	2.89E+01	1.00E+00	2.89E+01	6.01E+00	6.38E+01	No TRV	No TRV	No HQ
Nitrobenzene	1.31E-01	2.00E-02	1.99E-03	5.00E-02	4.98E-03	2.07E-02	2.77E-02	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	7.60E-01	1.00E+00	7.60E-01	1.58E-01	1.68E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	9.50E-01	1.00E+00	9.50E-01	1.98E-01	2.10E+00	No TRV	No TRV	No HQ
RDX	2.26E+02	1.00E+00	1.72E+02	1.00E+00	1.72E+02	3.57E+01	3.79E+02	No TRV	No TRV	No HQ
Tetryl	2.30E-01	1.00E+00	1.75E-01	1.00E+00	1.75E-01	3.64E-02	3.86E-01	No TRV	No TRV	No HQ
									HI =	7.24E+02

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/c/ 7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/c/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-492. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	8.00E-04	2.04E+00	7.50E-02	0.00E+00	1.61E+02	1.63E+02	7.63E-01	2.14E+02	84.4%
Antimony	1.36E+00	4.00E-02	1.12E-02	5.00E-02	0.00E+00	1.76E-02	2.87E-02	4.94E-02	5.81E-01	0.2%
Arsenic	1.22E+01	8.00E-03	2.00E-02	6.60E-03	0.00E+00	1.58E-01	1.78E-01	4.98E-02	3.57E+00	1.4%
Barium	2.63E+02	3.00E-02	1.62E+00	7.50E-03	0.00E+00	3.39E+00	5.01E+00	3.90E+00	1.28E+00	0.5%
Beryllium	9.70E-01	2.00E-03	3.98E-04	5.00E-02	0.00E+00	1.25E-02	1.29E-02	4.82E-01	2.68E-02	0.0%
Cadmium	7.80E+00	1.10E-01	1.76E-01	1.10E+01	0.00E+00	1.01E-01	2.77E-01	7.05E-01	3.93E-01	0.2%
Calcium	4.10E+04	7.00E-01	5.88E+03	1.00E+00	0.00E+00	5.30E+02	6.41E+03	No TRV	No TRV	No HQ
Chromium	2.20E+01	1.50E-03	6.77E-03	1.60E-01	0.00E+00	2.85E-01	2.91E-01	2.00E+03	1.46E-04	0.0%
Cobalt	8.60E+00	4.00E-03	7.05E-03	1.00E+00	0.00E+00	1.11E-01	1.18E-01	No TRV	No TRV	No HQ
Copper	1.32E+02	8.00E-02	2.16E+00	1.60E-01	0.00E+00	1.70E+00	3.87E+00	1.11E+01	3.48E-01	0.1%
Cyanide	3.44E-01	1.00E+00	7.05E-02	0.00E+00	0.00E+00	4.44E-03	7.49E-02	4.72E+01	1.59E-03	0.0%
Iron	2.50E+04	8.00E-04	4.10E+00	1.00E+00	0.00E+00	3.23E+02	3.27E+02	No TRV	No TRV	No HQ
Lead	4.81E+02	9.00E-03	8.87E-01	2.00E+00	0.00E+00	6.21E+00	7.10E+00	5.84E+00	1.22E+00	0.5%
Magnesium	4.80E+03	2.00E-01	1.97E+02	1.00E+00	0.00E+00	6.20E+01	2.59E+02	No TRV	No TRV	No HQ
Mercury	7.32E-02	1.80E-01	2.70E-03	3.40E-01	0.00E+00	9.45E-04	3.65E-03	9.59E-01	3.80E-03	0.0%
Nickel	2.23E+01	1.20E-02	5.49E-02	2.30E-01	0.00E+00	2.88E-01	3.43E-01	2.92E+01	1.17E-02	0.0%
Potassium	1.58E+03	2.00E-01	6.49E+01	1.00E+00	0.00E+00	2.04E+01	8.53E+01	No TRV	No TRV	No HQ
Selenium	1.18E+00	5.00E-03	1.21E-03	7.60E-01	0.00E+00	1.52E-02	1.64E-02	1.46E-01	1.12E-01	0.0%
Silver	5.80E-01	8.00E-02	9.51E-03	1.50E-01	0.00E+00	7.49E-03	1.70E-02	No TRV	No TRV	No HQ
Sodium	2.72E+02	1.50E-02	8.36E-01	1.00E+00	0.00E+00	3.51E+00	4.35E+00	No TRV	No TRV	No HQ
Thallium	3.44E-01	8.00E-04	5.64E-05	1.00E+00	0.00E+00	4.44E-03	4.50E-03	5.46E-03	8.23E-01	0.3%
Zinc	1.19E+03	3.00E-01	7.31E+01	1.80E+00	0.00E+00	1.54E+01	8.85E+01	1.17E+02	7.57E-01	0.3%
Explosives										
1,3,5-Trinitrobenzene	4.90E-01	1.00E+00	1.00E-01	1.00E+00	0.00E+00	6.33E-03	1.07E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	3.02E+01	1.00E+00	6.19E+00	1.00E+00	0.00E+00	3.90E-01	6.58E+00	1.17E+00	5.63E+00	2.2%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	5.37E-04	5.00E-02	0.00E+00	1.69E-03	2.23E-03	5.11E-01	4.36E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	3.80E+01	1.00E+00	7.79E+00	1.00E+00	0.00E+00	4.91E-01	8.28E+00	1.12E+00	7.39E+00	2.9%
Nitrobenzene	1.31E-01	2.00E-02	5.37E-04	5.00E-02	0.00E+00	1.69E-03	2.23E-03	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	2.05E-01	1.00E+00	0.00E+00	1.29E-02	2.18E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	2.56E-01	1.00E+00	0.00E+00	1.61E-02	2.72E-01	No TRV	No TRV	No HQ
RDX	2.26E+02	1.00E+00	4.63E+01	1.00E+00	0.00E+00	2.92E+00	4.92E+01	2.89E+00	1.70E+01	6.7%

Appendix Table L-492. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
			4.72E-02		1.00E+00	0.00E+00	2.97E-03		5.01E-02	8.80E-01
Tetryl	2.30E-01	1.00E+00	4.72E-02	1.00E+00	0.00E+00	2.97E-03	5.01E-02	8.80E-01	5.70E-02	0.0%
									HI =	2.53E+02

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-493 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.25E+04	8.00E-04	3.09E-01	7.50E-02	0.00E+00	7.73E+00	8.03E+00	2.93E-01	2.74E+01	67.4%
Antimony	1.36E+00	4.00E-02	1.69E-03	5.00E-02	0.00E+00	8.43E-04	2.53E-03	1.90E-02	1.33E-01	0.3%
Arsenic	1.22E+01	8.00E-03	3.03E-03	6.60E-03	0.00E+00	7.57E-03	1.06E-02	1.91E-02	5.54E-01	1.4%
Barium	2.63E+02	3.00E-02	2.44E-01	7.50E-03	0.00E+00	1.63E-01	4.07E-01	1.50E+00	2.72E-01	0.7%
Beryllium	9.70E-01	2.00E-03	6.01E-05	5.00E-02	0.00E+00	6.01E-04	6.62E-04	1.85E-01	3.57E-03	0.0%
Cadmium	7.80E+00	1.10E-01	2.66E-02	1.10E+01	0.00E+00	4.84E-03	3.14E-02	2.71E-01	1.16E-01	0.3%
Calcium	4.10E+04	7.00E-01	8.90E+02	1.00E+00	0.00E+00	2.54E+01	9.15E+02	No TRV	No TRV	No HQ
Chromium	2.20E+01	1.50E-03	1.02E-03	1.60E-01	0.00E+00	1.37E-02	1.47E-02	7.68E+02	1.91E-05	0.0%
Cobalt	8.60E+00	4.00E-03	1.07E-03	1.00E+00	0.00E+00	5.33E-03	6.40E-03	No TRV	No TRV	No HQ
Copper	1.32E+02	8.00E-02	3.27E-01	1.60E-01	0.00E+00	8.18E-02	4.09E-01	4.27E+00	9.58E-02	0.2%
Cyanide	3.44E-01	1.00E+00	1.07E-02	0.00E+00	0.00E+00	2.13E-04	1.09E-02	1.81E+01	6.00E-04	0.0%
Iron	2.50E+04	8.00E-04	6.20E-01	1.00E+00	0.00E+00	1.55E+01	1.61E+01	No TRV	No TRV	No HQ
Lead	4.81E+02	9.00E-03	1.34E-01	2.00E+00	0.00E+00	2.98E-01	4.32E-01	2.24E+00	1.93E-01	0.5%
Magnesium	4.80E+03	2.00E-01	2.97E+01	1.00E+00	0.00E+00	2.97E+00	3.27E+01	No TRV	No TRV	No HQ
Mercury	7.32E-02	1.80E-01	4.08E-04	3.40E-01	0.00E+00	4.54E-05	4.54E-04	3.68E-01	1.23E-03	0.0%
Nickel	2.23E+01	1.20E-02	8.30E-03	2.30E-01	0.00E+00	1.38E-02	2.21E-02	1.12E+01	1.97E-03	0.0%
Potassium	1.58E+03	2.00E-01	9.81E+00	1.00E+00	0.00E+00	9.81E-01	1.08E+01	No TRV	No TRV	No HQ
Selenium	1.18E+00	5.00E-03	1.83E-04	7.60E-01	0.00E+00	7.30E-04	9.13E-04	5.61E-02	1.63E-02	0.0%
Silver	5.80E-01	8.00E-02	1.44E-03	1.50E-01	0.00E+00	3.60E-04	1.80E-03	No TRV	No TRV	No HQ
Sodium	2.72E+02	1.50E-02	1.26E-01	1.00E+00	0.00E+00	1.69E-01	2.95E-01	No TRV	No TRV	No HQ
Thallium	3.44E-01	8.00E-04	8.53E-06	1.00E+00	0.00E+00	2.13E-04	2.22E-04	2.10E-03	1.06E-01	0.3%
Zinc	1.19E+03	3.00E-01	1.11E+01	1.80E+00	0.00E+00	7.37E-01	1.18E+01	4.49E+01	2.63E-01	0.6%
Explosives										
1,3,5-Trinitrobenzene	4.90E-01	1.00E+00	1.52E-02	1.00E+00	0.00E+00	3.04E-04	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.3%
2,4,6-Trinitrotoluene	3.02E+01	1.00E+00	9.36E-01	1.00E+00	0.00E+00	1.87E-02	9.55E-01	4.49E-01	2.13E+00	5.2%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.12E-05	5.00E-02	0.00E+00	8.12E-05	1.62E-04	1.96E-01	8.27E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	3.80E+01	1.00E+00	1.18E+00	1.00E+00	0.00E+00	2.36E-02	1.20E+00	4.31E-01	2.79E+00	6.9%
Nitrobenzene	1.31E-01	2.00E-02	8.12E-05	5.00E-02	0.00E+00	8.12E-05	1.62E-04	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.00E+00	3.10E-02	1.00E+00	0.00E+00	6.20E-04	3.16E-02	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	3.88E-02	1.00E+00	0.00E+00	7.75E-04	3.95E-02	No TRV	No TRV	No HQ
RDX	2.26E+02	1.00E+00	7.01E+00	1.00E+00	0.00E+00	1.40E-01	7.15E+00	1.11E+00	6.43E+00	15.8%
Tetryl	2.30E-01	1.00E+00	7.13E-03	1.00E+00	0.00E+00	1.43E-04	7.27E-03	3.38E-01	2.15E-02	0.1%
									HI =	4.07E+01

Appendix Table L-493 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP_v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-494. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.25E+04	1.30E-04	0.00E+00	8.00E-04	7.26E-01	7.50E-02	4.55E+02	9.07E+02	1.36E+03
Antimony	1.36E+00	6.00E-03	0.00E+00	4.00E-02	3.96E-03	5.00E-02	3.31E-02	9.90E-02	1.36E-01
Arsenic	1.22E+01	1.20E-03	0.00E+00	8.00E-03	7.11E-03	6.60E-03	3.93E-02	8.89E-01	9.35E-01
Barium	2.63E+02	3.00E-03	0.00E+00	3.00E-02	5.74E-01	7.50E-03	9.60E-01	1.91E+01	2.07E+01
Beryllium	9.70E-01	3.00E-04	0.00E+00	2.00E-03	1.41E-04	5.00E-02	2.36E-02	7.06E-02	9.44E-02
Cadmium	7.80E+00	3.00E-02	0.00E+00	1.10E-01	6.25E-02	1.10E+01	4.18E+01	5.68E-01	4.24E+01
Calcium	4.10E+04	7.00E-02	0.00E+00	7.00E-01	2.09E+03	1.00E+00	2.00E+04	2.98E+03	2.50E+04
Chromium	2.20E+01	9.00E-04	0.00E+00	1.50E-03	2.41E-03	1.60E-01	1.72E+00	1.60E+00	3.32E+00
Cobalt	8.60E+00	1.40E-03	0.00E+00	4.00E-03	2.50E-03	1.00E+00	4.19E+00	6.26E-01	4.82E+00
Copper	1.32E+02	5.00E-02	0.00E+00	8.00E-02	7.69E-01	1.60E-01	1.03E+01	9.61E+00	2.07E+01
Cyanide	3.44E-01	1.00E+00	0.00E+00	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	5.01E-02
Iron	2.50E+04	2.00E-04	0.00E+00	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.82E+03	1.40E+04
Lead	4.81E+02	1.80E-03	0.00E+00	9.00E-03	3.15E-01	2.00E+00	4.69E+02	3.50E+01	5.04E+02
Magnesium	4.80E+03	1.10E-01	0.00E+00	2.00E-01	6.99E+01	1.00E+00	2.34E+03	3.49E+02	2.76E+03
Mercury	7.32E-02	4.00E-02	0.00E+00	1.80E-01	9.59E-04	3.40E-01	1.21E-02	5.33E-03	1.84E-02
Nickel	2.23E+01	1.20E-02	0.00E+00	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.15E+00
Potassium	1.58E+03	1.10E-01	0.00E+00	2.00E-01	2.30E+01	1.00E+00	7.71E+02	1.15E+02	9.09E+02
Selenium	1.18E+00	5.00E-03	0.00E+00	5.00E-03	4.29E-04	7.60E-01	4.36E-01	8.58E-02	5.22E-01
Silver	5.80E-01	2.00E-02	0.00E+00	8.00E-02	3.38E-03	1.50E-01	4.24E-02	4.22E-02	8.80E-02
Sodium	2.72E+02	1.10E-02	0.00E+00	1.50E-02	2.97E-01	1.00E+00	1.33E+02	1.98E+01	1.53E+02
Thallium	3.44E-01	8.00E-05	0.00E+00	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.93E-01
Zinc	1.19E+03	1.80E-01	0.00E+00	3.00E-01	2.60E+01	1.80E+00	1.04E+03	8.66E+01	1.16E+03
Explosives									
1,3,5-Trinitrobenzene	4.90E-01	1.00E+00	0.00E+00	1.00E+00	3.57E-02	1.00E+00	2.39E-01	3.57E-02	3.10E-01
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.02E+01	1.00E+00	0.00E+00	1.00E+00	2.20E+00	1.00E+00	1.47E+01	2.20E+00	1.91E+01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	3.80E+01	1.00E+00	0.00E+00	1.00E+00	2.77E+00	1.00E+00	1.85E+01	2.77E+00	2.40E+01
Nitrobenzene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
Nitrocellulose	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	2.26E+02	1.00E+00	0.00E+00	1.00E+00	1.65E+01	1.00E+00	1.10E+02	1.65E+01	1.43E+02
Tetryl	2.30E-01	1.00E+00	0.00E+00	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01

Appendix Table L-494. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.83E+02	2.01E+01	0.00E+00	2.01E+01	6.68E+01	3.01E-01	0.4%
Antimony	5.00E-02	1.22E-02	1.34E-03	0.00E+00	1.34E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.67E-01	1.84E-02	0.00E+00	1.84E-02	4.98E+00	3.69E-03	0.0%
Barium	7.50E-03	2.77E-01	3.04E-02	0.00E+00	3.04E-02	1.19E+01	2.55E-03	0.0%
Beryllium	5.00E-02	8.43E-03	9.27E-04	0.00E+00	9.27E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.12E+00	2.33E-01	0.00E+00	2.33E-01	1.46E+00	1.60E-01	0.2%
Calcium	1.00E+00	4.47E+04	4.92E+03	0.00E+00	4.92E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.66E+00	1.83E-01	0.00E+00	1.83E-01	1.03E+00	1.78E-01	0.2%
Cobalt	1.00E+00	8.60E+00	9.46E-01	0.00E+00	9.46E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.85E+01	2.03E+00	0.00E+00	2.03E+00	3.89E+01	5.21E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.50E+04	2.75E+03	0.00E+00	2.75E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.35E+01	1.49E+00	0.00E+00	1.49E+00	6.82E-01	2.18E+00	3.0%
Magnesium	1.00E+00	4.92E+03	5.42E+02	0.00E+00	5.42E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	4.27E-01	4.70E-02	0.00E+00	4.70E-02	2.72E-01	1.73E-01	0.2%
Nickel	3.00E-01	2.22E+00	2.44E-01	0.00E+00	2.44E-01	7.06E+01	3.46E-03	0.0%
Potassium	1.00E+00	1.62E+03	1.79E+02	0.00E+00	1.79E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.00E-01	7.70E-02	0.00E+00	7.70E-02	4.85E-01	1.59E-01	0.2%
Silver	1.50E-01	2.36E-02	2.59E-03	0.00E+00	2.59E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.73E+02	3.00E+01	0.00E+00	3.00E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.44E-01	3.78E-02	0.00E+00	3.78E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.03E+04	1.13E+03	0.00E+00	1.13E+03	1.66E+01	6.85E+01	95.5%
1,3,5-Trinitrobenzene	1.00E+00	5.54E-01	6.09E-02	0.00E+00	6.09E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.41E+01	3.75E+00	0.00E+00	3.75E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	4.82E-07	0.00E+00	4.82E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	4.29E+01	4.72E+00	0.00E+00	4.72E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.77E-06	3.05E-07	0.00E+00	3.05E-07	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.13E+00	1.24E-01	0.00E+00	1.24E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.55E-01	0.00E+00	1.55E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	2.55E+02	2.81E+01	0.00E+00	2.81E+01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	2.60E-01	2.86E-02	0.00E+00	2.86E-02	No TRV	No TRV	No HQ

Appendix Table L-494. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-494. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
HI = 7.17E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-495. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.25E+04	1.30E-04	0.00E+00	8.00E-04	7.26E-01	7.50E-02	4.55E+02	9.07E+02	1.36E+03
Antimony	1.36E+00	6.00E-03	0.00E+00	4.00E-02	3.96E-03	5.00E-02	3.31E-02	9.90E-02	1.36E-01
Arsenic	1.22E+01	1.20E-03	0.00E+00	8.00E-03	7.11E-03	6.60E-03	3.93E-02	8.89E-01	9.35E-01
Barium	2.63E+02	3.00E-03	0.00E+00	3.00E-02	5.74E-01	7.50E-03	9.60E-01	1.91E+01	2.07E+01
Beryllium	9.70E-01	3.00E-04	0.00E+00	2.00E-03	1.41E-04	5.00E-02	2.36E-02	7.06E-02	9.44E-02
Cadmium	7.80E+00	3.00E-02	0.00E+00	1.10E-01	6.25E-02	1.10E+01	4.18E+01	5.68E-01	4.24E+01
Calcium	4.10E+04	7.00E-02	0.00E+00	7.00E-01	2.09E+03	1.00E+00	2.00E+04	2.98E+03	2.50E+04
Chromium	2.20E+01	9.00E-04	0.00E+00	1.50E-03	2.41E-03	1.60E-01	1.72E+00	1.60E+00	3.32E+00
Cobalt	8.60E+00	1.40E-03	0.00E+00	4.00E-03	2.50E-03	1.00E+00	4.19E+00	6.26E-01	4.82E+00
Copper	1.32E+02	5.00E-02	0.00E+00	8.00E-02	7.69E-01	1.60E-01	1.03E+01	9.61E+00	2.07E+01
Cyanide	3.44E-01	1.00E+00	0.00E+00	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	5.01E-02
Iron	2.50E+04	2.00E-04	0.00E+00	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.82E+03	1.40E+04
Lead	4.81E+02	1.80E-03	0.00E+00	9.00E-03	3.15E-01	2.00E+00	4.69E+02	3.50E+01	5.04E+02
Magnesium	4.80E+03	1.10E-01	0.00E+00	2.00E-01	6.99E+01	1.00E+00	2.34E+03	3.49E+02	2.76E+03
Mercury	7.32E-02	4.00E-02	0.00E+00	1.80E-01	9.59E-04	3.40E-01	1.21E-02	5.33E-03	1.84E-02
Nickel	2.23E+01	1.20E-02	0.00E+00	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.15E+00
Potassium	1.58E+03	1.10E-01	0.00E+00	2.00E-01	2.30E+01	1.00E+00	7.71E+02	1.15E+02	9.09E+02
Selenium	1.18E+00	5.00E-03	0.00E+00	5.00E-03	4.29E-04	7.60E-01	4.36E-01	8.58E-02	5.22E-01
Silver	5.80E-01	2.00E-02	0.00E+00	8.00E-02	3.38E-03	1.50E-01	4.24E-02	4.22E-02	8.80E-02
Sodium	2.72E+02	1.10E-02	0.00E+00	1.50E-02	2.97E-01	1.00E+00	1.33E+02	1.98E+01	1.53E+02
Thallium	3.44E-01	8.00E-05	0.00E+00	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.93E-01
Zinc	1.19E+03	1.80E-01	0.00E+00	3.00E-01	2.60E+01	1.80E+00	1.04E+03	8.66E+01	1.16E+03
Explosives									
1,3,5-Trinitrobenzene	4.90E-01	1.00E+00	0.00E+00	1.00E+00	3.57E-02	1.00E+00	2.39E-01	3.57E-02	3.10E-01
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.02E+01	1.00E+00	0.00E+00	1.00E+00	2.20E+00	1.00E+00	1.47E+01	2.20E+00	1.91E+01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	3.80E+01	1.00E+00	0.00E+00	1.00E+00	2.77E+00	1.00E+00	1.85E+01	2.77E+00	2.40E+01
Nitrobenzene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
Nitrocellulose	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	2.26E+02	1.00E+00	0.00E+00	1.00E+00	1.65E+01	1.00E+00	1.10E+02	1.65E+01	1.43E+02
Tetryl	2.30E-01	1.00E+00	0.00E+00	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01

Appendix Table L-495. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.83E+02	2.28E+01	0.00E+00	2.28E+01	8.33E+01	2.74E-01	0.4%
Antimony	5.00E-02	1.22E-02	1.52E-03	0.00E+00	1.52E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.67E-01	2.09E-02	0.00E+00	2.09E-02	6.22E+00	3.36E-03	0.0%
Barium	7.50E-03	2.77E-01	3.46E-02	0.00E+00	3.46E-02	1.49E+01	2.33E-03	0.0%
Beryllium	5.00E-02	8.43E-03	1.05E-03	0.00E+00	1.05E-03	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.12E+00	2.65E-01	0.00E+00	2.65E-01	1.82E+00	1.46E-01	0.2%
Calcium	1.00E+00	4.47E+04	5.59E+03	0.00E+00	5.59E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.66E+00	2.08E-01	0.00E+00	2.08E-01	1.28E+00	1.62E-01	0.2%
Cobalt	1.00E+00	8.60E+00	1.08E+00	0.00E+00	1.08E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	1.85E+01	2.31E+00	0.00E+00	2.31E+00	4.86E+01	4.75E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.50E+04	3.13E+03	0.00E+00	3.13E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.35E+01	1.69E+00	0.00E+00	1.69E+00	8.51E-01	1.98E+00	3.0%
Magnesium	1.00E+00	4.92E+03	6.15E+02	0.00E+00	6.15E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	4.27E-01	5.34E-02	0.00E+00	5.34E-02	3.39E-01	1.58E-01	0.2%
Nickel	3.00E-01	2.22E+00	2.78E-01	0.00E+00	2.78E-01	8.81E+01	3.15E-03	0.0%
Potassium	1.00E+00	1.62E+03	2.03E+02	0.00E+00	2.03E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.00E-01	8.74E-02	0.00E+00	8.74E-02	6.05E-01	1.45E-01	0.2%
Silver	1.50E-01	2.36E-02	2.95E-03	0.00E+00	2.95E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.73E+02	3.41E+01	0.00E+00	3.41E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.44E-01	4.30E-02	0.00E+00	4.30E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.03E+04	1.29E+03	0.00E+00	1.29E+03	2.07E+01	6.23E+01	95.5%
1,3,5-Trinitrobenzen	1.00E+00	5.54E-01	6.92E-02	0.00E+00	6.92E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.41E+01	4.27E+00	0.00E+00	4.27E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	5.48E-07	0.00E+00	5.48E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	4.29E+01	5.37E+00	0.00E+00	5.37E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.77E-06	3.46E-07	0.00E+00	3.46E-07	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.13E+00	1.41E-01	0.00E+00	1.41E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.77E-01	0.00E+00	1.77E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	2.55E+02	3.19E+01	0.00E+00	3.19E+01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	2.60E-01	3.25E-02	0.00E+00	3.25E-02	No TRV	No TRV	No HQ

Appendix Table L-495. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-495. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
HI =							6.53E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-496. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.25E+04	1.30E-04	5.14E-03	8.00E-04	7.26E-01	7.50E-02	4.55E+02	9.07E+02	1.36E+03
Antimony	1.36E+00	6.00E-03	2.59E-05	4.00E-02	3.96E-03	5.00E-02	3.31E-02	9.90E-02	1.36E-01
Arsenic	1.22E+01	1.20E-03	4.65E-05	8.00E-03	7.11E-03	6.60E-03	3.93E-02	8.89E-01	9.35E-01
Barium	2.63E+02	3.00E-03	2.50E-03	3.00E-02	5.74E-01	7.50E-03	9.60E-01	1.91E+01	2.07E+01
Beryllium	9.70E-01	3.00E-04	9.24E-07	2.00E-03	1.41E-04	5.00E-02	2.36E-02	7.06E-02	9.44E-02
Cadmium	7.80E+00	3.00E-02	7.43E-04	1.10E-01	6.25E-02	1.10E+01	4.18E+01	5.68E-01	4.24E+01
Calcium	4.10E+04	7.00E-02	9.11E+00	7.00E-01	2.09E+03	1.00E+00	2.00E+04	2.98E+03	2.50E+04
Chromium	2.20E+01	9.00E-04	6.29E-05	1.50E-03	2.41E-03	1.60E-01	1.72E+00	1.60E+00	3.32E+00
Cobalt	8.60E+00	1.40E-03	3.82E-05	4.00E-03	2.50E-03	1.00E+00	4.19E+00	6.26E-01	4.82E+00
Copper	1.32E+02	5.00E-02	2.09E-02	8.00E-02	7.69E-01	1.60E-01	1.03E+01	9.61E+00	2.07E+01
Cyanide	3.44E-01	1.00E+00	1.09E-03	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	5.01E-02
Iron	2.50E+04	2.00E-04	1.59E-02	8.00E-04	1.46E+00	1.00E+00	1.22E+04	1.82E+03	1.40E+04
Lead	4.81E+02	1.80E-03	2.75E-03	9.00E-03	3.15E-01	2.00E+00	4.69E+02	3.50E+01	5.04E+02
Magnesium	4.80E+03	1.10E-01	1.68E+00	2.00E-01	6.99E+01	1.00E+00	2.34E+03	3.49E+02	2.76E+03
Mercury	7.32E-02	4.00E-02	9.29E-06	1.80E-01	9.59E-04	3.40E-01	1.21E-02	5.33E-03	1.84E-02
Nickel	2.23E+01	1.20E-02	8.50E-04	1.20E-02	1.95E-02	2.30E-01	2.50E+00	1.62E+00	4.15E+00
Potassium	1.58E+03	1.10E-01	5.52E-01	2.00E-01	2.30E+01	1.00E+00	7.71E+02	1.15E+02	9.09E+02
Selenium	1.18E+00	5.00E-03	1.87E-05	5.00E-03	4.29E-04	7.60E-01	4.36E-01	8.58E-02	5.22E-01
Silver	5.80E-01	2.00E-02	3.68E-05	8.00E-02	3.38E-03	1.50E-01	4.24E-02	4.22E-02	8.80E-02
Sodium	2.72E+02	1.10E-02	9.50E-03	1.50E-02	2.97E-01	1.00E+00	1.33E+02	1.98E+01	1.53E+02
Thallium	3.44E-01	8.00E-05	8.73E-08	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.93E-01
Zinc	1.19E+03	1.80E-01	6.79E-01	3.00E-01	2.60E+01	1.80E+00	1.04E+03	8.66E+01	1.16E+03
Explosives									
1,3,5-Trinitrobenzene	4.90E-01	1.00E+00	1.56E-03	1.00E+00	3.57E-02	1.00E+00	2.39E-01	3.57E-02	3.10E-01
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	3.02E+01	1.00E+00	9.59E-02	1.00E+00	2.20E+00	1.00E+00	1.47E+01	2.20E+00	1.91E+01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.32E-06	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	3.80E+01	1.00E+00	1.21E-01	1.00E+00	2.77E+00	1.00E+00	1.85E+01	2.77E+00	2.40E+01
Nitrobenzene	1.31E-01	2.00E-02	8.32E-06	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
Nitrocellulose	1.00E+00	1.00E+00	3.17E-03	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01

Appendix Table L-496. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.83E+02	1.20E+01	2.41E+01	3.61E+01	5.46E-01	6.61E+01	67.1%
Antimony	5.00E-02	1.22E-02	8.00E-04	2.63E-03	3.45E-03	3.54E-02	9.77E-02	0.1%
Arsenic	1.00E-01	1.67E-01	1.10E-02	2.36E-02	3.46E-02	3.56E-02	9.72E-01	1.0%
Barium	7.50E-03	2.77E-01	1.82E-02	5.08E-01	5.28E-01	2.79E+00	1.89E-01	0.2%
Beryllium	5.00E-02	8.43E-03	5.55E-04	1.87E-03	2.43E-03	3.45E-01	7.04E-03	0.0%
Cadmium	2.80E-02	2.12E+00	1.40E-01	1.51E-02	1.55E-01	5.04E-01	3.08E-01	0.3%
Calcium	1.00E+00	4.47E+04	2.94E+03	7.92E+01	3.03E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.66E+00	1.09E-01	4.26E-02	1.52E-01	1.43E+03	1.06E-04	0.0%
Cobalt	1.00E+00	8.60E+00	5.66E-01	1.66E-02	5.83E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.85E+01	1.21E+00	2.55E-01	1.49E+00	7.96E+00	1.87E-01	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.64E-04	1.76E-03	3.37E+01	5.20E-05	0.0%
Iron	1.00E+00	2.50E+04	1.65E+03	4.83E+01	1.69E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.35E+01	8.89E-01	9.29E-01	1.82E+00	4.18E+00	4.35E-01	0.4%
Magnesium	1.00E+00	4.92E+03	3.24E+02	9.27E+00	3.35E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	4.27E-01	2.81E-02	1.41E-04	2.83E-02	6.86E-01	4.12E-02	0.0%
Nickel	3.00E-01	2.22E+00	1.46E-01	4.31E-02	1.90E-01	2.09E+01	9.10E-03	0.0%
Potassium	1.00E+00	1.62E+03	1.07E+02	3.06E+00	1.10E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.00E-01	4.61E-02	2.28E-03	4.83E-02	1.05E-01	4.62E-01	0.5%
Silver	1.50E-01	2.36E-02	1.55E-03	1.12E-03	2.71E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.73E+02	1.79E+01	5.26E-01	1.85E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.44E-01	2.26E-02	6.64E-04	2.33E-02	3.91E-03	5.96E+00	6.1%
Zinc	5.00E+00	1.03E+04	6.79E+02	2.30E+00	6.82E+02	8.36E+01	8.15E+00	8.3%
1,3,5-Trinitrobenzene	1.00E+00	5.54E-01	3.64E-02	9.47E-04	3.89E-02	1.68E+00	2.32E-02	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	3.41E+01	2.25E+00	5.83E-02	2.40E+00	8.36E-01	2.87E+00	2.9%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.38E-06	2.89E-07	2.53E-04	2.62E-04	3.66E-01	7.15E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	4.29E+01	2.83E+00	7.34E-02	3.02E+00	8.02E-01	3.76E+00	3.8%
Nitrobenzene	1.20E-04	2.77E-06	1.82E-07	2.53E-04	2.62E-04	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.13E+00	7.44E-02	1.93E-03	7.95E-02	No TRV	No TRV	No HQ

Appendix Table L-496. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 62

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Nitroglycerin	1.25E+00	1.00E+00	3.97E-03	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	2.26E+02	1.00E+00	7.17E-01	1.00E+00	1.65E+01	1.00E+00	1.10E+02	1.65E+01	1.43E+02
Tetryl	2.30E-01	1.00E+00	7.30E-04	1.00E+00	1.67E-02	1.00E+00	1.12E-01	1.67E-02	1.46E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A(kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-496. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADD_S (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Nitroglycerin	1.00E+00	1.41E+00	9.30E-02	2.42E-03	9.94E-02	No TRV	No TRV	No HQ
RDX	1.00E+00	2.55E+02	1.68E+01	4.37E-01	1.80E+01	2.07E+00	8.68E+00	8.8%
Tetryl	1.00E+00	2.60E-01	1.71E-02	4.44E-04	1.83E-02	6.30E-01	2.90E-02	0.0%
HI = 9.85E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_s (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-497. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.43E+04	5.00E+01	2.86E+02	90.0%
Arsenic	1.49E+01	1.00E+01	1.49E+00	0.5%
Barium	7.97E+01	5.00E+02	1.59E-01	0.1%
Cadmium	5.00E-01	5.00E-01	1.00E+00	0.3%
Chromium	2.00E+01	1.00E+00	2.00E+01	6.3%
Lead	5.77E+01	5.00E+01	1.15E+00	0.4%
Mercury	5.00E-02	3.00E-01	1.67E-01	0.1%
Selenium	1.80E+00	1.00E+00	1.80E+00	0.6%
Silver	1.15E-01	2.00E+00	5.75E-02	0.0%
Zinc	2.88E+02	5.00E+01	5.76E+00	1.8%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	3.00E+01	4.17E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+02	5.00E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
HI =			3.18E+02	

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-498. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 63**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.43E+04	No TRV	No TRV	No HQ
Arsenic	1.49E+01	6.00E+01	2.48E-01	0.5%
Barium	7.97E+01	No TRV	No TRV	No HQ
Cadmium	5.00E-01	2.00E+01	2.50E-02	0.0%
Chromium	2.00E+01	4.00E-01	5.00E+01	96.5%
Lead	5.77E+01	5.00E+02	1.15E-01	0.2%
Mercury	5.00E-02	No TRV	No TRV	No HQ
Selenium	1.80E+00	No TRV	No TRV	No HQ
Silver	1.15E-01	No TRV	No TRV	No HQ
Zinc	2.88E+02	2.00E+02	1.44E+00	2.8%
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.40E+02	8.93E-04	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =				5.18E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-499. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.43E+04	8.00E-04	8.33E-01	7.50E-02	5.23E+02	1.04E+03	1.56E+03	2.22E+00	7.03E+02	97.7%
Arsenic	1.49E+01	8.00E-03	8.68E-03	6.60E-03	4.79E-02	1.08E+00	1.14E+00	1.45E-01	7.86E+00	1.1%
Barium	7.97E+01	3.00E-02	1.74E-01	7.50E-03	2.91E-01	5.80E+00	6.27E+00	1.14E+01	5.51E-01	0.1%
Cadmium	5.00E-01	1.10E-01	4.00E-03	1.10E+01	2.68E+00	3.64E-02	2.72E+00	2.05E+00	1.32E+00	0.2%
Chromium	2.00E+01	1.50E-03	2.18E-03	1.60E-01	1.56E+00	1.46E+00	3.02E+00	5.83E+03	5.18E-04	0.0%
Lead	5.77E+01	9.00E-03	3.78E-02	2.00E+00	5.62E+01	4.20E+00	6.05E+01	1.70E+01	3.55E+00	0.5%
Mercury	5.00E-02	1.80E-01	6.55E-04	3.40E-01	8.28E-03	3.64E-03	1.26E-02	2.80E+00	4.50E-03	0.0%
Selenium	1.80E+00	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01	4.26E-01	1.87E+00	0.3%
Silver	1.15E-01	8.00E-02	6.70E-04	1.50E-01	8.40E-03	8.37E-03	1.74E-02	No TRV	No TRV	No HQ
Zinc	2.88E+02	3.00E-01	6.29E+00	1.80E+00	2.53E+02	2.10E+01	2.80E+02	3.41E+02	8.21E-01	0.1%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	3.41E+00	2.32E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	1.49E+00	8.60E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01	3.27E+00	1.94E-01	0.0%
Nitrobenzene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01	8.44E+00	3.75E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	7.20E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; anima

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soi
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-500. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.43E+04	1.30E-04	1.41E+00	7.50E-02	8.15E+02	2.26E+03	3.08E+03	1.29E+02	2.38E+01	20.0%
Arsenic	1.49E+01	1.20E-03	1.36E-02	6.60E-03	7.47E-02	2.36E+00	2.44E+00	9.66E+00	2.53E-01	0.2%
Barium	7.97E+01	3.00E-03	1.82E-01	7.50E-03	4.54E-01	1.26E+01	1.32E+01	2.31E+01	5.73E-01	0.5%
Cadmium	5.00E-01	3.00E-02	1.14E-02	1.10E+01	4.18E+00	7.90E-02	4.27E+00	2.83E+00	1.51E+00	1.3%
Chromium	2.00E+01	9.00E-04	1.37E-02	1.60E-01	2.43E+00	3.16E+00	5.61E+00	1.99E+00	2.82E+00	2.4%
Lead	5.77E+01	1.80E-03	7.89E-02	2.00E+00	8.77E+01	9.12E+00	9.69E+01	1.32E+00	7.33E+01	61.8%
Mercury	5.00E-02	4.00E-02	1.52E-03	3.40E-01	1.29E-02	7.90E-03	2.23E-02	5.27E-01	4.24E-02	0.0%
Selenium	1.80E+00	5.00E-03	6.84E-03	7.60E-01	1.04E+00	2.85E-01	1.33E+00	9.40E-01	1.42E+00	1.2%
Silver	1.15E-01	2.00E-02	1.75E-03	1.50E-01	1.31E-02	1.82E-02	3.30E-02	No TRV	No TRV	No HQ
Zinc	2.88E+02	1.80E-01	3.94E+01	1.80E+00	3.94E+02	4.55E+01	4.79E+02	3.21E+01	1.49E+01	12.6%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.60E-01	1.00E+00	7.60E-01	1.58E-01	1.68E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.80E-01	1.00E+00	3.80E-01	7.90E-02	8.39E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
HI =									1.19E+02	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) 7.60E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-501. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.43E+04	8.00E-04	2.35E+00	7.50E-02	0.00E+00	1.85E+02	1.87E+02	7.63E-01	2.45E+02	97.6%
Arsenic	1.49E+01	8.00E-03	2.44E-02	6.60E-03	0.00E+00	1.92E-01	2.17E-01	4.98E-02	4.36E+00	1.7%
Barium	7.97E+01	3.00E-02	4.90E-01	7.50E-03	0.00E+00	1.03E+00	1.52E+00	3.90E+00	3.89E-01	0.2%
Cadmium	5.00E-01	1.10E-01	1.13E-02	1.10E+01	0.00E+00	6.46E-03	1.77E-02	7.05E-01	2.52E-02	0.0%
Chromium	2.00E+01	1.50E-03	6.15E-03	1.60E-01	0.00E+00	2.58E-01	2.64E-01	2.00E+03	1.32E-04	0.0%
Lead	5.77E+01	9.00E-03	1.06E-01	2.00E+00	0.00E+00	7.45E-01	8.52E-01	5.84E+00	1.46E-01	0.1%
Mercury	5.00E-02	1.80E-01	1.85E-03	3.40E-01	0.00E+00	6.46E-04	2.49E-03	9.59E-01	2.60E-03	0.0%
Selenium	1.80E+00	5.00E-03	1.85E-03	7.60E-01	0.00E+00	2.32E-02	2.51E-02	1.46E-01	1.72E-01	0.1%
Silver	1.15E-01	8.00E-02	1.89E-03	1.50E-01	0.00E+00	1.49E-03	3.37E-03	No TRV	No TRV	No HQ
Zinc	2.88E+02	3.00E-01	1.77E+01	1.80E+00	0.00E+00	3.72E+00	2.14E+01	1.17E+02	1.83E-01	0.1%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.1%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	1.17E+00	2.33E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	5.11E-01	4.33E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	2.05E-01	1.00E+00	0.00E+00	1.29E-02	2.18E-01	1.12E+00	1.94E-01	0.1%
Nitrobenzene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.03E-01	1.00E+00	0.00E+00	6.46E-03	1.09E-01	2.89E+00	3.77E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
									HI =	2.51E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-502 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.43E+04	8.00E-04	3.55E-01	7.50E-02	0.00E+00	8.87E+00	9.22E+00	2.93E-01	3.15E+01	96.5%
Arsenic	1.49E+01	8.00E-03	3.70E-03	6.60E-03	0.00E+00	9.24E-03	1.29E-02	1.91E-02	6.76E-01	2.1%
Barium	7.97E+01	3.00E-02	7.41E-02	7.50E-03	0.00E+00	4.94E-02	1.24E-01	1.50E+00	8.24E-02	0.3%
Cadmium	5.00E-01	1.10E-01	1.71E-03	1.10E+01	0.00E+00	3.10E-04	2.02E-03	2.71E-01	7.45E-03	0.0%
Chromium	2.00E+01	1.50E-03	9.30E-04	1.60E-01	0.00E+00	1.24E-02	1.33E-02	7.68E+02	1.74E-05	0.0%
Lead	5.77E+01	9.00E-03	1.61E-02	2.00E+00	0.00E+00	3.58E-02	5.19E-02	2.24E+00	2.31E-02	0.1%
Mercury	5.00E-02	1.80E-01	2.79E-04	3.40E-01	0.00E+00	3.10E-05	3.10E-04	3.68E-01	8.41E-04	0.0%
Selenium	1.80E+00	5.00E-03	2.79E-04	7.60E-01	0.00E+00	1.12E-03	1.40E-03	5.61E-02	2.49E-02	0.1%
Silver	1.15E-01	8.00E-02	2.85E-04	1.50E-01	0.00E+00	7.13E-05	3.57E-04	No TRV	No TRV	No HQ
Zinc	2.88E+02	3.00E-01	2.68E+00	1.80E+00	0.00E+00	1.79E-01	2.86E+00	4.49E+01	6.36E-02	0.2%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.4%
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	4.49E-01	8.81E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	1.96E-01	8.21E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	3.10E-02	1.00E+00	0.00E+00	6.20E-04	3.16E-02	4.31E-01	7.34E-02	0.2%
Nitrobenzene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.55E-02	1.00E+00	0.00E+00	3.10E-04	1.58E-02	1.11E+00	1.42E-02	0.0%
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
								HI =	3.26E+01	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-503. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.43E+04	1.30E-04	0.00E+00	8.00E-04	8.33E-01	7.50E-02	5.23E+02	1.04E+03	1.56E+03
Arsenic	1.49E+01	1.20E-03	0.00E+00	8.00E-03	8.68E-03	6.60E-03	4.79E-02	1.08E+00	1.14E+00
Barium	7.97E+01	3.00E-03	0.00E+00	3.00E-02	1.74E-01	7.50E-03	2.91E-01	5.80E+00	6.27E+00
Cadmium	5.00E-01	3.00E-02	0.00E+00	1.10E-01	4.00E-03	1.10E+01	2.68E+00	3.64E-02	2.72E+00
Chromium	2.00E+01	9.00E-04	0.00E+00	1.50E-03	2.18E-03	1.60E-01	1.56E+00	1.46E+00	3.02E+00
Lead	5.77E+01	1.80E-03	0.00E+00	9.00E-03	3.78E-02	2.00E+00	5.62E+01	4.20E+00	6.05E+01
Mercury	5.00E-02	4.00E-02	0.00E+00	1.80E-01	6.55E-04	3.40E-01	8.28E-03	3.64E-03	1.26E-02
Selenium	1.80E+00	5.00E-03	0.00E+00	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01
Silver	1.15E-01	2.00E-02	0.00E+00	8.00E-02	6.70E-04	1.50E-01	8.40E-03	8.37E-03	1.74E-02
Zinc	2.88E+02	1.80E-01	0.00E+00	3.00E-01	6.29E+00	1.80E+00	2.53E+02	2.10E+01	2.80E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) =

1.70E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-503. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	2.10E+02	2.30E+01	0.00E+00	2.30E+01	6.68E+01	3.45E-01	1.9%
Arsenic	1.00E-01	2.04E-01	2.24E-02	0.00E+00	2.24E-02	4.98E+00	4.50E-03	0.0%
Barium	7.50E-03	8.39E-02	9.23E-03	0.00E+00	9.23E-03	1.19E+01	7.75E-04	0.0%
Cadmium	2.80E-02	1.36E-01	1.50E-02	0.00E+00	1.50E-02	1.46E+00	1.03E-02	0.1%
Chromium	2.80E-01	1.51E+00	1.66E-01	0.00E+00	1.66E-01	1.03E+00	1.62E-01	0.9%
Lead	1.50E-02	1.62E+00	1.78E-01	0.00E+00	1.78E-01	6.82E-01	2.61E-01	1.5%
Mercury	1.30E+01	2.92E-01	3.21E-02	0.00E+00	3.21E-02	2.72E-01	1.18E-01	0.7%
Selenium	7.50E-01	1.07E+00	1.18E-01	0.00E+00	1.18E-01	4.85E-01	2.42E-01	1.4%
Silver	1.50E-01	4.67E-03	5.14E-04	0.00E+00	5.14E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.50E+03	2.75E+02	0.00E+00	2.75E+02	1.66E+01	1.66E+01	93.5%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	4.78E-07	0.00E+00	4.78E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.24E-01	0.00E+00	1.24E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.02E-07	0.00E+00	3.02E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	6.22E-02	0.00E+00	6.22E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
							HI =	1.77E+01

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-504. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF _s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.43E+04	1.30E-04	0.00E+00	8.00E-04	8.33E-01	7.50E-02	5.23E+02	1.04E+03	1.56E+03
Arsenic	1.49E+01	1.20E-03	0.00E+00	8.00E-03	8.68E-03	6.60E-03	4.79E-02	1.08E+00	1.14E+00
Barium	7.97E+01	3.00E-03	0.00E+00	3.00E-02	1.74E-01	7.50E-03	2.91E-01	5.80E+00	6.27E+00
Cadmium	5.00E-01	3.00E-02	0.00E+00	1.10E-01	4.00E-03	1.10E+01	2.68E+00	3.64E-02	2.72E+00
Chromium	2.00E+01	9.00E-04	0.00E+00	1.50E-03	2.18E-03	1.60E-01	1.56E+00	1.46E+00	3.02E+00
Lead	5.77E+01	1.80E-03	0.00E+00	9.00E-03	3.78E-02	2.00E+00	5.62E+01	4.20E+00	6.05E+01
Mercury	5.00E-02	4.00E-02	0.00E+00	1.80E-01	6.55E-04	3.40E-01	8.28E-03	3.64E-03	1.26E-02
Selenium	1.80E+00	5.00E-03	0.00E+00	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01
Silver	1.15E-01	2.00E-02	0.00E+00	8.00E-02	6.70E-04	1.50E-01	8.40E-03	8.37E-03	1.74E-02
Zinc	2.88E+02	1.80E-01	0.00E+00	3.00E-01	6.29E+00	1.80E+00	2.53E+02	2.10E+01	2.80E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-504. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H 100
Inorganics								
Aluminum	7.50E-02	2.10E+02	2.62E+01	0.00E+00	2.62E+01	8.33E+01	3.14E-01	1.9%
Arsenic	1.00E-01	2.04E-01	2.55E-02	0.00E+00	2.55E-02	6.22E+00	4.10E-03	0.0%
Barium	7.50E-03	8.39E-02	1.05E-02	0.00E+00	1.05E-02	1.49E+01	7.06E-04	0.0%
Cadmium	2.80E-02	1.36E-01	1.70E-02	0.00E+00	1.70E-02	1.82E+00	9.35E-03	0.1%
Chromium	2.80E-01	1.51E+00	1.89E-01	0.00E+00	1.89E-01	1.28E+00	1.47E-01	0.9%
Lead	1.50E-02	1.62E+00	2.02E-01	0.00E+00	2.02E-01	8.51E-01	2.38E-01	1.5%
Mercury	1.30E+01	2.92E-01	3.65E-02	0.00E+00	3.65E-02	3.39E-01	1.08E-01	0.7%
Selenium	7.50E-01	1.07E+00	1.34E-01	0.00E+00	1.34E-01	6.05E-01	2.21E-01	1.4%
Silver	1.50E-01	4.67E-03	5.84E-04	0.00E+00	5.84E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.50E+03	3.12E+02	0.00E+00	3.12E+02	2.07E+01	1.51E+01	93.5%
1,3,5-Trinitrobenzen	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	5.44E-07	0.00E+00	5.44E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.41E-01	0.00E+00	1.41E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.43E-07	0.00E+00	3.43E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	7.06E-02	0.00E+00	7.06E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
						HI =	1.61E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-505. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 63

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.43E+04	1.30E-04	5.90E-03	8.00E-04	8.33E-01	7.50E-02	5.23E+02	1.04E+03	1.56E+03
Arsenic	1.49E+01	1.20E-03	5.68E-05	8.00E-03	8.68E-03	6.60E-03	4.79E-02	1.08E+00	1.14E+00
Barium	7.97E+01	3.00E-03	7.59E-04	3.00E-02	1.74E-01	7.50E-03	2.91E-01	5.80E+00	6.27E+00
Cadmium	5.00E-01	3.00E-02	4.76E-05	1.10E-01	4.00E-03	1.10E+01	2.68E+00	3.64E-02	2.72E+00
Chromium	2.00E+01	9.00E-04	5.71E-05	1.50E-03	2.18E-03	1.60E-01	1.56E+00	1.46E+00	3.02E+00
Lead	5.77E+01	1.80E-03	3.30E-04	9.00E-03	3.78E-02	2.00E+00	5.62E+01	4.20E+00	6.05E+01
Mercury	5.00E-02	4.00E-02	6.35E-06	1.80E-01	6.55E-04	3.40E-01	8.28E-03	3.64E-03	1.26E-02
Selenium	1.80E+00	5.00E-03	2.86E-05	5.00E-03	6.55E-04	7.60E-01	6.66E-01	1.31E-01	7.98E-01
Silver	1.15E-01	2.00E-02	7.30E-06	8.00E-02	6.70E-04	1.50E-01	8.40E-03	8.37E-03	1.74E-02
Zinc	2.88E+02	1.80E-01	1.65E-01	3.00E-01	6.29E+00	1.80E+00	2.53E+02	2.10E+01	2.80E+02
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	3.17E-03	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	1.59E-03	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_s = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-505. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.10E+02	1.38E+01	2.76E+01	4.14E+01	5.46E-01	7.59E+01	94.6%
Arsenic	1.00E-01	2.04E-01	1.34E-02	2.88E-02	4.23E-02	3.56E-02	1.19E+00	1.5%
Barium	7.50E-03	8.39E-02	5.53E-03	1.54E-01	1.60E-01	2.79E+00	5.74E-02	0.1%
Cadmium	2.80E-02	1.36E-01	8.95E-03	9.66E-04	9.97E-03	5.04E-01	1.98E-02	0.0%
Chromium	2.80E-01	1.51E+00	9.93E-02	3.86E-02	1.38E-01	1.43E+03	9.65E-05	0.0%
Lead	1.50E-02	1.62E+00	1.07E-01	1.11E-01	2.18E-01	4.18E+00	5.22E-02	0.1%
Mercury	1.30E+01	2.92E-01	1.92E-02	9.66E-05	1.93E-02	6.86E-01	2.82E-02	0.0%
Selenium	7.50E-01	1.07E+00	7.04E-02	3.48E-03	7.39E-02	1.05E-01	7.07E-01	0.9%
Silver	1.50E-01	4.67E-03	3.08E-04	2.22E-04	5.37E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	2.50E+03	1.64E+02	5.56E-01	1.65E+02	8.36E+01	1.98E+00	2.5%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	8.36E-01	1.19E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.35E-06	2.86E-07	2.51E-04	2.60E-04	3.66E-01	7.10E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	7.44E-02	1.93E-03	7.95E-02	8.02E-01	9.91E-02	0.1%
Nitrobenzene	1.20E-04	2.75E-06	1.81E-07	2.51E-04	2.60E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	3.72E-02	9.66E-04	3.97E-02	2.07E+00	1.92E-02	0.0%
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.1%
							HI = 8.03E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-506. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.13E+04	5.00E+01	2.26E+02	91.4%
Arsenic	1.48E+01	1.00E+01	1.48E+00	0.6%
Barium	1.80E+02	5.00E+02	3.60E-01	0.1%
Beryllium	5.50E-01	1.00E+01	5.50E-02	0.0%
Cadmium	2.30E-01	5.00E-01	4.60E-01	0.2%
Calcium	1.31E+03	No TRV	No TRV	No HQ
Chromium	1.33E+01	1.00E+00	1.33E+01	5.4%
Cobalt	8.70E+00	2.00E+01	4.35E-01	0.2%
Copper	9.90E+00	1.00E+02	9.90E-02	0.0%
Cyanide		No TRV	Not Detected	No HQ
Iron	1.85E+04	No TRV	No TRV	No HQ
Lead	3.19E+01	5.00E+01	6.38E-01	0.3%
Magnesium	1.66E+03	No TRV	No TRV	No HQ
Mercury	3.33E-02	3.00E-01	1.11E-01	0.0%
Nickel	1.10E+01	3.00E+01	3.67E-01	0.1%
Potassium	6.22E+02	No TRV	No TRV	No HQ
Selenium	5.00E-01	1.00E+00	5.00E-01	0.2%
Silver	1.55E-01	2.00E+00	7.75E-02	0.0%
Sodium	1.69E+02	No TRV	No TRV	No HQ
Thallium	1.90E+00	1.00E+00	1.90E+00	0.8%
Zinc	6.85E+01	5.00E+01	1.37E+00	0.6%
Organics				
Fluoranthene	4.00E-02	No TRV	No TRV	No HQ
Pyrene	3.60E-02	3.00E+01	1.20E-03	0.0%
Toluene	1.90E-02	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	4.20E-01	3.00E+01	1.40E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+02	5.00E-03	0.0%
Tetryl	3.25E-01	2.50E+01	1.30E-02	0.0%
			HI =	2.47E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-507. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 64**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.13E+04	No TRV	No TRV	No HQ
Arsenic	1.48E+01	6.00E+01	2.47E-01	0.7%
Barium	1.80E+02	No TRV	No TRV	No HQ
Beryllium	5.50E-01	No TRV	No TRV	No HQ
Cadmium	2.30E-01	2.00E+01	1.15E-02	0.0%
Calcium	1.31E+03	No TRV	No TRV	No HQ
Chromium	1.33E+01	4.00E-01	3.33E+01	97.3%
Cobalt	8.70E+00	No TRV	No TRV	No HQ
Copper	9.90E+00	5.00E+01	1.98E-01	0.6%
Cyanide		No TRV	Not Detected	No HQ
Iron	1.85E+04	No TRV	No TRV	No HQ
Lead	3.19E+01	5.00E+02	6.38E-02	0.2%
Magnesium	1.66E+03	No TRV	No TRV	No HQ
Mercury	3.33E-02	No TRV	No TRV	No HQ
Nickel	1.10E+01	2.00E+02	5.50E-02	0.2%
Potassium	6.22E+02	No TRV	No TRV	No HQ
Selenium	5.00E-01	No TRV	No TRV	No HQ
Silver	1.55E-01	No TRV	No TRV	No HQ
Sodium	1.69E+02	No TRV	No TRV	No HQ
Thallium	1.90E+00	No TRV	No TRV	No HQ
Zinc	6.85E+01	2.00E+02	3.43E-01	1.0%
Organics				
Fluoranthene	4.00E-02	No TRV	No TRV	No HQ
Pyrene	3.60E-02	3.00E+01	1.20E-03	0.0%
Toluene	1.90E-02	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	4.20E-01	1.40E+02	3.00E-03	0.0%
2,4-Dinitrotoluene	1.25E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	No TRV	No TRV	No HQ
RDX	5.00E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	No TRV	No TRV	No HQ
HI =			3.42E+01	

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-508. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03	2.22E+00	5.56E+02	87.4%
Arsenic	1.48E+01	8.00E-03	8.62E-03	6.60E-03	4.76E-02	1.08E+00	1.13E+00	1.45E-01	7.81E+00	1.2%
Barium	1.80E+02	3.00E-02	3.93E-01	7.50E-03	6.58E-01	1.31E+01	1.42E+01	1.14E+01	1.24E+00	0.2%
Beryllium	5.50E-01	2.00E-03	8.01E-05	5.00E-02	1.34E-02	4.00E-02	5.35E-02	1.41E+00	3.81E-02	0.0%
Cadmium	2.30E-01	1.10E-01	1.84E-03	1.10E+01	1.23E+00	1.67E-02	1.25E+00	2.05E+00	6.09E-01	0.1%
Calcium	1.31E+03	7.00E-01	6.68E+01	1.00E+00	6.38E+02	9.54E+01	8.00E+02	No TRV	No TRV	No HQ
Chromium	1.33E+01	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00	5.83E+03	3.44E-04	0.0%
Cobalt	8.70E+00	4.00E-03	2.53E-03	1.00E+00	4.24E+00	6.33E-01	4.87E+00	No TRV	No TRV	No HQ
Copper	9.90E+00	8.00E-02	5.77E-02	1.60E-01	7.72E-01	7.21E-01	1.55E+00	3.24E+01	4.78E-02	0.0%
Cyanide		1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.38E+02	0.00E+00	0.0%
Iron	1.85E+04	8.00E-04	1.08E+00	1.00E+00	9.01E+03	1.35E+03	1.04E+04	No TRV	No TRV	No HQ
Lead	3.19E+01	9.00E-03	2.09E-02	2.00E+00	3.11E+01	2.32E+00	3.34E+01	1.70E+01	1.96E+00	0.3%
Magnesium	1.66E+03	2.00E-01	2.42E+01	1.00E+00	8.09E+02	1.21E+02	9.54E+02	No TRV	No TRV	No HQ
Mercury	3.33E-02	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03	2.80E+00	2.99E-03	0.0%
Nickel	1.10E+01	1.20E-02	9.61E-03	2.30E-01	1.23E+00	8.01E-01	2.04E+00	8.52E+01	2.40E-02	0.0%
Potassium	6.22E+02	2.00E-01	9.06E+00	1.00E+00	3.03E+02	4.53E+01	3.57E+02	No TRV	No TRV	No HQ
Selenium	5.00E-01	5.00E-03	1.82E-04	7.60E-01	1.85E-01	3.64E-02	2.22E-01	4.26E-01	5.20E-01	0.1%
Silver	1.55E-01	8.00E-02	9.02E-04	1.50E-01	1.13E-02	1.13E-02	2.35E-02	No TRV	No TRV	No HQ
Sodium	1.69E+02	1.50E-02	1.85E-01	1.00E+00	8.23E+01	1.23E+01	9.48E+01	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00	1.59E-02	6.68E+01	10.5%
Zinc	6.85E+01	3.00E-01	1.50E+00	1.80E+00	6.01E+01	4.99E+00	6.66E+01	3.41E+02	1.95E-01	0.0%
Organics										
Fluoranthene	4.00E-02	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03	No TRV	No TRV	No HQ
Pyrene	3.60E-02	6.70E-03	1.76E-05	5.00E-02	8.77E-04	2.62E-03	3.52E-03	No TRV	No TRV	No HQ
Toluene	1.90E-02	2.00E-02	2.77E-05	5.00E-02	4.63E-04	1.38E-03	1.87E-03	2.99E+01	6.26E-05	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	2.50E-01	3.17E-01	0.0%
2,4,6-Trinitrotoluene	4.20E-01	1.00E+00	3.06E-02	1.00E+00	2.05E-01	3.06E-02	2.66E-01	3.41E+00	7.80E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	1.56E+01	5.08E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	1.49E+00	8.60E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01	3.27E+00	1.94E-01	0.0%
Nitrobenzene	1.30E-01	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01	8.44E+00	3.75E-02	0.0%
Tetryl	3.25E-01	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01	2.57E+00	8.02E-02	0.0%
									HI =	6.36E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-509. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	1.30E-04	1.12E+00	7.50E-02	6.44E+02	1.79E+03	2.43E+03	1.29E+02	1.88E+01	27.9%
Arsenic	1.48E+01	1.20E-03	1.35E-02	6.60E-03	7.42E-02	2.34E+00	2.43E+00	9.66E+00	2.51E-01	0.4%
Barium	1.80E+02	3.00E-03	4.10E-01	7.50E-03	1.03E+00	2.85E+01	2.99E+01	2.31E+01	1.29E+00	1.9%
Beryllium	5.50E-01	3.00E-04	1.25E-04	5.00E-02	2.09E-02	8.69E-02	1.08E-01	No TRV	No TRV	No HQ
Cadmium	2.30E-01	3.00E-02	5.24E-03	1.10E+01	1.92E+00	3.64E-02	1.96E+00	2.83E+00	6.95E-01	1.0%
Calcium	1.31E+03	7.00E-02	6.97E+01	1.00E+00	9.96E+02	2.07E+02	1.27E+03	No TRV	No TRV	No HQ
Chromium	1.33E+01	9.00E-04	9.10E-03	1.60E-01	1.62E+00	2.10E+00	3.73E+00	1.99E+00	1.88E+00	2.8%
Cobalt	8.70E+00	1.40E-03	9.26E-03	1.00E+00	6.61E+00	1.38E+00	8.00E+00	No TRV	No TRV	No HQ
Copper	9.90E+00	5.00E-02	3.76E-01	1.60E-01	1.20E+00	1.56E+00	3.15E+00	7.55E+01	4.17E-02	0.1%
Cyanide		1.00E+00	Not Detected	0.00E+00	Not Detected	0.00E+00	No Value	No TRV	No TRV	No HQ
Iron	1.85E+04	2.00E-04	2.81E+00	1.00E+00	1.41E+04	2.92E+03	1.70E+04	No TRV	No TRV	No HQ
Lead	3.19E+01	1.80E-03	4.36E-02	2.00E+00	4.85E+01	5.04E+00	5.36E+01	1.32E+00	4.05E+01	60.1%
Magnesium	1.66E+03	1.10E-01	1.39E+02	1.00E+00	1.26E+03	2.62E+02	1.66E+03	No TRV	No TRV	No HQ
Mercury	3.33E-02	4.00E-02	1.01E-03	3.40E-01	8.60E-03	5.26E-03	1.49E-02	5.27E-01	2.82E-02	0.0%
Nickel	1.10E+01	1.20E-02	1.00E-01	2.30E-01	1.92E+00	1.74E+00	3.76E+00	1.37E+02	2.75E-02	0.0%
Potassium	6.22E+02	1.10E-01	5.20E+01	1.00E+00	4.73E+02	9.83E+01	6.23E+02	No TRV	No TRV	No HQ
Selenium	5.00E-01	5.00E-03	1.90E-03	7.60E-01	2.89E-01	7.90E-02	3.70E-01	9.40E-01	3.93E-01	0.6%
Silver	1.55E-01	2.00E-02	2.35E-03	1.50E-01	1.77E-02	2.45E-02	4.45E-02	No TRV	No TRV	No HQ
Sodium	1.69E+02	1.10E-02	1.41E+00	1.00E+00	1.28E+02	2.67E+01	1.57E+02	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-05	1.16E-04	1.00E+00	1.44E+00	3.00E-01	1.74E+00	No TRV	No TRV	No HQ
Zinc	6.85E+01	1.80E-01	9.37E+00	1.80E+00	9.37E+01	1.08E+01	1.14E+02	3.21E+01	3.54E+00	5.3%
Organics										
Fluoranthene	4.00E-02	2.00E-02	6.08E-04	5.00E-02	1.52E-03	6.32E-03	8.45E-03	No TRV	No TRV	No HQ
Pyrene	3.60E-02	6.70E-03	1.83E-04	5.00E-02	1.37E-03	5.69E-03	7.24E-03	No TRV	No TRV	No HQ
Toluene	1.90E-02	2.00E-02	2.89E-04	5.00E-02	7.22E-04	3.00E-03	4.01E-03	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	4.20E-01	1.00E+00	3.19E-01	1.00E+00	3.19E-01	6.64E-02	7.05E-01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	9.50E-02	1.00E+00	9.50E-02	1.98E-02	2.10E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	7.60E-01	1.00E+00	7.60E-01	1.58E-01	1.68E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.30E-01	2.00E-02	1.98E-03	5.00E-02	4.94E-03	2.06E-02	2.75E-02	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	3.80E-01	1.00E+00	3.80E-01	7.90E-02	8.39E-01	No TRV	No TRV	No HQ
Tetryl	3.25E-01	1.00E+00	2.47E-01	1.00E+00	2.47E-01	5.14E-02	5.45E-01	No TRV	No TRV	No HQ
									HI =	6.75E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) 7.60E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-510. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	8.00E-04	1.85E+00	7.50E-02	0.00E+00	1.46E+02	1.48E+02	7.63E-01	1.94E+02	94.8%
Arsenic	1.48E+01	8.00E-03	2.43E-02	6.60E-03	0.00E+00	1.91E-01	2.15E-01	4.98E-02	4.33E+00	2.1%
Barium	1.80E+02	3.00E-02	1.11E+00	7.50E-03	0.00E+00	2.32E+00	3.43E+00	3.90E+00	8.79E-01	0.4%
Beryllium	5.50E-01	2.00E-03	2.26E-04	5.00E-02	0.00E+00	7.10E-03	7.33E-03	4.82E-01	1.52E-02	0.0%
Cadmium	2.30E-01	1.10E-01	5.19E-03	1.10E+01	0.00E+00	2.97E-03	8.16E-03	7.05E-01	1.16E-02	0.0%
Calcium	1.31E+03	7.00E-01	1.88E+02	1.00E+00	0.00E+00	1.69E+01	2.05E+02	No TRV	No TRV	No HQ
Chromium	1.33E+01	1.50E-03	4.09E-03	1.60E-01	0.00E+00	1.72E-01	1.76E-01	2.00E+03	8.80E-05	0.0%
Cobalt	8.70E+00	4.00E-03	7.13E-03	1.00E+00	0.00E+00	1.12E-01	1.19E-01	No TRV	No TRV	No HQ
Copper	9.90E+00	8.00E-02	1.62E-01	1.60E-01	0.00E+00	1.28E-01	2.90E-01	1.11E+01	2.61E-02	0.0%
Cyanide		1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.72E+01	0.00E+00	0.0%
Iron	1.85E+04	8.00E-04	3.03E+00	1.00E+00	0.00E+00	2.39E+02	2.42E+02	No TRV	No TRV	No HQ
Lead	3.19E+01	9.00E-03	5.89E-02	2.00E+00	0.00E+00	4.12E-01	4.71E-01	5.84E+00	8.06E-02	0.0%
Magnesium	1.66E+03	2.00E-01	6.81E+01	1.00E+00	0.00E+00	2.14E+01	8.95E+01	No TRV	No TRV	No HQ
Mercury	3.33E-02	1.80E-01	1.23E-03	3.40E-01	0.00E+00	4.30E-04	1.66E-03	9.59E-01	1.73E-03	0.0%
Nickel	1.10E+01	1.20E-02	2.71E-02	2.30E-01	0.00E+00	1.42E-01	1.69E-01	2.92E+01	5.79E-03	0.0%
Potassium	6.22E+02	2.00E-01	2.55E+01	1.00E+00	0.00E+00	8.03E+00	3.35E+01	No TRV	No TRV	No HQ
Selenium	5.00E-01	5.00E-03	5.13E-04	7.60E-01	0.00E+00	6.46E-03	6.97E-03	1.46E-01	4.77E-02	0.0%
Silver	1.55E-01	8.00E-02	2.54E-03	1.50E-01	0.00E+00	2.00E-03	4.54E-03	No TRV	No TRV	No HQ
Sodium	1.69E+02	1.50E-02	5.20E-01	1.00E+00	0.00E+00	2.18E+00	2.70E+00	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-04	3.12E-04	1.00E+00	0.00E+00	2.45E-02	2.49E-02	5.46E-03	4.55E+00	2.2%
Zinc	6.85E+01	3.00E-01	4.21E+00	1.80E+00	0.00E+00	8.85E-01	5.10E+00	1.17E+02	4.36E-02	0.0%
Organics										
Fluoranthene	4.00E-02	2.00E-02	1.64E-04	5.00E-02	0.00E+00	5.17E-04	6.81E-04	No TRV	No TRV	No HQ
Pyrene	3.60E-02	6.70E-03	4.94E-05	5.00E-02	0.00E+00	4.65E-04	5.14E-04	No TRV	No TRV	No HQ
Toluene	1.90E-02	2.00E-02	7.79E-05	5.00E-02	0.00E+00	2.45E-04	3.23E-04	1.03E+01	3.15E-05	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	8.55E-02	3.18E-01	0.2%
2,4,6-Trinitrotoluene	4.20E-01	1.00E+00	8.61E-02	1.00E+00	0.00E+00	5.42E-03	9.15E-02	1.17E+00	7.83E-02	0.0%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	5.34E+00	5.11E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	5.11E-01	4.33E-03	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	2.56E-02	1.00E+00	0.00E+00	1.61E-03	2.72E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	2.05E-01	1.00E+00	0.00E+00	1.29E-02	2.18E-01	1.12E+00	1.94E-01	0.1%

Appendix Table L-510. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _v	ADDP	BAF _v	ADDA	ADDS	ADD _{total}	TRV (mg/kgBW/d)	Site HQ	%HI HQ/HI x 100
			(mg/kgBW/d) EPC x SP _v x IP x AUF		(mg/kgBW/d) EPC x BAF _v x IA x AUF		(mg/kgBW/d) EPC x IS x AUF		(mg/kgBW/d) ADD _p + ADD _A + ADD _S	
Nitrobenzene	1.30E-01	2.00E-02	5.33E-04	5.00E-02	0.00E+00	1.68E-03	2.21E-03	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.03E-01	1.00E+00	0.00E+00	6.46E-03	1.09E-01	2.89E+00	3.77E-02	0.0%
Tetryl	3.25E-01	1.00E+00	6.66E-02	1.00E+00	0.00E+00	4.20E-03	7.08E-02	8.80E-01	8.05E-02	0.0%
HI =									2.04E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-511 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.13E+04	8.00E-04	2.80E-01	7.50E-02	0.00E+00	7.01E+00	7.29E+00	2.93E-01	2.49E+01	93.4%
Arsenic	1.48E+01	8.00E-03	3.67E-03	6.60E-03	0.00E+00	9.18E-03	1.28E-02	1.91E-02	6.72E-01	2.5%
Barium	1.80E+02	3.00E-02	1.67E-01	7.50E-03	0.00E+00	1.12E-01	2.79E-01	1.50E+00	1.86E-01	0.7%
Beryllium	5.50E-01	2.00E-03	3.41E-05	5.00E-02	0.00E+00	3.41E-04	3.75E-04	1.85E-01	2.03E-03	0.0%
Cadmium	2.30E-01	1.10E-01	7.84E-04	1.10E+01	0.00E+00	1.43E-04	9.27E-04	2.71E-01	3.43E-03	0.0%
Calcium	1.31E+03	7.00E-01	2.84E+01	1.00E+00	0.00E+00	8.12E-01	2.92E+01	No TRV	No TRV	No HQ
Chromium	1.33E+01	1.50E-03	6.18E-04	1.60E-01	0.00E+00	8.25E-03	8.86E-03	7.68E+02	1.15E-05	0.0%
Cobalt	8.70E+00	4.00E-03	1.08E-03	1.00E+00	0.00E+00	5.39E-03	6.47E-03	No TRV	No TRV	No HQ
Copper	9.90E+00	8.00E-02	2.46E-02	1.60E-01	0.00E+00	6.14E-03	3.07E-02	4.27E+00	7.19E-03	0.0%
Cyanide		1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.81E+01	0.00E+00	0.0%
Iron	1.85E+04	8.00E-04	4.59E-01	1.00E+00	0.00E+00	1.15E+01	1.19E+01	No TRV	No TRV	No HQ
Lead	3.19E+01	9.00E-03	8.90E-03	2.00E+00	0.00E+00	1.98E-02	2.87E-02	2.24E+00	1.28E-02	0.0%
Magnesium	1.66E+03	2.00E-01	1.03E+01	1.00E+00	0.00E+00	1.03E+00	1.13E+01	No TRV	No TRV	No HQ
Mercury	3.33E-02	1.80E-01	1.86E-04	3.40E-01	0.00E+00	2.06E-05	2.06E-04	3.68E-01	5.60E-04	0.0%
Nickel	1.10E+01	1.20E-02	4.09E-03	2.30E-01	0.00E+00	6.82E-03	1.09E-02	1.12E+01	9.72E-04	0.0%
Potassium	6.22E+02	2.00E-01	3.86E+00	1.00E+00	0.00E+00	3.86E-01	4.24E+00	No TRV	No TRV	No HQ
Selenium	5.00E-01	5.00E-03	7.75E-05	7.60E-01	0.00E+00	3.10E-04	3.88E-04	5.61E-02	6.91E-03	0.0%
Silver	1.55E-01	8.00E-02	3.84E-04	1.50E-01	0.00E+00	9.60E-05	4.80E-04	No TRV	No TRV	No HQ
Sodium	1.69E+02	1.50E-02	7.86E-02	1.00E+00	0.00E+00	1.05E-01	1.83E-01	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-04	4.71E-05	1.00E+00	0.00E+00	1.18E-03	1.23E-03	2.10E-03	5.84E-01	2.2%
Zinc	6.85E+01	3.00E-01	6.37E-01	1.80E+00	0.00E+00	4.25E-02	6.80E-01	4.49E+01	1.51E-02	0.1%
Organics										
Fluoranthene	4.00E-02	2.00E-02	2.48E-05	5.00E-02	0.00E+00	2.48E-05	4.96E-05	No TRV	No TRV	No HQ
Pyrene	3.60E-02	6.70E-03	7.48E-06	5.00E-02	0.00E+00	2.23E-05	2.98E-05	No TRV	No TRV	No HQ
Toluene	1.90E-02	2.00E-02	1.18E-05	5.00E-02	0.00E+00	1.18E-05	2.36E-05	3.94E+00	5.97E-06	0.0%
Explosives										
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	3.29E-02	1.20E-01	0.5%
2,4,6-Trinitrotoluene	4.20E-01	1.00E+00	1.30E-02	1.00E+00	0.00E+00	2.60E-04	1.33E-02	4.49E-01	2.96E-02	0.1%
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	2.05E+00	1.93E-03	0.0%
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	1.96E-01	8.21E-04	0.0%
2-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
4-Nitrotoluene	1.25E-01	1.00E+00	3.88E-03	1.00E+00	0.00E+00	7.75E-05	3.95E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.00E+00	3.10E-02	1.00E+00	0.00E+00	6.20E-04	3.16E-02	4.31E-01	7.34E-02	0.3%
Nitrobenzene	1.30E-01	2.00E-02	8.06E-05	5.00E-02	0.00E+00	8.06E-05	1.61E-04	No TRV	No TRV	No HQ
RDX	5.00E-01	1.00E+00	1.55E-02	1.00E+00	0.00E+00	3.10E-04	1.58E-02	1.11E+00	1.42E-02	0.1%

Appendix Table L-511 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP_v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Tetryl	3.25E-01	1.00E+00	1.01E-02	1.00E+00	0.00E+00	2.02E-04	1.03E-02	3.38E-01	3.04E-02	0.1%
									HI =	2.66E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-512. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.13E+04	1.30E-04	0.00E+00	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03
Arsenic	1.48E+01	1.20E-03	0.00E+00	8.00E-03	8.62E-03	6.60E-03	4.76E-02	1.08E+00	1.13E+00
Barium	1.80E+02	3.00E-03	0.00E+00	3.00E-02	3.93E-01	7.50E-03	6.58E-01	1.31E+01	1.42E+01
Beryllium	5.50E-01	3.00E-04	0.00E+00	2.00E-03	8.01E-05	5.00E-02	1.34E-02	4.00E-02	5.35E-02
Cadmium	2.30E-01	3.00E-02	0.00E+00	1.10E-01	1.84E-03	1.10E+01	1.23E+00	1.67E-02	1.25E+00
Calcium	1.31E+03	7.00E-02	0.00E+00	7.00E-01	6.68E+01	1.00E+00	6.38E+02	9.54E+01	8.00E+02
Chromium	1.33E+01	9.00E-04	0.00E+00	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00
Cobalt	8.70E+00	1.40E-03	0.00E+00	4.00E-03	2.53E-03	1.00E+00	4.24E+00	6.33E-01	4.87E+00
Copper	9.90E+00	5.00E-02	0.00E+00	8.00E-02	5.77E-02	1.60E-01	7.72E-01	7.21E-01	1.55E+00
Cyanide		1.00E+00	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	1.85E+04	2.00E-04	0.00E+00	8.00E-04	1.08E+00	1.00E+00	9.01E+03	1.35E+03	1.04E+04
Lead	3.19E+01	1.80E-03	0.00E+00	9.00E-03	2.09E-02	2.00E+00	3.11E+01	2.32E+00	3.34E+01
Magnesium	1.66E+03	1.10E-01	0.00E+00	2.00E-01	2.42E+01	1.00E+00	8.09E+02	1.21E+02	9.54E+02
Mercury	3.33E-02	4.00E-02	0.00E+00	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03
Nickel	1.10E+01	1.20E-02	0.00E+00	1.20E-02	9.61E-03	2.30E-01	1.23E+00	8.01E-01	2.04E+00
Potassium	6.22E+02	1.10E-01	0.00E+00	2.00E-01	9.06E+00	1.00E+00	3.03E+02	4.53E+01	3.57E+02
Selenium	5.00E-01	5.00E-03	0.00E+00	5.00E-03	1.82E-04	7.60E-01	1.85E-01	3.64E-02	2.22E-01
Silver	1.55E-01	2.00E-02	0.00E+00	8.00E-02	9.02E-04	1.50E-01	1.13E-02	1.13E-02	2.35E-02
Sodium	1.69E+02	1.10E-02	0.00E+00	1.50E-02	1.85E-01	1.00E+00	8.23E+01	1.23E+01	9.48E+01
Thallium	1.90E+00	8.00E-05	0.00E+00	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00
Zinc	6.85E+01	1.80E-01	0.00E+00	3.00E-01	1.50E+00	1.80E+00	6.01E+01	4.99E+00	6.66E+01
Organics									
Fluoranthene	4.00E-02	2.00E-02	0.00E+00	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03
Pyrene	3.60E-02	6.70E-03	0.00E+00	6.70E-03	1.76E-05	5.00E-02	8.77E-04	2.62E-03	3.52E-03
Toluene	1.90E-02	2.00E-02	0.00E+00	2.00E-02	2.77E-05	5.00E-02	4.63E-04	1.38E-03	1.87E-03
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	4.20E-01	1.00E+00	0.00E+00	1.00E+00	3.06E-02	1.00E+00	2.05E-01	3.06E-02	2.66E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01

Appendix Table L-512. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.66E+02	1.82E+01	0.00E+00	1.82E+01	6.68E+01	2.73E-01	5.9%
Arsenic	1.00E-01	2.02E-01	2.23E-02	0.00E+00	2.23E-02	4.98E+00	4.47E-03	0.1%
Barium	7.50E-03	1.90E-01	2.09E-02	0.00E+00	2.09E-02	1.19E+01	1.75E-03	0.0%
Beryllium	5.00E-02	4.78E-03	5.26E-04	0.00E+00	5.26E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	6.26E-02	6.88E-03	0.00E+00	6.88E-03	1.46E+00	4.72E-03	0.1%
Calcium	1.00E+00	1.43E+03	1.57E+02	0.00E+00	1.57E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.00E+00	1.10E-01	0.00E+00	1.10E-01	1.03E+00	1.08E-01	2.3%
Cobalt	1.00E+00	8.70E+00	9.57E-01	0.00E+00	9.57E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.38E+00	1.52E-01	0.00E+00	1.52E-01	3.89E+01	3.91E-03	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	1.85E+04	2.04E+03	0.00E+00	2.04E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	8.95E-01	9.85E-02	0.00E+00	9.85E-02	6.82E-01	1.44E-01	3.1%
Magnesium	1.00E+00	1.70E+03	1.87E+02	0.00E+00	1.87E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.94E-01	2.14E-02	0.00E+00	2.14E-02	2.72E-01	7.87E-02	1.7%
Nickel	3.00E-01	1.09E+00	1.20E-01	0.00E+00	1.20E-01	7.06E+01	1.71E-03	0.0%
Potassium	1.00E+00	6.38E+02	7.02E+01	0.00E+00	7.02E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	2.97E-01	3.27E-02	0.00E+00	3.27E-02	4.85E-01	6.74E-02	1.5%
Silver	1.50E-01	6.29E-03	6.92E-04	0.00E+00	6.92E-04	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.69E+02	1.86E+01	0.00E+00	1.86E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.90E+00	2.09E-01	0.00E+00	2.09E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.94E+02	6.54E+01	0.00E+00	6.54E+01	1.66E+01	3.94E+00	85.2%
Fluoranthene	1.30E-01	9.16E-04	1.01E-04	0.00E+00	1.01E-04	No TRV	No TRV	No HQ
Pyrene	3.00E-01	1.88E-03	2.07E-04	0.00E+00	2.07E-04	No TRV	No TRV	No HQ
Toluene	7.60E-04	2.54E-06	2.80E-07	0.00E+00	2.80E-07	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	4.75E-01	5.22E-02	0.00E+00	5.22E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	4.78E-07	0.00E+00	4.78E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.55E-02	0.00E+00	1.55E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.24E-01	0.00E+00	1.24E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.02E-07	0.00E+00	3.02E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	6.22E-02	0.00E+00	6.22E-02	No TRV	No TRV	No HQ

Appendix Table L-512. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02
 AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.10E-01
 ADD_S = Average daily dose; soil
 I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-512. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Tetryl	1.00E+00	3.67E-01	4.04E-02	0.00E+00	4.04E-02	No TRV	No TRV	No HQ
HI =							4.63E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-513. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S
Inorganics									
Aluminum	1.13E+04	1.30E-04	0.00E+00	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03
Arsenic	1.48E+01	1.20E-03	0.00E+00	8.00E-03	8.62E-03	6.60E-03	4.76E-02	1.08E+00	1.13E+00
Barium	1.80E+02	3.00E-03	0.00E+00	3.00E-02	3.93E-01	7.50E-03	6.58E-01	1.31E+01	1.42E+01
Beryllium	5.50E-01	3.00E-04	0.00E+00	2.00E-03	8.01E-05	5.00E-02	1.34E-02	4.00E-02	5.35E-02
Cadmium	2.30E-01	3.00E-02	0.00E+00	1.10E-01	1.84E-03	1.10E+01	1.23E+00	1.67E-02	1.25E+00
Calcium	1.31E+03	7.00E-02	0.00E+00	7.00E-01	6.68E+01	1.00E+00	6.38E+02	9.54E+01	8.00E+02
Chromium	1.33E+01	9.00E-04	0.00E+00	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00
Cobalt	8.70E+00	1.40E-03	0.00E+00	4.00E-03	2.53E-03	1.00E+00	4.24E+00	6.33E-01	4.87E+00
Copper	9.90E+00	5.00E-02	0.00E+00	8.00E-02	5.77E-02	1.60E-01	7.72E-01	7.21E-01	1.55E+00
Cyanide		1.00E+00	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	1.85E+04	2.00E-04	0.00E+00	8.00E-04	1.08E+00	1.00E+00	9.01E+03	1.35E+03	1.04E+04
Lead	3.19E+01	1.80E-03	0.00E+00	9.00E-03	2.09E-02	2.00E+00	3.11E+01	2.32E+00	3.34E+01
Magnesium	1.66E+03	1.10E-01	0.00E+00	2.00E-01	2.42E+01	1.00E+00	8.09E+02	1.21E+02	9.54E+02
Mercury	3.33E-02	4.00E-02	0.00E+00	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03
Nickel	1.10E+01	1.20E-02	0.00E+00	1.20E-02	9.61E-03	2.30E-01	1.23E+00	8.01E-01	2.04E+00
Potassium	6.22E+02	1.10E-01	0.00E+00	2.00E-01	9.06E+00	1.00E+00	3.03E+02	4.53E+01	3.57E+02
Selenium	5.00E-01	5.00E-03	0.00E+00	5.00E-03	1.82E-04	7.60E-01	1.85E-01	3.64E-02	2.22E-01
Silver	1.55E-01	2.00E-02	0.00E+00	8.00E-02	9.02E-04	1.50E-01	1.13E-02	1.13E-02	2.35E-02
Sodium	1.69E+02	1.10E-02	0.00E+00	1.50E-02	1.85E-01	1.00E+00	8.23E+01	1.23E+01	9.48E+01
Thallium	1.90E+00	8.00E-05	0.00E+00	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00
Zinc	6.85E+01	1.80E-01	0.00E+00	3.00E-01	1.50E+00	1.80E+00	6.01E+01	4.99E+00	6.66E+01
Organics									
Fluoranthene	4.00E-02	2.00E-02	0.00E+00	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03
Pyrene	3.60E-02	6.70E-03	0.00E+00	6.70E-03	1.76E-05	5.00E-02	8.77E-04	2.62E-03	3.52E-03
Toluene	1.90E-02	2.00E-02	0.00E+00	2.00E-02	2.77E-05	5.00E-02	4.63E-04	1.38E-03	1.87E-03
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	4.20E-01	1.00E+00	0.00E+00	1.00E+00	3.06E-02	1.00E+00	2.05E-01	3.06E-02	2.66E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
4-Nitrotoluene	1.25E-01	1.00E+00	0.00E+00	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	0.00E+00	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	0.00E+00	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	0.00E+00	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01

Appendix Table L-513. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.66E+02	2.07E+01	0.00E+00	2.07E+01	8.33E+01	2.48E-01	5.9%
Arsenic	1.00E-01	2.02E-01	2.53E-02	0.00E+00	2.53E-02	6.22E+00	4.07E-03	0.1%
Barium	7.50E-03	1.90E-01	2.37E-02	0.00E+00	2.37E-02	1.49E+01	1.59E-03	0.0%
Beryllium	5.00E-02	4.78E-03	5.97E-04	0.00E+00	5.97E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	6.26E-02	7.82E-03	0.00E+00	7.82E-03	1.82E+00	4.30E-03	0.1%
Calcium	1.00E+00	1.43E+03	1.79E+02	0.00E+00	1.79E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.00E+00	1.25E-01	0.00E+00	1.25E-01	1.28E+00	9.80E-02	2.3%
Cobalt	1.00E+00	8.70E+00	1.09E+00	0.00E+00	1.09E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	1.38E+00	1.73E-01	0.00E+00	1.73E-01	4.86E+01	3.56E-03	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	1.85E+04	2.31E+03	0.00E+00	2.31E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	8.95E-01	1.12E-01	0.00E+00	1.12E-01	8.51E-01	1.31E-01	3.1%
Magnesium	1.00E+00	1.70E+03	2.13E+02	0.00E+00	2.13E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.94E-01	2.43E-02	0.00E+00	2.43E-02	3.39E-01	7.17E-02	1.7%
Nickel	3.00E-01	1.09E+00	1.37E-01	0.00E+00	1.37E-01	8.81E+01	1.55E-03	0.0%
Potassium	1.00E+00	6.38E+02	7.98E+01	0.00E+00	7.98E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	2.97E-01	3.71E-02	0.00E+00	3.71E-02	6.05E-01	6.13E-02	1.5%
Silver	1.50E-01	6.29E-03	7.87E-04	0.00E+00	7.87E-04	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.69E+02	2.12E+01	0.00E+00	2.12E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.90E+00	2.38E-01	0.00E+00	2.38E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.94E+02	7.43E+01	0.00E+00	7.43E+01	2.07E+01	3.59E+00	85.2%
Fluoranthene	1.30E-01	9.16E-04	1.14E-04	0.00E+00	1.14E-04	No TRV	No TRV	No HQ
Pyrene	3.00E-01	1.88E-03	2.35E-04	0.00E+00	2.35E-04	No TRV	No TRV	No HQ
Toluene	7.60E-04	2.54E-06	3.18E-07	0.00E+00	3.18E-07	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	4.75E-01	5.93E-02	0.00E+00	5.93E-02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.35E-06	5.44E-07	0.00E+00	5.44E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.41E-01	1.77E-02	0.00E+00	1.77E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	1.41E-01	0.00E+00	1.41E-01	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	2.75E-06	3.43E-07	0.00E+00	3.43E-07	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	7.06E-02	0.00E+00	7.06E-02	No TRV	No TRV	No HQ

Appendix Table L-513. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Tetryl	3.25E-01	1.00E+00	0.00E+00	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-513. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Tetryl	1.00E+00	3.67E-01	4.59E-02	0.00E+00	4.59E-02	No TRV	No TRV	No HQ
HI =							4.22E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-514. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.13E+04	1.30E-04	4.66E-03	8.00E-04	6.58E-01	7.50E-02	4.13E+02	8.23E+02	1.24E+03
Arsenic	1.48E+01	1.20E-03	5.64E-05	8.00E-03	8.62E-03	6.60E-03	4.76E-02	1.08E+00	1.13E+00
Barium	1.80E+02	3.00E-03	1.71E-03	3.00E-02	3.93E-01	7.50E-03	6.58E-01	1.31E+01	1.42E+01
Beryllium	5.50E-01	3.00E-04	5.24E-07	2.00E-03	8.01E-05	5.00E-02	1.34E-02	4.00E-02	5.35E-02
Cadmium	2.30E-01	3.00E-02	2.19E-05	1.10E-01	1.84E-03	1.10E+01	1.23E+00	1.67E-02	1.25E+00
Calcium	1.31E+03	7.00E-02	2.91E-01	7.00E-01	6.68E+01	1.00E+00	6.38E+02	9.54E+01	8.00E+02
Chromium	1.33E+01	9.00E-04	3.80E-05	1.50E-03	1.45E-03	1.60E-01	1.04E+00	9.68E-01	2.01E+00
Cobalt	8.70E+00	1.40E-03	3.87E-05	4.00E-03	2.53E-03	1.00E+00	4.24E+00	6.33E-01	4.87E+00
Copper	9.90E+00	5.00E-02	1.57E-03	8.00E-02	5.77E-02	1.60E-01	7.72E-01	7.21E-01	1.55E+00
Cyanide		1.00E+00	0.00E+00	1.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iron	1.85E+04	2.00E-04	1.17E-02	8.00E-04	1.08E+00	1.00E+00	9.01E+03	1.35E+03	1.04E+04
Lead	3.19E+01	1.80E-03	1.82E-04	9.00E-03	2.09E-02	2.00E+00	3.11E+01	2.32E+00	3.34E+01
Magnesium	1.66E+03	1.10E-01	5.80E-01	2.00E-01	2.42E+01	1.00E+00	8.09E+02	1.21E+02	9.54E+02
Mercury	3.33E-02	4.00E-02	4.23E-06	1.80E-01	4.36E-04	3.40E-01	5.51E-03	2.42E-03	8.37E-03
Nickel	1.10E+01	1.20E-02	4.19E-04	1.20E-02	9.61E-03	2.30E-01	1.23E+00	8.01E-01	2.04E+00
Potassium	6.22E+02	1.10E-01	2.17E-01	2.00E-01	9.06E+00	1.00E+00	3.03E+02	4.53E+01	3.57E+02
Selenium	5.00E-01	5.00E-03	7.94E-06	5.00E-03	1.82E-04	7.60E-01	1.85E-01	3.64E-02	2.22E-01
Silver	1.55E-01	2.00E-02	9.83E-06	8.00E-02	9.02E-04	1.50E-01	1.13E-02	1.13E-02	2.35E-02
Sodium	1.69E+02	1.10E-02	5.90E-03	1.50E-02	1.85E-01	1.00E+00	8.23E+01	1.23E+01	9.48E+01
Thallium	1.90E+00	8.00E-05	4.82E-07	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00
Zinc	6.85E+01	1.80E-01	3.91E-02	3.00E-01	1.50E+00	1.80E+00	6.01E+01	4.99E+00	6.66E+01
Organics									
Fluoranthene	4.00E-02	2.00E-02	2.54E-06	2.00E-02	5.82E-05	5.00E-02	9.74E-04	2.91E-03	3.94E-03
Pyrene	3.60E-02	6.70E-03	7.66E-07	6.70E-03	1.76E-05	5.00E-02	8.77E-04	2.62E-03	3.52E-03
Toluene	1.90E-02	2.00E-02	1.21E-06	2.00E-02	2.77E-05	5.00E-02	4.63E-04	1.38E-03	1.87E-03
Explosives									
1,3,5-Trinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
1,3-Dinitrobenzene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,4,6-Trinitrotoluene	4.20E-01	1.00E+00	1.33E-03	1.00E+00	3.06E-02	1.00E+00	2.05E-01	3.06E-02	2.66E-01
2,4-Dinitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
2,6-Dinitrotoluene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
2-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
3-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02

Appendix Table L-514. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.66E+02	1.09E+01	2.18E+01	3.27E+01	5.46E-01	6.00E+01	62.9%
Arsenic	1.00E-01	2.02E-01	1.33E-02	2.86E-02	4.20E-02	3.56E-02	1.18E+00	1.2%
Barium	7.50E-03	1.90E-01	1.25E-02	3.48E-01	3.62E-01	2.79E+00	1.30E-01	0.1%
Beryllium	5.00E-02	4.78E-03	3.15E-04	1.06E-03	1.38E-03	3.45E-01	3.99E-03	0.0%
Cadmium	2.80E-02	6.26E-02	4.12E-03	4.44E-04	4.58E-03	5.04E-01	9.09E-03	0.0%
Calcium	1.00E+00	1.43E+03	9.41E+01	2.53E+00	9.69E+01	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.00E+00	6.60E-02	2.57E-02	9.18E-02	1.43E+03	6.42E-05	0.0%
Cobalt	1.00E+00	8.70E+00	5.73E-01	1.68E-02	5.90E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	1.38E+00	9.11E-02	1.91E-02	1.12E-01	7.96E+00	1.41E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.37E+01	0.00E+00	0.0%
Iron	1.00E+00	1.85E+04	1.22E+03	3.57E+01	1.25E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	8.95E-01	5.89E-02	6.16E-02	1.21E-01	4.18E+00	2.89E-02	0.0%
Magnesium	1.00E+00	1.70E+03	1.12E+02	3.21E+00	1.16E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.94E-01	1.28E-02	6.43E-05	1.29E-02	6.86E-01	1.87E-02	0.0%
Nickel	3.00E-01	1.09E+00	7.20E-02	2.13E-02	9.37E-02	2.09E+01	4.48E-03	0.0%
Potassium	1.00E+00	6.38E+02	4.20E+01	1.20E+00	4.34E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	2.97E-01	1.95E-02	9.66E-04	2.05E-02	1.05E-01	1.96E-01	0.2%
Silver	1.50E-01	6.29E-03	4.14E-04	2.99E-04	7.23E-04	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.69E+02	1.11E+01	3.27E-01	1.15E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.90E+00	1.25E-01	3.67E-03	1.29E-01	3.91E-03	3.29E+01	34.6%
Zinc	5.00E+00	5.94E+02	3.91E+01	1.32E-01	3.93E+01	8.36E+01	4.70E-01	0.5%
Fluoranthene	1.30E-01	9.16E-04	6.03E-05	7.73E-05	1.40E-04	No TRV	No TRV	No HQ
Pyrene	3.00E-01	1.88E-03	1.24E-04	6.96E-05	1.94E-04	No TRV	No TRV	No HQ
Toluene	7.60E-04	2.54E-06	1.67E-07	3.67E-05	3.81E-05	7.35E+00	5.18E-06	0.0%
1,3,5-Trinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	1.68E+00	5.92E-03	0.0%
1,3-Dinitrobenzene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	6.12E-02	1.62E-01	0.2%
2,4,6-Trinitrotoluene	1.00E+00	4.75E-01	3.12E-02	8.11E-04	3.34E-02	8.36E-01	3.99E-02	0.0%
2,4-Dinitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	3.82E+00	2.60E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.35E-06	2.86E-07	2.51E-04	2.60E-04	3.66E-01	7.10E-04	0.0%
2-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ

Appendix Table L-514. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 64

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
4-Nitrotoluene	1.25E-01	1.00E+00	3.97E-04	1.00E+00	9.10E-03	1.00E+00	6.09E-02	9.10E-03	7.91E-02
HMX	1.00E+00	1.00E+00	3.17E-03	1.00E+00	7.28E-02	1.00E+00	4.87E-01	7.28E-02	6.33E-01
Nitrobenzene	1.30E-01	2.00E-02	8.25E-06	2.00E-02	1.89E-04	5.00E-02	3.17E-03	9.46E-03	1.28E-02
RDX	5.00E-01	1.00E+00	1.59E-03	1.00E+00	3.64E-02	1.00E+00	2.44E-01	3.64E-02	3.16E-01
Tetryl	3.25E-01	1.00E+00	1.03E-03	1.00E+00	2.37E-02	1.00E+00	1.58E-01	2.37E-02	2.06E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-514. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
4-Nitrotoluene	1.00E+00	1.41E-01	9.30E-03	2.42E-04	9.94E-03	No TRV	No TRV	No HQ
HMX	1.00E+00	1.13E+00	7.44E-02	1.93E-03	7.95E-02	8.02E-01	9.91E-02	0.1%
Nitrobenzene	1.20E-04	2.75E-06	1.81E-07	2.51E-04	2.60E-04	No TRV	No TRV	No HQ
RDX	1.00E+00	5.65E-01	3.72E-02	9.66E-04	3.97E-02	2.07E+00	1.92E-02	0.0%
Tetryl	1.00E+00	3.67E-01	2.42E-02	6.28E-04	2.58E-02	6.30E-01	4.10E-02	0.0%
HI =							9.53E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-515. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.75E+04	5.00E+01	3.50E+02	92.1%
Arsenic	1.72E+01	1.00E+01	1.72E+00	0.5%
Barium	1.70E+02	5.00E+02	3.40E-01	0.1%
Cadmium	1.20E-01	5.00E-01	2.40E-01	0.1%
Chromium	2.30E+01	1.00E+00	2.30E+01	6.1%
Lead	4.92E+01	5.00E+01	9.84E-01	0.3%
Silver	2.70E-01	2.00E+00	1.35E-01	0.0%
Zinc	1.70E+02	5.00E+01	3.40E+00	0.9%
Explosives				
2,4,6-Trinitrotoluene	5.30E-01	3.00E+01	1.77E-02	0.0%
			HI =	3.80E+02

EPC = Exposure point concentration
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

**Appendix Table L-516. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 65**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.75E+04	No TRV	No TRV	No HQ
Arsenic	1.72E+01	6.00E+01	2.87E-01	0.5%
Barium	1.70E+02	No TRV	No TRV	No HQ
Cadmium	1.20E-01	2.00E+01	6.00E-03	0.0%
Chromium	2.30E+01	4.00E-01	5.75E+01	97.9%
Lead	4.92E+01	5.00E+02	9.84E-02	0.2%
Silver	2.70E-01	No TRV	No TRV	No HQ
Zinc	1.70E+02	2.00E+02	8.50E-01	1.4%
Explosives				
2,4,6-Trinitrotoluene	5.30E-01	1.40E+02	3.79E-03	0.0%
			HI =	5.87E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-517. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.75E+04	8.00E-04	1.02E+00	7.50E-02	6.39E+02	1.27E+03	1.91E+03	2.22E+00	8.61E+02	98.4%
Arsenic	1.72E+01	8.00E-03	1.00E-02	6.60E-03	5.53E-02	1.25E+00	1.32E+00	1.45E-01	9.07E+00	1.0%
Barium	1.70E+02	3.00E-02	3.71E-01	7.50E-03	6.21E-01	1.24E+01	1.34E+01	1.14E+01	1.17E+00	0.1%
Cadmium	1.20E-01	1.10E-01	9.61E-04	1.10E+01	6.43E-01	8.74E-03	6.53E-01	2.05E+00	3.18E-01	0.0%
Chromium	2.30E+01	1.50E-03	2.51E-03	1.60E-01	1.79E+00	1.67E+00	3.47E+00	5.83E+03	5.95E-04	0.0%
Lead	4.92E+01	9.00E-03	3.22E-02	2.00E+00	4.79E+01	3.58E+00	5.16E+01	1.70E+01	3.03E+00	0.3%
Silver	2.70E-01	8.00E-02	1.57E-03	1.50E-01	1.97E-02	1.97E-02	4.10E-02	No TRV	No TRV	No HQ
Zinc	1.70E+02	3.00E-01	3.71E+00	1.80E+00	1.49E+02	1.24E+01	1.65E+02	3.41E+02	4.85E-01	0.1%
Explosives										
2,4,6-Trinitrotoluene	5.30E-01	1.00E+00	3.86E-02	1.00E+00	2.58E-01	3.86E-02	3.35E-01	3.41E+00	9.84E-02	0.0%
									HI =	8.75E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-518. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.75E+04	1.30E-04	1.73E+00	7.50E-02	9.98E+02	2.77E+03	3.77E+03	1.29E+02	2.91E+01	27.6%
Arsenic	1.72E+01	1.20E-03	1.57E-02	6.60E-03	8.63E-02	2.72E+00	2.82E+00	9.66E+00	2.92E-01	0.3%
Barium	1.70E+02	3.00E-03	3.88E-01	7.50E-03	9.69E-01	2.69E+01	2.82E+01	2.31E+01	1.22E+00	1.2%
Cadmium	1.20E-01	3.00E-02	2.74E-03	1.10E+01	1.00E+00	1.90E-02	1.02E+00	2.83E+00	3.63E-01	0.3%
Chromium	2.30E+01	9.00E-04	1.57E-02	1.60E-01	2.80E+00	3.64E+00	6.45E+00	1.99E+00	3.24E+00	3.1%
Lead	4.92E+01	1.80E-03	6.73E-02	2.00E+00	7.48E+01	7.78E+00	8.26E+01	1.32E+00	6.25E+01	59.2%
Silver	2.70E-01	2.00E-02	4.10E-03	1.50E-01	3.08E-02	4.27E-02	7.76E-02	No TRV	No TRV	No HQ
Zinc	1.70E+02	1.80E-01	2.33E+01	1.80E+00	2.33E+02	2.69E+01	2.83E+02	3.21E+01	8.80E+00	8.3%
Explosives										
2,4,6-Trinitrotoluene	5.30E-01	1.00E+00	4.03E-01	1.00E+00	4.03E-01	8.38E-02	8.89E-01	No TRV	No TRV	No HQ
									HI =	1.06E+02

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-519. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.75E+04	8.00E-04	2.87E+00	7.50E-02	0.00E+00	2.26E+02	2.29E+02	7.63E-01	3.00E+02	98.0%
Arsenic	1.72E+01	8.00E-03	2.82E-02	6.60E-03	0.00E+00	2.22E-01	2.50E-01	4.98E-02	5.03E+00	1.6%
Barium	1.70E+02	3.00E-02	1.05E+00	7.50E-03	0.00E+00	2.20E+00	3.24E+00	3.90E+00	8.31E-01	0.3%
Cadmium	1.20E-01	1.10E-01	2.71E-03	1.10E+01	0.00E+00	1.55E-03	4.26E-03	7.05E-01	6.04E-03	0.0%
Chromium	2.30E+01	1.50E-03	7.07E-03	1.60E-01	0.00E+00	2.97E-01	3.04E-01	2.00E+03	1.52E-04	0.0%
Lead	4.92E+01	9.00E-03	9.08E-02	2.00E+00	0.00E+00	6.35E-01	7.26E-01	5.84E+00	1.24E-01	0.0%
Silver	2.70E-01	8.00E-02	4.43E-03	1.50E-01	0.00E+00	3.49E-03	7.92E-03	No TRV	No TRV	No HQ
Zinc	1.70E+02	3.00E-01	1.05E+01	1.80E+00	0.00E+00	2.20E+00	1.27E+01	1.17E+02	1.08E-01	0.0%
Explosives										
2,4,6-Trinitrotoluene	5.30E-01	1.00E+00	1.09E-01	1.00E+00	0.00E+00	6.84E-03	1.15E-01	1.17E+00	9.88E-02	0.0%
								HI =	3.06E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-520 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.75E+04	8.00E-04	4.34E-01	7.50E-02	0.00E+00	1.09E+01	1.13E+01	2.93E-01	3.85E+01	97.3%
Arsenic	1.72E+01	8.00E-03	4.27E-03	6.60E-03	0.00E+00	1.07E-02	1.49E-02	1.91E-02	7.81E-01	2.0%
Barium	1.70E+02	3.00E-02	1.58E-01	7.50E-03	0.00E+00	1.05E-01	2.64E-01	1.50E+00	1.76E-01	0.4%
Cadmium	1.20E-01	1.10E-01	4.09E-04	1.10E+01	0.00E+00	7.44E-05	4.84E-04	2.71E-01	1.79E-03	0.0%
Chromium	2.30E+01	1.50E-03	1.07E-03	1.60E-01	0.00E+00	1.43E-02	1.53E-02	7.68E+02	2.00E-05	0.0%
Lead	4.92E+01	9.00E-03	1.37E-02	2.00E+00	0.00E+00	3.05E-02	4.42E-02	2.24E+00	1.97E-02	0.0%
Silver	2.70E-01	8.00E-02	6.70E-04	1.50E-01	0.00E+00	1.67E-04	8.37E-04	No TRV	No TRV	No HQ
Zinc	1.70E+02	3.00E-01	1.58E+00	1.80E+00	0.00E+00	1.05E-01	1.69E+00	4.49E+01	3.76E-02	0.1%
Explosives										
2,4,6-Trinitrotoluene	5.30E-01	1.00E+00	1.64E-02	1.00E+00	0.00E+00	3.29E-04	1.68E-02	4.49E-01	3.73E-02	0.1%
									HI =	3.96E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-521. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.75E+04	1.30E-04	0.00E+00	8.00E-04	1.02E+00	7.50E-02	6.39E+02	1.27E+03	1.91E+03
Arsenic	1.72E+01	1.20E-03	0.00E+00	8.00E-03	1.00E-02	6.60E-03	5.53E-02	1.25E+00	1.32E+00
Barium	1.70E+02	3.00E-03	0.00E+00	3.00E-02	3.71E-01	7.50E-03	6.21E-01	1.24E+01	1.34E+01
Cadmium	1.20E-01	3.00E-02	0.00E+00	1.10E-01	9.61E-04	1.10E+01	6.43E-01	8.74E-03	6.53E-01
Chromium	2.30E+01	9.00E-04	0.00E+00	1.50E-03	2.51E-03	1.60E-01	1.79E+00	1.67E+00	3.47E+00
Lead	4.92E+01	1.80E-03	0.00E+00	9.00E-03	3.22E-02	2.00E+00	4.79E+01	3.58E+00	5.16E+01
Silver	2.70E-01	2.00E-02	0.00E+00	8.00E-02	1.57E-03	1.50E-01	1.97E-02	1.97E-02	4.10E-02
Zinc	1.70E+02	1.80E-01	0.00E+00	3.00E-01	3.71E+00	1.80E+00	1.49E+02	1.24E+01	1.65E+02
Explosives									
2,4,6-Trinitrotoluene	5.30E-01	1.00E+00	0.00E+00	1.00E+00	3.86E-02	1.00E+00	2.58E-01	3.86E-02	3.35E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) =

1.70E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) = 7.28E-02

Appendix Table L-521. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.56E+02	2.82E+01	0.00E+00	2.82E+01	6.68E+01	4.22E-01	4.0%
Arsenic	1.00E-01	2.35E-01	2.59E-02	0.00E+00	2.59E-02	4.98E+00	5.20E-03	0.0%
Barium	7.50E-03	1.79E-01	1.97E-02	0.00E+00	1.97E-02	1.19E+01	1.65E-03	0.0%
Cadmium	2.80E-02	3.26E-02	3.59E-03	0.00E+00	3.59E-03	1.46E+00	2.46E-03	0.0%
Chromium	2.80E-01	1.73E+00	1.91E-01	0.00E+00	1.91E-01	1.03E+00	1.86E-01	1.8%
Lead	1.50E-02	1.38E+00	1.52E-01	0.00E+00	1.52E-01	6.82E-01	2.23E-01	2.1%
Silver	1.50E-01	1.10E-02	1.21E-03	0.00E+00	1.21E-03	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.47E+03	1.62E+02	0.00E+00	1.62E+02	1.66E+01	9.79E+00	92.1%
2,4,6-Trinitrotoluene	1.00E+00	5.99E-01	6.59E-02	0.00E+00	6.59E-02	No TRV	No TRV	No HQ
						HI =	1.06E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-522. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.75E+04	1.30E-04	0.00E+00	8.00E-04	1.02E+00	7.50E-02	6.39E+02	1.27E+03	1.91E+03
Arsenic	1.72E+01	1.20E-03	0.00E+00	8.00E-03	1.00E-02	6.60E-03	5.53E-02	1.25E+00	1.32E+00
Barium	1.70E+02	3.00E-03	0.00E+00	3.00E-02	3.71E-01	7.50E-03	6.21E-01	1.24E+01	1.34E+01
Cadmium	1.20E-01	3.00E-02	0.00E+00	1.10E-01	9.61E-04	1.10E+01	6.43E-01	8.74E-03	6.53E-01
Chromium	2.30E+01	9.00E-04	0.00E+00	1.50E-03	2.51E-03	1.60E-01	1.79E+00	1.67E+00	3.47E+00
Lead	4.92E+01	1.80E-03	0.00E+00	9.00E-03	3.22E-02	2.00E+00	4.79E+01	3.58E+00	5.16E+01
Silver	2.70E-01	2.00E-02	0.00E+00	8.00E-02	1.57E-03	1.50E-01	1.97E-02	1.97E-02	4.10E-02
Zinc	1.70E+02	1.80E-01	0.00E+00	3.00E-01	3.71E+00	1.80E+00	1.49E+02	1.24E+01	1.65E+02
Explosives									
2,4,6-Trinitrotoluene	5.30E-01	1.00E+00	0.00E+00	1.00E+00	3.86E-02	1.00E+00	2.58E-01	3.86E-02	3.35E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-522. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.56E+02	3.21E+01	0.00E+00	3.21E+01	8.33E+01	3.85E-01	4.0%
Arsenic	1.00E-01	2.35E-01	2.94E-02	0.00E+00	2.94E-02	6.22E+00	4.73E-03	0.0%
Barium	7.50E-03	1.79E-01	2.24E-02	0.00E+00	2.24E-02	1.49E+01	1.51E-03	0.0%
Cadmium	2.80E-02	3.26E-02	4.08E-03	0.00E+00	4.08E-03	1.82E+00	2.24E-03	0.0%
Chromium	2.80E-01	1.73E+00	2.17E-01	0.00E+00	2.17E-01	1.28E+00	1.69E-01	1.8%
Lead	1.50E-02	1.38E+00	1.73E-01	0.00E+00	1.73E-01	8.51E-01	2.03E-01	2.1%
Silver	1.50E-01	1.10E-02	1.37E-03	0.00E+00	1.37E-03	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.47E+03	1.84E+02	0.00E+00	1.84E+02	2.07E+01	8.91E+00	92.1%
2,4,6-Trinitrotoluene	1.00E+00	5.99E-01	7.49E-02	0.00E+00	7.49E-02	No TRV	No TRV	No HQ
						HI =	9.68E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-523. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 65

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.75E+04	1.30E-04	7.22E-03	8.00E-04	1.02E+00	7.50E-02	6.39E+02	1.27E+03	1.91E+03
Arsenic	1.72E+01	1.20E-03	6.55E-05	8.00E-03	1.00E-02	6.60E-03	5.53E-02	1.25E+00	1.32E+00
Barium	1.70E+02	3.00E-03	1.62E-03	3.00E-02	3.71E-01	7.50E-03	6.21E-01	1.24E+01	1.34E+01
Cadmium	1.20E-01	3.00E-02	1.14E-05	1.10E-01	9.61E-04	1.10E+01	6.43E-01	8.74E-03	6.53E-01
Chromium	2.30E+01	9.00E-04	6.57E-05	1.50E-03	2.51E-03	1.60E-01	1.79E+00	1.67E+00	3.47E+00
Lead	4.92E+01	1.80E-03	2.81E-04	9.00E-03	3.22E-02	2.00E+00	4.79E+01	3.58E+00	5.16E+01
Silver	2.70E-01	2.00E-02	1.71E-05	8.00E-02	1.57E-03	1.50E-01	1.97E-02	1.97E-02	4.10E-02
Zinc	1.70E+02	1.80E-01	9.71E-02	3.00E-01	3.71E+00	1.80E+00	1.49E+02	1.24E+01	1.65E+02
Explosives									
2,4,6-Trinitrotoluene	5.30E-01	1.00E+00	1.68E-03	1.00E+00	3.86E-02	1.00E+00	2.58E-01	3.86E-02	3.35E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-523. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC 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	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.56E+02	1.69E+01	3.38E+01	5.07E+01	5.46E-01	9.29E+01	97.1%
Arsenic	1.00E-01	2.35E-01	1.55E-02	3.32E-02	4.88E-02	3.56E-02	1.37E+00	1.4%
Barium	7.50E-03	1.79E-01	1.18E-02	3.28E-01	3.42E-01	2.79E+00	1.22E-01	0.1%
Cadmium	2.80E-02	3.26E-02	2.15E-03	2.32E-04	2.39E-03	5.04E-01	4.74E-03	0.0%
Chromium	2.80E-01	1.73E+00	1.14E-01	4.44E-02	1.59E-01	1.43E+03	1.11E-04	0.0%
Lead	1.50E-02	1.38E+00	9.09E-02	9.51E-02	1.86E-01	4.18E+00	4.45E-02	0.0%
Silver	1.50E-01	1.10E-02	7.22E-04	5.22E-04	1.26E-03	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.47E+03	9.71E+01	3.28E-01	9.75E+01	8.36E+01	1.17E+00	1.2%
2,4,6-Trinitrotoluene	1.00E+00	5.99E-01	3.94E-02	1.02E-03	4.21E-02	8.36E-01	5.04E-02	0.1%
							HI = 9.56E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-524. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.42E+04	5.00E+01	2.83E+02	54.0%
Antimony	6.60E+00	5.00E+00	1.32E+00	0.3%
Arsenic	1.43E+01	1.00E+01	1.43E+00	0.3%
Barium	7.78E+03	5.00E+02	1.56E+01	3.0%
Beryllium	2.48E-01	1.00E+01	2.48E-02	0.0%
Cadmium	4.80E+00	5.00E-01	9.60E+00	1.8%
Calcium	4.66E+04	No TRV	No TRV	No HQ
Chromium	2.11E+01	1.00E+00	2.11E+01	4.0%
Cobalt	8.13E+00	2.00E+01	4.07E-01	0.1%
Copper	1.92E+03	1.00E+02	1.92E+01	3.7%
Cyanide	5.51E-01	No TRV	No TRV	No HQ
Iron	2.58E+04	No TRV	No TRV	No HQ
Lead	1.01E+03	5.00E+01	2.02E+01	3.9%
Magnesium	3.66E+03	No TRV	No TRV	No HQ
Mercury	2.80E-01	3.00E-01	9.33E-01	0.2%
Nickel	2.06E+01	3.00E+01	6.87E-01	0.1%
Potassium	1.73E+03	No TRV	No TRV	No HQ
Selenium	1.10E+00	1.00E+00	1.10E+00	0.2%
Silver	1.01E+00	2.00E+00	5.03E-01	0.1%
Sodium	1.87E+02	No TRV	No TRV	No HQ
Thallium	5.00E-01	1.00E+00	5.00E-01	0.1%
Zinc	1.05E+03	5.00E+01	2.10E+01	4.0%
Organics				
Acenaphthene	1.40E-01	2.00E+01	7.00E-03	0.0%
Anthracene	4.40E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	6.30E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	5.30E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	6.90E-01	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	1.70E-01	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	3.50E-01	No TRV	No TRV	No HQ
Carbazole	2.00E-01	No TRV	No TRV	No HQ
Chrysene	6.20E-01	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	5.40E-02	No TRV	No TRV	No HQ
Dibenzofuran	1.10E-01	No TRV	No TRV	No HQ
Fluoranthene	2.00E+00	No TRV	No TRV	No HQ
Fluorene	1.80E-01	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.10E-01	No TRV	No TRV	No HQ
Phenanthrene	1.40E+00	No TRV	No TRV	No HQ
Pyrene	1.30E+00	3.00E+01	4.33E-02	0.0%
Explosives				
1,3,5-Trinitrobenzene	6.82E+01	No TRV	No TRV	No HQ

Appendix Table L-524. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
1,3-Dinitrobenzene	2.67E+01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.80E+03	3.00E+01	1.27E+02	24.2%
2,4-Dinitrotoluene	5.50E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	6.20E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	2.67E+01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.85E+01	No TRV	No TRV	No HQ
4-Nitrotoluene	2.67E+01	No TRV	No TRV	No HQ
HMX	4.00E+01	No TRV	No TRV	No HQ
Nitrobenzene	2.67E+01	No TRV	No TRV	No HQ
Nitrocellulose	3.22E+01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	8.00E+01	1.00E+02	8.00E-01	0.2%
Tetryl	1.60E-01	2.50E+01	6.40E-03	0.0%
HI =				5.24E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-525. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 66**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.42E+04	No TRV	No TRV	No HQ
Antimony	6.60E+00	No TRV	No TRV	No HQ
Arsenic	1.43E+01	6.00E+01	2.38E-01	0.2%
Barium	7.78E+03	No TRV	No TRV	No HQ
Beryllium	2.48E-01	No TRV	No TRV	No HQ
Cadmium	4.80E+00	2.00E+01	2.40E-01	0.2%
Calcium	4.66E+04	No TRV	No TRV	No HQ
Chromium	2.11E+01	4.00E-01	5.27E+01	41.8%
Cobalt	8.13E+00	No TRV	No TRV	No HQ
Copper	1.92E+03	5.00E+01	3.84E+01	30.4%
Cyanide	5.51E-01	No TRV	No TRV	No HQ
Iron	2.58E+04	No TRV	No TRV	No HQ
Lead	1.01E+03	5.00E+02	2.02E+00	1.6%
Magnesium	3.66E+03	No TRV	No TRV	No HQ
Mercury	2.80E-01	No TRV	No TRV	No HQ
Nickel	2.06E+01	2.00E+02	1.03E-01	0.1%
Potassium	1.73E+03	No TRV	No TRV	No HQ
Selenium	1.10E+00	No TRV	No TRV	No HQ
Silver	1.01E+00	No TRV	No TRV	No HQ
Sodium	1.87E+02	No TRV	No TRV	No HQ
Thallium	5.00E-01	No TRV	No TRV	No HQ
Zinc	1.05E+03	2.00E+02	5.25E+00	4.2%
Organics				
Acenaphthene	1.40E-01	No TRV	No TRV	No HQ
Anthracene	4.40E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	6.30E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	5.30E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	6.90E-01	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	1.70E-01	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	3.50E-01	No TRV	No TRV	No HQ
Carbazole	2.00E-01	No TRV	No TRV	No HQ
Chrysene	6.20E-01	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	5.40E-02	No TRV	No TRV	No HQ
Dibenzofuran	1.10E-01	No TRV	No TRV	No HQ
Fluoranthene	2.00E+00	No TRV	No TRV	No HQ
Fluorene	1.80E-01	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.10E-01	No TRV	No TRV	No HQ
Phenanthrene	1.40E+00	No TRV	No TRV	No HQ
Pyrene	1.30E+00	3.00E+01	4.33E-02	0.0%
Explosives				
1,3,5-Trinitrobenzene	6.82E+01	No TRV	No TRV	No HQ

**Appendix Table L-525. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 66**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
1,3-Dinitrobenzene	2.67E+01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.80E+03	1.40E+02	2.71E+01	21.5%
2,4-Dinitrotoluene	5.50E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	6.20E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	2.67E+01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.85E+01	No TRV	No TRV	No HQ
4-Nitrotoluene	2.67E+01	No TRV	No TRV	No HQ
HMX	4.00E+01	No TRV	No TRV	No HQ
Nitrobenzene	2.67E+01	No TRV	No TRV	No HQ
Nitrocellulose	3.22E+01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	8.00E+01	No TRV	No TRV	No HQ
Tetryl	1.60E-01	No TRV	No TRV	No HQ
HI =				1.26E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-526. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	8.00E-04	8.25E-01	7.50E-02	5.17E+02	1.03E+03	1.55E+03	2.22E+00	6.96E+02	42.1%
Antimony	6.60E+00	4.00E-02	1.92E-02	5.00E-02	1.61E-01	4.81E-01	6.61E-01	1.44E-01	4.59E+00	0.3%
Arsenic	1.43E+01	8.00E-03	8.31E-03	6.60E-03	4.59E-02	1.04E+00	1.09E+00	1.45E-01	7.52E+00	0.5%
Barium	7.78E+03	3.00E-02	1.70E+01	7.50E-03	2.84E+01	5.66E+02	6.12E+02	1.14E+01	5.38E+01	3.2%
Beryllium	2.48E-01	2.00E-03	3.61E-05	5.00E-02	6.04E-03	1.81E-02	2.41E-02	1.41E+00	1.72E-02	0.0%
Cadmium	4.80E+00	1.10E-01	3.84E-02	1.10E+01	2.57E+01	3.49E-01	2.61E+01	2.05E+00	1.27E+01	0.8%
Calcium	4.66E+04	7.00E-01	2.37E+03	1.00E+00	2.27E+04	3.39E+03	2.85E+04	No TRV	No TRV	No HQ
Chromium	2.11E+01	1.50E-03	2.30E-03	1.60E-01	1.64E+00	1.54E+00	3.18E+00	5.83E+03	5.46E-04	0.0%
Cobalt	8.13E+00	4.00E-03	2.37E-03	1.00E+00	3.96E+00	5.92E-01	4.56E+00	No TRV	No TRV	No HQ
Copper	1.92E+03	8.00E-02	1.12E+01	1.60E-01	1.50E+02	1.40E+02	3.01E+02	3.24E+01	9.27E+00	0.6%
Cyanide	5.51E-01	1.00E+00	4.01E-02	0.00E+00	0.00E+00	4.01E-02	8.02E-02	1.38E+02	5.83E-04	0.0%
Iron	2.58E+04	8.00E-04	1.50E+00	1.00E+00	1.26E+04	1.88E+03	1.45E+04	No TRV	No TRV	No HQ
Lead	1.01E+03	9.00E-03	6.62E-01	2.00E+00	9.84E+02	7.35E+01	1.06E+03	1.70E+01	6.21E+01	3.8%
Magnesium	3.66E+03	2.00E-01	5.33E+01	1.00E+00	1.78E+03	2.66E+02	2.10E+03	No TRV	No TRV	No HQ
Mercury	2.80E-01	1.80E-01	3.67E-03	3.40E-01	4.64E-02	2.04E-02	7.04E-02	2.80E+00	2.52E-02	0.0%
Nickel	2.06E+01	1.20E-02	1.80E-02	2.30E-01	2.31E+00	1.50E+00	3.83E+00	8.52E+01	4.49E-02	0.0%
Potassium	1.73E+03	2.00E-01	2.52E+01	1.00E+00	8.42E+02	1.26E+02	9.93E+02	No TRV	No TRV	No HQ
Selenium	1.10E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.00E-02	4.87E-01	4.26E-01	1.14E+00	0.1%
Silver	1.01E+00	8.00E-02	5.86E-03	1.50E-01	7.35E-02	7.32E-02	1.53E-01	No TRV	No TRV	No HQ
Sodium	1.87E+02	1.50E-02	2.04E-01	1.00E+00	9.11E+01	1.36E+01	1.05E+02	No TRV	No TRV	No HQ
Thallium	5.00E-01	8.00E-04	2.91E-05	1.00E+00	2.43E-01	3.64E-02	2.80E-01	1.59E-02	1.76E+01	1.1%
Zinc	1.05E+03	3.00E-01	2.29E+01	1.80E+00	9.21E+02	7.64E+01	1.02E+03	3.41E+02	2.99E+00	0.2%
Organics										
Acenaphthene	1.40E-01	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02	No TRV	No TRV	No HQ
Anthracene	4.40E-01	2.00E-02	6.41E-04	5.00E-02	1.07E-02	3.20E-02	4.34E-02	No TRV	No TRV	No HQ
Benzo(a)anthracene	6.30E-01	3.90E-03	1.79E-04	5.00E-02	1.53E-02	4.59E-02	6.14E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	5.30E-01	2.60E-03	1.00E-04	5.00E-02	1.29E-02	3.86E-02	5.16E-02	1.15E+00	4.48E-02	0.0%
Benzo(b)fluoranthene	6.90E-01	2.30E-03	1.16E-04	5.00E-02	1.68E-02	5.02E-02	6.72E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	1.70E-01	1.20E-03	1.49E-05	5.00E-02	4.14E-03	1.24E-02	1.65E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	3.50E-01	2.30E-03	5.86E-05	5.00E-02	8.53E-03	2.55E-02	3.41E-02	No TRV	No TRV	No HQ
Carbazole	2.00E-01	2.00E-02	2.91E-04	5.00E-02	4.87E-03	1.46E-02	1.97E-02	No TRV	No TRV	No HQ
Chrysene	6.20E-01	3.90E-03	1.76E-04	5.00E-02	1.51E-02	4.51E-02	6.04E-02	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	5.40E-02	1.40E-03	5.50E-06	5.00E-02	1.32E-03	3.93E-03	5.25E-03	No TRV	No TRV	No HQ
Dibenzofuran	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 HQ
Fluoranthene	2.00E+00	2.00E-02	2.91E-03	5.00E-02	4.87E-02	1.46E-01	1.97E-01	No TRV	No TRV	No HQ

Appendix Table L-526. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Fluorene	1.80E-01	2.00E-02	2.62E-04	5.00E-02	4.38E-03	1.31E-02	1.78E-02	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.10E-01	1.20E-03	1.83E-05	5.00E-02	5.12E-03	1.53E-02	2.04E-02	No TRV	No TRV	No HQ
Phenanthrene	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	No HQ
Pyrene	1.30E+00	6.70E-03	6.34E-04	5.00E-02	3.17E-02	9.46E-02	1.27E-01	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	6.82E+01	1.00E+00	4.96E+00	1.00E+00	3.32E+01	4.96E+00	4.32E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	2.67E+01	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01	2.50E-01	6.77E+01	4.1%
2,4,6-Trinitrotoluene	3.80E+03	1.00E+00	2.77E+02	1.00E+00	1.85E+03	2.77E+02	2.40E+03	3.41E+00	7.06E+02	42.6%
2,4-Dinitrotoluene	5.50E-01	1.00E+00	4.00E-02	1.00E+00	2.68E-01	4.00E-02	3.48E-01	1.56E+01	2.24E-02	0.0%
2,6-Dinitrotoluene	6.20E-01	2.00E-02	9.03E-04	5.00E-02	1.51E-02	4.51E-02	6.11E-02	1.49E+00	4.10E-02	0.0%
2-Nitrotoluene	2.67E+01	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.85E+01	1.00E+00	1.35E+00	1.00E+00	9.01E+00	1.35E+00	1.17E+01	No TRV	No TRV	No HQ
4-Nitrotoluene	2.67E+01	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01	No TRV	No TRV	No HQ
HMX	4.00E+01	1.00E+00	2.91E+00	1.00E+00	1.95E+01	2.91E+00	2.53E+01	3.27E+00	7.74E+00	0.5%
Nitrobenzene	2.67E+01	2.00E-02	3.89E-02	5.00E-02	6.50E-01	1.94E+00	2.63E+00	No TRV	No TRV	No HQ
Nitrocellulose	3.22E+01	1.00E+00	2.34E+00	1.00E+00	1.57E+01	2.34E+00	2.04E+01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01	No TRV	No TRV	No HQ
RDX	8.00E+01	1.00E+00	5.82E+00	1.00E+00	3.90E+01	5.82E+00	5.06E+01	8.44E+00	6.00E+00	0.4%
Tetryl	1.60E-01	1.00E+00	1.16E-02	1.00E+00	7.80E-02	1.16E-02	1.01E-01	2.57E+00	3.95E-02	0.0%
									HI =	1.66E+03

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-527. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	1.30E-04	1.40E+00	7.50E-02	8.07E+02	2.24E+03	3.05E+03	1.29E+02	2.35E+01	1.6%
Antimony	6.60E+00	6.00E-03	3.01E-02	5.00E-02	2.51E-01	1.04E+00	1.33E+00	No TRV	No TRV	No HQ
Arsenic	1.43E+01	1.20E-03	1.30E-02	6.60E-03	7.15E-02	2.25E+00	2.34E+00	9.66E+00	2.42E-01	0.0%
Barium	7.78E+03	3.00E-03	1.77E+01	7.50E-03	4.43E+01	1.23E+03	1.29E+03	2.31E+01	5.59E+01	3.9%
Beryllium	2.48E-01	3.00E-04	5.66E-05	5.00E-02	9.43E-03	3.92E-02	4.87E-02	No TRV	No TRV	No HQ
Cadmium	4.80E+00	3.00E-02	1.09E-01	1.10E+01	4.01E+01	7.59E-01	4.10E+01	2.83E+00	1.45E+01	1.0%
Calcium	4.66E+04	7.00E-02	2.48E+03	1.00E+00	3.54E+04	7.37E+03	4.53E+04	No TRV	No TRV	No HQ
Chromium	2.11E+01	9.00E-04	1.44E-02	1.60E-01	2.56E+00	3.33E+00	5.91E+00	1.99E+00	2.97E+00	0.2%
Cobalt	8.13E+00	1.40E-03	8.65E-03	1.00E+00	6.18E+00	1.29E+00	7.48E+00	No TRV	No TRV	No HQ
Copper	1.92E+03	5.00E-02	7.30E+01	1.60E-01	2.33E+02	3.04E+02	6.10E+02	7.55E+01	8.08E+00	0.6%
Cyanide	5.51E-01	1.00E+00	4.19E-01	0.00E+00	0.00E+00	8.71E-02	5.06E-01	No TRV	No TRV	No HQ
Iron	2.58E+04	2.00E-04	3.93E+00	1.00E+00	1.96E+04	4.08E+03	2.37E+04	No TRV	No TRV	No HQ
Lead	1.01E+03	1.80E-03	1.38E+00	2.00E+00	1.54E+03	1.60E+02	1.70E+03	1.32E+00	1.28E+03	88.9%
Magnesium	3.66E+03	1.10E-01	3.06E+02	1.00E+00	2.78E+03	5.78E+02	3.67E+03	No TRV	No TRV	No HQ
Mercury	2.80E-01	4.00E-02	8.51E-03	3.40E-01	7.24E-02	4.43E-02	1.25E-01	5.27E-01	2.38E-01	0.0%
Nickel	2.06E+01	1.20E-02	1.88E-01	2.30E-01	3.60E+00	3.26E+00	7.05E+00	1.37E+02	5.15E-02	0.0%
Potassium	1.73E+03	1.10E-01	1.44E+02	1.00E+00	1.31E+03	2.73E+02	1.73E+03	No TRV	No TRV	No HQ
Selenium	1.10E+00	5.00E-03	4.18E-03	7.60E-01	6.35E-01	1.74E-01	8.13E-01	9.40E-01	8.64E-01	0.1%
Silver	1.01E+00	2.00E-02	1.53E-02	1.50E-01	1.15E-01	1.59E-01	2.89E-01	No TRV	No TRV	No HQ
Sodium	1.87E+02	1.10E-02	1.56E+00	1.00E+00	1.42E+02	2.96E+01	1.73E+02	No TRV	No TRV	No HQ
Thallium	5.00E-01	8.00E-05	3.04E-05	1.00E+00	3.80E-01	7.90E-02	4.59E-01	No TRV	No TRV	No HQ
Zinc	1.05E+03	1.80E-01	1.44E+02	1.80E+00	1.44E+03	1.66E+02	1.75E+03	3.21E+01	5.43E+01	3.8%
Organics										
Acenaphthene	1.40E-01	2.00E-02	2.13E-03	5.00E-02	5.32E-03	2.21E-02	2.96E-02	No TRV	No TRV	No HQ
Anthracene	4.40E-01	2.00E-02	6.69E-03	5.00E-02	1.67E-02	6.96E-02	9.30E-02	No TRV	No TRV	No HQ
Benzo(a)anthracene	6.30E-01	3.90E-03	1.87E-03	5.00E-02	2.39E-02	9.96E-02	1.25E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	5.30E-01	2.60E-03	1.05E-03	5.00E-02	2.01E-02	8.38E-02	1.05E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	6.90E-01	2.30E-03	1.21E-03	5.00E-02	2.62E-02	1.09E-01	1.37E-01	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	1.70E-01	1.20E-03	1.55E-04	5.00E-02	6.46E-03	2.69E-02	3.35E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	3.50E-01	2.30E-03	6.12E-04	5.00E-02	1.33E-02	5.53E-02	6.92E-02	No TRV	No TRV	No HQ
Carbazole	2.00E-01	2.00E-02	3.04E-03	5.00E-02	7.60E-03	3.16E-02	4.23E-02	No TRV	No TRV	No HQ
Chrysene	6.20E-01	3.90E-03	1.84E-03	5.00E-02	2.36E-02	9.80E-02	1.23E-01	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	5.40E-02	1.40E-03	5.75E-05	5.00E-02	2.05E-03	8.54E-03	1.06E-02	No TRV	No TRV	No HQ
Dibenzofuran	1.10E-01	2.00E-02	1.67E-03	5.00E-02	4.18E-03	1.74E-02	2.32E-02	No TRV	No TRV	No HQ
Fluoranthene	2.00E+00	2.00E-02	3.04E-02	5.00E-02	7.60E-02	3.16E-01	4.23E-01	No TRV	No TRV	No HQ
Fluorene	1.80E-01	2.00E-02	2.74E-03	5.00E-02	6.84E-03	2.85E-02	3.80E-02	No TRV	No TRV	No HQ

Appendix Table L-527. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Indeno(1,2,3-cd)pyrene	2.10E-01	1.20E-03	1.92E-04	5.00E-02	7.98E-03	3.32E-02	4.14E-02	No TRV	No TRV	No HQ
Phenanthrene	1.40E+00	2.00E-02	2.13E-02	5.00E-02	5.32E-02	2.21E-01	2.96E-01	No TRV	No TRV	No HQ
Pyrene	1.30E+00	6.70E-03	6.62E-03	5.00E-02	4.94E-02	2.06E-01	2.62E-01	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	6.82E+01	1.00E+00	5.18E+01	1.00E+00	5.18E+01	1.08E+01	1.14E+02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	2.67E+01	1.00E+00	2.03E+01	1.00E+00	2.03E+01	4.22E+00	4.48E+01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.80E+03	1.00E+00	2.89E+03	1.00E+00	2.89E+03	6.01E+02	6.38E+03	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	5.50E-01	1.00E+00	4.18E-01	1.00E+00	4.18E-01	8.69E-02	9.23E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	6.20E-01	2.00E-02	9.42E-03	5.00E-02	2.36E-02	9.80E-02	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	2.67E+01	1.00E+00	2.03E+01	1.00E+00	2.03E+01	4.22E+00	4.48E+01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.85E+01	1.00E+00	1.41E+01	1.00E+00	1.41E+01	2.92E+00	3.10E+01	No TRV	No TRV	No HQ
4-Nitrotoluene	2.67E+01	1.00E+00	2.03E+01	1.00E+00	2.03E+01	4.22E+00	4.48E+01	No TRV	No TRV	No HQ
HMX	4.00E+01	1.00E+00	3.04E+01	1.00E+00	3.04E+01	6.32E+00	6.71E+01	No TRV	No TRV	No HQ
Nitrobenzene	2.67E+01	2.00E-02	4.06E-01	5.00E-02	1.01E+00	4.22E+00	5.64E+00	No TRV	No TRV	No HQ
Nitrocellulose	3.22E+01	1.00E+00	2.45E+01	1.00E+00	2.45E+01	5.09E+00	5.40E+01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	9.50E-01	1.00E+00	9.50E-01	1.98E-01	2.10E+00	No TRV	No TRV	No HQ
RDX	8.00E+01	1.00E+00	6.08E+01	1.00E+00	6.08E+01	1.26E+01	1.34E+02	No TRV	No TRV	No HQ
Tetryl	1.60E-01	1.00E+00	1.22E-01	1.00E+00	1.22E-01	2.53E-02	2.68E-01	No TRV	No TRV	No HQ
									HI =	1.44E+03

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-528. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	8.00E-04	2.32E+00	7.50E-02	0.00E+00	1.83E+02	1.85E+02	7.63E-01	2.43E+02	22.3%
Antimony	6.60E+00	4.00E-02	5.42E-02	5.00E-02	0.00E+00	8.53E-02	1.39E-01	4.94E-02	2.82E+00	0.3%
Arsenic	1.43E+01	8.00E-03	2.34E-02	6.60E-03	0.00E+00	1.84E-01	2.08E-01	4.98E-02	4.17E+00	0.4%
Barium	7.78E+03	3.00E-02	4.78E+01	7.50E-03	0.00E+00	1.00E+02	1.48E+02	3.90E+00	3.80E+01	3.5%
Beryllium	2.48E-01	2.00E-03	1.02E-04	5.00E-02	0.00E+00	3.20E-03	3.31E-03	4.82E-01	6.86E-03	0.0%
Cadmium	4.80E+00	1.10E-01	1.08E-01	1.10E+01	0.00E+00	6.20E-02	1.70E-01	7.05E-01	2.42E-01	0.0%
Calcium	4.66E+04	7.00E-01	6.69E+03	1.00E+00	0.00E+00	6.02E+02	7.29E+03	No TRV	No TRV	No HQ
Chromium	2.11E+01	1.50E-03	6.49E-03	1.60E-01	0.00E+00	2.72E-01	2.79E-01	2.00E+03	1.40E-04	0.0%
Cobalt	8.13E+00	4.00E-03	6.67E-03	1.00E+00	0.00E+00	1.05E-01	1.12E-01	No TRV	No TRV	No HQ
Copper	1.92E+03	8.00E-02	3.15E+01	1.60E-01	0.00E+00	2.48E+01	5.63E+01	1.11E+01	5.06E+00	0.5%
Cyanide	5.51E-01	1.00E+00	1.13E-01	0.00E+00	0.00E+00	7.11E-03	1.20E-01	4.72E+01	2.54E-03	0.0%
Iron	2.58E+04	8.00E-04	4.24E+00	1.00E+00	0.00E+00	3.34E+02	3.38E+02	No TRV	No TRV	No HQ
Lead	1.01E+03	9.00E-03	1.86E+00	2.00E+00	0.00E+00	1.30E+01	1.49E+01	5.84E+00	2.55E+00	0.2%
Magnesium	3.66E+03	2.00E-01	1.50E+02	1.00E+00	0.00E+00	4.73E+01	1.97E+02	No TRV	No TRV	No HQ
Mercury	2.80E-01	1.80E-01	1.03E-02	3.40E-01	0.00E+00	3.62E-03	1.39E-02	9.59E-01	1.45E-02	0.0%
Nickel	2.06E+01	1.20E-02	5.07E-02	2.30E-01	0.00E+00	2.66E-01	3.17E-01	2.92E+01	1.08E-02	0.0%
Potassium	1.73E+03	2.00E-01	7.08E+01	1.00E+00	0.00E+00	2.23E+01	9.32E+01	No TRV	No TRV	No HQ
Selenium	1.10E+00	5.00E-03	1.13E-03	7.60E-01	0.00E+00	1.42E-02	1.53E-02	1.46E-01	1.05E-01	0.0%
Silver	1.01E+00	8.00E-02	1.65E-02	1.50E-01	0.00E+00	1.30E-02	2.95E-02	No TRV	No TRV	No HQ
Sodium	1.87E+02	1.50E-02	5.75E-01	1.00E+00	0.00E+00	2.42E+00	2.99E+00	No TRV	No TRV	No HQ
Thallium	5.00E-01	8.00E-04	8.19E-05	1.00E+00	0.00E+00	6.45E-03	6.53E-03	5.46E-03	1.20E+00	0.1%
Zinc	1.05E+03	3.00E-01	6.46E+01	1.80E+00	0.00E+00	1.36E+01	7.81E+01	1.17E+02	6.69E-01	0.1%
Organics										
Acenaphthene	1.40E-01	2.00E-02	5.74E-04	5.00E-02	0.00E+00	1.81E-03	2.38E-03	No TRV	No TRV	No HQ
Anthracene	4.40E-01	2.00E-02	1.80E-03	5.00E-02	0.00E+00	5.68E-03	7.49E-03	No TRV	No TRV	No HQ
Benzo(a)anthracene	6.30E-01	3.90E-03	5.04E-04	5.00E-02	0.00E+00	8.14E-03	8.64E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	5.30E-01	2.60E-03	2.82E-04	5.00E-02	0.00E+00	6.84E-03	7.13E-03	3.95E-01	1.80E-02	0.0%
Benzo(b)fluoranthene	6.90E-01	2.30E-03	3.25E-04	5.00E-02	0.00E+00	8.91E-03	9.24E-03	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	1.70E-01	1.20E-03	4.18E-05	5.00E-02	0.00E+00	2.20E-03	2.24E-03	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	3.50E-01	2.30E-03	1.65E-04	5.00E-02	0.00E+00	4.52E-03	4.69E-03	No TRV	No TRV	No HQ
Carbazole	2.00E-01	2.00E-02	8.20E-04	5.00E-02	0.00E+00	2.58E-03	3.40E-03	No TRV	No TRV	No HQ
Chrysene	6.20E-01	3.90E-03	4.96E-04	5.00E-02	0.00E+00	8.01E-03	8.50E-03	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	5.40E-02	1.40E-03	1.55E-05	5.00E-02	0.00E+00	6.97E-04	7.13E-04	No TRV	No TRV	No HQ
Dibenzofuran	1.10E-01	2.00E-02	4.51E-04	5.00E-02	0.00E+00	1.42E-03	1.87E-03	No TRV	No TRV	No HQ
Fluoranthene	2.00E+00	2.00E-02	8.20E-03	5.00E-02	0.00E+00	2.58E-02	3.40E-02	No TRV	No TRV	No HQ
Fluorene	1.80E-01	2.00E-02	7.38E-04	5.00E-02	0.00E+00	2.32E-03	3.06E-03	No TRV	No TRV	No HQ

Appendix Table L-528. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _v	ADDP	BAF _v	ADDA	ADDS	ADD _{total}	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
			(mg/kgBW/d) EPC x SP _v x IP x AUF		(mg/kgBW/d) EPC x BAF _v x IA x AUF		(mg/kgBW/d) EPC x IS x AUF			
Indeno(1,2,3-cd)pyrene	2.10E-01	1.20E-03	5.17E-05	5.00E-02	0.00E+00	2.71E-03	2.76E-03	No TRV	No TRV	No HQ
Phenanthrene	1.40E+00	2.00E-02	5.74E-03	5.00E-02	0.00E+00	1.81E-02	2.38E-02	No TRV	No TRV	No HQ
Pyrene	1.30E+00	6.70E-03	1.79E-03	5.00E-02	0.00E+00	1.68E-02	1.86E-02	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	6.82E+01	1.00E+00	1.40E+01	1.00E+00	0.00E+00	8.81E-01	1.49E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	2.67E+01	1.00E+00	5.47E+00	1.00E+00	0.00E+00	3.45E-01	5.82E+00	8.55E-02	6.80E+01	6.2%
2,4,6-Trinitrotoluene	3.80E+03	1.00E+00	7.79E+02	1.00E+00	0.00E+00	4.91E+01	8.28E+02	1.17E+00	7.09E+02	65.1%
2,4-Dinitrotoluene	5.50E-01	1.00E+00	1.13E-01	1.00E+00	0.00E+00	7.10E-03	1.20E-01	5.34E+00	2.25E-02	0.0%
2,6-Dinitrotoluene	6.20E-01	2.00E-02	2.54E-03	5.00E-02	0.00E+00	8.01E-03	1.05E-02	5.11E-01	2.06E-02	0.0%
2-Nitrotoluene	2.67E+01	1.00E+00	5.47E+00	1.00E+00	0.00E+00	3.45E-01	5.82E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	1.85E+01	1.00E+00	3.79E+00	1.00E+00	0.00E+00	2.39E-01	4.03E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	2.67E+01	1.00E+00	5.47E+00	1.00E+00	0.00E+00	3.45E-01	5.82E+00	No TRV	No TRV	No HQ
HMX	4.00E+01	1.00E+00	8.20E+00	1.00E+00	0.00E+00	5.17E-01	8.72E+00	1.12E+00	7.77E+00	0.7%
Nitrobenzene	2.67E+01	2.00E-02	1.09E-01	5.00E-02	0.00E+00	3.45E-01	4.54E-01	No TRV	No TRV	No HQ
Nitrocellulose	3.22E+01	1.00E+00	6.60E+00	1.00E+00	0.00E+00	4.16E-01	7.02E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	2.56E-01	1.00E+00	0.00E+00	1.61E-02	2.72E-01	No TRV	No TRV	No HQ
RDX	8.00E+01	1.00E+00	1.64E+01	1.00E+00	0.00E+00	1.03E+00	1.74E+01	2.89E+00	6.03E+00	0.6%
Tetryl	1.60E-01	1.00E+00	3.28E-02	1.00E+00	0.00E+00	2.07E-03	3.49E-02	8.80E-01	3.96E-02	0.0%
									HI =	1.09E+03

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-529 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.42E+04	8.00E-04	3.51E-01	7.50E-02	0.00E+00	8.78E+00	9.13E+00	2.93E-01	3.12E+01	9.1%
Antimony	6.60E+00	4.00E-02	8.19E-03	5.00E-02	0.00E+00	4.09E-03	1.23E-02	1.90E-02	6.47E-01	0.2%
Arsenic	1.43E+01	8.00E-03	3.54E-03	6.60E-03	0.00E+00	8.84E-03	1.24E-02	1.91E-02	6.47E-01	0.2%
Barium	7.78E+03	3.00E-02	7.24E+00	7.50E-03	0.00E+00	4.82E+00	1.21E+01	1.50E+00	8.05E+00	2.4%
Beryllium	2.48E-01	2.00E-03	1.54E-05	5.00E-02	0.00E+00	1.54E-04	1.69E-04	1.85E-01	9.14E-04	0.0%
Cadmium	4.80E+00	1.10E-01	1.64E-02	1.10E+01	0.00E+00	2.98E-03	1.93E-02	2.71E-01	7.15E-02	0.0%
Calcium	4.66E+04	7.00E-01	1.01E+03	1.00E+00	0.00E+00	2.89E+01	1.04E+03	No TRV	No TRV	No HQ
Chromium	2.11E+01	1.50E-03	9.81E-04	1.60E-01	0.00E+00	1.31E-02	1.41E-02	7.68E+02	1.83E-05	0.0%
Cobalt	8.13E+00	4.00E-03	1.01E-03	1.00E+00	0.00E+00	5.04E-03	6.05E-03	No TRV	No TRV	No HQ
Copper	1.92E+03	8.00E-02	4.76E+00	1.60E-01	0.00E+00	1.19E+00	5.95E+00	4.27E+00	1.39E+00	0.4%
Cyanide	5.51E-01	1.00E+00	1.71E-02	0.00E+00	0.00E+00	3.41E-04	1.74E-02	1.81E+01	9.61E-04	0.0%
Iron	2.58E+04	8.00E-04	6.41E-01	1.00E+00	0.00E+00	1.60E+01	1.67E+01	No TRV	No TRV	No HQ
Lead	1.01E+03	9.00E-03	2.82E-01	2.00E+00	0.00E+00	6.26E-01	9.08E-01	2.24E+00	4.05E-01	0.1%
Magnesium	3.66E+03	2.00E-01	2.27E+01	1.00E+00	0.00E+00	2.27E+00	2.50E+01	No TRV	No TRV	No HQ
Mercury	2.80E-01	1.80E-01	1.56E-03	3.40E-01	0.00E+00	1.74E-04	1.74E-03	3.68E-01	4.71E-03	0.0%
Nickel	2.06E+01	1.20E-02	7.66E-03	2.30E-01	0.00E+00	1.28E-02	2.04E-02	1.12E+01	1.82E-03	0.0%
Potassium	1.73E+03	2.00E-01	1.07E+01	1.00E+00	0.00E+00	1.07E+00	1.18E+01	No TRV	No TRV	No HQ
Selenium	1.10E+00	5.00E-03	1.70E-04	7.60E-01	0.00E+00	6.81E-04	8.52E-04	5.61E-02	1.52E-02	0.0%
Silver	1.01E+00	8.00E-02	2.49E-03	1.50E-01	0.00E+00	6.24E-04	3.12E-03	No TRV	No TRV	No HQ
Sodium	1.87E+02	1.50E-02	8.70E-02	1.00E+00	0.00E+00	1.16E-01	2.03E-01	No TRV	No TRV	No HQ
Thallium	5.00E-01	8.00E-04	1.24E-05	1.00E+00	0.00E+00	3.10E-04	3.22E-04	2.10E-03	1.54E-01	0.0%
Zinc	1.05E+03	3.00E-01	9.77E+00	1.80E+00	0.00E+00	6.51E-01	1.04E+01	4.49E+01	2.32E-01	0.1%
Organics										
Acenaphthene	1.40E-01	2.00E-02	8.68E-05	5.00E-02	0.00E+00	8.68E-05	1.74E-04	No TRV	No TRV	No HQ
Anthracene	4.40E-01	2.00E-02	2.73E-04	5.00E-02	0.00E+00	2.73E-04	5.46E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	6.30E-01	3.90E-03	7.62E-05	5.00E-02	0.00E+00	3.91E-04	4.67E-04	No TRV	No TRV	No HQ
Benzo(a)pyrene	5.30E-01	2.60E-03	4.27E-05	5.00E-02	0.00E+00	3.29E-04	3.71E-04	1.52E-01	2.45E-03	0.0%
Benzo(b)fluoranthene	6.90E-01	2.30E-03	4.92E-05	5.00E-02	0.00E+00	4.28E-04	4.77E-04	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	1.70E-01	1.20E-03	6.32E-06	5.00E-02	0.00E+00	1.05E-04	1.12E-04	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	3.50E-01	2.30E-03	2.50E-05	5.00E-02	0.00E+00	2.17E-04	2.42E-04	No TRV	No TRV	No HQ
Carbazole	2.00E-01	2.00E-02	1.24E-04	5.00E-02	0.00E+00	1.24E-04	2.48E-04	No TRV	No TRV	No HQ
Chrysene	6.20E-01	3.90E-03	7.50E-05	5.00E-02	0.00E+00	3.84E-04	4.59E-04	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	5.40E-02	1.40E-03	2.34E-06	5.00E-02	0.00E+00	3.35E-05	3.58E-05	No TRV	No TRV	No HQ
Dibenzofuran	1.10E-01	2.00E-02	6.82E-05	5.00E-02	0.00E+00	6.82E-05	1.36E-04	No TRV	No TRV	No HQ
Fluoranthene	2.00E+00	2.00E-02	1.24E-03	5.00E-02	0.00E+00	1.24E-03	2.48E-03	No TRV	No TRV	No HQ
Fluorene	1.80E-01	2.00E-02	1.12E-04	5.00E-02	0.00E+00	1.12E-04	2.23E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	2.10E-01	1.20E-03	7.81E-06	5.00E-02	0.00E+00	1.30E-04	1.38E-04	No TRV	No TRV	No HQ
Phenanthrene	1.40E+00	2.00E-02	8.68E-04	5.00E-02	0.00E+00	8.68E-04	1.74E-03	No TRV	No TRV	No HQ

Appendix Table L-529 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Pyrene	1.30E+00	6.70E-03	2.70E-04	5.00E-02	0.00E+00	8.06E-04	1.08E-03	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	6.82E+01	1.00E+00	2.11E+00	1.00E+00	0.00E+00	4.23E-02	2.16E+00	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	2.67E+01	1.00E+00	8.28E-01	1.00E+00	0.00E+00	1.66E-02	8.44E-01	3.29E-02	2.57E+01	7.5%
2,4,6-Trinitrotoluene	3.80E+03	1.00E+00	1.18E+02	1.00E+00	0.00E+00	2.36E+00	1.20E+02	4.49E-01	2.68E+02	78.4%
2,4-Dinitrotoluene	5.50E-01	1.00E+00	1.71E-02	1.00E+00	0.00E+00	3.41E-04	1.74E-02	2.05E+00	8.49E-03	0.0%
2,6-Dinitrotoluene	6.20E-01	2.00E-02	3.84E-04	5.00E-02	0.00E+00	3.84E-04	7.69E-04	1.96E-01	3.91E-03	0.0%
2-Nitrotoluene	2.67E+01	1.00E+00	8.28E-01	1.00E+00	0.00E+00	1.66E-02	8.44E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.85E+01	1.00E+00	5.74E-01	1.00E+00	0.00E+00	1.15E-02	5.85E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	2.67E+01	1.00E+00	8.28E-01	1.00E+00	0.00E+00	1.66E-02	8.44E-01	No TRV	No TRV	No HQ
HMX	4.00E+01	1.00E+00	1.24E+00	1.00E+00	0.00E+00	2.48E-02	1.26E+00	4.31E-01	2.94E+00	0.9%
Nitrobenzene	2.67E+01	2.00E-02	1.66E-02	5.00E-02	0.00E+00	1.66E-02	3.31E-02	No TRV	No TRV	No HQ
Nitrocellulose	3.22E+01	1.00E+00	9.98E-01	1.00E+00	0.00E+00	2.00E-02	1.02E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	3.88E-02	1.00E+00	0.00E+00	7.75E-04	3.95E-02	No TRV	No TRV	No HQ
RDX	8.00E+01	1.00E+00	2.48E+00	1.00E+00	0.00E+00	4.96E-02	2.53E+00	1.11E+00	2.28E+00	0.7%
Tetryl	1.60E-01	1.00E+00	4.96E-03	1.00E+00	0.00E+00	9.92E-05	5.06E-03	3.38E-01	1.50E-02	0.0%
									HI =	3.41E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 3.10E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 6.20E-04
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-530. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.42E+04	1.30E-04	0.00E+00	8.00E-04	8.25E-01	7.50E-02	5.17E+02	1.03E+03	1.55E+03
Antimony	6.60E+00	6.00E-03	0.00E+00	4.00E-02	1.92E-02	5.00E-02	1.61E-01	4.81E-01	6.61E-01
Arsenic	1.43E+01	1.20E-03	0.00E+00	8.00E-03	8.31E-03	6.60E-03	4.59E-02	1.04E+00	1.09E+00
Barium	7.78E+03	3.00E-03	0.00E+00	3.00E-02	1.70E+01	7.50E-03	2.84E+01	5.66E+02	6.12E+02
Beryllium	2.48E-01	3.00E-04	0.00E+00	2.00E-03	3.61E-05	5.00E-02	6.04E-03	1.81E-02	2.41E-02
Cadmium	4.80E+00	3.00E-02	0.00E+00	1.10E-01	3.84E-02	1.10E+01	2.57E+01	3.49E-01	2.61E+01
Calcium	4.66E+04	7.00E-02	0.00E+00	7.00E-01	2.37E+03	1.00E+00	2.27E+04	3.39E+03	2.85E+04
Chromium	2.11E+01	9.00E-04	0.00E+00	1.50E-03	2.30E-03	1.60E-01	1.64E+00	1.54E+00	3.18E+00
Cobalt	8.13E+00	1.40E-03	0.00E+00	4.00E-03	2.37E-03	1.00E+00	3.96E+00	5.92E-01	4.56E+00
Copper	1.92E+03	5.00E-02	0.00E+00	8.00E-02	1.12E+01	1.60E-01	1.50E+02	1.40E+02	3.01E+02
Cyanide	5.51E-01	1.00E+00	0.00E+00	1.00E+00	4.01E-02	0.00E+00	0.00E+00	4.01E-02	8.02E-02
Iron	2.58E+04	2.00E-04	0.00E+00	8.00E-04	1.50E+00	1.00E+00	1.26E+04	1.88E+03	1.45E+04
Lead	1.01E+03	1.80E-03	0.00E+00	9.00E-03	6.62E-01	2.00E+00	9.84E+02	7.35E+01	1.06E+03
Magnesium	3.66E+03	1.10E-01	0.00E+00	2.00E-01	5.33E+01	1.00E+00	1.78E+03	2.66E+02	2.10E+03
Mercury	2.80E-01	4.00E-02	0.00E+00	1.80E-01	3.67E-03	3.40E-01	4.64E-02	2.04E-02	7.04E-02
Nickel	2.06E+01	1.20E-02	0.00E+00	1.20E-02	1.80E-02	2.30E-01	2.31E+00	1.50E+00	3.83E+00
Potassium	1.73E+03	1.10E-01	0.00E+00	2.00E-01	2.52E+01	1.00E+00	8.42E+02	1.26E+02	9.93E+02
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.00E-02	4.87E-01
Silver	1.01E+00	2.00E-02	0.00E+00	8.00E-02	5.86E-03	1.50E-01	7.35E-02	7.32E-02	1.53E-01
Sodium	1.87E+02	1.10E-02	0.00E+00	1.50E-02	2.04E-01	1.00E+00	9.11E+01	1.36E+01	1.05E+02
Thallium	5.00E-01	8.00E-05	0.00E+00	8.00E-04	2.91E-05	1.00E+00	2.43E-01	3.64E-02	2.80E-01
Zinc	1.05E+03	1.80E-01	0.00E+00	3.00E-01	2.29E+01	1.80E+00	9.21E+02	7.64E+01	1.02E+03
Organics									
Acenaphthene	1.40E-01	2.00E-02	0.00E+00	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02
Anthracene	4.40E-01	2.00E-02	0.00E+00	2.00E-02	6.41E-04	5.00E-02	1.07E-02	3.20E-02	4.34E-02
Benzo(a)anthracene	6.30E-01	3.90E-03	0.00E+00	3.90E-03	1.79E-04	5.00E-02	1.53E-02	4.59E-02	6.14E-02
Benzo(a)pyrene	5.30E-01	2.60E-03	0.00E+00	2.60E-03	1.00E-04	5.00E-02	1.29E-02	3.86E-02	5.16E-02
Benzo(b)fluoranthene	6.90E-01	2.30E-03	0.00E+00	2.30E-03	1.16E-04	5.00E-02	1.68E-02	5.02E-02	6.72E-02
Benzo(g,h,i)perylene	1.70E-01	1.20E-03	0.00E+00	1.20E-03	1.49E-05	5.00E-02	4.14E-03	1.24E-02	1.65E-02
Benzo(k)fluoranthene	3.50E-01	2.30E-03	0.00E+00	2.30E-03	5.86E-05	5.00E-02	8.53E-03	2.55E-02	3.41E-02
Carbazole	2.00E-01	2.00E-02	0.00E+00	2.00E-02	2.91E-04	5.00E-02	4.87E-03	1.46E-02	1.97E-02
Chrysene	6.20E-01	3.90E-03	0.00E+00	3.90E-03	1.76E-04	5.00E-02	1.51E-02	4.51E-02	6.04E-02
Dibenzo(a,h)anthracene	5.40E-02	1.40E-03	0.00E+00	1.40E-03	5.50E-06	5.00E-02	1.32E-03	3.93E-03	5.25E-03
Dibenzofuran	1.10E-01	2.00E-02	0.00E+00	2.00E-02	1.60E-04	5.00E-02	2.68E-03	8.01E-03	1.08E-02
Fluoranthene	2.00E+00	2.00E-02	0.00E+00	2.00E-02	2.91E-03	5.00E-02	4.87E-02	1.46E-01	1.97E-01
Fluorene	1.80E-01	2.00E-02	0.00E+00	2.00E-02	2.62E-04	5.00E-02	4.38E-03	1.31E-02	1.78E-02
Indeno(1,2,3-cd)pyrene	2.10E-01	1.20E-03	0.00E+00	1.20E-03	1.83E-05	5.00E-02	5.12E-03	1.53E-02	2.04E-02
Phenanthrene	1.40E+00	2.00E-02	0.00E+00	2.00E-02	2.04E-03	5.00E-02	3.41E-02	1.02E-01	1.38E-01

Appendix Table L-530. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.07E+02	2.28E+01	0.00E+00	2.28E+01	6.68E+01	3.42E-01	0.5%
Antimony	5.00E-02	5.90E-02	6.49E-03	0.00E+00	6.49E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.95E-01	2.15E-02	0.00E+00	2.15E-02	4.98E+00	4.31E-03	0.0%
Barium	7.50E-03	8.19E+00	9.01E-01	0.00E+00	9.01E-01	1.19E+01	7.57E-02	0.1%
Beryllium	5.00E-02	2.16E-03	2.37E-04	0.00E+00	2.37E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.31E+00	1.44E-01	0.00E+00	1.44E-01	1.46E+00	9.85E-02	0.1%
Calcium	1.00E+00	5.08E+04	5.59E+03	0.00E+00	5.59E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.59E+00	1.75E-01	0.00E+00	1.75E-01	1.03E+00	1.71E-01	0.3%
Cobalt	1.00E+00	8.14E+00	8.95E-01	0.00E+00	8.95E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.68E+02	2.95E+01	0.00E+00	2.95E+01	3.89E+01	7.58E-01	1.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.58E+04	2.84E+03	0.00E+00	2.84E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.83E+01	3.12E+00	0.00E+00	3.12E+00	6.82E-01	4.57E+00	6.8%
Magnesium	1.00E+00	3.75E+03	4.13E+02	0.00E+00	4.13E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.64E+00	1.80E-01	0.00E+00	1.80E-01	2.72E-01	6.62E-01	1.0%
Nickel	3.00E-01	2.05E+00	2.25E-01	0.00E+00	2.25E-01	7.06E+01	3.19E-03	0.0%
Potassium	1.00E+00	1.77E+03	1.95E+02	0.00E+00	1.95E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	6.53E-01	7.18E-02	0.00E+00	7.18E-02	4.85E-01	1.48E-01	0.2%
Silver	1.50E-01	4.09E-02	4.50E-03	0.00E+00	4.50E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.87E+02	2.06E+01	0.00E+00	2.06E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	5.00E-01	5.50E-02	0.00E+00	5.50E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	9.11E+03	1.00E+03	0.00E+00	1.00E+03	1.66E+01	6.04E+01	89.8%
Acenaphthene	1.20E-02	2.96E-04	3.25E-05	0.00E+00	3.25E-05	No TRV	No TRV	No HQ
Anthracene	4.80E-02	3.72E-03	4.09E-04	0.00E+00	4.09E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	8.33E-02	9.16E-03	0.00E+00	9.16E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.38E-01	1.52E-02	0.00E+00	1.52E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.90E+00	2.28E-01	2.51E-02	0.00E+00	2.51E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	6.00E+00	1.77E-01	1.95E-02	0.00E+00	1.95E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	1.90E+00	1.16E-01	1.27E-02	0.00E+00	1.27E-02	No TRV	No TRV	No HQ
Carbazole	8.70E-03	3.06E-04	3.37E-05	0.00E+00	3.37E-05	No TRV	No TRV	No HQ
Chrysene	7.60E-01	8.20E-02	9.02E-03	0.00E+00	9.02E-03	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	4.80E+00	4.50E-02	4.95E-03	0.00E+00	4.95E-03	No TRV	No TRV	No HQ
Dibenzofuran	1.90E-02	3.68E-04	4.05E-05	0.00E+00	4.05E-05	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	4.58E-02	5.04E-03	0.00E+00	5.04E-03	No TRV	No TRV	No HQ
Fluorene	2.40E-02	7.61E-04	8.37E-05	0.00E+00	8.37E-05	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	6.00E+00	2.19E-01	2.41E-02	0.00E+00	2.41E-02	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.18E-02	1.30E-03	0.00E+00	1.30E-03	No TRV	No TRV	No HQ

Appendix Table L-530. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Pyrene	1.30E+00	6.70E-03	0.00E+00	6.70E-03	6.34E-04	5.00E-02	3.17E-02	9.46E-02	1.27E-01
Explosives									
1,3,5-Trinitrobenzene	6.82E+01	1.00E+00	0.00E+00	1.00E+00	4.96E+00	1.00E+00	3.32E+01	4.96E+00	4.32E+01
1,3-Dinitrobenzene	2.67E+01	1.00E+00	0.00E+00	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
2,4,6-Trinitrotoluene	3.80E+03	1.00E+00	0.00E+00	1.00E+00	2.77E+02	1.00E+00	1.85E+03	2.77E+02	2.40E+03
2,4-Dinitrotoluene	5.50E-01	1.00E+00	0.00E+00	1.00E+00	4.00E-02	1.00E+00	2.68E-01	4.00E-02	3.48E-01
2,6-Dinitrotoluene	6.20E-01	2.00E-02	0.00E+00	2.00E-02	9.03E-04	5.00E-02	1.51E-02	4.51E-02	6.11E-02
2-Nitrotoluene	2.67E+01	1.00E+00	0.00E+00	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
3-Nitrotoluene	1.85E+01	1.00E+00	0.00E+00	1.00E+00	1.35E+00	1.00E+00	9.01E+00	1.35E+00	1.17E+01
4-Nitrotoluene	2.67E+01	1.00E+00	0.00E+00	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
HMX	4.00E+01	1.00E+00	0.00E+00	1.00E+00	2.91E+00	1.00E+00	1.95E+01	2.91E+00	2.53E+01
Nitrobenzene	2.67E+01	2.00E-02	0.00E+00	2.00E-02	3.89E-02	5.00E-02	6.50E-01	1.94E+00	2.63E+00
Nitrocellulose	3.22E+01	1.00E+00	0.00E+00	1.00E+00	2.34E+00	1.00E+00	1.57E+01	2.34E+00	2.04E+01
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	8.00E+01	1.00E+00	0.00E+00	1.00E+00	5.82E+00	1.00E+00	3.90E+01	5.82E+00	5.06E+01
Tetryl	1.60E-01	1.00E+00	0.00E+00	1.00E+00	1.16E-02	1.00E+00	7.80E-02	1.16E-02	1.01E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) =

1.70E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-530. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Pyrene	3.00E-01	6.80E-02	7.48E-03	0.00E+00	7.48E-03	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	7.71E+01	8.48E+00	0.00E+00	8.48E+00	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	3.02E+01	3.32E+00	0.00E+00	3.32E+00	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	4.29E+03	4.72E+02	0.00E+00	4.72E+02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	6.22E-01	6.84E-02	0.00E+00	6.84E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	2.07E-05	2.28E-06	0.00E+00	2.28E-06	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	3.02E+01	3.32E+00	0.00E+00	3.32E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	2.09E+01	2.30E+00	0.00E+00	2.30E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	3.02E+01	3.32E+00	0.00E+00	3.32E+00	No TRV	No TRV	No HQ
HMX	1.00E+00	4.52E+01	4.97E+00	0.00E+00	4.97E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	5.64E-04	6.21E-05	0.00E+00	6.21E-05	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	3.64E+01	4.00E+00	0.00E+00	4.00E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.55E-01	0.00E+00	1.55E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	9.04E+01	9.94E+00	0.00E+00	9.94E+00	No TRV	No TRV	No HQ
Tetryl	1.00E+00	1.81E-01	1.99E-02	0.00E+00	1.99E-02	No TRV	No TRV	No HQ
HI =								6.73E+01

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-531. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.42E+04	1.30E-04	0.00E+00	8.00E-04	8.25E-01	7.50E-02	5.17E+02	1.03E+03	1.55E+03
Antimony	6.60E+00	6.00E-03	0.00E+00	4.00E-02	1.92E-02	5.00E-02	1.61E-01	4.81E-01	6.61E-01
Arsenic	1.43E+01	1.20E-03	0.00E+00	8.00E-03	8.31E-03	6.60E-03	4.59E-02	1.04E+00	1.09E+00
Barium	7.78E+03	3.00E-03	0.00E+00	3.00E-02	1.70E+01	7.50E-03	2.84E+01	5.66E+02	6.12E+02
Beryllium	2.48E-01	3.00E-04	0.00E+00	2.00E-03	3.61E-05	5.00E-02	6.04E-03	1.81E-02	2.41E-02
Cadmium	4.80E+00	3.00E-02	0.00E+00	1.10E-01	3.84E-02	1.10E+01	2.57E+01	3.49E-01	2.61E+01
Calcium	4.66E+04	7.00E-02	0.00E+00	7.00E-01	2.37E+03	1.00E+00	2.27E+04	3.39E+03	2.85E+04
Chromium	2.11E+01	9.00E-04	0.00E+00	1.50E-03	2.30E-03	1.60E-01	1.64E+00	1.54E+00	3.18E+00
Cobalt	8.13E+00	1.40E-03	0.00E+00	4.00E-03	2.37E-03	1.00E+00	3.96E+00	5.92E-01	4.56E+00
Copper	1.92E+03	5.00E-02	0.00E+00	8.00E-02	1.12E+01	1.60E-01	1.50E+02	1.40E+02	3.01E+02
Cyanide	5.51E-01	1.00E+00	0.00E+00	1.00E+00	4.01E-02	0.00E+00	0.00E+00	4.01E-02	8.02E-02
Iron	2.58E+04	2.00E-04	0.00E+00	8.00E-04	1.50E+00	1.00E+00	1.26E+04	1.88E+03	1.45E+04
Lead	1.01E+03	1.80E-03	0.00E+00	9.00E-03	6.62E-01	2.00E+00	9.84E+02	7.35E+01	1.06E+03
Magnesium	3.66E+03	1.10E-01	0.00E+00	2.00E-01	5.33E+01	1.00E+00	1.78E+03	2.66E+02	2.10E+03
Mercury	2.80E-01	4.00E-02	0.00E+00	1.80E-01	3.67E-03	3.40E-01	4.64E-02	2.04E-02	7.04E-02
Nickel	2.06E+01	1.20E-02	0.00E+00	1.20E-02	1.80E-02	2.30E-01	2.31E+00	1.50E+00	3.83E+00
Potassium	1.73E+03	1.10E-01	0.00E+00	2.00E-01	2.52E+01	1.00E+00	8.42E+02	1.26E+02	9.93E+02
Selenium	1.10E+00	5.00E-03	0.00E+00	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.00E-02	4.87E-01
Silver	1.01E+00	2.00E-02	0.00E+00	8.00E-02	5.86E-03	1.50E-01	7.35E-02	7.32E-02	1.53E-01
Sodium	1.87E+02	1.10E-02	0.00E+00	1.50E-02	2.04E-01	1.00E+00	9.11E+01	1.36E+01	1.05E+02
Thallium	5.00E-01	8.00E-05	0.00E+00	8.00E-04	2.91E-05	1.00E+00	2.43E-01	3.64E-02	2.80E-01
Zinc	1.05E+03	1.80E-01	0.00E+00	3.00E-01	2.29E+01	1.80E+00	9.21E+02	7.64E+01	1.02E+03
Organics									
Acenaphthene	1.40E-01	2.00E-02	0.00E+00	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02
Anthracene	4.40E-01	2.00E-02	0.00E+00	2.00E-02	6.41E-04	5.00E-02	1.07E-02	3.20E-02	4.34E-02
Benzo(a)anthracene	6.30E-01	3.90E-03	0.00E+00	3.90E-03	1.79E-04	5.00E-02	1.53E-02	4.59E-02	6.14E-02
Benzo(a)pyrene	5.30E-01	2.60E-03	0.00E+00	2.60E-03	1.00E-04	5.00E-02	1.29E-02	3.86E-02	5.16E-02
Benzo(b)fluoranthene	6.90E-01	2.30E-03	0.00E+00	2.30E-03	1.16E-04	5.00E-02	1.68E-02	5.02E-02	6.72E-02
Benzo(g,h,i)perylene	1.70E-01	1.20E-03	0.00E+00	1.20E-03	1.49E-05	5.00E-02	4.14E-03	1.24E-02	1.65E-02
Benzo(k)fluoranthene	3.50E-01	2.30E-03	0.00E+00	2.30E-03	5.86E-05	5.00E-02	8.53E-03	2.55E-02	3.41E-02
Carbazole	2.00E-01	2.00E-02	0.00E+00	2.00E-02	2.91E-04	5.00E-02	4.87E-03	1.46E-02	1.97E-02
Chrysene	6.20E-01	3.90E-03	0.00E+00	3.90E-03	1.76E-04	5.00E-02	1.51E-02	4.51E-02	6.04E-02
Dibenzo(a,h)anthracene	5.40E-02	1.40E-03	0.00E+00	1.40E-03	5.50E-06	5.00E-02	1.32E-03	3.93E-03	5.25E-03
Dibenzofuran	1.10E-01	2.00E-02	0.00E+00	2.00E-02	1.60E-04	5.00E-02	2.68E-03	8.01E-03	1.08E-02
Fluoranthene	2.00E+00	2.00E-02	0.00E+00	2.00E-02	2.91E-03	5.00E-02	4.87E-02	1.46E-01	1.97E-01

Appendix Table L-531. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.07E+02	2.59E+01	0.00E+00	2.59E+01	8.33E+01	3.11E-01	0.5%
Antimony	5.00E-02	5.90E-02	7.38E-03	0.00E+00	7.38E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.95E-01	2.44E-02	0.00E+00	2.44E-02	6.22E+00	3.92E-03	0.0%
Barium	7.50E-03	8.19E+00	1.02E+00	0.00E+00	1.02E+00	1.49E+01	6.89E-02	0.1%
Beryllium	5.00E-02	2.16E-03	2.69E-04	0.00E+00	2.69E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.31E+00	1.63E-01	0.00E+00	1.63E-01	1.82E+00	8.97E-02	0.1%
Calcium	1.00E+00	5.08E+04	6.36E+03	0.00E+00	6.36E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.59E+00	1.99E-01	0.00E+00	1.99E-01	1.28E+00	1.55E-01	0.3%
Cobalt	1.00E+00	8.14E+00	1.02E+00	0.00E+00	1.02E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	2.68E+02	3.36E+01	0.00E+00	3.36E+01	4.86E+01	6.90E-01	1.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.58E+04	3.23E+03	0.00E+00	3.23E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.83E+01	3.54E+00	0.00E+00	3.54E+00	8.51E-01	4.16E+00	6.8%
Magnesium	1.00E+00	3.75E+03	4.69E+02	0.00E+00	4.69E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.64E+00	2.04E-01	0.00E+00	2.04E-01	3.39E-01	6.03E-01	1.0%
Nickel	3.00E-01	2.05E+00	2.56E-01	0.00E+00	2.56E-01	8.81E+01	2.91E-03	0.0%
Potassium	1.00E+00	1.77E+03	2.22E+02	0.00E+00	2.22E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	6.53E-01	8.16E-02	0.00E+00	8.16E-02	6.05E-01	1.35E-01	0.2%
Silver	1.50E-01	4.09E-02	5.11E-03	0.00E+00	5.11E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.87E+02	2.34E+01	0.00E+00	2.34E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	5.00E-01	6.24E-02	0.00E+00	6.24E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	9.11E+03	1.14E+03	0.00E+00	1.14E+03	2.07E+01	5.50E+01	89.8%
Acenaphthene	1.20E-02	2.96E-04	3.70E-05	0.00E+00	3.70E-05	No TRV	No TRV	No HQ
Anthracene	4.80E-02	3.72E-03	4.65E-04	0.00E+00	4.65E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	8.33E-02	1.04E-02	0.00E+00	1.04E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.38E-01	1.73E-02	0.00E+00	1.73E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.90E+00	2.28E-01	2.85E-02	0.00E+00	2.85E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	6.00E+00	1.77E-01	2.21E-02	0.00E+00	2.21E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	1.90E+00	1.16E-01	1.44E-02	0.00E+00	1.44E-02	No TRV	No TRV	No HQ
Carbazole	8.70E-03	3.06E-04	3.83E-05	0.00E+00	3.83E-05	No TRV	No TRV	No HQ
Chrysene	7.60E-01	8.20E-02	1.02E-02	0.00E+00	1.02E-02	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	4.80E+00	4.50E-02	5.63E-03	0.00E+00	5.63E-03	No TRV	No TRV	No HQ
Dibenzofuran	1.90E-02	3.68E-04	4.60E-05	0.00E+00	4.60E-05	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	4.58E-02	5.72E-03	0.00E+00	5.72E-03	No TRV	No TRV	No HQ

Appendix Table L-531. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Fluorene	1.80E-01	2.00E-02	0.00E+00	2.00E-02	2.62E-04	5.00E-02	4.38E-03	1.31E-02	1.78E-02
Indeno(1,2,3-cd)pyrene	2.10E-01	1.20E-03	0.00E+00	1.20E-03	1.83E-05	5.00E-02	5.12E-03	1.53E-02	2.04E-02
Phenanthrene	1.40E+00	2.00E-02	0.00E+00	2.00E-02	2.04E-03	5.00E-02	3.41E-02	1.02E-01	1.38E-01
Pyrene	1.30E+00	6.70E-03	0.00E+00	6.70E-03	6.34E-04	5.00E-02	3.17E-02	9.46E-02	1.27E-01
Explosives									
1,3,5-Trinitrobenzene	6.82E+01	1.00E+00	0.00E+00	1.00E+00	4.96E+00	1.00E+00	3.32E+01	4.96E+00	4.32E+01
1,3-Dinitrobenzene	2.67E+01	1.00E+00	0.00E+00	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
2,4,6-Trinitrotoluene	3.80E+03	1.00E+00	0.00E+00	1.00E+00	2.77E+02	1.00E+00	1.85E+03	2.77E+02	2.40E+03
2,4-Dinitrotoluene	5.50E-01	1.00E+00	0.00E+00	1.00E+00	4.00E-02	1.00E+00	2.68E-01	4.00E-02	3.48E-01
2,6-Dinitrotoluene	6.20E-01	2.00E-02	0.00E+00	2.00E-02	9.03E-04	5.00E-02	1.51E-02	4.51E-02	6.11E-02
2-Nitrotoluene	2.67E+01	1.00E+00	0.00E+00	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
3-Nitrotoluene	1.85E+01	1.00E+00	0.00E+00	1.00E+00	1.35E+00	1.00E+00	9.01E+00	1.35E+00	1.17E+01
4-Nitrotoluene	2.67E+01	1.00E+00	0.00E+00	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
HMX	4.00E+01	1.00E+00	0.00E+00	1.00E+00	2.91E+00	1.00E+00	1.95E+01	2.91E+00	2.53E+01
Nitrobenzene	2.67E+01	2.00E-02	0.00E+00	2.00E-02	3.89E-02	5.00E-02	6.50E-01	1.94E+00	2.63E+00
Nitrocellulose	3.22E+01	1.00E+00	0.00E+00	1.00E+00	2.34E+00	1.00E+00	1.57E+01	2.34E+00	2.04E+01
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	8.00E+01	1.00E+00	0.00E+00	1.00E+00	5.82E+00	1.00E+00	3.90E+01	5.82E+00	5.06E+01
Tetryl	1.60E-01	1.00E+00	0.00E+00	1.00E+00	1.16E-02	1.00E+00	7.80E-02	1.16E-02	1.01E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgB 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-531. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _s x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
		Fluorene	2.40E-02	7.61E-04	9.51E-05	0.00E+00	9.51E-05	No TRV
Indeno(1,2,3-cd)pyr	6.00E+00	2.19E-01	2.74E-02	0.00E+00	2.74E-02	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.18E-02	1.48E-03	0.00E+00	1.48E-03	No TRV	No TRV	No HQ
Pyrene	3.00E-01	6.80E-02	8.50E-03	0.00E+00	8.50E-03	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzen	1.00E+00	7.71E+01	9.63E+00	0.00E+00	9.63E+00	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	3.02E+01	3.77E+00	0.00E+00	3.77E+00	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluen	1.00E+00	4.29E+03	5.37E+02	0.00E+00	5.37E+02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	6.22E-01	7.77E-02	0.00E+00	7.77E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.00E-04	2.07E-05	2.59E-06	0.00E+00	2.59E-06	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	3.02E+01	3.77E+00	0.00E+00	3.77E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	2.09E+01	2.61E+00	0.00E+00	2.61E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	3.02E+01	3.77E+00	0.00E+00	3.77E+00	No TRV	No TRV	No HQ
HMX	1.00E+00	4.52E+01	5.65E+00	0.00E+00	5.65E+00	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	5.64E-04	7.05E-05	0.00E+00	7.05E-05	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	3.64E+01	4.55E+00	0.00E+00	4.55E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.77E-01	0.00E+00	1.77E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	9.04E+01	1.13E+01	0.00E+00	1.13E+01	No TRV	No TRV	No HQ
Tetryl	1.00E+00	1.81E-01	2.26E-02	0.00E+00	2.26E-02	No TRV	No TRV	No HQ
HI = 6.13E+01								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-532. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.42E+04	1.30E-04	5.84E-03	8.00E-04	8.25E-01	7.50E-02	5.17E+02	1.03E+03	1.55E+03
Antimony	6.60E+00	6.00E-03	1.26E-04	4.00E-02	1.92E-02	5.00E-02	1.61E-01	4.81E-01	6.61E-01
Arsenic	1.43E+01	1.20E-03	5.43E-05	8.00E-03	8.31E-03	6.60E-03	4.59E-02	1.04E+00	1.09E+00
Barium	7.78E+03	3.00E-03	7.41E-02	3.00E-02	1.70E+01	7.50E-03	2.84E+01	5.66E+02	6.12E+02
Beryllium	2.48E-01	3.00E-04	2.36E-07	2.00E-03	3.61E-05	5.00E-02	6.04E-03	1.81E-02	2.41E-02
Cadmium	4.80E+00	3.00E-02	4.57E-04	1.10E-01	3.84E-02	1.10E+01	2.57E+01	3.49E-01	2.61E+01
Calcium	4.66E+04	7.00E-02	1.04E+01	7.00E-01	2.37E+03	1.00E+00	2.27E+04	3.39E+03	2.85E+04
Chromium	2.11E+01	9.00E-04	6.02E-05	1.50E-03	2.30E-03	1.60E-01	1.64E+00	1.54E+00	3.18E+00
Cobalt	8.13E+00	1.40E-03	3.61E-05	4.00E-03	2.37E-03	1.00E+00	3.96E+00	5.92E-01	4.56E+00
Copper	1.92E+03	5.00E-02	3.05E-01	8.00E-02	1.12E+01	1.60E-01	1.50E+02	1.40E+02	3.01E+02
Cyanide	5.51E-01	1.00E+00	1.75E-03	1.00E+00	4.01E-02	0.00E+00	0.00E+00	4.01E-02	8.02E-02
Iron	2.58E+04	2.00E-04	1.64E-02	8.00E-04	1.50E+00	1.00E+00	1.26E+04	1.88E+03	1.45E+04
Lead	1.01E+03	1.80E-03	5.77E-03	9.00E-03	6.62E-01	2.00E+00	9.84E+02	7.35E+01	1.06E+03
Magnesium	3.66E+03	1.10E-01	1.28E+00	2.00E-01	5.33E+01	1.00E+00	1.78E+03	2.66E+02	2.10E+03
Mercury	2.80E-01	4.00E-02	3.55E-05	1.80E-01	3.67E-03	3.40E-01	4.64E-02	2.04E-02	7.04E-02
Nickel	2.06E+01	1.20E-02	7.85E-04	1.20E-02	1.80E-02	2.30E-01	2.31E+00	1.50E+00	3.83E+00
Potassium	1.73E+03	1.10E-01	6.03E-01	2.00E-01	2.52E+01	1.00E+00	8.42E+02	1.26E+02	9.93E+02
Selenium	1.10E+00	5.00E-03	1.74E-05	5.00E-03	4.00E-04	7.60E-01	4.07E-01	8.00E-02	4.87E-01
Silver	1.01E+00	2.00E-02	6.39E-05	8.00E-02	5.86E-03	1.50E-01	7.35E-02	7.32E-02	1.53E-01
Sodium	1.87E+02	1.10E-02	6.53E-03	1.50E-02	2.04E-01	1.00E+00	9.11E+01	1.36E+01	1.05E+02
Thallium	5.00E-01	8.00E-05	1.27E-07	8.00E-04	2.91E-05	1.00E+00	2.43E-01	3.64E-02	2.80E-01
Zinc	1.05E+03	1.80E-01	6.00E-01	3.00E-01	2.29E+01	1.80E+00	9.21E+02	7.64E+01	1.02E+03
Organics									
Acenaphthene	1.40E-01	2.00E-02	8.89E-06	2.00E-02	2.04E-04	5.00E-02	3.41E-03	1.02E-02	1.38E-02
Anthracene	4.40E-01	2.00E-02	2.79E-05	2.00E-02	6.41E-04	5.00E-02	1.07E-02	3.20E-02	4.34E-02
Benzo(a)anthracene	6.30E-01	3.90E-03	7.80E-06	3.90E-03	1.79E-04	5.00E-02	1.53E-02	4.59E-02	6.14E-02
Benzo(a)pyrene	5.30E-01	2.60E-03	4.37E-06	2.60E-03	1.00E-04	5.00E-02	1.29E-02	3.86E-02	5.16E-02
Benzo(b)fluoranthene	6.90E-01	2.30E-03	5.04E-06	2.30E-03	1.16E-04	5.00E-02	1.68E-02	5.02E-02	6.72E-02
Benzo(g,h,i)perylene	1.70E-01	1.20E-03	6.47E-07	1.20E-03	1.49E-05	5.00E-02	4.14E-03	1.24E-02	1.65E-02
Benzo(k)fluoranthene	3.50E-01	2.30E-03	2.56E-06	2.30E-03	5.86E-05	5.00E-02	8.53E-03	2.55E-02	3.41E-02
Carbazole	2.00E-01	2.00E-02	1.27E-05	2.00E-02	2.91E-04	5.00E-02	4.87E-03	1.46E-02	1.97E-02
Chrysene	6.20E-01	3.90E-03	7.67E-06	3.90E-03	1.76E-04	5.00E-02	1.51E-02	4.51E-02	6.04E-02
Dibenzo(a,h)anthracene	5.40E-02	1.40E-03	2.40E-07	1.40E-03	5.50E-06	5.00E-02	1.32E-03	3.93E-03	5.25E-03
Dibenzofuran	1.10E-01	2.00E-02	6.98E-06	2.00E-02	1.60E-04	5.00E-02	2.68E-03	8.01E-03	1.08E-02

Appendix Table L-532. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.07E+02	1.37E+01	2.74E+01	4.10E+01	5.46E-01	7.52E+01	14.8%
Antimony	5.00E-02	5.90E-02	3.88E-03	1.28E-02	1.68E-02	3.54E-02	4.74E-01	0.1%
Arsenic	1.00E-01	1.95E-01	1.28E-02	2.76E-02	4.04E-02	3.56E-02	1.14E+00	0.2%
Barium	7.50E-03	8.19E+00	5.39E-01	1.50E+01	1.56E+01	2.79E+00	5.60E+00	1.1%
Beryllium	5.00E-02	2.16E-03	1.42E-04	4.79E-04	6.21E-04	3.45E-01	1.80E-03	0.0%
Cadmium	2.80E-02	1.31E+00	8.59E-02	9.27E-03	9.57E-02	5.04E-01	1.90E-01	0.0%
Calcium	1.00E+00	5.08E+04	3.35E+03	9.00E+01	3.45E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.59E+00	1.05E-01	4.07E-02	1.46E-01	1.43E+03	1.02E-04	0.0%
Cobalt	1.00E+00	8.14E+00	5.36E-01	1.57E-02	5.51E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.68E+02	1.77E+01	3.71E+00	2.17E+01	7.96E+00	2.72E+00	0.5%
Cyanide	0.00E+00	0.00E+00	0.00E+00	1.06E-03	2.81E-03	3.37E+01	8.33E-05	0.0%
Iron	1.00E+00	2.58E+04	1.70E+03	4.99E+01	1.75E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	2.83E+01	1.87E+00	1.95E+00	3.82E+00	4.18E+00	9.14E-01	0.2%
Magnesium	1.00E+00	3.75E+03	2.47E+02	7.07E+00	2.55E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.64E+00	1.08E-01	5.41E-04	1.08E-01	6.86E-01	1.58E-01	0.0%
Nickel	3.00E-01	2.05E+00	1.35E-01	3.98E-02	1.76E-01	2.09E+01	8.39E-03	0.0%
Potassium	1.00E+00	1.77E+03	1.17E+02	3.34E+00	1.21E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	6.53E-01	4.30E-02	2.12E-03	4.51E-02	1.05E-01	4.31E-01	0.1%
Silver	1.50E-01	4.09E-02	2.69E-03	1.94E-03	4.70E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	1.87E+02	1.23E+01	3.61E-01	1.27E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	5.00E-01	3.29E-02	9.65E-04	3.38E-02	3.91E-03	8.66E+00	1.7%
Zinc	5.00E+00	9.11E+03	6.00E+02	2.03E+00	6.02E+02	8.36E+01	7.20E+00	1.4%
Acenaphthene	1.20E-02	2.96E-04	1.95E-05	2.70E-04	2.99E-04	No TRV	No TRV	No HQ
Anthracene	4.80E-02	3.72E-03	2.45E-04	8.50E-04	1.12E-03	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	8.33E-02	5.48E-03	1.22E-03	6.71E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.38E-01	9.10E-03	1.02E-03	1.01E-02	2.83E-01	3.58E-02	0.0%
Benzo(b)fluoranthene	1.90E+00	2.28E-01	1.50E-02	1.33E-03	1.63E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	6.00E+00	1.77E-01	1.17E-02	3.28E-04	1.20E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	1.90E+00	1.16E-01	7.61E-03	6.76E-04	8.29E-03	No TRV	No TRV	No HQ
Carbazole	8.70E-03	3.06E-04	2.02E-05	3.86E-04	4.19E-04	No TRV	No TRV	No HQ
Chrysene	7.60E-01	8.20E-02	5.40E-03	1.20E-03	6.60E-03	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	4.80E+00	4.50E-02	2.96E-03	1.04E-04	3.07E-03	No TRV	No TRV	No HQ
Dibenzofuran	1.90E-02	3.68E-04	2.42E-05	2.13E-04	2.44E-04	No TRV	No TRV	No HQ

Appendix Table L-532. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 66

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Fluoranthene	2.00E+00	2.00E-02	1.27E-04	2.00E-02	2.91E-03	5.00E-02	4.87E-02	1.46E-01	1.97E-01
Fluorene	1.80E-01	2.00E-02	1.14E-05	2.00E-02	2.62E-04	5.00E-02	4.38E-03	1.31E-02	1.78E-02
Indeno(1,2,3-cd)pyrene	2.10E-01	1.20E-03	8.00E-07	1.20E-03	1.83E-05	5.00E-02	5.12E-03	1.53E-02	2.04E-02
Phenanthrene	1.40E+00	2.00E-02	8.89E-05	2.00E-02	2.04E-03	5.00E-02	3.41E-02	1.02E-01	1.38E-01
Pyrene	1.30E+00	6.70E-03	2.76E-05	6.70E-03	6.34E-04	5.00E-02	3.17E-02	9.46E-02	1.27E-01
Explosives									
1,3,5-Trinitrobenzene	6.82E+01	1.00E+00	2.16E-01	1.00E+00	4.96E+00	1.00E+00	3.32E+01	4.96E+00	4.32E+01
1,3-Dinitrobenzene	2.67E+01	1.00E+00	8.47E-02	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
2,4,6-Trinitrotoluene	3.80E+03	1.00E+00	1.21E+01	1.00E+00	2.77E+02	1.00E+00	1.85E+03	2.77E+02	2.40E+03
2,4-Dinitrotoluene	5.50E-01	1.00E+00	1.75E-03	1.00E+00	4.00E-02	1.00E+00	2.68E-01	4.00E-02	3.48E-01
2,6-Dinitrotoluene	6.20E-01	2.00E-02	3.94E-05	2.00E-02	9.03E-04	5.00E-02	1.51E-02	4.51E-02	6.11E-02
2-Nitrotoluene	2.67E+01	1.00E+00	8.47E-02	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
3-Nitrotoluene	1.85E+01	1.00E+00	5.87E-02	1.00E+00	1.35E+00	1.00E+00	9.01E+00	1.35E+00	1.17E+01
4-Nitrotoluene	2.67E+01	1.00E+00	8.47E-02	1.00E+00	1.94E+00	1.00E+00	1.30E+01	1.94E+00	1.69E+01
HMX	4.00E+01	1.00E+00	1.27E-01	1.00E+00	2.91E+00	1.00E+00	1.95E+01	2.91E+00	2.53E+01
Nitrobenzene	2.67E+01	2.00E-02	1.69E-03	2.00E-02	3.89E-02	5.00E-02	6.50E-01	1.94E+00	2.63E+00
Nitrocellulose	3.22E+01	1.00E+00	1.02E-01	1.00E+00	2.34E+00	1.00E+00	1.57E+01	2.34E+00	2.04E+01
Nitroglycerin	1.25E+00	1.00E+00	3.97E-03	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	8.00E+01	1.00E+00	2.54E-01	1.00E+00	5.82E+00	1.00E+00	3.90E+01	5.82E+00	5.06E+01
Tetryl	1.60E-01	1.00E+00	5.08E-04	1.00E+00	1.16E-02	1.00E+00	7.80E-02	1.16E-02	1.01E-01

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-532. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Fluoranthene	1.30E-01	4.58E-02	3.01E-03	3.86E-03	7.00E-03	No TRV	No TRV	No HQ
Fluorene	2.40E-02	7.61E-04	5.01E-05	3.48E-04	4.09E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	6.00E+00	2.19E-01	1.44E-02	4.06E-04	1.48E-02	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.18E-02	7.79E-04	2.70E-03	3.57E-03	No TRV	No TRV	No HQ
Pyrene	3.00E-01	6.80E-02	4.48E-03	2.51E-03	7.02E-03	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	7.71E+01	5.07E+00	1.32E-01	5.42E+00	1.68E+00	3.23E+00	0.6%
1,3-Dinitrobenzene	1.00E+00	3.02E+01	1.99E+00	5.16E-02	2.12E+00	6.12E-02	3.47E+01	6.8%
2,4,6-Trinitrotoluene	1.00E+00	4.29E+03	2.83E+02	7.34E+00	3.02E+02	8.36E-01	3.61E+02	71.0%
2,4-Dinitrotoluene	1.00E+00	6.22E-01	4.09E-02	1.06E-03	4.37E-02	3.82E+00	1.15E-02	0.0%
2,6-Dinitrotoluene	1.90E-04	2.07E-05	1.37E-06	1.20E-03	1.24E-03	3.66E-01	3.39E-03	0.0%
2-Nitrotoluene	1.00E+00	3.02E+01	1.99E+00	5.16E-02	2.12E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	2.09E+01	1.38E+00	3.57E-02	1.47E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	3.02E+01	1.99E+00	5.16E-02	2.12E+00	No TRV	No TRV	No HQ
HMX	1.00E+00	4.52E+01	2.98E+00	7.73E-02	3.18E+00	8.02E-01	3.96E+00	0.8%
Nitrobenzene	1.20E-04	5.64E-04	3.71E-05	5.16E-02	5.33E-02	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	3.64E+01	2.40E+00	6.22E-02	2.56E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	9.30E-02	2.42E-03	9.94E-02	No TRV	No TRV	No HQ
RDX	1.00E+00	9.04E+01	5.95E+00	1.55E-01	6.36E+00	2.07E+00	3.07E+00	0.6%
Tetryl	1.00E+00	1.81E-01	1.19E-02	3.09E-04	1.27E-02	6.30E-01	2.02E-02	0.0%
HI = 5.09E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-533. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.28E+04	5.00E+01	2.57E+02	55.6%
Antimony	1.64E+00	5.00E+00	3.28E-01	0.1%
Arsenic	1.38E+01	1.00E+01	1.38E+00	0.3%
Barium	2.26E+03	5.00E+02	4.52E+00	1.0%
Beryllium	2.60E-01	1.00E+01	2.60E-02	0.0%
Cadmium	4.87E-01	5.00E-01	9.74E-01	0.2%
Calcium	2.29E+03	No TRV	No TRV	No HQ
Chromium	1.72E+01	1.00E+00	1.72E+01	3.7%
Cobalt	1.01E+01	2.00E+01	5.07E-01	0.1%
Copper	5.24E+01	1.00E+02	5.24E-01	0.1%
Cyanide	3.43E-01	No TRV	No TRV	No HQ
Iron	2.82E+04	No TRV	No TRV	No HQ
Lead	4.06E+01	5.00E+01	8.12E-01	0.2%
Magnesium	2.56E+03	No TRV	No TRV	No HQ
Mercury	1.13E-01	3.00E-01	3.78E-01	0.1%
Nickel	1.57E+01	3.00E+01	5.24E-01	0.1%
Potassium	1.35E+03	No TRV	No TRV	No HQ
Selenium	1.31E+00	1.00E+00	1.31E+00	0.3%
Silver	6.54E-01	2.00E+00	3.27E-01	0.1%
Sodium	6.31E+01	No TRV	No TRV	No HQ
Thallium	3.43E-01	1.00E+00	3.43E-01	0.1%
Zinc	1.37E+02	5.00E+01	2.73E+00	0.6%
Explosives				
1,3,5-Trinitrobenzene	3.08E+02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	7.88E+00	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.40E+03	3.00E+01	1.13E+02	24.6%
2,4-Dinitrotoluene	1.85E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	7.88E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	7.88E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	7.88E+00	No TRV	No TRV	No HQ
HMX	1.07E+03	No TRV	No TRV	No HQ
Nitrobenzene	3.50E-02	No TRV	No TRV	No HQ
Nitrocellulose	2.50E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	5.95E+03	1.00E+02	5.95E+01	12.9%
Tetryl	9.30E-02	2.50E+01	3.72E-03	0.0%
			HI =	4.62E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-534. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 67**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.28E+04	No TRV	No TRV	No HQ
Antimony	1.64E+00	No TRV	No TRV	No HQ
Arsenic	1.38E+01	6.00E+01	2.31E-01	0.3%
Barium	2.26E+03	No TRV	No TRV	No HQ
Beryllium	2.60E-01	No TRV	No TRV	No HQ
Cadmium	4.87E-01	2.00E+01	2.44E-02	0.0%
Calcium	2.29E+03	No TRV	No TRV	No HQ
Chromium	1.72E+01	4.00E-01	4.31E+01	62.0%
Cobalt	1.01E+01	No TRV	No TRV	No HQ
Copper	5.24E+01	5.00E+01	1.05E+00	1.5%
Cyanide	3.43E-01	No TRV	No TRV	No HQ
Iron	2.82E+04	No TRV	No TRV	No HQ
Lead	4.06E+01	5.00E+02	8.12E-02	0.1%
Magnesium	2.56E+03	No TRV	No TRV	No HQ
Mercury	1.13E-01	No TRV	No TRV	No HQ
Nickel	1.57E+01	2.00E+02	7.86E-02	0.1%
Potassium	1.35E+03	No TRV	No TRV	No HQ
Selenium	1.31E+00	No TRV	No TRV	No HQ
Silver	6.54E-01	No TRV	No TRV	No HQ
Sodium	6.31E+01	No TRV	No TRV	No HQ
Thallium	3.43E-01	No TRV	No TRV	No HQ
Zinc	1.37E+02	2.00E+02	6.84E-01	1.0%
Explosives				
1,3,5-Trinitrobenzene	3.08E+02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	7.88E+00	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.40E+03	1.40E+02	2.43E+01	35.0%
2,4-Dinitrotoluene	1.85E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	7.88E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	7.88E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	7.88E+00	No TRV	No TRV	No HQ
HMX	1.07E+03	No TRV	No TRV	No HQ
Nitrobenzene	3.50E-02	No TRV	No TRV	No HQ
Nitrocellulose	2.50E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	No TRV	No TRV	No HQ
RDX	5.95E+03	No TRV	No TRV	No HQ
Tetryl	9.30E-02	No TRV	No TRV	No HQ
HI =				6.95E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-535. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	7.48E-01	7.50E-02	4.69E+02	9.35E+02	1.40E+03	2.22E+00	6.31E+02	31.9%
Antimony	1.64E+00	4.00E-02	4.77E-03	5.00E-02	3.99E-02	1.19E-01	1.64E-01	1.44E-01	1.14E+00	0.1%
Arsenic	1.38E+01	8.00E-03	8.06E-03	6.60E-03	4.45E-02	1.01E+00	1.06E+00	1.45E-01	7.30E+00	0.4%
Barium	2.26E+03	3.00E-02	4.94E+00	7.50E-03	8.26E+00	1.65E+02	1.78E+02	1.14E+01	1.56E+01	0.8%
Beryllium	2.60E-01	2.00E-03	3.79E-05	5.00E-02	6.34E-03	1.90E-02	2.53E-02	1.41E+00	1.80E-02	0.0%
Cadmium	4.87E-01	1.10E-01	3.90E-03	1.10E+01	2.61E+00	3.55E-02	2.65E+00	2.05E+00	1.29E+00	0.1%
Calcium	2.29E+03	7.00E-01	1.17E+02	1.00E+00	1.11E+03	1.66E+02	1.40E+03	No TRV	No TRV	No HQ
Chromium	1.72E+01	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.60E+00	5.83E+03	4.46E-04	0.0%
Cobalt	1.01E+01	4.00E-03	2.95E-03	1.00E+00	4.94E+00	7.38E-01	5.68E+00	No TRV	No TRV	No HQ
Copper	5.24E+01	8.00E-02	3.05E-01	1.60E-01	4.08E+00	3.81E+00	8.20E+00	3.24E+01	2.53E-01	0.0%
Cyanide	3.43E-01	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	4.99E-02	1.38E+02	3.63E-04	0.0%
Iron	2.82E+04	8.00E-04	1.64E+00	1.00E+00	1.38E+04	2.06E+03	1.58E+04	No TRV	No TRV	No HQ
Lead	4.06E+01	9.00E-03	2.66E-02	2.00E+00	3.96E+01	2.96E+00	4.26E+01	1.70E+01	2.50E+00	0.1%
Magnesium	2.56E+03	2.00E-01	3.73E+01	1.00E+00	1.25E+03	1.87E+02	1.47E+03	No TRV	No TRV	No HQ
Mercury	1.13E-01	1.80E-01	1.49E-03	3.40E-01	1.88E-02	8.26E-03	2.85E-02	2.80E+00	1.02E-02	0.0%
Nickel	1.57E+01	1.20E-02	1.37E-02	2.30E-01	1.76E+00	1.14E+00	2.92E+00	8.52E+01	3.43E-02	0.0%
Potassium	1.35E+03	2.00E-01	1.97E+01	1.00E+00	6.59E+02	9.85E+01	7.77E+02	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	4.76E-04	7.60E-01	4.85E-01	9.53E-02	5.80E-01	4.26E-01	1.36E+00	0.1%
Silver	6.54E-01	8.00E-02	3.81E-03	1.50E-01	4.78E-02	4.76E-02	9.93E-02	No TRV	No TRV	No HQ
Sodium	6.31E+01	1.50E-02	6.89E-02	1.00E+00	3.08E+01	4.60E+00	3.54E+01	No TRV	No TRV	No HQ
Thallium	3.43E-01	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.92E-01	1.59E-02	1.21E+01	0.6%
Zinc	1.37E+02	3.00E-01	2.99E+00	1.80E+00	1.20E+02	9.95E+00	1.33E+02	3.41E+02	3.90E-01	0.0%
Explosives										
1,3,5-Trinitrobenzene	3.08E+02	1.00E+00	2.24E+01	1.00E+00	1.50E+02	2.24E+01	1.95E+02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	7.88E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00	2.50E-01	2.00E+01	1.0%
2,4,6-Trinitrotoluene	3.40E+03	1.00E+00	2.48E+02	1.00E+00	1.66E+03	2.48E+02	2.15E+03	3.41E+00	6.31E+02	31.9%
2,4-Dinitrotoluene	1.85E-01	1.00E+00	1.35E-02	1.00E+00	9.01E-02	1.35E-02	1.17E-01	1.56E+01	7.52E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02	1.49E+00	8.66E-03	0.0%
2-Nitrotoluene	7.88E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	7.88E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	7.88E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00	No TRV	No TRV	No HQ
HMX	1.07E+03	1.00E+00	7.79E+01	1.00E+00	5.21E+02	7.79E+01	6.77E+02	3.27E+00	2.07E+02	10.5%
Nitrobenzene	3.50E-02	2.00E-02	5.10E-05	5.00E-02	8.53E-04	2.55E-03	3.45E-03	No TRV	No TRV	No HQ
Nitrocellulose	2.50E+00	1.00E+00	1.82E-01	1.00E+00	1.22E+00	1.82E-01	1.58E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01	No TRV	No TRV	No HQ

Appendix Table L-535. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
RDX	5.95E+03	1.00E+00	4.33E+02	1.00E+00	2.90E+03	4.33E+02	3.77E+03	8.44E+00	4.46E+02	22.6%
Tetryl	9.30E-02	1.00E+00	6.77E-03	1.00E+00	4.53E-02	6.77E-03	5.89E-02	2.57E+00	2.29E-02	0.0%
HI =									1.98E+03	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-536. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	1.30E-04	1.27E+00	7.50E-02	7.32E+02	2.03E+03	2.76E+03	1.29E+02	2.13E+01	21.0%
Antimony	1.64E+00	6.00E-03	7.47E-03	5.00E-02	6.23E-02	2.59E-01	3.29E-01	No TRV	No TRV	No HQ
Arsenic	1.38E+01	1.20E-03	1.26E-02	6.60E-03	6.94E-02	2.19E+00	2.27E+00	9.66E+00	2.35E-01	0.2%
Barium	2.26E+03	3.00E-03	5.15E+00	7.50E-03	1.29E+01	3.57E+02	3.75E+02	2.31E+01	1.62E+01	16.0%
Beryllium	2.60E-01	3.00E-04	5.94E-05	5.00E-02	9.90E-03	4.12E-02	5.11E-02	No TRV	No TRV	No HQ
Cadmium	4.87E-01	3.00E-02	1.11E-02	1.10E+01	4.07E+00	7.70E-02	4.16E+00	2.83E+00	1.47E+00	1.4%
Calcium	2.29E+03	7.00E-02	1.22E+02	1.00E+00	1.74E+03	3.62E+02	2.22E+03	No TRV	No TRV	No HQ
Chromium	1.72E+01	9.00E-04	1.18E-02	1.60E-01	2.09E+00	2.72E+00	4.83E+00	1.99E+00	2.43E+00	2.4%
Cobalt	1.01E+01	1.40E-03	1.08E-02	1.00E+00	7.71E+00	1.60E+00	9.32E+00	No TRV	No TRV	No HQ
Copper	5.24E+01	5.00E-02	1.99E+00	1.60E-01	6.37E+00	8.28E+00	1.66E+01	7.55E+01	2.20E-01	0.2%
Cyanide	3.43E-01	1.00E+00	2.61E-01	0.00E+00	0.00E+00	5.42E-02	3.15E-01	No TRV	No TRV	No HQ
Iron	2.82E+04	2.00E-04	4.29E+00	1.00E+00	2.15E+04	4.46E+03	2.59E+04	No TRV	No TRV	No HQ
Lead	4.06E+01	1.80E-03	5.56E-02	2.00E+00	6.17E+01	6.42E+00	6.82E+01	1.32E+00	5.16E+01	50.7%
Magnesium	2.56E+03	1.10E-01	2.14E+02	1.00E+00	1.95E+03	4.05E+02	2.57E+03	No TRV	No TRV	No HQ
Mercury	1.13E-01	4.00E-02	3.45E-03	3.40E-01	2.93E-02	1.79E-02	5.07E-02	5.27E-01	9.62E-02	0.1%
Nickel	1.57E+01	1.20E-02	1.43E-01	2.30E-01	2.75E+00	2.49E+00	5.38E+00	1.37E+02	3.93E-02	0.0%
Potassium	1.35E+03	1.10E-01	1.13E+02	1.00E+00	1.03E+03	2.14E+02	1.36E+03	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	4.97E-03	7.60E-01	7.56E-01	2.07E-01	9.68E-01	9.40E-01	1.03E+00	1.0%
Silver	6.54E-01	2.00E-02	9.95E-03	1.50E-01	7.46E-02	1.03E-01	1.88E-01	No TRV	No TRV	No HQ
Sodium	6.31E+01	1.10E-02	5.28E-01	1.00E+00	4.80E+01	9.98E+00	5.85E+01	No TRV	No TRV	No HQ
Thallium	3.43E-01	8.00E-05	2.08E-05	1.00E+00	2.61E-01	5.42E-02	3.15E-01	No TRV	No TRV	No HQ
Zinc	1.37E+02	1.80E-01	1.87E+01	1.80E+00	1.87E+02	2.16E+01	2.27E+02	3.21E+01	7.07E+00	7.0%
Explosives										
1,3,5-Trinitrobenzene	3.08E+02	1.00E+00	2.34E+02	1.00E+00	2.34E+02	4.87E+01	5.17E+02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	7.88E+00	1.00E+00	5.99E+00	1.00E+00	5.99E+00	1.25E+00	1.32E+01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	3.40E+03	1.00E+00	2.58E+03	1.00E+00	2.58E+03	5.37E+02	5.71E+03	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.85E-01	1.00E+00	1.41E-01	1.00E+00	1.41E-01	2.92E-02	3.10E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.99E-03	5.00E-02	4.98E-03	2.07E-02	2.77E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	7.88E+00	1.00E+00	5.99E+00	1.00E+00	5.99E+00	1.25E+00	1.32E+01	No TRV	No TRV	No HQ
3-Nitrotoluene	7.88E+00	1.00E+00	5.99E+00	1.00E+00	5.99E+00	1.25E+00	1.32E+01	No TRV	No TRV	No HQ
4-Nitrotoluene	7.88E+00	1.00E+00	5.99E+00	1.00E+00	5.99E+00	1.25E+00	1.32E+01	No TRV	No TRV	No HQ
HMX	1.07E+03	1.00E+00	8.13E+02	1.00E+00	8.13E+02	1.69E+02	1.80E+03	No TRV	No TRV	No HQ
Nitrobenzene	3.50E-02	2.00E-02	5.32E-04	5.00E-02	1.33E-03	5.53E-03	7.39E-03	No TRV	No TRV	No HQ
Nitrocellulose	2.50E+00	1.00E+00	1.90E+00	1.00E+00	1.90E+00	3.95E-01	4.20E+00	No TRV	No TRV	No HQ

Appendix Table L-536. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Nitroglycerin	1.25E+00	1.00E+00	9.50E-01	1.00E+00	9.50E-01	1.98E-01	2.10E+00	No TRV	No TRV	No HQ
RDX	5.95E+03	1.00E+00	4.52E+03	1.00E+00	4.52E+03	9.41E+02	9.98E+03	No TRV	No TRV	No HQ
Tetryl	9.30E-02	1.00E+00	7.07E-02	1.00E+00	7.07E-02	1.47E-02	1.56E-01	No TRV	No TRV	No HQ
HI =									1.02E+02	

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.60E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.58E-01

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-537. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	2.11E+00	7.50E-02	0.00E+00	1.66E+02	1.68E+02	7.63E-01	2.20E+02	14.2%
Antimony	1.64E+00	4.00E-02	1.34E-02	5.00E-02	0.00E+00	2.12E-02	3.46E-02	4.94E-02	7.01E-01	0.0%
Arsenic	1.38E+01	8.00E-03	2.27E-02	6.60E-03	0.00E+00	1.79E-01	2.01E-01	4.98E-02	4.05E+00	0.3%
Barium	2.26E+03	3.00E-02	1.39E+01	7.50E-03	0.00E+00	2.92E+01	4.31E+01	3.90E+00	1.10E+01	0.7%
Beryllium	2.60E-01	2.00E-03	1.07E-04	5.00E-02	0.00E+00	3.36E-03	3.47E-03	4.82E-01	7.20E-03	0.0%
Cadmium	4.87E-01	1.10E-01	1.10E-02	1.10E+01	0.00E+00	6.29E-03	1.73E-02	7.05E-01	2.45E-02	0.0%
Calcium	2.29E+03	7.00E-01	3.28E+02	1.00E+00	0.00E+00	2.95E+01	3.58E+02	No TRV	No TRV	No HQ
Chromium	1.72E+01	1.50E-03	5.30E-03	1.60E-01	0.00E+00	2.22E-01	2.28E-01	2.00E+03	1.14E-04	0.0%
Cobalt	1.01E+01	4.00E-03	8.31E-03	1.00E+00	0.00E+00	1.31E-01	1.39E-01	No TRV	No TRV	No HQ
Copper	5.24E+01	8.00E-02	8.59E-01	1.60E-01	0.00E+00	6.77E-01	1.54E+00	1.11E+01	1.38E-01	0.0%
Cyanide	3.43E-01	1.00E+00	7.03E-02	0.00E+00	0.00E+00	4.43E-03	7.47E-02	4.72E+01	1.58E-03	0.0%
Iron	2.82E+04	8.00E-04	4.63E+00	1.00E+00	0.00E+00	3.65E+02	3.69E+02	No TRV	No TRV	No HQ
Lead	4.06E+01	9.00E-03	7.49E-02	2.00E+00	0.00E+00	5.24E-01	5.99E-01	5.84E+00	1.03E-01	0.0%
Magnesium	2.56E+03	2.00E-01	1.05E+02	1.00E+00	0.00E+00	3.31E+01	1.38E+02	No TRV	No TRV	No HQ
Mercury	1.13E-01	1.80E-01	4.18E-03	3.40E-01	0.00E+00	1.46E-03	5.65E-03	9.59E-01	5.89E-03	0.0%
Nickel	1.57E+01	1.20E-02	3.87E-02	2.30E-01	0.00E+00	2.03E-01	2.42E-01	2.92E+01	8.27E-03	0.0%
Potassium	1.35E+03	2.00E-01	5.55E+01	1.00E+00	0.00E+00	1.75E+01	7.29E+01	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	1.34E-03	7.60E-01	0.00E+00	1.69E-02	1.82E-02	1.46E-01	1.25E-01	0.0%
Silver	6.54E-01	8.00E-02	1.07E-02	1.50E-01	0.00E+00	8.45E-03	1.92E-02	No TRV	No TRV	No HQ
Sodium	6.31E+01	1.50E-02	1.94E-01	1.00E+00	0.00E+00	8.15E-01	1.01E+00	No TRV	No TRV	No HQ
Thallium	3.43E-01	8.00E-04	5.62E-05	1.00E+00	0.00E+00	4.43E-03	4.48E-03	5.46E-03	8.21E-01	0.1%
Zinc	1.37E+02	3.00E-01	8.41E+00	1.80E+00	0.00E+00	1.77E+00	1.02E+01	1.17E+02	8.70E-02	0.0%
Explosives										
1,3,5-Trinitrobenzene	3.08E+02	1.00E+00	6.31E+01	1.00E+00	0.00E+00	3.98E+00	6.71E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	7.88E+00	1.00E+00	1.62E+00	1.00E+00	0.00E+00	1.02E-01	1.72E+00	8.55E-02	2.01E+01	1.3%
2,4,6-Trinitrotoluene	3.40E+03	1.00E+00	6.97E+02	1.00E+00	0.00E+00	4.39E+01	7.41E+02	1.17E+00	6.34E+02	41.0%
2,4-Dinitrotoluene	1.85E-01	1.00E+00	3.79E-02	1.00E+00	0.00E+00	2.39E-03	4.03E-02	5.34E+00	7.56E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	5.37E-04	5.00E-02	0.00E+00	1.69E-03	2.23E-03	5.11E-01	4.36E-03	0.0%
2-Nitrotoluene	7.88E+00	1.00E+00	1.62E+00	1.00E+00	0.00E+00	1.02E-01	1.72E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	7.88E+00	1.00E+00	1.62E+00	1.00E+00	0.00E+00	1.02E-01	1.72E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	7.88E+00	1.00E+00	1.62E+00	1.00E+00	0.00E+00	1.02E-01	1.72E+00	No TRV	No TRV	No HQ
HMX	1.07E+03	1.00E+00	2.19E+02	1.00E+00	0.00E+00	1.38E+01	2.33E+02	1.12E+00	2.08E+02	13.4%
Nitrobenzene	3.50E-02	2.00E-02	1.44E-04	5.00E-02	0.00E+00	4.52E-04	5.96E-04	No TRV	No TRV	No HQ
Nitrocellulose	2.50E+00	1.00E+00	5.13E-01	1.00E+00	0.00E+00	3.23E-02	5.45E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	2.56E-01	1.00E+00	0.00E+00	1.61E-02	2.72E-01	No TRV	No TRV	No HQ
RDX	5.95E+03	1.00E+00	1.22E+03	1.00E+00	0.00E+00	7.68E+01	1.30E+03	2.89E+00	4.48E+02	29.0%

Appendix Table L-537. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 67

Analyte	EPC	SP _v	ADDP	BAF _v	ADDA	ADDS	ADD _{total}	TRV	Site HQ	%HI
	(mg/kg)		(mg/kgBW/d) EPC x SP _v x IP x AUF		(mg/kgBW/d) EPC x BAF _v x IA x AUF	(mg/kgBW/d) EPC x IS x AUF	(mg/kgBW/d) ADD _p + ADD _A + ADD _s		(mg/kgBW/d)	ADD _{total} / TRV
Tetryl	9.30E-02	1.00E+00	1.91E-02	1.00E+00	0.00E+00	1.20E-03	2.03E-02	8.80E-01	2.30E-02	0.0%
HI =									1.55E+03	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-538 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.28E+04	8.00E-04	3.18E-01	7.50E-02	0.00E+00	7.96E+00	8.28E+00	2.93E-01	2.83E+01	5.4%
Antimony	1.64E+00	4.00E-02	2.03E-03	5.00E-02	0.00E+00	1.02E-03	3.05E-03	1.90E-02	1.61E-01	0.0%
Arsenic	1.38E+01	8.00E-03	3.43E-03	6.60E-03	0.00E+00	8.58E-03	1.20E-02	1.91E-02	6.28E-01	0.1%
Barium	2.26E+03	3.00E-02	2.10E+00	7.50E-03	0.00E+00	1.40E+00	3.50E+00	1.50E+00	2.34E+00	0.4%
Beryllium	2.60E-01	2.00E-03	1.61E-05	5.00E-02	0.00E+00	1.61E-04	1.78E-04	1.85E-01	9.59E-04	0.0%
Cadmium	4.87E-01	1.10E-01	1.66E-03	1.10E+01	0.00E+00	3.02E-04	1.96E-03	2.71E-01	7.25E-03	0.0%
Calcium	2.29E+03	7.00E-01	4.96E+01	1.00E+00	0.00E+00	1.42E+00	5.10E+01	No TRV	No TRV	No HQ
Chromium	1.72E+01	1.50E-03	8.01E-04	1.60E-01	0.00E+00	1.07E-02	1.15E-02	7.68E+02	1.49E-05	0.0%
Cobalt	1.01E+01	4.00E-03	1.26E-03	1.00E+00	0.00E+00	6.29E-03	7.54E-03	No TRV	No TRV	No HQ
Copper	5.24E+01	8.00E-02	1.30E-01	1.60E-01	0.00E+00	3.25E-02	1.62E-01	4.27E+00	3.80E-02	0.0%
Cyanide	3.43E-01	1.00E+00	1.06E-02	0.00E+00	0.00E+00	2.13E-04	1.08E-02	1.81E+01	5.99E-04	0.0%
Iron	2.82E+04	8.00E-04	7.00E-01	1.00E+00	0.00E+00	1.75E+01	1.82E+01	No TRV	No TRV	No HQ
Lead	4.06E+01	9.00E-03	1.13E-02	2.00E+00	0.00E+00	2.52E-02	3.65E-02	2.24E+00	1.63E-02	0.0%
Magnesium	2.56E+03	2.00E-01	1.59E+01	1.00E+00	0.00E+00	1.59E+00	1.75E+01	No TRV	No TRV	No HQ
Mercury	1.13E-01	1.80E-01	6.33E-04	3.40E-01	0.00E+00	7.03E-05	7.03E-04	3.68E-01	1.91E-03	0.0%
Nickel	1.57E+01	1.20E-02	5.85E-03	2.30E-01	0.00E+00	9.75E-03	1.56E-02	1.12E+01	1.39E-03	0.0%
Potassium	1.35E+03	2.00E-01	8.39E+00	1.00E+00	0.00E+00	8.39E-01	9.23E+00	No TRV	No TRV	No HQ
Selenium	1.31E+00	5.00E-03	2.03E-04	7.60E-01	0.00E+00	8.12E-04	1.01E-03	5.61E-02	1.81E-02	0.0%
Silver	6.54E-01	8.00E-02	1.62E-03	1.50E-01	0.00E+00	4.06E-04	2.03E-03	No TRV	No TRV	No HQ
Sodium	6.31E+01	1.50E-02	2.94E-02	1.00E+00	0.00E+00	3.91E-02	6.85E-02	No TRV	No TRV	No HQ
Thallium	3.43E-01	8.00E-04	8.50E-06	1.00E+00	0.00E+00	2.13E-04	2.21E-04	2.10E-03	1.05E-01	0.0%
Zinc	1.37E+02	3.00E-01	1.27E+00	1.80E+00	0.00E+00	8.48E-02	1.36E+00	4.49E+01	3.02E-02	0.0%
Explosives										
1,3,5-Trinitrobenzene	3.08E+02	1.00E+00	9.55E+00	1.00E+00	0.00E+00	1.91E-01	9.74E+00	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	7.88E+00	1.00E+00	2.44E-01	1.00E+00	0.00E+00	4.89E-03	2.49E-01	3.29E-02	7.58E+00	1.4%
2,4,6-Trinitrotoluene	3.40E+03	1.00E+00	1.05E+02	1.00E+00	0.00E+00	2.11E+00	1.08E+02	4.49E-01	2.40E+02	45.5%
2,4-Dinitrotoluene	1.85E-01	1.00E+00	5.74E-03	1.00E+00	0.00E+00	1.15E-04	5.85E-03	2.05E+00	2.85E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.12E-05	5.00E-02	0.00E+00	8.12E-05	1.62E-04	1.96E-01	8.27E-04	0.0%
2-Nitrotoluene	7.88E+00	1.00E+00	2.44E-01	1.00E+00	0.00E+00	4.89E-03	2.49E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	7.88E+00	1.00E+00	2.44E-01	1.00E+00	0.00E+00	4.89E-03	2.49E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	7.88E+00	1.00E+00	2.44E-01	1.00E+00	0.00E+00	4.89E-03	2.49E-01	No TRV	No TRV	No HQ
HMX	1.07E+03	1.00E+00	3.32E+01	1.00E+00	0.00E+00	6.63E-01	3.38E+01	4.31E-01	7.86E+01	14.9%
Nitrobenzene	3.50E-02	2.00E-02	2.17E-05	5.00E-02	0.00E+00	2.17E-05	4.34E-05	No TRV	No TRV	No HQ
Nitrocellulose	2.50E+00	1.00E+00	7.75E-02	1.00E+00	0.00E+00	1.55E-03	7.91E-02	No TRV	No TRV	No HQ
Nitroglycerin	1.25E+00	1.00E+00	3.88E-02	1.00E+00	0.00E+00	7.75E-04	3.95E-02	No TRV	No TRV	No HQ
RDx	5.95E+03	1.00E+00	1.84E+02	1.00E+00	0.00E+00	3.69E+00	1.88E+02	1.11E+00	1.69E+02	32.2%
Tetryl	9.30E-02	1.00E+00	2.88E-03	1.00E+00	0.00E+00	5.77E-05	2.94E-03	3.38E-01	8.70E-03	0.0%
									HI =	5.27E+02

Appendix Table L-538 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
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EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-539. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.28E+04	1.30E-04	0.00E+00	8.00E-04	7.48E-01	7.50E-02	4.69E+02	9.35E+02	1.40E+03
Antimony	1.64E+00	6.00E-03	0.00E+00	4.00E-02	4.77E-03	5.00E-02	3.99E-02	1.19E-01	1.64E-01
Arsenic	1.38E+01	1.20E-03	0.00E+00	8.00E-03	8.06E-03	6.60E-03	4.45E-02	1.01E+00	1.06E+00
Barium	2.26E+03	3.00E-03	0.00E+00	3.00E-02	4.94E+00	7.50E-03	8.26E+00	1.65E+02	1.78E+02
Beryllium	2.60E-01	3.00E-04	0.00E+00	2.00E-03	3.79E-05	5.00E-02	6.34E-03	1.90E-02	2.53E-02
Cadmium	4.87E-01	3.00E-02	0.00E+00	1.10E-01	3.90E-03	1.10E+01	2.61E+00	3.55E-02	2.65E+00
Calcium	2.29E+03	7.00E-02	0.00E+00	7.00E-01	1.17E+02	1.00E+00	1.11E+03	1.66E+02	1.40E+03
Chromium	1.72E+01	9.00E-04	0.00E+00	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.60E+00
Cobalt	1.01E+01	1.40E-03	0.00E+00	4.00E-03	2.95E-03	1.00E+00	4.94E+00	7.38E-01	5.68E+00
Copper	5.24E+01	5.00E-02	0.00E+00	8.00E-02	3.05E-01	1.60E-01	4.08E+00	3.81E+00	8.20E+00
Cyanide	3.43E-01	1.00E+00	0.00E+00	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	4.99E-02
Iron	2.82E+04	2.00E-04	0.00E+00	8.00E-04	1.64E+00	1.00E+00	1.38E+04	2.06E+03	1.58E+04
Lead	4.06E+01	1.80E-03	0.00E+00	9.00E-03	2.66E-02	2.00E+00	3.96E+01	2.96E+00	4.26E+01
Magnesium	2.56E+03	1.10E-01	0.00E+00	2.00E-01	3.73E+01	1.00E+00	1.25E+03	1.87E+02	1.47E+03
Mercury	1.13E-01	4.00E-02	0.00E+00	1.80E-01	1.49E-03	3.40E-01	1.88E-02	8.26E-03	2.85E-02
Nickel	1.57E+01	1.20E-02	0.00E+00	1.20E-02	1.37E-02	2.30E-01	1.76E+00	1.14E+00	2.92E+00
Potassium	1.35E+03	1.10E-01	0.00E+00	2.00E-01	1.97E+01	1.00E+00	6.59E+02	9.85E+01	7.77E+02
Selenium	1.31E+00	5.00E-03	0.00E+00	5.00E-03	4.76E-04	7.60E-01	4.85E-01	9.53E-02	5.80E-01
Silver	6.54E-01	2.00E-02	0.00E+00	8.00E-02	3.81E-03	1.50E-01	4.78E-02	4.76E-02	9.93E-02
Sodium	6.31E+01	1.10E-02	0.00E+00	1.50E-02	6.89E-02	1.00E+00	3.08E+01	4.60E+00	3.54E+01
Thallium	3.43E-01	8.00E-05	0.00E+00	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.92E-01
Zinc	1.37E+02	1.80E-01	0.00E+00	3.00E-01	2.99E+00	1.80E+00	1.20E+02	9.95E+00	1.33E+02
Explosives									
1,3,5-Trinitrobenzene	3.08E+02	1.00E+00	0.00E+00	1.00E+00	2.24E+01	1.00E+00	1.50E+02	2.24E+01	1.95E+02
1,3-Dinitrobenzene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
2,4,6-Trinitrotoluene	3.40E+03	1.00E+00	0.00E+00	1.00E+00	2.48E+02	1.00E+00	1.66E+03	2.48E+02	2.15E+03
2,4-Dinitrotoluene	1.85E-01	1.00E+00	0.00E+00	1.00E+00	1.35E-02	1.00E+00	9.01E-02	1.35E-02	1.17E-01
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
3-Nitrotoluene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
4-Nitrotoluene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
HMX	1.07E+03	1.00E+00	0.00E+00	1.00E+00	7.79E+01	1.00E+00	5.21E+02	7.79E+01	6.77E+02
Nitrobenzene	3.50E-02	2.00E-02	0.00E+00	2.00E-02	5.10E-05	5.00E-02	8.53E-04	2.55E-03	3.45E-03
Nitrocellulose	2.50E+00	1.00E+00	0.00E+00	1.00E+00	1.82E-01	1.00E+00	1.22E+00	1.82E-01	1.58E+00
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	5.95E+03	1.00E+00	0.00E+00	1.00E+00	4.33E+02	1.00E+00	2.90E+03	4.33E+02	3.77E+03
Tetryl	9.30E-02	1.00E+00	0.00E+00	1.00E+00	6.77E-03	1.00E+00	4.53E-02	6.77E-03	5.89E-02

Appendix Table L-539. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	2.07E+01	0.00E+00	2.07E+01	6.68E+01	3.10E-01	3.4%
Antimony	5.00E-02	1.46E-02	1.61E-03	0.00E+00	1.61E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.89E-01	2.08E-02	0.00E+00	2.08E-02	4.98E+00	4.18E-03	0.0%
Barium	7.50E-03	2.38E+00	2.62E-01	0.00E+00	2.62E-01	1.19E+01	2.20E-02	0.2%
Beryllium	5.00E-02	2.26E-03	2.49E-04	0.00E+00	2.49E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.32E-01	1.46E-02	0.00E+00	1.46E-02	1.46E+00	1.00E-02	0.1%
Calcium	1.00E+00	2.50E+03	2.74E+02	0.00E+00	2.74E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.30E+00	1.43E-01	0.00E+00	1.43E-01	1.03E+00	1.39E-01	1.5%
Cobalt	1.00E+00	1.01E+01	1.12E+00	0.00E+00	1.12E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	7.32E+00	8.06E-01	0.00E+00	8.06E-01	3.89E+01	2.07E-02	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.82E+04	3.11E+03	0.00E+00	3.11E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.14E+00	1.25E-01	0.00E+00	1.25E-01	6.82E-01	1.84E-01	2.0%
Magnesium	1.00E+00	2.63E+03	2.89E+02	0.00E+00	2.89E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	6.62E-01	7.28E-02	0.00E+00	7.28E-02	2.72E-01	2.68E-01	3.0%
Nickel	3.00E-01	1.56E+00	1.72E-01	0.00E+00	1.72E-01	7.06E+01	2.44E-03	0.0%
Potassium	1.00E+00	1.39E+03	1.53E+02	0.00E+00	1.53E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.77E-01	8.55E-02	0.00E+00	8.55E-02	4.85E-01	1.76E-01	2.0%
Silver	1.50E-01	2.66E-02	2.92E-03	0.00E+00	2.92E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	6.33E+01	6.96E+00	0.00E+00	6.96E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.43E-01	3.77E-02	0.00E+00	3.77E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.19E+03	1.30E+02	0.00E+00	1.30E+02	1.66E+01	7.87E+00	87.4%
1,3,5-Trinitrobenzene	1.00E+00	3.48E+02	3.83E+01	0.00E+00	3.83E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	8.90E+00	9.79E-01	0.00E+00	9.79E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	3.84E+03	4.23E+02	0.00E+00	4.23E+02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	2.09E-01	2.30E-02	0.00E+00	2.30E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	4.82E-07	0.00E+00	4.82E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	8.90E+00	9.79E-01	0.00E+00	9.79E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	8.90E+00	9.79E-01	0.00E+00	9.79E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	8.90E+00	9.79E-01	0.00E+00	9.79E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	1.21E+03	1.33E+02	0.00E+00	1.33E+02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	7.40E-07	8.14E-08	0.00E+00	8.14E-08	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	2.83E+00	3.11E-01	0.00E+00	3.11E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.55E-01	0.00E+00	1.55E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	6.72E+03	7.40E+02	0.00E+00	7.40E+02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	1.05E-01	1.16E-02	0.00E+00	1.16E-02	No TRV	No TRV	No HQ

Appendix Table L-539. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
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EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-539. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
HI =							9.01E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-540. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.28E+04	1.30E-04	0.00E+00	8.00E-04	7.48E-01	7.50E-02	4.69E+02	9.35E+02	1.40E+03
Antimony	1.64E+00	6.00E-03	0.00E+00	4.00E-02	4.77E-03	5.00E-02	3.99E-02	1.19E-01	1.64E-01
Arsenic	1.38E+01	1.20E-03	0.00E+00	8.00E-03	8.06E-03	6.60E-03	4.45E-02	1.01E+00	1.06E+00
Barium	2.26E+03	3.00E-03	0.00E+00	3.00E-02	4.94E+00	7.50E-03	8.26E+00	1.65E+02	1.78E+02
Beryllium	2.60E-01	3.00E-04	0.00E+00	2.00E-03	3.79E-05	5.00E-02	6.34E-03	1.90E-02	2.53E-02
Cadmium	4.87E-01	3.00E-02	0.00E+00	1.10E-01	3.90E-03	1.10E+01	2.61E+00	3.55E-02	2.65E+00
Calcium	2.29E+03	7.00E-02	0.00E+00	7.00E-01	1.17E+02	1.00E+00	1.11E+03	1.66E+02	1.40E+03
Chromium	1.72E+01	9.00E-04	0.00E+00	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.60E+00
Cobalt	1.01E+01	1.40E-03	0.00E+00	4.00E-03	2.95E-03	1.00E+00	4.94E+00	7.38E-01	5.68E+00
Copper	5.24E+01	5.00E-02	0.00E+00	8.00E-02	3.05E-01	1.60E-01	4.08E+00	3.81E+00	8.20E+00
Cyanide	3.43E-01	1.00E+00	0.00E+00	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	4.99E-02
Iron	2.82E+04	2.00E-04	0.00E+00	8.00E-04	1.64E+00	1.00E+00	1.38E+04	2.06E+03	1.58E+04
Lead	4.06E+01	1.80E-03	0.00E+00	9.00E-03	2.66E-02	2.00E+00	3.96E+01	2.96E+00	4.26E+01
Magnesium	2.56E+03	1.10E-01	0.00E+00	2.00E-01	3.73E+01	1.00E+00	1.25E+03	1.87E+02	1.47E+03
Mercury	1.13E-01	4.00E-02	0.00E+00	1.80E-01	1.49E-03	3.40E-01	1.88E-02	8.26E-03	2.85E-02
Nickel	1.57E+01	1.20E-02	0.00E+00	1.20E-02	1.37E-02	2.30E-01	1.76E+00	1.14E+00	2.92E+00
Potassium	1.35E+03	1.10E-01	0.00E+00	2.00E-01	1.97E+01	1.00E+00	6.59E+02	9.85E+01	7.77E+02
Selenium	1.31E+00	5.00E-03	0.00E+00	5.00E-03	4.76E-04	7.60E-01	4.85E-01	9.53E-02	5.80E-01
Silver	6.54E-01	2.00E-02	0.00E+00	8.00E-02	3.81E-03	1.50E-01	4.78E-02	4.76E-02	9.93E-02
Sodium	6.31E+01	1.10E-02	0.00E+00	1.50E-02	6.89E-02	1.00E+00	3.08E+01	4.60E+00	3.54E+01
Thallium	3.43E-01	8.00E-05	0.00E+00	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.92E-01
Zinc	1.37E+02	1.80E-01	0.00E+00	3.00E-01	2.99E+00	1.80E+00	1.20E+02	9.95E+00	1.33E+02
Explosives									
1,3,5-Trinitrobenzene	3.08E+02	1.00E+00	0.00E+00	1.00E+00	2.24E+01	1.00E+00	1.50E+02	2.24E+01	1.95E+02
1,3-Dinitrobenzene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
2,4,6-Trinitrotoluene	3.40E+03	1.00E+00	0.00E+00	1.00E+00	2.48E+02	1.00E+00	1.66E+03	2.48E+02	2.15E+03
2,4-Dinitrotoluene	1.85E-01	1.00E+00	0.00E+00	1.00E+00	1.35E-02	1.00E+00	9.01E-02	1.35E-02	1.17E-01
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
3-Nitrotoluene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
4-Nitrotoluene	7.88E+00	1.00E+00	0.00E+00	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
HMX	1.07E+03	1.00E+00	0.00E+00	1.00E+00	7.79E+01	1.00E+00	5.21E+02	7.79E+01	6.77E+02
Nitrobenzene	3.50E-02	2.00E-02	0.00E+00	2.00E-02	5.10E-05	5.00E-02	8.53E-04	2.55E-03	3.45E-03
Nitrocellulose	2.50E+00	1.00E+00	0.00E+00	1.00E+00	1.82E-01	1.00E+00	1.22E+00	1.82E-01	1.58E+00
Nitroglycerin	1.25E+00	1.00E+00	0.00E+00	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01

Appendix Table L-540. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	2.35E+01	0.00E+00	2.35E+01	8.33E+01	2.82E-01	3.4%
Antimony	5.00E-02	1.46E-02	1.83E-03	0.00E+00	1.83E-03	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.89E-01	2.37E-02	0.00E+00	2.37E-02	6.22E+00	3.81E-03	0.0%
Barium	7.50E-03	2.38E+00	2.98E-01	0.00E+00	2.98E-01	1.49E+01	2.00E-02	0.2%
Beryllium	5.00E-02	2.26E-03	2.83E-04	0.00E+00	2.83E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.32E-01	1.66E-02	0.00E+00	1.66E-02	1.82E+00	9.10E-03	0.1%
Calcium	1.00E+00	2.50E+03	3.12E+02	0.00E+00	3.12E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.30E+00	1.62E-01	0.00E+00	1.62E-01	1.28E+00	1.27E-01	1.5%
Cobalt	1.00E+00	1.01E+01	1.27E+00	0.00E+00	1.27E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	7.32E+00	9.16E-01	0.00E+00	9.16E-01	4.86E+01	1.88E-02	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.82E+04	3.53E+03	0.00E+00	3.53E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.14E+00	1.42E-01	0.00E+00	1.42E-01	8.51E-01	1.67E-01	2.0%
Magnesium	1.00E+00	2.63E+03	3.29E+02	0.00E+00	3.29E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	6.62E-01	8.28E-02	0.00E+00	8.28E-02	3.39E-01	2.44E-01	3.0%
Nickel	3.00E-01	1.56E+00	1.96E-01	0.00E+00	1.96E-01	8.81E+01	2.22E-03	0.0%
Potassium	1.00E+00	1.39E+03	1.74E+02	0.00E+00	1.74E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.77E-01	9.72E-02	0.00E+00	9.72E-02	6.05E-01	1.61E-01	2.0%
Silver	1.50E-01	2.66E-02	3.32E-03	0.00E+00	3.32E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	6.33E+01	7.91E+00	0.00E+00	7.91E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.43E-01	4.29E-02	0.00E+00	4.29E-02	No TRV	No TRV	No HQ
Zinc	5.00E+00	1.19E+03	1.48E+02	0.00E+00	1.48E+02	2.07E+01	7.17E+00	87.4%
1,3,5-Trinitrobenzen	1.00E+00	3.48E+02	4.35E+01	0.00E+00	4.35E+01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	8.90E+00	1.11E+00	0.00E+00	1.11E+00	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluen	1.00E+00	3.84E+03	4.80E+02	0.00E+00	4.80E+02	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	2.09E-01	2.61E-02	0.00E+00	2.61E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	5.48E-07	0.00E+00	5.48E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	8.90E+00	1.11E+00	0.00E+00	1.11E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	8.90E+00	1.11E+00	0.00E+00	1.11E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	8.90E+00	1.11E+00	0.00E+00	1.11E+00	No TRV	No TRV	No HQ
HMX	1.00E+00	1.21E+03	1.51E+02	0.00E+00	1.51E+02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	7.40E-07	9.25E-08	0.00E+00	9.25E-08	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	2.83E+00	3.53E-01	0.00E+00	3.53E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	1.41E+00	1.77E-01	0.00E+00	1.77E-01	No TRV	No TRV	No HQ

Appendix Table L-540. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF_i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
RDX	5.95E+03	1.00E+00	0.00E+00	1.00E+00	4.33E+02	1.00E+00	2.90E+03	4.33E+02	3.77E+03
Tetryl	9.30E-02	1.00E+00	0.00E+00	1.00E+00	6.77E-03	1.00E+00	4.53E-02	6.77E-03	5.89E-02

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgB' 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.25E-01
 ADD_S = Average daily dose; soil
 I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-540. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg)	ADD _A (mg/kgBW/d)	ADDS (mg/kgBW/d) EPC x	ADD _{total} (mg/kgBW/d)	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
		ADD _{total} x BAF _v /IR _f	Cs x I _A x AUF	IS x AUF	ADD _p + ADD _A + ADD _s			
RDX	1.00E+00	6.72E+03	8.40E+02	0.00E+00	8.40E+02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	1.05E-01	1.31E-02	0.00E+00	1.31E-02	No TRV	No TRV	No HQ
HI =							8.20E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-541. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.28E+04	1.30E-04	5.30E-03	8.00E-04	7.48E-01	7.50E-02	4.69E+02	9.35E+02	1.40E+03
Antimony	1.64E+00	6.00E-03	3.12E-05	4.00E-02	4.77E-03	5.00E-02	3.99E-02	1.19E-01	1.64E-01
Arsenic	1.38E+01	1.20E-03	5.27E-05	8.00E-03	8.06E-03	6.60E-03	4.45E-02	1.01E+00	1.06E+00
Barium	2.26E+03	3.00E-03	2.15E-02	3.00E-02	4.94E+00	7.50E-03	8.26E+00	1.65E+02	1.78E+02
Beryllium	2.60E-01	3.00E-04	2.48E-07	2.00E-03	3.79E-05	5.00E-02	6.34E-03	1.90E-02	2.53E-02
Cadmium	4.87E-01	3.00E-02	4.64E-05	1.10E-01	3.90E-03	1.10E+01	2.61E+00	3.55E-02	2.65E+00
Calcium	2.29E+03	7.00E-02	5.08E-01	7.00E-01	1.17E+02	1.00E+00	1.11E+03	1.66E+02	1.40E+03
Chromium	1.72E+01	9.00E-04	4.92E-05	1.50E-03	1.88E-03	1.60E-01	1.34E+00	1.25E+00	2.60E+00
Cobalt	1.01E+01	1.40E-03	4.51E-05	4.00E-03	2.95E-03	1.00E+00	4.94E+00	7.38E-01	5.68E+00
Copper	5.24E+01	5.00E-02	8.31E-03	8.00E-02	3.05E-01	1.60E-01	4.08E+00	3.81E+00	8.20E+00
Cyanide	3.43E-01	1.00E+00	1.09E-03	1.00E+00	2.50E-02	0.00E+00	0.00E+00	2.50E-02	4.99E-02
Iron	2.82E+04	2.00E-04	1.79E-02	8.00E-04	1.64E+00	1.00E+00	1.38E+04	2.06E+03	1.58E+04
Lead	4.06E+01	1.80E-03	2.32E-04	9.00E-03	2.66E-02	2.00E+00	3.96E+01	2.96E+00	4.26E+01
Magnesium	2.56E+03	1.10E-01	8.94E-01	2.00E-01	3.73E+01	1.00E+00	1.25E+03	1.87E+02	1.47E+03
Mercury	1.13E-01	4.00E-02	1.44E-05	1.80E-01	1.49E-03	3.40E-01	1.88E-02	8.26E-03	2.85E-02
Nickel	1.57E+01	1.20E-02	5.99E-04	1.20E-02	1.37E-02	2.30E-01	1.76E+00	1.14E+00	2.92E+00
Potassium	1.35E+03	1.10E-01	4.72E-01	2.00E-01	1.97E+01	1.00E+00	6.59E+02	9.85E+01	7.77E+02
Selenium	1.31E+00	5.00E-03	2.08E-05	5.00E-03	4.76E-04	7.60E-01	4.85E-01	9.53E-02	5.80E-01
Silver	6.54E-01	2.00E-02	4.15E-05	8.00E-02	3.81E-03	1.50E-01	4.78E-02	4.76E-02	9.93E-02
Sodium	6.31E+01	1.10E-02	2.20E-03	1.50E-02	6.89E-02	1.00E+00	3.08E+01	4.60E+00	3.54E+01
Thallium	3.43E-01	8.00E-05	8.71E-08	8.00E-04	2.00E-05	1.00E+00	1.67E-01	2.50E-02	1.92E-01
Zinc	1.37E+02	1.80E-01	7.81E-02	3.00E-01	2.99E+00	1.80E+00	1.20E+02	9.95E+00	1.33E+02
Explosives									
1,3,5-Trinitrobenzene	3.08E+02	1.00E+00	9.78E-01	1.00E+00	2.24E+01	1.00E+00	1.50E+02	2.24E+01	1.95E+02
1,3-Dinitrobenzene	7.88E+00	1.00E+00	2.50E-02	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
2,4,6-Trinitrotoluene	3.40E+03	1.00E+00	1.08E+01	1.00E+00	2.48E+02	1.00E+00	1.66E+03	2.48E+02	2.15E+03
2,4-Dinitrotoluene	1.85E-01	1.00E+00	5.87E-04	1.00E+00	1.35E-02	1.00E+00	9.01E-02	1.35E-02	1.17E-01
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.32E-06	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	7.88E+00	1.00E+00	2.50E-02	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
3-Nitrotoluene	7.88E+00	1.00E+00	2.50E-02	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
4-Nitrotoluene	7.88E+00	1.00E+00	2.50E-02	1.00E+00	5.74E-01	1.00E+00	3.84E+00	5.74E-01	4.99E+00
HMX	1.07E+03	1.00E+00	3.40E+00	1.00E+00	7.79E+01	1.00E+00	5.21E+02	7.79E+01	6.77E+02
Nitrobenzene	3.50E-02	2.00E-02	2.22E-06	2.00E-02	5.10E-05	5.00E-02	8.53E-04	2.55E-03	3.45E-03
Nitrocellulose	2.50E+00	1.00E+00	7.94E-03	1.00E+00	1.82E-01	1.00E+00	1.22E+00	1.82E-01	1.58E+00

Appendix Table L-541. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.88E+02	1.24E+01	2.48E+01	3.72E+01	5.46E-01	6.81E+01	9.0%
Antimony	5.00E-02	1.46E-02	9.64E-04	3.17E-03	4.16E-03	3.54E-02	1.18E-01	0.0%
Arsenic	1.00E-01	1.89E-01	1.25E-02	2.67E-02	3.93E-02	3.56E-02	1.10E+00	0.1%
Barium	7.50E-03	2.38E+00	1.57E-01	4.37E+00	4.54E+00	2.79E+00	1.63E+00	0.2%
Beryllium	5.00E-02	2.26E-03	1.49E-04	5.03E-04	6.52E-04	3.45E-01	1.89E-03	0.0%
Cadmium	2.80E-02	1.32E-01	8.72E-03	9.41E-04	9.71E-03	5.04E-01	1.93E-02	0.0%
Calcium	1.00E+00	2.50E+03	1.64E+02	4.42E+00	1.69E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.30E+00	8.55E-02	3.33E-02	1.19E-01	1.43E+03	8.31E-05	0.0%
Cobalt	1.00E+00	1.01E+01	6.68E-01	1.96E-02	6.87E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	7.32E+00	4.82E-01	1.01E-01	5.92E-01	7.96E+00	7.44E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	6.62E-04	1.75E-03	3.37E+01	5.19E-05	0.0%
Iron	1.00E+00	2.82E+04	1.86E+03	5.45E+01	1.91E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.14E+00	7.50E-02	7.85E-02	1.54E-01	4.18E+00	3.68E-02	0.0%
Magnesium	1.00E+00	2.63E+03	1.73E+02	4.95E+00	1.79E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	6.62E-01	4.36E-02	2.19E-04	4.38E-02	6.86E-01	6.39E-02	0.0%
Nickel	3.00E-01	1.56E+00	1.03E-01	3.04E-02	1.34E-01	2.09E+01	6.41E-03	0.0%
Potassium	1.00E+00	1.39E+03	9.14E+01	2.61E+00	9.45E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.77E-01	5.12E-02	2.53E-03	5.37E-02	1.05E-01	5.14E-01	0.1%
Silver	1.50E-01	2.66E-02	1.75E-03	1.26E-03	3.06E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	6.33E+01	4.16E+00	1.22E-01	4.29E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	3.43E-01	2.26E-02	6.62E-04	2.32E-02	3.91E-03	5.95E+00	0.8%
Zinc	5.00E+00	1.19E+03	7.81E+01	2.64E-01	7.84E+01	8.36E+01	9.38E-01	0.1%
1,3,5-Trinitrobenzene	1.00E+00	3.48E+02	2.29E+01	5.95E-01	2.45E+01	1.68E+00	1.46E+01	1.9%
1,3-Dinitrobenzene	1.00E+00	8.90E+00	5.86E-01	1.52E-02	6.26E-01	6.12E-02	1.02E+01	1.3%
2,4,6-Trinitrotoluene	1.00E+00	3.84E+03	2.53E+02	6.57E+00	2.70E+02	8.36E-01	3.23E+02	42.5%
2,4-Dinitrotoluene	1.00E+00	2.09E-01	1.38E-02	3.57E-04	1.47E-02	3.82E+00	3.85E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.38E-06	2.89E-07	2.53E-04	2.62E-04	3.66E-01	7.15E-04	0.0%
2-Nitrotoluene	1.00E+00	8.90E+00	5.86E-01	1.52E-02	6.26E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	8.90E+00	5.86E-01	1.52E-02	6.26E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	8.90E+00	5.86E-01	1.52E-02	6.26E-01	No TRV	No TRV	No HQ
HMX	1.00E+00	1.21E+03	7.96E+01	2.07E+00	8.51E+01	8.02E-01	1.06E+02	13.9%
Nitrobenzene	1.20E-04	7.40E-07	4.87E-08	6.76E-05	6.99E-05	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	2.83E+00	1.86E-01	4.83E-03	1.99E-01	No TRV	No TRV	No HQ

Appendix Table L-541. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 67

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Nitroglycerin	1.25E+00	1.00E+00	3.97E-03	1.00E+00	9.10E-02	1.00E+00	6.09E-01	9.10E-02	7.91E-01
RDX	5.95E+03	1.00E+00	1.89E+01	1.00E+00	4.33E+02	1.00E+00	2.90E+03	4.33E+02	3.77E+03
Tetryl	9.30E-02	1.00E+00	2.95E-04	1.00E+00	6.77E-03	1.00E+00	4.53E-02	6.77E-03	5.89E-02

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A(kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-541. (Continued) (Right Side)

Analyte	BAF_v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD_A (mg/kgBW/d) Cs x I _A x AUF	ADD_S (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Nitroglycerin	1.00E+00	1.41E+00	9.30E-02	2.42E-03	9.94E-02	No TRV	No TRV	No HQ
RDX	1.00E+00	6.72E+03	4.43E+02	1.15E+01	4.73E+02	2.07E+00	2.28E+02	30.0%
Tetryl	1.00E+00	1.05E-01	6.92E-03	1.80E-04	7.39E-03	6.30E-01	1.17E-02	0.0%
HI = 7.61E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) =

5.60E-01

I_S (kg/kgBW/d) =

1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-542. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.29E+04	5.00E+01	2.59E+02	70.5%
Antimony	2.23E+01	5.00E+00	4.46E+00	1.2%
Arsenic	1.62E+01	1.00E+01	1.62E+00	0.4%
Barium	1.04E+04	5.00E+02	2.08E+01	5.7%
Beryllium	1.14E+00	1.00E+01	1.14E-01	0.0%
Cadmium	4.20E+00	5.00E-01	8.40E+00	2.3%
Calcium	1.78E+04	No TRV	No TRV	No HQ
Chromium	2.89E+01	1.00E+00	2.89E+01	7.9%
Cobalt	6.90E+00	2.00E+01	3.45E-01	0.1%
Copper	1.83E+02	1.00E+02	1.83E+00	0.5%
Cyanide	8.66E-01	No TRV	No TRV	No HQ
Iron	2.15E+04	No TRV	No TRV	No HQ
Lead	6.40E+02	5.00E+01	1.28E+01	3.5%
Magnesium	5.47E+03	No TRV	No TRV	No HQ
Mercury	1.20E+00	3.00E-01	4.00E+00	1.1%
Nickel	1.62E+01	3.00E+01	5.39E-01	0.1%
Potassium	1.30E+03	No TRV	No TRV	No HQ
Selenium	1.20E+00	1.00E+00	1.20E+00	0.3%
Silver	6.59E-01	2.00E+00	3.30E-01	0.1%
Sodium	2.80E+02	No TRV	No TRV	No HQ
Thallium	1.11E+00	1.00E+00	1.11E+00	0.3%
Zinc	1.04E+03	5.00E+01	2.08E+01	5.7%
Organics				
Toluene	8.10E-02	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	6.20E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.70E+01	3.00E+01	5.67E-01	0.2%
2,4-Dinitrotoluene	3.20E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	2.62E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	2.62E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.30E-01	No TRV	No TRV	No HQ
HMX	2.40E-01	No TRV	No TRV	No HQ
Nitrobenzene	2.62E+00	No TRV	No TRV	No HQ
Nitrocellulose	1.10E+01	No TRV	No TRV	No HQ
Nitroglycerin	6.19E+00	No TRV	No TRV	No HQ
RDX	3.40E-01	1.00E+02	3.40E-03	0.0%
Tetryl	6.76E+00	2.50E+01	2.70E-01	0.1%
HI =				3.67E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-543. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 68**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.29E+04	No TRV	No TRV	No HQ
Antimony	2.23E+01	No TRV	No TRV	No HQ
Arsenic	1.62E+01	6.00E+01	2.71E-01	0.3%
Barium	1.04E+04	No TRV	No TRV	No HQ
Beryllium	1.14E+00	No TRV	No TRV	No HQ
Cadmium	4.20E+00	2.00E+01	2.10E-01	0.3%
Calcium	1.78E+04	No TRV	No TRV	No HQ
Chromium	2.89E+01	4.00E-01	7.23E+01	87.0%
Cobalt	6.90E+00	No TRV	No TRV	No HQ
Copper	1.83E+02	5.00E+01	3.66E+00	4.4%
Cyanide	8.66E-01	No TRV	No TRV	No HQ
Iron	2.15E+04	No TRV	No TRV	No HQ
Lead	6.40E+02	5.00E+02	1.28E+00	1.5%
Magnesium	5.47E+03	No TRV	No TRV	No HQ
Mercury	1.20E+00	No TRV	No TRV	No HQ
Nickel	1.62E+01	2.00E+02	8.08E-02	0.1%
Potassium	1.30E+03	No TRV	No TRV	No HQ
Selenium	1.20E+00	No TRV	No TRV	No HQ
Silver	6.59E-01	No TRV	No TRV	No HQ
Sodium	2.80E+02	No TRV	No TRV	No HQ
Thallium	1.11E+00	No TRV	No TRV	No HQ
Zinc	1.04E+03	2.00E+02	5.20E+00	6.3%
Organics				
Toluene	8.10E-02	No TRV	No TRV	No HQ
Explosives				
1,3,5-Trinitrobenzene	6.20E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.70E+01	1.40E+02	1.21E-01	0.1%
2,4-Dinitrotoluene	3.20E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	No TRV	No TRV	No HQ
2-Nitrotoluene	2.62E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	2.62E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.30E-01	No TRV	No TRV	No HQ
HMX	2.40E-01	No TRV	No TRV	No HQ
Nitrobenzene	2.62E+00	No TRV	No TRV	No HQ
Nitrocellulose	1.10E+01	No TRV	No TRV	No HQ
Nitroglycerin	6.19E+00	No TRV	No TRV	No HQ
RDX	3.40E-01	No TRV	No TRV	No HQ
Tetryl	6.76E+00	No TRV	No TRV	No HQ
HI =				8.31E+01

EPC = Exposure point concentration
TRV = Toxicity reference value

Appendix Table L-544. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.29E+04	8.00E-04	7.54E-01	7.50E-02	4.73E+02	9.42E+02	1.42E+03	2.22E+00	6.36E+02	76.5%
Antimony	2.23E+01	4.00E-02	6.49E-02	5.00E-02	5.43E-01	1.62E+00	2.23E+00	1.44E-01	1.55E+01	1.9%
Arsenic	1.62E+01	8.00E-03	9.45E-03	6.60E-03	5.22E-02	1.18E+00	1.24E+00	1.45E-01	8.56E+00	1.0%
Barium	1.04E+04	3.00E-02	2.27E+01	7.50E-03	3.80E+01	7.57E+02	8.18E+02	1.14E+01	7.19E+01	8.6%
Beryllium	1.14E+00	2.00E-03	1.66E-04	5.00E-02	2.78E-02	8.31E-02	1.11E-01	1.41E+00	7.90E-02	0.0%
Cadmium	4.20E+00	1.10E-01	3.36E-02	1.10E+01	2.25E+01	3.06E-01	2.28E+01	2.05E+00	1.11E+01	1.3%
Calcium	1.78E+04	7.00E-01	9.07E+02	1.00E+00	8.67E+03	1.30E+03	1.09E+04	No TRV	No TRV	No HQ
Chromium	2.89E+01	1.50E-03	3.16E-03	1.60E-01	2.26E+00	2.11E+00	4.36E+00	5.83E+03	7.49E-04	0.0%
Cobalt	6.90E+00	4.00E-03	2.01E-03	1.00E+00	3.36E+00	5.02E-01	3.87E+00	No TRV	No TRV	No HQ
Copper	1.83E+02	8.00E-02	1.07E+00	1.60E-01	1.43E+01	1.33E+01	2.87E+01	3.24E+01	8.84E-01	0.1%
Cyanide	8.66E-01	1.00E+00	6.31E-02	0.00E+00	0.00E+00	6.31E-02	1.26E-01	1.38E+02	9.17E-04	0.0%
Iron	2.15E+04	8.00E-04	1.25E+00	1.00E+00	1.05E+04	1.56E+03	1.20E+04	No TRV	No TRV	No HQ
Lead	6.40E+02	9.00E-03	4.19E-01	2.00E+00	6.24E+02	4.66E+01	6.71E+02	1.70E+01	3.94E+01	4.7%
Magnesium	5.47E+03	2.00E-01	7.96E+01	1.00E+00	2.66E+03	3.98E+02	3.14E+03	No TRV	No TRV	No HQ
Mercury	1.20E+00	1.80E-01	1.57E-02	3.40E-01	1.99E-01	8.74E-02	3.02E-01	2.80E+00	1.08E-01	0.0%
Nickel	1.62E+01	1.20E-02	1.41E-02	2.30E-01	1.81E+00	1.18E+00	3.00E+00	8.52E+01	3.52E-02	0.0%
Potassium	1.30E+03	2.00E-01	1.89E+01	1.00E+00	6.33E+02	9.46E+01	7.47E+02	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01	4.26E-01	1.25E+00	0.2%
Silver	6.59E-01	8.00E-02	3.84E-03	1.50E-01	4.82E-02	4.80E-02	1.00E-01	No TRV	No TRV	No HQ
Sodium	2.80E+02	1.50E-02	3.06E-01	1.00E+00	1.36E+02	2.04E+01	1.57E+02	No TRV	No TRV	No HQ
Thallium	1.11E+00	8.00E-04	6.46E-05	1.00E+00	5.41E-01	8.08E-02	6.22E-01	1.59E-02	3.90E+01	4.7%
Zinc	1.04E+03	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03	3.41E+02	2.96E+00	0.4%
Organics										
Toluene	8.10E-02	2.00E-02	1.18E-04	5.00E-02	1.97E-03	5.90E-03	7.99E-03	2.99E+01	2.67E-04	0.0%
Explosives										
1,3,5-Trinitrobenzene	6.20E-01	1.00E+00	4.51E-02	1.00E+00	3.02E-01	4.51E-02	3.92E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	1.00E+00	6.12E-03	1.00E+00	4.09E-02	6.12E-03	5.32E-02	2.50E-01	2.13E-01	0.0%
2,4,6-Trinitrotoluene	1.70E+01	1.00E+00	1.24E+00	1.00E+00	8.28E+00	1.24E+00	1.08E+01	3.41E+00	3.16E+00	0.4%
2,4-Dinitrotoluene	3.20E-01	1.00E+00	2.33E-02	1.00E+00	1.56E-01	2.33E-02	2.02E-01	1.56E+01	1.30E-02	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02	1.49E+00	8.66E-03	0.0%
2-Nitrotoluene	2.62E+00	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	2.62E+00	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.30E-01	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02	No TRV	No TRV	No HQ
HMX	2.40E-01	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01	3.27E+00	4.64E-02	0.0%

Appendix Table L-544. Hazard Quotients for Short-tailed Shrew in Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Nitrobenzene	2.62E+00	2.00E-02	3.81E-03	5.00E-02	6.38E-02	1.91E-01	2.58E-01	No TRV	No TRV	No HQ
Nitrocellulose	1.10E+01	1.00E+00	8.01E-01	1.00E+00	5.36E+00	8.01E-01	6.96E+00	No TRV	No TRV	No HQ
Nitroglycerin	6.19E+00	1.00E+00	4.51E-01	1.00E+00	3.02E+00	4.51E-01	3.92E+00	No TRV	No TRV	No HQ
RDX	3.40E-01	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01	8.44E+00	2.55E-02	0.0%
Tetryl	6.76E+00	1.00E+00	4.92E-01	1.00E+00	3.29E+00	4.92E-01	4.28E+00	2.57E+00	1.67E+00	0.2%
HI =									8.32E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 7.28E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-545. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.29E+04	1.30E-04	1.28E+00	7.50E-02	7.38E+02	2.05E+03	2.78E+03	1.29E+02	2.15E+01	2.2%
Antimony	2.23E+01	6.00E-03	1.02E-01	5.00E-02	8.47E-01	3.53E+00	4.47E+00	No TRV	No TRV	No HQ
Arsenic	1.62E+01	1.20E-03	1.48E-02	6.60E-03	8.14E-02	2.57E+00	2.66E+00	9.66E+00	2.76E-01	0.0%
Barium	1.04E+04	3.00E-03	2.37E+01	7.50E-03	5.93E+01	1.64E+03	1.73E+03	2.31E+01	7.48E+01	7.6%
Beryllium	1.14E+00	3.00E-04	2.60E-04	5.00E-02	4.34E-02	1.80E-01	2.24E-01	No TRV	No TRV	No HQ
Cadmium	4.20E+00	3.00E-02	9.58E-02	1.10E+01	3.51E+01	6.64E-01	3.59E+01	2.83E+00	1.27E+01	1.3%
Calcium	1.78E+04	7.00E-02	9.47E+02	1.00E+00	1.35E+04	2.81E+03	1.73E+04	No TRV	No TRV	No HQ
Chromium	2.89E+01	9.00E-04	1.98E-02	1.60E-01	3.52E+00	4.57E+00	8.11E+00	1.99E+00	4.08E+00	0.4%
Cobalt	6.90E+00	1.40E-03	7.34E-03	1.00E+00	5.24E+00	1.09E+00	6.34E+00	No TRV	No TRV	No HQ
Copper	1.83E+02	5.00E-02	6.95E+00	1.60E-01	2.23E+01	2.89E+01	5.81E+01	7.55E+01	7.70E-01	0.1%
Cyanide	8.66E-01	1.00E+00	6.58E-01	0.00E+00	0.00E+00	1.37E-01	7.95E-01	No TRV	No TRV	No HQ
Iron	2.15E+04	2.00E-04	3.26E+00	1.00E+00	1.63E+04	3.40E+03	1.97E+04	No TRV	No TRV	No HQ
Lead	6.40E+02	1.80E-03	8.76E-01	2.00E+00	9.73E+02	1.01E+02	1.07E+03	1.32E+00	8.13E+02	82.7%
Magnesium	5.47E+03	1.10E-01	4.57E+02	1.00E+00	4.16E+03	8.65E+02	5.48E+03	No TRV	No TRV	No HQ
Mercury	1.20E+00	4.00E-02	3.65E-02	3.40E-01	3.10E-01	1.90E-01	5.36E-01	5.27E-01	1.02E+00	0.1%
Nickel	1.62E+01	1.20E-02	1.47E-01	2.30E-01	2.82E+00	2.55E+00	5.53E+00	1.37E+02	4.04E-02	0.0%
Potassium	1.30E+03	1.10E-01	1.09E+02	1.00E+00	9.88E+02	2.06E+02	1.30E+03	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	4.56E-03	7.60E-01	6.93E-01	1.90E-01	8.87E-01	9.40E-01	9.44E-01	0.1%
Silver	6.59E-01	2.00E-02	1.00E-02	1.50E-01	7.51E-02	1.04E-01	1.89E-01	No TRV	No TRV	No HQ
Sodium	2.80E+02	1.10E-02	2.34E+00	1.00E+00	2.13E+02	4.43E+01	2.59E+02	No TRV	No TRV	No HQ
Thallium	1.11E+00	8.00E-05	6.75E-05	1.00E+00	8.44E-01	1.75E-01	1.02E+00	No TRV	No TRV	No HQ
Zinc	1.04E+03	1.80E-01	1.42E+02	1.80E+00	1.42E+03	1.64E+02	1.73E+03	3.21E+01	5.38E+01	5.5%
Organics										
Toluene	8.10E-02	2.00E-02	1.23E-03	5.00E-02	3.08E-03	1.28E-02	1.71E-02	No TRV	No TRV	No HQ
Explosives										
1,3,5-Trinitrobenzene	6.20E-01	1.00E+00	4.71E-01	1.00E+00	4.71E-01	9.80E-02	1.04E+00	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	1.00E+00	6.38E-02	1.00E+00	6.38E-02	1.33E-02	1.41E-01	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.70E+01	1.00E+00	1.29E+01	1.00E+00	1.29E+01	2.69E+00	2.85E+01	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	3.20E-01	1.00E+00	2.43E-01	1.00E+00	2.43E-01	5.06E-02	5.37E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.31E-01	2.00E-02	1.99E-03	5.00E-02	4.98E-03	2.07E-02	2.77E-02	No TRV	No TRV	No HQ
2-Nitrotoluene	2.62E+00	1.00E+00	1.99E+00	1.00E+00	1.99E+00	4.14E-01	4.40E+00	No TRV	No TRV	No HQ
3-Nitrotoluene	2.62E+00	1.00E+00	1.99E+00	1.00E+00	1.99E+00	4.14E-01	4.40E+00	No TRV	No TRV	No HQ
4-Nitrotoluene	1.30E-01	1.00E+00	9.88E-02	1.00E+00	9.88E-02	2.06E-02	2.18E-01	No TRV	No TRV	No HQ

Appendix Table L-545. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
HMX	2.40E-01	1.00E+00	1.82E-01	1.00E+00	1.82E-01	3.79E-02	4.03E-01	No TRV	No TRV	No HQ
Nitrobenzene	2.62E+00	2.00E-02	3.98E-02	5.00E-02	9.96E-02	4.14E-01	5.54E-01	No TRV	No TRV	No HQ
Nitrocellulose	1.10E+01	1.00E+00	8.36E+00	1.00E+00	8.36E+00	1.74E+00	1.85E+01	No TRV	No TRV	No HQ
Nitroglycerin	6.19E+00	1.00E+00	4.70E+00	1.00E+00	4.70E+00	9.79E-01	1.04E+01	No TRV	No TRV	No HQ
RDX	3.40E-01	1.00E+00	2.58E-01	1.00E+00	2.58E-01	5.37E-02	5.71E-01	No TRV	No TRV	No HQ
Tetryl	6.76E+00	1.00E+00	5.14E+00	1.00E+00	5.14E+00	1.07E+00	1.13E+01	No TRV	No TRV	No HQ
HI =									9.83E+02	

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 7.60E-01
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-546. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.29E+04	8.00E-04	2.12E+00	7.50E-02	0.00E+00	1.67E+02	1.69E+02	7.63E-01	2.22E+02	74.5%
Antimony	2.23E+01	4.00E-02	1.83E-01	5.00E-02	0.00E+00	2.88E-01	4.71E-01	4.94E-02	9.53E+00	3.2%
Arsenic	1.62E+01	8.00E-03	2.66E-02	6.60E-03	0.00E+00	2.10E-01	2.36E-01	4.98E-02	4.74E+00	1.6%
Barium	1.04E+04	3.00E-02	6.40E+01	7.50E-03	0.00E+00	1.34E+02	1.98E+02	3.90E+00	5.08E+01	17.1%
Beryllium	1.14E+00	2.00E-03	4.68E-04	5.00E-02	0.00E+00	1.47E-02	1.52E-02	4.82E-01	3.15E-02	0.0%
Cadmium	4.20E+00	1.10E-01	9.47E-02	1.10E+01	0.00E+00	5.42E-02	1.49E-01	7.05E-01	2.11E-01	0.1%
Calcium	1.78E+04	7.00E-01	2.55E+03	1.00E+00	0.00E+00	2.30E+02	2.78E+03	No TRV	No TRV	No HQ
Chromium	2.89E+01	1.50E-03	8.90E-03	1.60E-01	0.00E+00	3.74E-01	3.83E-01	2.00E+03	1.91E-04	0.0%
Cobalt	6.90E+00	4.00E-03	5.66E-03	1.00E+00	0.00E+00	8.91E-02	9.48E-02	No TRV	No TRV	No HQ
Copper	1.83E+02	8.00E-02	3.00E+00	1.60E-01	0.00E+00	2.36E+00	5.36E+00	1.11E+01	4.82E-01	0.2%
Cyanide	8.66E-01	1.00E+00	1.78E-01	0.00E+00	0.00E+00	1.12E-02	1.89E-01	4.72E+01	4.00E-03	0.0%
Iron	2.15E+04	8.00E-04	3.52E+00	1.00E+00	0.00E+00	2.77E+02	2.81E+02	No TRV	No TRV	No HQ
Lead	6.40E+02	9.00E-03	1.18E+00	2.00E+00	0.00E+00	8.27E+00	9.45E+00	5.84E+00	1.62E+00	0.5%
Magnesium	5.47E+03	2.00E-01	2.24E+02	1.00E+00	0.00E+00	7.06E+01	2.95E+02	No TRV	No TRV	No HQ
Mercury	1.20E+00	1.80E-01	4.43E-02	3.40E-01	0.00E+00	1.55E-02	5.98E-02	9.59E-01	6.23E-02	0.0%
Nickel	1.62E+01	1.20E-02	3.98E-02	2.30E-01	0.00E+00	2.09E-01	2.48E-01	2.92E+01	8.50E-03	0.0%
Potassium	1.30E+03	2.00E-01	5.33E+01	1.00E+00	0.00E+00	1.68E+01	7.01E+01	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	1.23E-03	7.60E-01	0.00E+00	1.55E-02	1.67E-02	1.46E-01	1.15E-01	0.0%
Silver	6.59E-01	8.00E-02	1.08E-02	1.50E-01	0.00E+00	8.51E-03	1.93E-02	No TRV	No TRV	No HQ
Sodium	2.80E+02	1.50E-02	8.61E-01	1.00E+00	0.00E+00	3.62E+00	4.48E+00	No TRV	No TRV	No HQ
Thallium	1.11E+00	8.00E-04	1.82E-04	1.00E+00	0.00E+00	1.43E-02	1.45E-02	5.46E-03	2.66E+00	0.9%
Zinc	1.04E+03	3.00E-01	6.40E+01	1.80E+00	0.00E+00	1.34E+01	7.74E+01	1.17E+02	6.62E-01	0.2%
Organics										
Toluene	8.10E-02	2.00E-02	3.32E-04	5.00E-02	0.00E+00	1.05E-03	1.38E-03	1.03E+01	1.34E-04	0.0%
Explosives										
1,3,5-Trinitrobenzene	6.20E-01	1.00E+00	1.27E-01	1.00E+00	0.00E+00	8.01E-03	1.35E-01	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	1.00E+00	1.72E-02	1.00E+00	0.00E+00	1.08E-03	1.83E-02	8.55E-02	2.14E-01	0.1%
2,4,6-Trinitrotoluene	1.70E+01	1.00E+00	3.49E+00	1.00E+00	0.00E+00	2.20E-01	3.70E+00	1.17E+00	3.17E+00	1.1%
2,4-Dinitrotoluene	3.20E-01	1.00E+00	6.56E-02	1.00E+00	0.00E+00	4.13E-03	6.97E-02	5.34E+00	1.31E-02	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	5.37E-04	5.00E-02	0.00E+00	1.69E-03	2.23E-03	5.11E-01	4.36E-03	0.0%
2-Nitrotoluene	2.62E+00	1.00E+00	5.37E-01	1.00E+00	0.00E+00	3.38E-02	5.71E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	2.62E+00	1.00E+00	5.37E-01	1.00E+00	0.00E+00	3.38E-02	5.71E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.30E-01	1.00E+00	2.67E-02	1.00E+00	0.00E+00	1.68E-03	2.83E-02	No TRV	No TRV	No HQ
HMX	2.40E-01	1.00E+00	4.92E-02	1.00E+00	0.00E+00	3.10E-03	5.23E-02	1.12E+00	4.66E-02	0.0%
Nitrobenzene	2.62E+00	2.00E-02	1.07E-02	5.00E-02	0.00E+00	3.38E-02	4.46E-02	No TRV	No TRV	No HQ

Appendix Table L-546. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Nitrocellulose	1.10E+01	1.00E+00	2.26E+00	1.00E+00	0.00E+00	1.42E-01	2.40E+00	No TRV	No TRV	No HQ
Nitroglycerin	6.19E+00	1.00E+00	1.27E+00	1.00E+00	0.00E+00	7.99E-02	1.35E+00	No TRV	No TRV	No HQ
RDX	3.40E-01	1.00E+00	6.97E-02	1.00E+00	0.00E+00	4.39E-03	7.41E-02	2.89E+00	2.56E-02	0.0%
Tetryl	6.76E+00	1.00E+00	1.39E+00	1.00E+00	0.00E+00	8.73E-02	1.47E+00	8.80E-01	1.67E+00	0.6%
HI =									2.98E+02	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 2.05E-01

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_s = Average daily dose; soil

I_s (kg/kgBW/d) = 1.29E-02

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-547 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.29E+04	8.00E-04	3.21E-01	7.50E-02	0.00E+00	8.02E+00	8.34E+00	2.93E-01	2.85E+01	63.1%
Antimony	2.23E+01	4.00E-02	2.77E-02	5.00E-02	0.00E+00	1.38E-02	4.15E-02	1.90E-02	2.19E+00	4.8%
Arsenic	1.62E+01	8.00E-03	4.03E-03	6.60E-03	0.00E+00	1.01E-02	1.41E-02	1.91E-02	7.37E-01	1.6%
Barium	1.04E+04	3.00E-02	9.67E+00	7.50E-03	0.00E+00	6.45E+00	1.61E+01	1.50E+00	1.08E+01	23.8%
Beryllium	1.14E+00	2.00E-03	7.07E-05	5.00E-02	0.00E+00	7.07E-04	7.78E-04	1.85E-01	4.20E-03	0.0%
Cadmium	4.20E+00	1.10E-01	1.43E-02	1.10E+01	0.00E+00	2.60E-03	1.69E-02	2.71E-01	6.25E-02	0.1%
Calcium	1.78E+04	7.00E-01	3.86E+02	1.00E+00	0.00E+00	1.10E+01	3.97E+02	No TRV	No TRV	No HQ
Chromium	2.89E+01	1.50E-03	1.35E-03	1.60E-01	0.00E+00	1.79E-02	1.93E-02	7.68E+02	2.51E-05	0.0%
Cobalt	6.90E+00	4.00E-03	8.56E-04	1.00E+00	0.00E+00	4.28E-03	5.13E-03	No TRV	No TRV	No HQ
Copper	1.83E+02	8.00E-02	4.54E-01	1.60E-01	0.00E+00	1.13E-01	5.67E-01	4.27E+00	1.33E-01	0.3%
Cyanide	8.66E-01	1.00E+00	2.69E-02	0.00E+00	0.00E+00	5.37E-04	2.74E-02	1.81E+01	1.51E-03	0.0%
Iron	2.15E+04	8.00E-04	5.33E-01	1.00E+00	0.00E+00	1.33E+01	1.39E+01	No TRV	No TRV	No HQ
Lead	6.40E+02	9.00E-03	1.79E-01	2.00E+00	0.00E+00	3.97E-01	5.75E-01	2.24E+00	2.56E-01	0.6%
Magnesium	5.47E+03	2.00E-01	3.39E+01	1.00E+00	0.00E+00	3.39E+00	3.73E+01	No TRV	No TRV	No HQ
Mercury	1.20E+00	1.80E-01	6.70E-03	3.40E-01	0.00E+00	7.44E-04	7.44E-03	3.68E-01	2.02E-02	0.0%
Nickel	1.62E+01	1.20E-02	6.01E-03	2.30E-01	0.00E+00	1.00E-02	1.60E-02	1.12E+01	1.43E-03	0.0%
Potassium	1.30E+03	2.00E-01	8.06E+00	1.00E+00	0.00E+00	8.06E-01	8.87E+00	No TRV	No TRV	No HQ
Selenium	1.20E+00	5.00E-03	1.86E-04	7.60E-01	0.00E+00	7.44E-04	9.30E-04	5.61E-02	1.66E-02	0.0%
Silver	6.59E-01	8.00E-02	1.63E-03	1.50E-01	0.00E+00	4.09E-04	2.04E-03	No TRV	No TRV	No HQ
Sodium	2.80E+02	1.50E-02	1.30E-01	1.00E+00	0.00E+00	1.74E-01	3.04E-01	No TRV	No TRV	No HQ
Thallium	1.11E+00	8.00E-04	2.75E-05	1.00E+00	0.00E+00	6.88E-04	7.16E-04	2.10E-03	3.41E-01	0.8%
Zinc	1.04E+03	3.00E-01	9.67E+00	1.80E+00	0.00E+00	6.45E-01	1.03E+01	4.49E+01	2.30E-01	0.5%
Organics										
Toluene	8.10E-02	2.00E-02	5.02E-05	5.00E-02	0.00E+00	5.02E-05	1.00E-04	3.94E+00	2.55E-05	0.0%
Explosives										
1,3,5-Trinitrobenzene	6.20E-01	1.00E+00	1.92E-02	1.00E+00	0.00E+00	3.84E-04	1.96E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	8.40E-02	1.00E+00	2.60E-03	1.00E+00	0.00E+00	5.21E-05	2.66E-03	3.29E-02	8.08E-02	0.2%
2,4,6-Trinitrotoluene	1.70E+01	1.00E+00	5.27E-01	1.00E+00	0.00E+00	1.05E-02	5.38E-01	4.49E-01	1.20E+00	2.7%
2,4-Dinitrotoluene	3.20E-01	1.00E+00	9.92E-03	1.00E+00	0.00E+00	1.98E-04	1.01E-02	2.05E+00	4.94E-03	0.0%
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.12E-05	5.00E-02	0.00E+00	8.12E-05	1.62E-04	1.96E-01	8.27E-04	0.0%
2-Nitrotoluene	2.62E+00	1.00E+00	8.12E-02	1.00E+00	0.00E+00	1.62E-03	8.28E-02	No TRV	No TRV	No HQ
3-Nitrotoluene	2.62E+00	1.00E+00	8.12E-02	1.00E+00	0.00E+00	1.62E-03	8.28E-02	No TRV	No TRV	No HQ
4-Nitrotoluene	1.30E-01	1.00E+00	4.03E-03	1.00E+00	0.00E+00	8.06E-05	4.11E-03	No TRV	No TRV	No HQ
HMX	2.40E-01	1.00E+00	7.44E-03	1.00E+00	0.00E+00	1.49E-04	7.59E-03	4.31E-01	1.76E-02	0.0%
Nitrobenzene	2.62E+00	2.00E-02	1.62E-03	5.00E-02	0.00E+00	1.62E-03	3.25E-03	No TRV	No TRV	No HQ
Nitrocellulose	1.10E+01	1.00E+00	3.41E-01	1.00E+00	0.00E+00	6.82E-03	3.48E-01	No TRV	No TRV	No HQ
Nitroglycerin	6.19E+00	1.00E+00	1.92E-01	1.00E+00	0.00E+00	3.84E-03	1.96E-01	No TRV	No TRV	No HQ

Appendix Table L-547 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
RDX	3.40E-01	1.00E+00	1.05E-02	1.00E+00	0.00E+00	2.11E-04	1.08E-02	1.11E+00	9.67E-03	0.0%
Tetryl	6.76E+00	1.00E+00	2.10E-01	1.00E+00	0.00E+00	4.19E-03	2.14E-01	3.38E-01	6.33E-01	1.4%
HI =									4.52E+01	

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-548. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.29E+04	1.30E-04	0.00E+00	8.00E-04	7.54E-01	7.50E-02	4.73E+02	9.42E+02	1.42E+03
Antimony	2.23E+01	6.00E-03	0.00E+00	4.00E-02	6.49E-02	5.00E-02	5.43E-01	1.62E+00	2.23E+00
Arsenic	1.62E+01	1.20E-03	0.00E+00	8.00E-03	9.45E-03	6.60E-03	5.22E-02	1.18E+00	1.24E+00
Barium	1.04E+04	3.00E-03	0.00E+00	3.00E-02	2.27E+01	7.50E-03	3.80E+01	7.57E+02	8.18E+02
Beryllium	1.14E+00	3.00E-04	0.00E+00	2.00E-03	1.66E-04	5.00E-02	2.78E-02	8.31E-02	1.11E-01
Cadmium	4.20E+00	3.00E-02	0.00E+00	1.10E-01	3.36E-02	1.10E+01	2.25E+01	3.06E-01	2.28E+01
Calcium	1.78E+04	7.00E-02	0.00E+00	7.00E-01	9.07E+02	1.00E+00	8.67E+03	1.30E+03	1.09E+04
Chromium	2.89E+01	9.00E-04	0.00E+00	1.50E-03	3.16E-03	1.60E-01	2.26E+00	2.11E+00	4.36E+00
Cobalt	6.90E+00	1.40E-03	0.00E+00	4.00E-03	2.01E-03	1.00E+00	3.36E+00	5.02E-01	3.87E+00
Copper	1.83E+02	5.00E-02	0.00E+00	8.00E-02	1.07E+00	1.60E-01	1.43E+01	1.33E+01	2.87E+01
Cyanide	8.66E-01	1.00E+00	0.00E+00	1.00E+00	6.31E-02	0.00E+00	0.00E+00	6.31E-02	1.26E-01
Iron	2.15E+04	2.00E-04	0.00E+00	8.00E-04	1.25E+00	1.00E+00	1.05E+04	1.56E+03	1.20E+04
Lead	6.40E+02	1.80E-03	0.00E+00	9.00E-03	4.19E-01	2.00E+00	6.24E+02	4.66E+01	6.71E+02
Magnesium	5.47E+03	1.10E-01	0.00E+00	2.00E-01	7.96E+01	1.00E+00	2.66E+03	3.98E+02	3.14E+03
Mercury	1.20E+00	4.00E-02	0.00E+00	1.80E-01	1.57E-02	3.40E-01	1.99E-01	8.74E-02	3.02E-01
Nickel	1.62E+01	1.20E-02	0.00E+00	1.20E-02	1.41E-02	2.30E-01	1.81E+00	1.18E+00	3.00E+00
Potassium	1.30E+03	1.10E-01	0.00E+00	2.00E-01	1.89E+01	1.00E+00	6.33E+02	9.46E+01	7.47E+02
Selenium	1.20E+00	5.00E-03	0.00E+00	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01
Silver	6.59E-01	2.00E-02	0.00E+00	8.00E-02	3.84E-03	1.50E-01	4.82E-02	4.80E-02	1.00E-01
Sodium	2.80E+02	1.10E-02	0.00E+00	1.50E-02	3.06E-01	1.00E+00	1.36E+02	2.04E+01	1.57E+02
Thallium	1.11E+00	8.00E-05	0.00E+00	8.00E-04	6.46E-05	1.00E+00	5.41E-01	8.08E-02	6.22E-01
Zinc	1.04E+03	1.80E-01	0.00E+00	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03
Organics									
Toluene	8.10E-02	2.00E-02	0.00E+00	2.00E-02	1.18E-04	5.00E-02	1.97E-03	5.90E-03	7.99E-03
Explosives									
1,3,5-Trinitrobenzene	6.20E-01	1.00E+00	0.00E+00	1.00E+00	4.51E-02	1.00E+00	3.02E-01	4.51E-02	3.92E-01
1,3-Dinitrobenzene	8.40E-02	1.00E+00	0.00E+00	1.00E+00	6.12E-03	1.00E+00	4.09E-02	6.12E-03	5.32E-02
2,4,6-Trinitrotoluene	1.70E+01	1.00E+00	0.00E+00	1.00E+00	1.24E+00	1.00E+00	8.28E+00	1.24E+00	1.08E+01
2,4-Dinitrotoluene	3.20E-01	1.00E+00	0.00E+00	1.00E+00	2.33E-02	1.00E+00	1.56E-01	2.33E-02	2.02E-01
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	2.62E+00	1.00E+00	0.00E+00	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00
3-Nitrotoluene	2.62E+00	1.00E+00	0.00E+00	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00
4-Nitrotoluene	1.30E-01	1.00E+00	0.00E+00	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02
HMX	2.40E-01	1.00E+00	0.00E+00	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01
Nitrobenzene	2.62E+00	2.00E-02	0.00E+00	2.00E-02	3.81E-03	5.00E-02	6.38E-02	1.91E-01	2.58E-01
Nitrocellulose	1.10E+01	1.00E+00	0.00E+00	1.00E+00	8.01E-01	1.00E+00	5.36E+00	8.01E-01	6.96E+00
Nitroglycerin	6.19E+00	1.00E+00	0.00E+00	1.00E+00	4.51E-01	1.00E+00	3.02E+00	4.51E-01	3.92E+00

Appendix Table L-548. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.90E+02	2.09E+01	0.00E+00	2.09E+01	6.68E+01	3.12E-01	0.5%
Antimony	5.00E-02	1.99E-01	2.19E-02	0.00E+00	2.19E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.22E-01	2.44E-02	0.00E+00	2.44E-02	4.98E+00	4.90E-03	0.0%
Barium	7.50E-03	1.10E+01	1.20E+00	0.00E+00	1.20E+00	1.19E+01	1.01E-01	0.2%
Beryllium	5.00E-02	9.91E-03	1.09E-03	0.00E+00	1.09E-03	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.14E+00	1.26E-01	0.00E+00	1.26E-01	1.46E+00	8.62E-02	0.1%
Calcium	1.00E+00	1.94E+04	2.14E+03	0.00E+00	2.14E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.18E+00	2.40E-01	0.00E+00	2.40E-01	1.03E+00	2.34E-01	0.4%
Cobalt	1.00E+00	6.90E+00	7.59E-01	0.00E+00	7.59E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.56E+01	2.81E+00	0.00E+00	2.81E+00	3.89E+01	7.23E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.15E+04	2.36E+03	0.00E+00	2.36E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.80E+01	1.98E+00	0.00E+00	1.98E+00	6.82E-01	2.90E+00	4.4%
Magnesium	1.00E+00	5.61E+03	6.17E+02	0.00E+00	6.17E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	7.01E+00	7.71E-01	0.00E+00	7.71E-01	2.72E-01	2.84E+00	4.3%
Nickel	3.00E-01	1.61E+00	1.77E-01	0.00E+00	1.77E-01	7.06E+01	2.51E-03	0.0%
Potassium	1.00E+00	1.33E+03	1.47E+02	0.00E+00	1.47E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.13E-01	7.84E-02	0.00E+00	7.84E-02	4.85E-01	1.62E-01	0.2%
Silver	1.50E-01	2.68E-02	2.95E-03	0.00E+00	2.95E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.81E+02	3.09E+01	0.00E+00	3.09E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.11E+00	1.22E-01	0.00E+00	1.22E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	9.02E+03	9.92E+02	0.00E+00	9.92E+02	1.66E+01	5.99E+01	89.9%
Toluene	7.60E-04	1.08E-05	1.19E-06	0.00E+00	1.19E-06	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzene	1.00E+00	7.01E-01	7.71E-02	0.00E+00	7.71E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	9.49E-02	1.04E-02	0.00E+00	1.04E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluene	1.00E+00	1.92E+01	2.11E+00	0.00E+00	2.11E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	3.62E-01	3.98E-02	0.00E+00	3.98E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	4.82E-07	0.00E+00	4.82E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	2.96E+00	3.26E-01	0.00E+00	3.26E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	2.96E+00	3.26E-01	0.00E+00	3.26E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.47E-01	1.62E-02	0.00E+00	1.62E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	2.71E-01	2.98E-02	0.00E+00	2.98E-02	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	5.54E-05	6.09E-06	0.00E+00	6.09E-06	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.24E+01	1.37E+00	0.00E+00	1.37E+00	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	6.99E+00	7.69E-01	0.00E+00	7.69E-01	No TRV	No TRV	No HQ

Appendix Table L-548. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
RDX	3.40E-01	1.00E+00	0.00E+00	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01
Tetryl	6.76E+00	1.00E+00	0.00E+00	1.00E+00	4.92E-01	1.00E+00	3.29E+00	4.92E-01	4.28E+00

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-548. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
RDX	1.00E+00	3.84E-01	4.23E-02	0.00E+00	4.23E-02	No TRV	No TRV	No HQ
Tetryl	1.00E+00	7.64E+00	8.40E-01	0.00E+00	8.40E-01	No TRV	No TRV	No HQ
HI =							6.66E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-549. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.29E+04	1.30E-04	0.00E+00	8.00E-04	7.54E-01	7.50E-02	4.73E+02	9.42E+02	1.42E+03
Antimony	2.23E+01	6.00E-03	0.00E+00	4.00E-02	6.49E-02	5.00E-02	5.43E-01	1.62E+00	2.23E+00
Arsenic	1.62E+01	1.20E-03	0.00E+00	8.00E-03	9.45E-03	6.60E-03	5.22E-02	1.18E+00	1.24E+00
Barium	1.04E+04	3.00E-03	0.00E+00	3.00E-02	2.27E+01	7.50E-03	3.80E+01	7.57E+02	8.18E+02
Beryllium	1.14E+00	3.00E-04	0.00E+00	2.00E-03	1.66E-04	5.00E-02	2.78E-02	8.31E-02	1.11E-01
Cadmium	4.20E+00	3.00E-02	0.00E+00	1.10E-01	3.36E-02	1.10E+01	2.25E+01	3.06E-01	2.28E+01
Calcium	1.78E+04	7.00E-02	0.00E+00	7.00E-01	9.07E+02	1.00E+00	8.67E+03	1.30E+03	1.09E+04
Chromium	2.89E+01	9.00E-04	0.00E+00	1.50E-03	3.16E-03	1.60E-01	2.26E+00	2.11E+00	4.36E+00
Cobalt	6.90E+00	1.40E-03	0.00E+00	4.00E-03	2.01E-03	1.00E+00	3.36E+00	5.02E-01	3.87E+00
Copper	1.83E+02	5.00E-02	0.00E+00	8.00E-02	1.07E+00	1.60E-01	1.43E+01	1.33E+01	2.87E+01
Cyanide	8.66E-01	1.00E+00	0.00E+00	1.00E+00	6.31E-02	0.00E+00	0.00E+00	6.31E-02	1.26E-01
Iron	2.15E+04	2.00E-04	0.00E+00	8.00E-04	1.25E+00	1.00E+00	1.05E+04	1.56E+03	1.20E+04
Lead	6.40E+02	1.80E-03	0.00E+00	9.00E-03	4.19E-01	2.00E+00	6.24E+02	4.66E+01	6.71E+02
Magnesium	5.47E+03	1.10E-01	0.00E+00	2.00E-01	7.96E+01	1.00E+00	2.66E+03	3.98E+02	3.14E+03
Mercury	1.20E+00	4.00E-02	0.00E+00	1.80E-01	1.57E-02	3.40E-01	1.99E-01	8.74E-02	3.02E-01
Nickel	1.62E+01	1.20E-02	0.00E+00	1.20E-02	1.41E-02	2.30E-01	1.81E+00	1.18E+00	3.00E+00
Potassium	1.30E+03	1.10E-01	0.00E+00	2.00E-01	1.89E+01	1.00E+00	6.33E+02	9.46E+01	7.47E+02
Selenium	1.20E+00	5.00E-03	0.00E+00	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01
Silver	6.59E-01	2.00E-02	0.00E+00	8.00E-02	3.84E-03	1.50E-01	4.82E-02	4.80E-02	1.00E-01
Sodium	2.80E+02	1.10E-02	0.00E+00	1.50E-02	3.06E-01	1.00E+00	1.36E+02	2.04E+01	1.57E+02
Thallium	1.11E+00	8.00E-05	0.00E+00	8.00E-04	6.46E-05	1.00E+00	5.41E-01	8.08E-02	6.22E-01
Zinc	1.04E+03	1.80E-01	0.00E+00	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03
Organics									
Toluene	8.10E-02	2.00E-02	0.00E+00	2.00E-02	1.18E-04	5.00E-02	1.97E-03	5.90E-03	7.99E-03
Explosives									
1,3,5-Trinitrobenzene	6.20E-01	1.00E+00	0.00E+00	1.00E+00	4.51E-02	1.00E+00	3.02E-01	4.51E-02	3.92E-01
1,3-Dinitrobenzene	8.40E-02	1.00E+00	0.00E+00	1.00E+00	6.12E-03	1.00E+00	4.09E-02	6.12E-03	5.32E-02
2,4,6-Trinitrotoluene	1.70E+01	1.00E+00	0.00E+00	1.00E+00	1.24E+00	1.00E+00	8.28E+00	1.24E+00	1.08E+01
2,4-Dinitrotoluene	3.20E-01	1.00E+00	0.00E+00	1.00E+00	2.33E-02	1.00E+00	1.56E-01	2.33E-02	2.02E-01
2,6-Dinitrotoluene	1.31E-01	2.00E-02	0.00E+00	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	2.62E+00	1.00E+00	0.00E+00	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00
3-Nitrotoluene	2.62E+00	1.00E+00	0.00E+00	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00
4-Nitrotoluene	1.30E-01	1.00E+00	0.00E+00	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02
HMX	2.40E-01	1.00E+00	0.00E+00	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01

Appendix Table L-549. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _x I _A _x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.90E+02	2.37E+01	0.00E+00	2.37E+01	8.33E+01	2.84E-01	0.5%
Antimony	5.00E-02	1.99E-01	2.49E-02	0.00E+00	2.49E-02	No TRV	No TRV	No HQ
Arsenic	1.00E-01	2.22E-01	2.77E-02	0.00E+00	2.77E-02	6.22E+00	4.46E-03	0.0%
Barium	7.50E-03	1.10E+01	1.37E+00	0.00E+00	1.37E+00	1.49E+01	9.21E-02	0.2%
Beryllium	5.00E-02	9.91E-03	1.24E-03	0.00E+00	1.24E-03	No TRV	No TRV	No HQ
Cadmium	2.80E-02	1.14E+00	1.43E-01	0.00E+00	1.43E-01	1.82E+00	7.85E-02	0.1%
Calcium	1.00E+00	1.94E+04	2.43E+03	0.00E+00	2.43E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.18E+00	2.73E-01	0.00E+00	2.73E-01	1.28E+00	2.13E-01	0.4%
Cobalt	1.00E+00	6.90E+00	8.63E-01	0.00E+00	8.63E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.56E+01	3.20E+00	0.00E+00	3.20E+00	4.86E+01	6.58E-02	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.15E+04	2.69E+03	0.00E+00	2.69E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.80E+01	2.25E+00	0.00E+00	2.25E+00	8.51E-01	2.64E+00	4.4%
Magnesium	1.00E+00	5.61E+03	7.02E+02	0.00E+00	7.02E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	7.01E+00	8.76E-01	0.00E+00	8.76E-01	3.39E-01	2.58E+00	4.3%
Nickel	3.00E-01	1.61E+00	2.01E-01	0.00E+00	2.01E-01	8.81E+01	2.28E-03	0.0%
Potassium	1.00E+00	1.33E+03	1.67E+02	0.00E+00	1.67E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.13E-01	8.91E-02	0.00E+00	8.91E-02	6.05E-01	1.47E-01	0.2%
Silver	1.50E-01	2.68E-02	3.35E-03	0.00E+00	3.35E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.81E+02	3.51E+01	0.00E+00	3.51E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.11E+00	1.39E-01	0.00E+00	1.39E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	9.02E+03	1.13E+03	0.00E+00	1.13E+03	2.07E+01	5.45E+01	89.9%
Toluene	7.60E-04	1.08E-05	1.36E-06	0.00E+00	1.36E-06	No TRV	No TRV	No HQ
1,3,5-Trinitrobenzer	1.00E+00	7.01E-01	8.76E-02	0.00E+00	8.76E-02	No TRV	No TRV	No HQ
1,3-Dinitrobenzene	1.00E+00	9.49E-02	1.19E-02	0.00E+00	1.19E-02	No TRV	No TRV	No HQ
2,4,6-Trinitrotoluen	1.00E+00	1.92E+01	2.40E+00	0.00E+00	2.40E+00	No TRV	No TRV	No HQ
2,4-Dinitrotoluene	1.00E+00	3.62E-01	4.52E-02	0.00E+00	4.52E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	4.38E-06	5.48E-07	0.00E+00	5.48E-07	No TRV	No TRV	No HQ
2-Nitrotoluene	1.00E+00	2.96E+00	3.70E-01	0.00E+00	3.70E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	2.96E+00	3.70E-01	0.00E+00	3.70E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.47E-01	1.84E-02	0.00E+00	1.84E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	2.71E-01	3.39E-02	0.00E+00	3.39E-02	No TRV	No TRV	No HQ

Appendix Table L-549. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Nitrobenzene	2.62E+00	2.00E-02	0.00E+00	2.00E-02	3.81E-03	5.00E-02	6.38E-02	1.91E-01	2.58E-01
Nitrocellulose	1.10E+01	1.00E+00	0.00E+00	1.00E+00	8.01E-01	1.00E+00	5.36E+00	8.01E-01	6.96E+00
Nitroglycerin	6.19E+00	1.00E+00	0.00E+00	1.00E+00	4.51E-01	1.00E+00	3.02E+00	4.51E-01	3.92E+00
RDX	3.40E-01	1.00E+00	0.00E+00	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01
Tetryl	6.76E+00	1.00E+00	0.00E+00	1.00E+00	4.92E-01	1.00E+00	3.29E+00	4.92E-01	4.28E+00

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p-s} = Shrew I_p (kg/kgBV) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A(kg/kgBW/d) = 1.25E-01

ADD_s = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-549. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg)	ADD _A (mg/kgBW/d)	ADDS (mg/kgBW/d) EPC x	ADD _{total} (mg/kgBW/d)	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100	
		ADD _{total} x BAF _v /IR _f	Cs x I _A x AUF	IS x AUF	ADD _p + ADD _A + ADD _s				
Nitrobenzene	1.20E-04	5.54E-05	6.92E-06	0.00E+00	6.92E-06	No TRV	No TRV	No HQ	
Nitrocellulose	1.00E+00	1.24E+01	1.55E+00	0.00E+00	1.55E+00	No TRV	No TRV	No HQ	
Nitroglycerin	1.00E+00	6.99E+00	8.74E-01	0.00E+00	8.74E-01	No TRV	No TRV	No HQ	
RDX	1.00E+00	3.84E-01	4.80E-02	0.00E+00	4.80E-02	No TRV	No TRV	No HQ	
Tetryl	1.00E+00	7.64E+00	9.55E-01	0.00E+00	9.55E-01	No TRV	No TRV	No HQ	
HI =							6.06E+01		

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-550. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.29E+04	1.30E-04	5.34E-03	8.00E-04	7.54E-01	7.50E-02	4.73E+02	9.42E+02	1.42E+03
Antimony	2.23E+01	6.00E-03	4.25E-04	4.00E-02	6.49E-02	5.00E-02	5.43E-01	1.62E+00	2.23E+00
Arsenic	1.62E+01	1.20E-03	6.18E-05	8.00E-03	9.45E-03	6.60E-03	5.22E-02	1.18E+00	1.24E+00
Barium	1.04E+04	3.00E-03	9.90E-02	3.00E-02	2.27E+01	7.50E-03	3.80E+01	7.57E+02	8.18E+02
Beryllium	1.14E+00	3.00E-04	1.09E-06	2.00E-03	1.66E-04	5.00E-02	2.78E-02	8.31E-02	1.11E-01
Cadmium	4.20E+00	3.00E-02	4.00E-04	1.10E-01	3.36E-02	1.10E+01	2.25E+01	3.06E-01	2.28E+01
Calcium	1.78E+04	7.00E-02	3.95E+00	7.00E-01	9.07E+02	1.00E+00	8.67E+03	1.30E+03	1.09E+04
Chromium	2.89E+01	9.00E-04	8.26E-05	1.50E-03	3.16E-03	1.60E-01	2.26E+00	2.11E+00	4.36E+00
Cobalt	6.90E+00	1.40E-03	3.07E-05	4.00E-03	2.01E-03	1.00E+00	3.36E+00	5.02E-01	3.87E+00
Copper	1.83E+02	5.00E-02	2.90E-02	8.00E-02	1.07E+00	1.60E-01	1.43E+01	1.33E+01	2.87E+01
Cyanide	8.66E-01	1.00E+00	2.75E-03	1.00E+00	6.31E-02	0.00E+00	0.00E+00	6.31E-02	1.26E-01
Iron	2.15E+04	2.00E-04	1.36E-02	8.00E-04	1.25E+00	1.00E+00	1.05E+04	1.56E+03	1.20E+04
Lead	6.40E+02	1.80E-03	3.66E-03	9.00E-03	4.19E-01	2.00E+00	6.24E+02	4.66E+01	6.71E+02
Magnesium	5.47E+03	1.10E-01	1.91E+00	2.00E-01	7.96E+01	1.00E+00	2.66E+03	3.98E+02	3.14E+03
Mercury	1.20E+00	4.00E-02	1.52E-04	1.80E-01	1.57E-02	3.40E-01	1.99E-01	8.74E-02	3.02E-01
Nickel	1.62E+01	1.20E-02	6.16E-04	1.20E-02	1.41E-02	2.30E-01	1.81E+00	1.18E+00	3.00E+00
Potassium	1.30E+03	1.10E-01	4.54E-01	2.00E-01	1.89E+01	1.00E+00	6.33E+02	9.46E+01	7.47E+02
Selenium	1.20E+00	5.00E-03	1.90E-05	5.00E-03	4.37E-04	7.60E-01	4.44E-01	8.74E-02	5.32E-01
Silver	6.59E-01	2.00E-02	4.18E-05	8.00E-02	3.84E-03	1.50E-01	4.82E-02	4.80E-02	1.00E-01
Sodium	2.80E+02	1.10E-02	9.78E-03	1.50E-02	3.06E-01	1.00E+00	1.36E+02	2.04E+01	1.57E+02
Thallium	1.11E+00	8.00E-05	2.82E-07	8.00E-04	6.46E-05	1.00E+00	5.41E-01	8.08E-02	6.22E-01
Zinc	1.04E+03	1.80E-01	5.94E-01	3.00E-01	2.27E+01	1.80E+00	9.12E+02	7.57E+01	1.01E+03
Organics									
Toluene	8.10E-02	2.00E-02	5.14E-06	2.00E-02	1.18E-04	5.00E-02	1.97E-03	5.90E-03	7.99E-03
Explosives									
1,3,5-Trinitrobenzene	6.20E-01	1.00E+00	1.97E-03	1.00E+00	4.51E-02	1.00E+00	3.02E-01	4.51E-02	3.92E-01
1,3-Dinitrobenzene	8.40E-02	1.00E+00	2.67E-04	1.00E+00	6.12E-03	1.00E+00	4.09E-02	6.12E-03	5.32E-02
2,4,6-Trinitrotoluene	1.70E+01	1.00E+00	5.40E-02	1.00E+00	1.24E+00	1.00E+00	8.28E+00	1.24E+00	1.08E+01
2,4-Dinitrotoluene	3.20E-01	1.00E+00	1.02E-03	1.00E+00	2.33E-02	1.00E+00	1.56E-01	2.33E-02	2.02E-01
2,6-Dinitrotoluene	1.31E-01	2.00E-02	8.32E-06	2.00E-02	1.91E-04	5.00E-02	3.19E-03	9.54E-03	1.29E-02
2-Nitrotoluene	2.62E+00	1.00E+00	8.32E-03	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00
3-Nitrotoluene	2.62E+00	1.00E+00	8.32E-03	1.00E+00	1.91E-01	1.00E+00	1.28E+00	1.91E-01	1.66E+00
4-Nitrotoluene	1.30E-01	1.00E+00	4.13E-04	1.00E+00	9.46E-03	1.00E+00	6.33E-02	9.46E-03	8.23E-02

Appendix Table L-550. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.90E+02	1.25E+01	2.50E+01	3.75E+01	5.46E-01	6.87E+01	62.3%
Antimony	5.00E-02	1.99E-01	1.31E-02	4.31E-02	5.66E-02	3.54E-02	1.60E+00	1.5%
Arsenic	1.00E-01	2.22E-01	1.46E-02	3.14E-02	4.60E-02	3.56E-02	1.29E+00	1.2%
Barium	7.50E-03	1.10E+01	7.21E-01	2.01E+01	2.09E+01	2.79E+00	7.49E+00	6.8%
Beryllium	5.00E-02	9.91E-03	6.53E-04	2.20E-03	2.86E-03	3.45E-01	8.29E-03	0.0%
Cadmium	2.80E-02	1.14E+00	7.52E-02	8.11E-03	8.37E-02	5.04E-01	1.66E-01	0.2%
Calcium	1.00E+00	1.94E+04	1.28E+03	3.44E+01	1.32E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	2.18E+00	1.44E-01	5.59E-02	2.00E-01	1.43E+03	1.40E-04	0.0%
Cobalt	1.00E+00	6.90E+00	4.54E-01	1.33E-02	4.68E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.56E+01	1.68E+00	3.54E-01	2.07E+00	7.96E+00	2.60E-01	0.2%
Cyanide	0.00E+00	0.00E+00	0.00E+00	1.67E-03	4.42E-03	3.37E+01	1.31E-04	0.0%
Iron	1.00E+00	2.15E+04	1.41E+03	4.15E+01	1.46E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	1.80E+01	1.18E+00	1.24E+00	2.42E+00	4.18E+00	5.79E-01	0.5%
Magnesium	1.00E+00	5.61E+03	3.69E+02	1.06E+01	3.82E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	7.01E+00	4.61E-01	2.32E-03	4.64E-01	6.86E-01	6.76E-01	0.6%
Nickel	3.00E-01	1.61E+00	1.06E-01	3.12E-02	1.38E-01	2.09E+01	6.59E-03	0.0%
Potassium	1.00E+00	1.33E+03	8.78E+01	2.51E+00	9.08E+01	No TRV	No TRV	No HQ
Selenium	7.50E-01	7.13E-01	4.69E-02	2.32E-03	4.92E-02	1.05E-01	4.71E-01	0.4%
Silver	1.50E-01	2.68E-02	1.76E-03	1.27E-03	3.08E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	2.81E+02	1.85E+01	5.41E-01	1.90E+01	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.11E+00	7.31E-02	2.14E-03	7.52E-02	3.91E-03	1.92E+01	17.5%
Zinc	5.00E+00	9.02E+03	5.94E+02	2.01E+00	5.96E+02	8.36E+01	7.13E+00	6.5%
Toluene	7.60E-04	1.08E-05	7.14E-07	1.56E-04	1.62E-04	7.35E+00	2.21E-05	0.0%
1,3,5-Trinitrobenzene	1.00E+00	7.01E-01	4.61E-02	1.20E-03	4.93E-02	1.68E+00	2.94E-02	0.0%
1,3-Dinitrobenzene	1.00E+00	9.49E-02	6.25E-03	1.62E-04	6.68E-03	6.12E-02	1.09E-01	0.1%
2,4,6-Trinitrotoluene	1.00E+00	1.92E+01	1.26E+00	3.28E-02	1.35E+00	8.36E-01	1.62E+00	1.5%
2,4-Dinitrotoluene	1.00E+00	3.62E-01	2.38E-02	6.18E-04	2.54E-02	3.82E+00	6.66E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	4.38E-06	2.89E-07	2.53E-04	2.62E-04	3.66E-01	7.15E-04	0.0%
2-Nitrotoluene	1.00E+00	2.96E+00	1.95E-01	5.06E-03	2.08E-01	No TRV	No TRV	No HQ
3-Nitrotoluene	1.00E+00	2.96E+00	1.95E-01	5.06E-03	2.08E-01	No TRV	No TRV	No HQ
4-Nitrotoluene	1.00E+00	1.47E-01	9.67E-03	2.51E-04	1.03E-02	No TRV	No TRV	No HQ

Appendix Table L-550. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 68

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP_v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF_i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
HMX	2.40E-01	1.00E+00	7.62E-04	1.00E+00	1.75E-02	1.00E+00	1.17E-01	1.75E-02	1.52E-01
Nitrobenzene	2.62E+00	2.00E-02	1.66E-04	2.00E-02	3.81E-03	5.00E-02	6.38E-02	1.91E-01	2.58E-01
Nitrocellulose	1.10E+01	1.00E+00	3.49E-02	1.00E+00	8.01E-01	1.00E+00	5.36E+00	8.01E-01	6.96E+00
Nitroglycerin	6.19E+00	1.00E+00	1.96E-02	1.00E+00	4.51E-01	1.00E+00	3.02E+00	4.51E-01	3.92E+00
RDX	3.40E-01	1.00E+00	1.08E-03	1.00E+00	2.48E-02	1.00E+00	1.66E-01	2.48E-02	2.15E-01
Tetryl	6.76E+00	1.00E+00	2.15E-02	1.00E+00	4.92E-01	1.00E+00	3.29E+00	4.92E-01	4.28E+00

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

6.58E-02

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) =

7.28E-02

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

1.70E-02

Appendix Table L-550. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
HMX	1.00E+00	2.71E-01	1.79E-02	4.64E-04	1.91E-02	8.02E-01	2.38E-02	0.0%
Nitrobenzene	1.20E-04	5.54E-05	3.64E-06	5.06E-03	5.23E-03	No TRV	No TRV	No HQ
Nitrocellulose	1.00E+00	1.24E+01	8.18E-01	2.13E-02	8.74E-01	No TRV	No TRV	No HQ
Nitroglycerin	1.00E+00	6.99E+00	4.60E-01	1.20E-02	4.92E-01	No TRV	No TRV	No HQ
RDX	1.00E+00	3.84E-01	2.53E-02	6.57E-04	2.70E-02	2.07E+00	1.31E-02	0.0%
Tetryl	1.00E+00	7.64E+00	5.03E-01	1.31E-02	5.37E-01	6.30E-01	8.53E-01	0.8%
HI = 1.10E+02								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-551. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	7.42E+03	5.00E+01	1.48E+02	91.4%
Arsenic	1.17E+01	1.00E+01	1.17E+00	0.7%
Barium	3.81E+01	5.00E+02	7.62E-02	0.0%
Cadmium	1.60E-01	5.00E-01	3.20E-01	0.2%
Chromium	1.02E+01	1.00E+00	1.02E+01	6.3%
Lead	1.97E+01	5.00E+01	3.94E-01	0.2%
Mercury	4.00E-02	3.00E-01	1.33E-01	0.1%
Selenium	3.40E-01	1.00E+00	3.40E-01	0.2%
Silver	1.05E-01	2.00E+00	5.25E-02	0.0%
Zinc	5.93E+01	5.00E+01	1.19E+00	0.7%
Explosives				
2,4,6-Trinitrotoluene	4.80E-01	3.00E+01	1.60E-02	0.0%
HMX	1.90E+00	No TRV	No TRV	No HQ
			HI =	1.62E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-552. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 69**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	7.42E+03	No TRV	No TRV	No HQ
Arsenic	1.17E+01	6.00E+01	1.95E-01	0.7%
Barium	3.81E+01	No TRV	No TRV	No HQ
Cadmium	1.60E-01	2.00E+01	8.00E-03	0.0%
Chromium	1.02E+01	4.00E-01	2.55E+01	97.9%
Lead	1.97E+01	5.00E+02	3.94E-02	0.2%
Mercury	4.00E-02	No TRV	No TRV	No HQ
Selenium	3.40E-01	No TRV	No TRV	No HQ
Silver	1.05E-01	No TRV	No TRV	No HQ
Zinc	5.93E+01	2.00E+02	2.97E-01	1.1%
Explosives				
2,4,6-Trinitrotoluene	4.80E-01	1.40E+02	3.43E-03	0.0%
HMX	1.90E+00	No TRV	No TRV	No HQ
			HI =	2.60E+01

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-553. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	7.42E+03	8.00E-04	4.32E-01	7.50E-02	2.71E+02	5.40E+02	8.12E+02	2.22E+00	3.65E+02	97.6%
Arsenic	1.17E+01	8.00E-03	6.81E-03	6.60E-03	3.76E-02	8.52E-01	8.96E-01	1.45E-01	6.17E+00	1.7%
Barium	3.81E+01	3.00E-02	8.32E-02	7.50E-03	1.39E-01	2.77E+00	3.00E+00	1.14E+01	2.63E-01	0.1%
Cadmium	1.60E-01	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01	2.05E+00	4.24E-01	0.1%
Chromium	1.02E+01	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00	5.83E+03	2.64E-04	0.0%
Lead	1.97E+01	9.00E-03	1.29E-02	2.00E+00	1.92E+01	1.43E+00	2.06E+01	1.70E+01	1.21E+00	0.3%
Mercury	4.00E-02	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02	2.80E+00	3.60E-03	0.0%
Selenium	3.40E-01	5.00E-03	1.24E-04	7.60E-01	1.26E-01	2.48E-02	1.51E-01	4.26E-01	3.54E-01	0.1%
Silver	1.05E-01	8.00E-02	6.12E-04	1.50E-01	7.67E-03	7.64E-03	1.59E-02	No TRV	No TRV	No HQ
Zinc	5.93E+01	3.00E-01	1.30E+00	1.80E+00	5.20E+01	4.32E+00	5.76E+01	3.41E+02	1.69E-01	0.0%
Explosives										
2,4,6-Trinitrotoluene	4.80E-01	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01	3.41E+00	8.91E-02	0.0%
HMX	1.90E+00	1.00E+00	1.38E-01	1.00E+00	9.26E-01	1.38E-01	1.20E+00	3.27E+00	3.68E-01	0.1%
									HI =	3.74E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-554. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	7.42E+03	1.30E-04	7.33E-01	7.50E-02	4.23E+02	1.17E+03	1.60E+03	1.29E+02	1.23E+01	28.6%
Arsenic	1.17E+01	1.20E-03	1.07E-02	6.60E-03	5.87E-02	1.85E+00	1.92E+00	9.66E+00	1.99E-01	0.5%
Barium	3.81E+01	3.00E-03	8.69E-02	7.50E-03	2.17E-01	6.02E+00	6.33E+00	2.31E+01	2.74E-01	0.6%
Cadmium	1.60E-01	3.00E-02	3.65E-03	1.10E+01	1.34E+00	2.53E-02	1.37E+00	2.83E+00	4.84E-01	1.1%
Chromium	1.02E+01	9.00E-04	6.98E-03	1.60E-01	1.24E+00	1.61E+00	2.86E+00	1.99E+00	1.44E+00	3.3%
Lead	1.97E+01	1.80E-03	2.69E-02	2.00E+00	2.99E+01	3.11E+00	3.31E+01	1.32E+00	2.50E+01	58.0%
Mercury	4.00E-02	4.00E-02	1.22E-03	3.40E-01	1.03E-02	6.32E-03	1.79E-02	5.27E-01	3.39E-02	0.1%
Selenium	3.40E-01	5.00E-03	1.29E-03	7.60E-01	1.96E-01	5.37E-02	2.51E-01	9.40E-01	2.67E-01	0.6%
Silver	1.05E-01	2.00E-02	1.60E-03	1.50E-01	1.20E-02	1.66E-02	3.02E-02	No TRV	No TRV	No HQ
Zinc	5.93E+01	1.80E-01	8.11E+00	1.80E+00	8.11E+01	9.37E+00	9.86E+01	3.21E+01	3.07E+00	7.1%
Explosives										
2,4,6-Trinitrotoluene	4.80E-01	1.00E+00	3.65E-01	1.00E+00	3.65E-01	7.59E-02	8.05E-01	No TRV	No TRV	No HQ
HMX	1.90E+00	1.00E+00	1.44E+00	1.00E+00	1.44E+00	3.00E-01	3.19E+00	No TRV	No TRV	No HQ
									HI =	4.31E+01

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-555. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	7.42E+03	8.00E-04	1.22E+00	7.50E-02	0.00E+00	9.58E+01	9.70E+01	7.63E-01	1.27E+02	96.8%
Arsenic	1.17E+01	8.00E-03	1.92E-02	6.60E-03	0.00E+00	1.51E-01	1.70E-01	4.98E-02	3.42E+00	2.6%
Barium	3.81E+01	3.00E-02	2.34E-01	7.50E-03	0.00E+00	4.92E-01	7.26E-01	3.90E+00	1.86E-01	0.1%
Cadmium	1.60E-01	1.10E-01	3.61E-03	1.10E+01	0.00E+00	2.07E-03	5.67E-03	7.05E-01	8.05E-03	0.0%
Chromium	1.02E+01	1.50E-03	3.14E-03	1.60E-01	0.00E+00	1.32E-01	1.35E-01	2.00E+03	6.75E-05	0.0%
Lead	1.97E+01	9.00E-03	3.63E-02	2.00E+00	0.00E+00	2.54E-01	2.91E-01	5.84E+00	4.98E-02	0.0%
Mercury	4.00E-02	1.80E-01	1.48E-03	3.40E-01	0.00E+00	5.17E-04	1.99E-03	9.59E-01	2.08E-03	0.0%
Selenium	3.40E-01	5.00E-03	3.49E-04	7.60E-01	0.00E+00	4.39E-03	4.74E-03	1.46E-01	3.24E-02	0.0%
Silver	1.05E-01	8.00E-02	1.72E-03	1.50E-01	0.00E+00	1.36E-03	3.08E-03	No TRV	No TRV	No HQ
Zinc	5.93E+01	3.00E-01	3.65E+00	1.80E+00	0.00E+00	7.66E-01	4.41E+00	1.17E+02	3.78E-02	0.0%
Explosives										
2,4,6-Trinitrotoluene	4.80E-01	1.00E+00	9.84E-02	1.00E+00	0.00E+00	6.20E-03	1.05E-01	1.17E+00	8.95E-02	0.1%
HMX	1.90E+00	1.00E+00	3.90E-01	1.00E+00	0.00E+00	2.45E-02	4.14E-01	1.12E+00	3.69E-01	0.3%
									HI =	1.31E+02

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-556 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	7.42E+03	8.00E-04	1.84E-01	7.50E-02	0.00E+00	4.60E+00	4.78E+00	2.93E-01	1.63E+01	95.5%
Arsenic	1.17E+01	8.00E-03	2.90E-03	6.60E-03	0.00E+00	7.25E-03	1.02E-02	1.91E-02	5.31E-01	3.1%
Barium	3.81E+01	3.00E-02	3.54E-02	7.50E-03	0.00E+00	2.36E-02	5.91E-02	1.50E+00	3.94E-02	0.2%
Cadmium	1.60E-01	1.10E-01	5.46E-04	1.10E+01	0.00E+00	9.92E-05	6.45E-04	2.71E-01	2.38E-03	0.0%
Chromium	1.02E+01	1.50E-03	4.74E-04	1.60E-01	0.00E+00	6.32E-03	6.80E-03	7.68E+02	8.85E-06	0.0%
Lead	1.97E+01	9.00E-03	5.50E-03	2.00E+00	0.00E+00	1.22E-02	1.77E-02	2.24E+00	7.89E-03	0.0%
Mercury	4.00E-02	1.80E-01	2.23E-04	3.40E-01	0.00E+00	2.48E-05	2.48E-04	3.68E-01	6.73E-04	0.0%
Selenium	3.40E-01	5.00E-03	5.27E-05	7.60E-01	0.00E+00	2.11E-04	2.64E-04	5.61E-02	4.70E-03	0.0%
Silver	1.05E-01	8.00E-02	2.60E-04	1.50E-01	0.00E+00	6.51E-05	3.26E-04	No TRV	No TRV	No HQ
Zinc	5.93E+01	3.00E-01	5.51E-01	1.80E+00	0.00E+00	3.68E-02	5.88E-01	4.49E+01	1.31E-02	0.1%
Explosives										
2,4,6-Trinitrotoluene	4.80E-01	1.00E+00	1.49E-02	1.00E+00	0.00E+00	2.98E-04	1.52E-02	4.49E-01	3.38E-02	0.2%
HMX	1.90E+00	1.00E+00	5.89E-02	1.00E+00	0.00E+00	1.18E-03	6.01E-02	4.31E-01	1.39E-01	0.8%
									HI =	1.71E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-557. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	7.42E+03	1.30E-04	0.00E+00	8.00E-04	4.32E-01	7.50E-02	2.71E+02	5.40E+02	8.12E+02
Arsenic	1.17E+01	1.20E-03	0.00E+00	8.00E-03	6.81E-03	6.60E-03	3.76E-02	8.52E-01	8.96E-01
Barium	3.81E+01	3.00E-03	0.00E+00	3.00E-02	8.32E-02	7.50E-03	1.39E-01	2.77E+00	3.00E+00
Cadmium	1.60E-01	3.00E-02	0.00E+00	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.02E+01	9.00E-04	0.00E+00	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00
Lead	1.97E+01	1.80E-03	0.00E+00	9.00E-03	1.29E-02	2.00E+00	1.92E+01	1.43E+00	2.06E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	3.40E-01	5.00E-03	0.00E+00	5.00E-03	1.24E-04	7.60E-01	1.26E-01	2.48E-02	1.51E-01
Silver	1.05E-01	2.00E-02	0.00E+00	8.00E-02	6.12E-04	1.50E-01	7.67E-03	7.64E-03	1.59E-02
Zinc	5.93E+01	1.80E-01	0.00E+00	3.00E-01	1.30E+00	1.80E+00	5.20E+01	4.32E+00	5.76E+01
Explosives									
2,4,6-Trinitrotoluene	4.80E-01	1.00E+00	0.00E+00	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01
HMX	1.90E+00	1.00E+00	0.00E+00	1.00E+00	1.38E-01	1.00E+00	9.26E-01	1.38E-01	1.20E+00

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) = 1.70E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.10E-01

ADD_S = Average daily dose; soil

I_{S,s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

Appendix Table L-557. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.09E+02	1.20E+01	0.00E+00	1.20E+01	6.68E+01	1.79E-01	4.6%
Arsenic	1.00E-01	1.60E-01	1.76E-02	0.00E+00	1.76E-02	4.98E+00	3.53E-03	0.1%
Barium	7.50E-03	4.01E-02	4.41E-03	0.00E+00	4.41E-03	1.19E+01	3.71E-04	0.0%
Cadmium	2.80E-02	4.35E-02	4.79E-03	0.00E+00	4.79E-03	1.46E+00	3.28E-03	0.1%
Chromium	2.80E-01	7.69E-01	8.46E-02	0.00E+00	8.46E-02	1.03E+00	8.25E-02	2.1%
Lead	1.50E-02	5.53E-01	6.08E-02	0.00E+00	6.08E-02	6.82E-01	8.92E-02	2.3%
Mercury	1.30E+01	2.34E-01	2.57E-02	0.00E+00	2.57E-02	2.72E-01	9.46E-02	2.4%
Selenium	7.50E-01	2.02E-01	2.22E-02	0.00E+00	2.22E-02	4.85E-01	4.58E-02	1.2%
Silver	1.50E-01	4.27E-03	4.69E-04	0.00E+00	4.69E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.14E+02	5.66E+01	0.00E+00	5.66E+01	1.66E+01	3.41E+00	87.3%
2,4,6-Trinitrotoluene	1.00E+00	5.42E-01	5.97E-02	0.00E+00	5.97E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	2.15E+00	2.36E-01	0.00E+00	2.36E-01	No TRV	No TRV	No HQ
HI =							3.91E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_S (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-558. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	7.42E+03	1.30E-04	0.00E+00	8.00E-04	4.32E-01	7.50E-02	2.71E+02	5.40E+02	8.12E+02
Arsenic	1.17E+01	1.20E-03	0.00E+00	8.00E-03	6.81E-03	6.60E-03	3.76E-02	8.52E-01	8.96E-01
Barium	3.81E+01	3.00E-03	0.00E+00	3.00E-02	8.32E-02	7.50E-03	1.39E-01	2.77E+00	3.00E+00
Cadmium	1.60E-01	3.00E-02	0.00E+00	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.02E+01	9.00E-04	0.00E+00	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00
Lead	1.97E+01	1.80E-03	0.00E+00	9.00E-03	1.29E-02	2.00E+00	1.92E+01	1.43E+00	2.06E+01
Mercury	4.00E-02	4.00E-02	0.00E+00	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	3.40E-01	5.00E-03	0.00E+00	5.00E-03	1.24E-04	7.60E-01	1.26E-01	2.48E-02	1.51E-01
Silver	1.05E-01	2.00E-02	0.00E+00	8.00E-02	6.12E-04	1.50E-01	7.67E-03	7.64E-03	1.59E-02
Zinc	5.93E+01	1.80E-01	0.00E+00	3.00E-01	1.30E+00	1.80E+00	5.20E+01	4.32E+00	5.76E+01
Explosives									
2,4,6-Trinitrotoluene	4.80E-01	1.00E+00	0.00E+00	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01
HMX	1.90E+00	1.00E+00	0.00E+00	1.00E+00	1.38E-01	1.00E+00	9.26E-01	1.38E-01	1.20E+00

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgB) 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A-s} = Shrew I_A (kg/kgBW/d) = 4.87E-01

I_A (kg/kgBW/d) = 1.25E-01

ADD_S = Average daily dose; soil

I_{S-s} = Shrew I_S (kg/kgBW/d) = 7.28E-02

ADD_{total} = Average daily dose; total

Appendix Table L-558. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _s x I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	1.09E+02	1.36E+01	0.00E+00	1.36E+01	8.33E+01	1.63E-01	4.6%
Arsenic	1.00E-01	1.60E-01	2.00E-02	0.00E+00	2.00E-02	6.22E+00	3.22E-03	0.1%
Barium	7.50E-03	4.01E-02	5.02E-03	0.00E+00	5.02E-03	1.49E+01	3.37E-04	0.0%
Cadmium	2.80E-02	4.35E-02	5.44E-03	0.00E+00	5.44E-03	1.82E+00	2.99E-03	0.1%
Chromium	2.80E-01	7.69E-01	9.62E-02	0.00E+00	9.62E-02	1.28E+00	7.51E-02	2.1%
Lead	1.50E-02	5.53E-01	6.91E-02	0.00E+00	6.91E-02	8.51E-01	8.12E-02	2.3%
Mercury	1.30E+01	2.34E-01	2.92E-02	0.00E+00	2.92E-02	3.39E-01	8.61E-02	2.4%
Selenium	7.50E-01	2.02E-01	2.52E-02	0.00E+00	2.52E-02	6.05E-01	4.17E-02	1.2%
Silver	1.50E-01	4.27E-03	5.33E-04	0.00E+00	5.33E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.14E+02	6.43E+01	0.00E+00	6.43E+01	2.07E+01	3.11E+00	87.3%
2,4,6-Trinitrotoluen	1.00E+00	5.42E-01	6.78E-02	0.00E+00	6.78E-02	No TRV	No TRV	No HQ
HMX	1.00E+00	2.15E+00	2.68E-01	0.00E+00	2.68E-01	No TRV	No TRV	No HQ
						HI =	3.56E+00	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-559. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 69

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	7.42E+03	1.30E-04	3.06E-03	8.00E-04	4.32E-01	7.50E-02	2.71E+02	5.40E+02	8.12E+02
Arsenic	1.17E+01	1.20E-03	4.46E-05	8.00E-03	6.81E-03	6.60E-03	3.76E-02	8.52E-01	8.96E-01
Barium	3.81E+01	3.00E-03	3.63E-04	3.00E-02	8.32E-02	7.50E-03	1.39E-01	2.77E+00	3.00E+00
Cadmium	1.60E-01	3.00E-02	1.52E-05	1.10E-01	1.28E-03	1.10E+01	8.57E-01	1.16E-02	8.70E-01
Chromium	1.02E+01	9.00E-04	2.91E-05	1.50E-03	1.11E-03	1.60E-01	7.95E-01	7.43E-01	1.54E+00
Lead	1.97E+01	1.80E-03	1.13E-04	9.00E-03	1.29E-02	2.00E+00	1.92E+01	1.43E+00	2.06E+01
Mercury	4.00E-02	4.00E-02	5.08E-06	1.80E-01	5.24E-04	3.40E-01	6.63E-03	2.91E-03	1.01E-02
Selenium	3.40E-01	5.00E-03	5.40E-06	5.00E-03	1.24E-04	7.60E-01	1.26E-01	2.48E-02	1.51E-01
Silver	1.05E-01	2.00E-02	6.67E-06	8.00E-02	6.12E-04	1.50E-01	7.67E-03	7.64E-03	1.59E-02
Zinc	5.93E+01	1.80E-01	3.39E-02	3.00E-01	1.30E+00	1.80E+00	5.20E+01	4.32E+00	5.76E+01
Explosives									
2,4,6-Trinitrotoluene	4.80E-01	1.00E+00	1.52E-03	1.00E+00	3.49E-02	1.00E+00	2.34E-01	3.49E-02	3.04E-01
HMX	1.90E+00	1.00E+00	6.03E-03	1.00E+00	1.38E-01	1.00E+00	9.26E-01	1.38E-01	1.20E+00

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p-s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_s = Average daily dose; soil

I_{s-s} = Shrew I_s (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-559. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	1.09E+02	7.16E+00	1.43E+01	2.15E+01	5.46E-01	3.94E+01	95.7%
Arsenic	1.00E-01	1.60E-01	1.05E-02	2.26E-02	3.32E-02	3.56E-02	9.31E-01	2.3%
Barium	7.50E-03	4.01E-02	2.64E-03	7.36E-02	7.66E-02	2.79E+00	2.74E-02	0.1%
Cadmium	2.80E-02	4.35E-02	2.86E-03	3.09E-04	3.19E-03	5.04E-01	6.33E-03	0.0%
Chromium	2.80E-01	7.69E-01	5.06E-02	1.97E-02	7.04E-02	1.43E+03	4.92E-05	0.0%
Lead	1.50E-02	5.53E-01	3.64E-02	3.81E-02	7.46E-02	4.18E+00	1.78E-02	0.0%
Mercury	1.30E+01	2.34E-01	1.54E-02	7.73E-05	1.55E-02	6.86E-01	2.25E-02	0.1%
Selenium	7.50E-01	2.02E-01	1.33E-02	6.57E-04	1.40E-02	1.05E-01	1.33E-01	0.3%
Silver	1.50E-01	4.27E-03	2.81E-04	2.03E-04	4.90E-04	No TRV	No TRV	No HQ
Zinc	5.00E+00	5.14E+02	3.39E+01	1.15E-01	3.40E+01	8.36E+01	4.07E-01	1.0%
2,4,6-Trinitrotoluene	1.00E+00	5.42E-01	3.57E-02	9.27E-04	3.82E-02	8.36E-01	4.56E-02	0.1%
HMX	1.00E+00	2.15E+00	1.41E-01	3.67E-03	1.51E-01	8.02E-01	1.88E-01	0.5%
							HI = 4.12E+01	

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-560. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.40E+04	5.00E+01	2.80E+02	90.6%
Antimony	4.17E-01	5.00E+00	8.34E-02	0.0%
Arsenic	1.23E+01	1.00E+01	1.23E+00	0.4%
Barium	8.84E+01	5.00E+02	1.77E-01	0.1%
Beryllium	6.30E-01	1.00E+01	6.30E-02	0.0%
Cadmium	1.00E-01	5.00E-01	2.00E-01	0.1%
Calcium	1.35E+04	No TRV	No TRV	No HQ
Chromium	2.04E+01	1.00E+00	2.04E+01	6.6%
Cobalt	9.80E+00	2.00E+01	4.90E-01	0.2%
Copper	1.99E+01	1.00E+02	1.99E-01	0.1%
Cyanide	4.71E-01	No TRV	No TRV	No HQ
Iron	2.53E+04	No TRV	No TRV	No HQ
Lead	2.29E+01	5.00E+01	4.58E-01	0.1%
Magnesium	4.18E+03	No TRV	No TRV	No HQ
Mercury	3.32E-02	3.00E-01	1.11E-01	0.0%
Nickel	2.36E+01	3.00E+01	7.87E-01	0.3%
Potassium	1.99E+03	No TRV	No TRV	No HQ
Selenium	6.00E-01	1.00E+00	6.00E-01	0.2%
Silver	9.66E-01	2.00E+00	4.83E-01	0.2%
Sodium	7.78E+01	No TRV	No TRV	No HQ
Thallium	1.90E+00	1.00E+00	1.90E+00	0.6%
Zinc	8.57E+01	5.00E+01	1.71E+00	0.6%
Organics				
2,4-Dinitrotoluene	2.14E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	2.14E-01	No TRV	No TRV	No HQ
2-Methylnaphthalene	4.70E-02	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E+01	7.50E-03	0.0%
Anthracene	4.32E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	8.66E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.98E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.10E+00	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	3.90E-01	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	5.00E-01	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	2.10E-01	No TRV	No TRV	No HQ
Carbazole	2.59E-01	No TRV	No TRV	No HQ
Chrysene	8.67E-01	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.10E-01	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	1.10E-01	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	No TRV	No TRV	No HQ
Fluoranthene	2.70E+00	No TRV	No TRV	No HQ
Fluorene	2.35E-01	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	4.80E-01	No TRV	No TRV	No HQ

Appendix Table L-560. Hazard Quotients for Terrestrial Vegetation in Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	Plant TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Naphthalene	2.10E-01	No TRV	No TRV	No HQ
Nitrobenzene	2.14E-01	No TRV	No TRV	No HQ
Phenanthrene	2.04E+00	No TRV	No TRV	No HQ
Pyrene	2.10E+00	3.00E+01	7.00E-02	0.0%
Chloroform	2.00E-03	No TRV	No TRV	No HQ
Methylene Chloride	5.52E-03	No TRV	No TRV	No HQ
Toluene	1.43E-01	No TRV	No TRV	No HQ
HI =				3.09E+02

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-561. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 70**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Inorganics				
Aluminum	1.40E+04	No TRV	No TRV	No HQ
Antimony	4.17E-01	No TRV	No TRV	No HQ
Arsenic	1.23E+01	6.00E+01	2.05E-01	0.4%
Barium	8.84E+01	No TRV	No TRV	No HQ
Beryllium	6.30E-01	No TRV	No TRV	No HQ
Cadmium	1.00E-01	2.00E+01	5.00E-03	0.0%
Calcium	1.35E+04	No TRV	No TRV	No HQ
Chromium	2.04E+01	4.00E-01	5.10E+01	97.6%
Cobalt	9.80E+00	No TRV	No TRV	No HQ
Copper	1.99E+01	5.00E+01	3.98E-01	0.8%
Cyanide	4.71E-01	No TRV	No TRV	No HQ
Iron	2.53E+04	No TRV	No TRV	No HQ
Lead	2.29E+01	5.00E+02	4.58E-02	0.1%
Magnesium	4.18E+03	No TRV	No TRV	No HQ
Mercury	3.32E-02	No TRV	No TRV	No HQ
Nickel	2.36E+01	2.00E+02	1.18E-01	0.2%
Potassium	1.99E+03	No TRV	No TRV	No HQ
Selenium	6.00E-01	No TRV	No TRV	No HQ
Silver	9.66E-01	No TRV	No TRV	No HQ
Sodium	7.78E+01	No TRV	No TRV	No HQ
Thallium	1.90E+00	No TRV	No TRV	No HQ
Zinc	8.57E+01	2.00E+02	4.29E-01	0.8%
Organics				
2,4-Dinitrotoluene	2.14E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	2.14E-01	No TRV	No TRV	No HQ
2-Methylnaphthalene	4.70E-02	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	No TRV	No TRV	No HQ
Anthracene	4.32E-01	No TRV	No TRV	No HQ
Benzo(a)anthracene	8.66E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.98E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.10E+00	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	3.90E-01	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	5.00E-01	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	2.10E-01	No TRV	No TRV	No HQ
Carbazole	2.59E-01	No TRV	No TRV	No HQ
Chrysene	8.67E-01	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.10E-01	No TRV	No TRV	No HQ
Dibenzo(a,h)anthracene	1.10E-01	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	No TRV	No TRV	No HQ
Fluoranthene	2.70E+00	No TRV	No TRV	No HQ
Fluorene	2.35E-01	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	4.80E-01	No TRV	No TRV	No HQ

**Appendix Table L-561. Hazard Quotients for Earthworms in Surface Soil at
RVAAP - Pad 70**

Analyte	EPC (mg/kg)	Earthworm TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ / HI x 100
Naphthalene	2.10E-01	No TRV	No TRV	No HQ
Nitrobenzene	2.14E-01	No TRV	No TRV	No HQ
Phenanthrene	2.04E+00	No TRV	No TRV	No HQ
Pyrene	2.10E+00	3.00E+01	7.00E-02	0.1%
Chloroform	2.00E-03	No TRV	No TRV	No HQ
Methylene Chloride	5.52E-03	No TRV	No TRV	No HQ
Toluene	1.43E-01	No TRV	No TRV	No HQ
HI = 5.23E+01				

EPC = Exposure point concentration

TRV = Toxicity reference value

Appendix Table L-562. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03	2.22E+00	6.89E+02	89.9%
Antimony	4.17E-01	4.00E-02	1.21E-03	5.00E-02	1.02E-02	3.04E-02	4.17E-02	1.44E-01	2.90E-01	0.0%
Arsenic	1.23E+01	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01	1.45E-01	6.49E+00	0.8%
Barium	8.84E+01	3.00E-02	1.93E-01	7.50E-03	3.23E-01	6.44E+00	6.95E+00	1.14E+01	6.11E-01	0.1%
Beryllium	6.30E-01	2.00E-03	9.17E-05	5.00E-02	1.53E-02	4.59E-02	6.13E-02	1.41E+00	4.36E-02	0.0%
Cadmium	1.00E-01	1.10E-01	8.01E-04	1.10E+01	5.36E-01	7.28E-03	5.44E-01	2.05E+00	2.65E-01	0.0%
Calcium	1.35E+04	7.00E-01	6.88E+02	1.00E+00	6.58E+03	9.83E+02	8.25E+03	No TRV	No TRV	No HQ
Chromium	2.04E+01	1.50E-03	2.23E-03	1.60E-01	1.59E+00	1.49E+00	3.08E+00	5.83E+03	5.28E-04	0.0%
Cobalt	9.80E+00	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00	No TRV	No TRV	No HQ
Copper	1.99E+01	8.00E-02	1.16E-01	1.60E-01	1.55E+00	1.45E+00	3.12E+00	3.24E+01	9.61E-02	0.0%
Cyanide	4.71E-01	1.00E+00	3.43E-02	0.00E+00	0.00E+00	3.43E-02	6.86E-02	1.38E+02	4.99E-04	0.0%
Iron	2.53E+04	8.00E-04	1.47E+00	1.00E+00	1.23E+04	1.84E+03	1.42E+04	No TRV	No TRV	No HQ
Lead	2.29E+01	9.00E-03	1.50E-02	2.00E+00	2.23E+01	1.67E+00	2.40E+01	1.70E+01	1.41E+00	0.2%
Magnesium	4.18E+03	2.00E-01	6.09E+01	1.00E+00	2.04E+03	3.04E+02	2.40E+03	No TRV	No TRV	No HQ
Mercury	3.32E-02	1.80E-01	4.35E-04	3.40E-01	5.50E-03	2.42E-03	8.36E-03	2.80E+00	2.99E-03	0.0%
Nickel	2.36E+01	1.20E-02	2.06E-02	2.30E-01	2.64E+00	1.72E+00	4.38E+00	8.52E+01	5.14E-02	0.0%
Potassium	1.99E+03	2.00E-01	2.90E+01	1.00E+00	9.70E+02	1.45E+02	1.14E+03	No TRV	No TRV	No HQ
Selenium	6.00E-01	5.00E-03	2.18E-04	7.60E-01	2.22E-01	4.37E-02	2.66E-01	4.26E-01	6.25E-01	0.1%
Silver	9.66E-01	8.00E-02	5.63E-03	1.50E-01	7.06E-02	7.03E-02	1.47E-01	No TRV	No TRV	No HQ
Sodium	7.78E+01	1.50E-02	8.50E-02	1.00E+00	3.79E+01	5.66E+00	4.37E+01	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00	1.59E-02	6.68E+01	8.7%
Zinc	8.57E+01	3.00E-01	1.87E+00	1.80E+00	7.52E+01	6.24E+00	8.33E+01	3.41E+02	2.44E-01	0.0%
Organics										
2,4-Dinitrotoluene	2.14E-01	1.00E+00	1.56E-02	1.00E+00	1.04E-01	1.56E-02	1.35E-01	1.56E+01	8.70E-03	0.0%
2,6-Dinitrotoluene	2.14E-01	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02	1.49E+00	1.42E-02	0.0%
2-Methylnaphthalene	4.70E-02	2.00E-02	6.84E-05	5.00E-02	1.14E-03	3.42E-03	4.63E-03	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02	No TRV	No TRV	No HQ
Anthracene	4.32E-01	2.00E-02	6.29E-04	5.00E-02	1.05E-02	3.14E-02	4.26E-02	No TRV	No TRV	No HQ
Benzo(a)anthracene	8.66E-01	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.30E-02	8.44E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.98E-01	2.60E-03	1.32E-04	5.00E-02	1.70E-02	5.08E-02	6.79E-02	1.15E+00	5.90E-02	0.0%
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	No HQ
Benzo(g,h,i)perylene	3.90E-01	1.20E-03	3.41E-05	5.00E-02	9.50E-03	2.84E-02	3.79E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	5.00E-01	2.30E-03	8.37E-05	5.00E-02	1.22E-02	3.64E-02	4.87E-02	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	2.10E-01	8.70E-03	1.33E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02	2.11E+01	9.74E-04	0.0%
Carbazole	2.59E-01	2.00E-02	3.77E-04	5.00E-02	6.31E-03	1.89E-02	2.55E-02	No TRV	No TRV	No HQ

Appendix Table L-562. Hazard Quotients for Short-tailed Shrew in Surface Soil Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Chrysene	8.67E-01	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.31E-02	8.45E-02	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.10E-01	7.60E-03	1.16E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02	6.34E+02	3.24E-05	0.0%
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	1.12E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02	No TRV	No TRV	No HQ
Dibenzofuran	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	No HQ
Fluoranthene	2.70E+00	2.00E-02	3.93E-03	5.00E-02	6.58E-02	1.97E-01	2.66E-01	No TRV	No TRV	No HQ
Fluorene	2.35E-01	2.00E-02	3.42E-04	5.00E-02	5.72E-03	1.71E-02	2.32E-02	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	4.80E-01	1.20E-03	4.19E-05	5.00E-02	1.17E-02	3.49E-02	4.67E-02	No TRV	No TRV	No HQ
Naphthalene	2.10E-01	2.00E-02	3.06E-04	5.00E-02	5.12E-03	1.53E-02	2.07E-02	No TRV	No TRV	No HQ
Nitrobenzene	2.14E-01	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02	No TRV	No TRV	No HQ
Phenanthrene	2.04E+00	2.00E-02	2.97E-03	5.00E-02	4.97E-02	1.49E-01	2.01E-01	No TRV	No TRV	No HQ
Pyrene	2.10E+00	6.70E-03	1.02E-03	5.00E-02	5.12E-02	1.53E-01	2.05E-01	No TRV	No TRV	No HQ
Chloroform	2.00E-03	2.00E-02	2.91E-06	5.00E-02	4.87E-05	1.46E-04	1.97E-04	3.20E+01	6.17E-06	0.0%
Methylene Chloride	5.52E-03	2.00E-02	8.04E-06	5.00E-02	1.34E-04	4.02E-04	5.44E-04	1.25E+01	4.37E-05	0.0%
Toluene	1.43E-01	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02	2.99E+01	4.71E-04	0.0%
HI =									7.66E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.28E-02
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A (kg/kgBW/d) = 4.87E-01
 ADD_s = Average daily dose; soil
 I_S (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-563. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	1.30E-04	1.38E+00	7.50E-02	7.98E+02	2.21E+03	3.01E+03	1.29E+02	2.33E+01	37.7%
Antimony	4.17E-01	6.00E-03	1.90E-03	5.00E-02	1.58E-02	6.59E-02	8.37E-02	No TRV	No TRV	No HQ
Arsenic	1.23E+01	1.20E-03	1.12E-02	6.60E-03	6.17E-02	1.94E+00	2.02E+00	9.66E+00	2.09E-01	0.3%
Barium	8.84E+01	3.00E-03	2.02E-01	7.50E-03	5.04E-01	1.40E+01	1.47E+01	2.31E+01	6.36E-01	1.0%
Beryllium	6.30E-01	3.00E-04	1.44E-04	5.00E-02	2.39E-02	9.96E-02	1.24E-01	No TRV	No TRV	No HQ
Cadmium	1.00E-01	3.00E-02	2.28E-03	1.10E+01	8.36E-01	1.58E-02	8.54E-01	2.83E+00	3.02E-01	0.5%
Calcium	1.35E+04	7.00E-02	7.18E+02	1.00E+00	1.03E+04	2.13E+03	1.31E+04	No TRV	No TRV	No HQ
Chromium	2.04E+01	9.00E-04	1.40E-02	1.60E-01	2.48E+00	3.22E+00	5.72E+00	1.99E+00	2.88E+00	4.7%
Cobalt	9.80E+00	1.40E-03	1.04E-02	1.00E+00	7.45E+00	1.55E+00	9.01E+00	No TRV	No TRV	No HQ
Copper	1.99E+01	5.00E-02	7.56E-01	1.60E-01	2.42E+00	3.15E+00	6.32E+00	7.55E+01	8.37E-02	0.1%
Cyanide	4.71E-01	1.00E+00	3.58E-01	0.00E+00	0.00E+00	7.45E-02	4.33E-01	No TRV	No TRV	No HQ
Iron	2.53E+04	2.00E-04	3.85E+00	1.00E+00	1.92E+04	4.00E+03	2.32E+04	No TRV	No TRV	No HQ
Lead	2.29E+01	1.80E-03	3.13E-02	2.00E+00	3.48E+01	3.62E+00	3.85E+01	1.32E+00	2.91E+01	47.0%
Magnesium	4.18E+03	1.10E-01	3.49E+02	1.00E+00	3.18E+03	6.61E+02	4.19E+03	No TRV	No TRV	No HQ
Mercury	3.32E-02	4.00E-02	1.01E-03	3.40E-01	8.58E-03	5.25E-03	1.48E-02	5.27E-01	2.82E-02	0.0%
Nickel	2.36E+01	1.20E-02	2.15E-01	2.30E-01	4.13E+00	3.73E+00	8.07E+00	1.37E+02	5.90E-02	0.1%
Potassium	1.99E+03	1.10E-01	1.66E+02	1.00E+00	1.51E+03	3.15E+02	1.99E+03	No TRV	No TRV	No HQ
Selenium	6.00E-01	5.00E-03	2.28E-03	7.60E-01	3.47E-01	9.48E-02	4.44E-01	9.40E-01	4.72E-01	0.8%
Silver	9.66E-01	2.00E-02	1.47E-02	1.50E-01	1.10E-01	1.53E-01	2.77E-01	No TRV	No TRV	No HQ
Sodium	7.78E+01	1.10E-02	6.50E-01	1.00E+00	5.91E+01	1.23E+01	7.21E+01	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-05	1.16E-04	1.00E+00	1.44E+00	3.00E-01	1.74E+00	No TRV	No TRV	No HQ
Zinc	8.57E+01	1.80E-01	1.17E+01	1.80E+00	1.17E+02	1.35E+01	1.43E+02	3.21E+01	4.43E+00	7.2%
Organics										
2,4-Dinitrotoluene	2.14E-01	1.00E+00	1.63E-01	1.00E+00	1.63E-01	3.38E-02	3.59E-01	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	2.14E-01	2.00E-02	3.25E-03	5.00E-02	8.13E-03	3.38E-02	4.52E-02	No TRV	No TRV	No HQ
2-Methylnaphthalene	4.70E-02	2.00E-02	7.14E-04	5.00E-02	1.79E-03	7.43E-03	9.93E-03	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E-02	2.28E-03	5.00E-02	5.70E-03	2.37E-02	3.17E-02	No TRV	No TRV	No HQ
Anthracene	4.32E-01	2.00E-02	6.57E-03	5.00E-02	1.64E-02	6.83E-02	9.13E-02	No TRV	No TRV	No HQ
Benzo(a)anthracene	8.66E-01	3.90E-03	2.57E-03	5.00E-02	3.29E-02	1.37E-01	1.72E-01	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.98E-01	2.60E-03	1.38E-03	5.00E-02	2.65E-02	1.10E-01	1.38E-01	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.10E+00	2.30E-03	1.92E-03	5.00E-02	4.18E-02	1.74E-01	2.18E-01	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	3.90E-01	1.20E-03	3.56E-04	5.00E-02	1.48E-02	6.17E-02	7.68E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	5.00E-01	2.30E-03	8.74E-04	5.00E-02	1.90E-02	7.90E-02	9.89E-02	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phtha	2.10E-01	8.70E-03	1.39E-03	5.00E-02	7.98E-03	3.32E-02	4.26E-02	1.30E+00	3.28E-02	0.1%

Appendix Table L-563. Hazard Quotients for American Robin in Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP_r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF_i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD_{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Carbazole	2.59E-01	2.00E-02	3.94E-03	5.00E-02	9.84E-03	4.09E-02	5.47E-02	No TRV	No TRV	No HQ
Chrysene	8.67E-01	3.90E-03	2.57E-03	5.00E-02	3.29E-02	1.37E-01	1.73E-01	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.10E-01	7.60E-03	1.21E-03	5.00E-02	7.98E-03	3.32E-02	4.24E-02	1.31E-01	3.24E-01	0.5%
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	1.17E-04	5.00E-02	4.18E-03	1.74E-02	2.17E-02	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	2.00E-02	2.43E-03	5.00E-02	6.08E-03	2.53E-02	3.38E-02	No TRV	No TRV	No HQ
Fluoranthene	2.70E+00	2.00E-02	4.10E-02	5.00E-02	1.03E-01	4.27E-01	5.70E-01	No TRV	No TRV	No HQ
Fluorene	2.35E-01	2.00E-02	3.57E-03	5.00E-02	8.93E-03	3.71E-02	4.97E-02	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	4.80E-01	1.20E-03	4.38E-04	5.00E-02	1.82E-02	7.59E-02	9.46E-02	No TRV	No TRV	No HQ
Naphthalene	2.10E-01	2.00E-02	3.19E-03	5.00E-02	7.98E-03	3.32E-02	4.44E-02	No TRV	No TRV	No HQ
Nitrobenzene	2.14E-01	2.00E-02	3.25E-03	5.00E-02	8.13E-03	3.38E-02	4.52E-02	No TRV	No TRV	No HQ
Phenanthrene	2.04E+00	2.00E-02	3.10E-02	5.00E-02	7.75E-02	3.22E-01	4.31E-01	No TRV	No TRV	No HQ
Pyrene	2.10E+00	6.70E-03	1.07E-02	5.00E-02	7.98E-02	3.32E-01	4.22E-01	No TRV	No TRV	No HQ
Chloroform	2.00E-03	2.00E-02	3.04E-05	5.00E-02	7.60E-05	3.16E-04	4.23E-04	No TRV	No TRV	No HQ
Methylene Chloride	5.52E-03	2.00E-02	8.39E-05	5.00E-02	2.10E-04	8.73E-04	1.17E-03	No TRV	No TRV	No HQ
Toluene	1.43E-01	2.00E-02	2.17E-03	5.00E-02	5.43E-03	2.26E-02	3.02E-02	No TRV	No TRV	No HQ
HI = 6.18E+01										

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 7.60E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/7.60E-01
 ADD_S = Average daily dose; soil
 I_S (kg/kgBW/ 1.58E-01
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-564. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _v	ADDA (mg/kgBW/d) EPC x BAF _v x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	8.00E-04	2.30E+00	7.50E-02	0.00E+00	1.81E+02	1.83E+02	7.63E-01	2.40E+02	96.4%
Antimony	4.17E-01	4.00E-02	3.42E-03	5.00E-02	0.00E+00	5.39E-03	8.80E-03	4.94E-02	1.78E-01	0.1%
Arsenic	1.23E+01	8.00E-03	2.02E-02	6.60E-03	0.00E+00	1.59E-01	1.79E-01	4.98E-02	3.60E+00	1.4%
Barium	8.84E+01	3.00E-02	5.44E-01	7.50E-03	0.00E+00	1.14E+00	1.69E+00	3.90E+00	4.32E-01	0.2%
Beryllium	6.30E-01	2.00E-03	2.58E-04	5.00E-02	0.00E+00	8.14E-03	8.39E-03	4.82E-01	1.74E-02	0.0%
Cadmium	1.00E-01	1.10E-01	2.26E-03	1.10E+01	0.00E+00	1.29E-03	3.55E-03	7.05E-01	5.03E-03	0.0%
Calcium	1.35E+04	7.00E-01	1.94E+03	1.00E+00	0.00E+00	1.74E+02	2.11E+03	No TRV	No TRV	No HQ
Chromium	2.04E+01	1.50E-03	6.27E-03	1.60E-01	0.00E+00	2.63E-01	2.70E-01	2.00E+03	1.35E-04	0.0%
Cobalt	9.80E+00	4.00E-03	8.04E-03	1.00E+00	0.00E+00	1.27E-01	1.35E-01	No TRV	No TRV	No HQ
Copper	1.99E+01	8.00E-02	3.26E-01	1.60E-01	0.00E+00	2.57E-01	5.83E-01	1.11E+01	5.25E-02	0.0%
Cyanide	4.71E-01	1.00E+00	9.66E-02	0.00E+00	0.00E+00	6.09E-03	1.03E-01	4.72E+01	2.18E-03	0.0%
Iron	2.53E+04	8.00E-04	4.15E+00	1.00E+00	0.00E+00	3.27E+02	3.31E+02	No TRV	No TRV	No HQ
Lead	2.29E+01	9.00E-03	4.23E-02	2.00E+00	0.00E+00	2.96E-01	3.38E-01	5.84E+00	5.78E-02	0.0%
Magnesium	4.18E+03	2.00E-01	1.71E+02	1.00E+00	0.00E+00	5.40E+01	2.25E+02	No TRV	No TRV	No HQ
Mercury	3.32E-02	1.80E-01	1.23E-03	3.40E-01	0.00E+00	4.29E-04	1.65E-03	9.59E-01	1.73E-03	0.0%
Nickel	2.36E+01	1.20E-02	5.81E-02	2.30E-01	0.00E+00	3.05E-01	3.63E-01	2.92E+01	1.24E-02	0.0%
Potassium	1.99E+03	2.00E-01	8.16E+01	1.00E+00	0.00E+00	2.57E+01	1.07E+02	No TRV	No TRV	No HQ
Selenium	6.00E-01	5.00E-03	6.15E-04	7.60E-01	0.00E+00	7.75E-03	8.36E-03	1.46E-01	5.73E-02	0.0%
Silver	9.66E-01	8.00E-02	1.58E-02	1.50E-01	0.00E+00	1.25E-02	2.83E-02	No TRV	No TRV	No HQ
Sodium	7.78E+01	1.50E-02	2.39E-01	1.00E+00	0.00E+00	1.00E+00	1.24E+00	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-04	3.12E-04	1.00E+00	0.00E+00	2.45E-02	2.49E-02	5.46E-03	4.55E+00	1.8%
Zinc	8.57E+01	3.00E-01	5.27E+00	1.80E+00	0.00E+00	1.11E+00	6.38E+00	1.17E+02	5.46E-02	0.0%
Organics										
2,4-Dinitrotoluene	2.14E-01	1.00E+00	4.39E-02	1.00E+00	0.00E+00	2.76E-03	4.66E-02	5.34E+00	8.74E-03	0.0%
2,6-Dinitrotoluene	2.14E-01	2.00E-02	8.77E-04	5.00E-02	0.00E+00	2.76E-03	3.64E-03	5.11E-01	7.12E-03	0.0%
2-Methylnaphthalene	4.70E-02	2.00E-02	1.93E-04	5.00E-02	0.00E+00	6.07E-04	8.00E-04	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E-02	6.15E-04	5.00E-02	0.00E+00	1.94E-03	2.55E-03	No TRV	No TRV	No HQ
Anthracene	4.32E-01	2.00E-02	1.77E-03	5.00E-02	0.00E+00	5.58E-03	7.35E-03	No TRV	No TRV	No HQ
Benzo(a)anthracene	8.66E-01	3.90E-03	6.92E-04	5.00E-02	0.00E+00	1.12E-02	1.19E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.98E-01	2.60E-03	3.72E-04	5.00E-02	0.00E+00	9.01E-03	9.39E-03	3.95E-01	2.38E-02	0.0%
Benzo(b)fluoranthene	1.10E+00	2.30E-03	5.19E-04	5.00E-02	0.00E+00	1.42E-02	1.47E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	3.90E-01	1.20E-03	9.59E-05	5.00E-02	0.00E+00	5.04E-03	5.13E-03	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	5.00E-01	2.30E-03	2.36E-04	5.00E-02	0.00E+00	6.46E-03	6.69E-03	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phtha	2.10E-01	8.70E-03	3.75E-04	5.00E-02	0.00E+00	2.71E-03	3.09E-03	7.23E+00	4.27E-04	0.0%
Carbazole	2.59E-01	2.00E-02	1.06E-03	5.00E-02	0.00E+00	3.34E-03	4.41E-03	No TRV	No TRV	No HQ
Chrysene	8.67E-01	3.90E-03	6.93E-04	5.00E-02	0.00E+00	1.12E-02	1.19E-02	No TRV	No TRV	No HQ

Appendix Table L-564. Hazard Quotients for Eastern Cottontail in Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _v	ADDP	BAF _v	ADDA	ADDS	ADD _{total}	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
			(mg/kgBW/d) EPC x SP _v x IP x AUF		(mg/kgBW/d) EPC x BAF _v x IA x AUF		(mg/kgBW/d) EPC x IS x AUF			
Di-n-butylphthalate	2.10E-01	7.60E-03	3.27E-04	5.00E-02	0.00E+00	2.71E-03	3.04E-03	2.17E+02	1.40E-05	0.0%
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	3.16E-05	5.00E-02	0.00E+00	1.42E-03	1.45E-03	No TRV	No TRV	No HQ
Dibenzofuran	1.60E-01	2.00E-02	6.56E-04	5.00E-02	0.00E+00	2.07E-03	2.72E-03	No TRV	No TRV	No HQ
Fluoranthene	2.70E+00	2.00E-02	1.11E-02	5.00E-02	0.00E+00	3.49E-02	4.59E-02	No TRV	No TRV	No HQ
Fluorene	2.35E-01	2.00E-02	9.64E-04	5.00E-02	0.00E+00	3.04E-03	4.00E-03	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	4.80E-01	1.20E-03	1.18E-04	5.00E-02	0.00E+00	6.20E-03	6.32E-03	No TRV	No TRV	No HQ
Naphthalene	2.10E-01	2.00E-02	8.61E-04	5.00E-02	0.00E+00	2.71E-03	3.57E-03	No TRV	No TRV	No HQ
Nitrobenzene	2.14E-01	2.00E-02	8.77E-04	5.00E-02	0.00E+00	2.76E-03	3.64E-03	No TRV	No TRV	No HQ
Phenanthrene	2.04E+00	2.00E-02	8.36E-03	5.00E-02	0.00E+00	2.63E-02	3.47E-02	No TRV	No TRV	No HQ
Pyrene	2.10E+00	6.70E-03	2.88E-03	5.00E-02	0.00E+00	2.71E-02	3.00E-02	No TRV	No TRV	No HQ
Chloroform	2.00E-03	2.00E-02	8.20E-06	5.00E-02	0.00E+00	2.58E-05	3.40E-05	1.10E+01	3.11E-06	0.0%
Methylene Chloride	5.52E-03	2.00E-02	2.26E-05	5.00E-02	0.00E+00	7.13E-05	9.39E-05	4.27E+00	2.20E-05	0.0%
Toluene	1.43E-01	2.00E-02	5.86E-04	5.00E-02	0.00E+00	1.85E-03	2.43E-03	1.03E+01	2.37E-04	0.0%
HI =									2.49E+02	

EPC = Exposure point concentration
 SP_v = Soil-to-plant; vegetative
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 2.05E-01
 AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00
 ADD_s = Average daily dose; soil
 I_s (kg/kgBW/d) = 1.29E-02
 ADD_{total} = Average daily dose; total
 TRV = Toxicity reference value
 HQ = Hazard quotient
 HI = Hazard index (Sum of HQs)

Appendix Table L-565 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics										
Aluminum	1.40E+04	8.00E-04	3.47E-01	7.50E-02	0.00E+00	8.68E+00	9.03E+00	2.93E-01	3.08E+01	95.8%
Antimony	4.17E-01	4.00E-02	5.17E-04	5.00E-02	0.00E+00	2.59E-04	7.76E-04	1.90E-02	4.09E-02	0.1%
Arsenic	1.23E+01	8.00E-03	3.05E-03	6.60E-03	0.00E+00	7.63E-03	1.07E-02	1.91E-02	5.58E-01	1.7%
Barium	8.84E+01	3.00E-02	8.22E-02	7.50E-03	0.00E+00	5.48E-02	1.37E-01	1.50E+00	9.14E-02	0.3%
Beryllium	6.30E-01	2.00E-03	3.91E-05	5.00E-02	0.00E+00	3.91E-04	4.30E-04	1.85E-01	2.32E-03	0.0%
Cadmium	1.00E-01	1.10E-01	3.41E-04	1.10E+01	0.00E+00	6.20E-05	4.03E-04	2.71E-01	1.49E-03	0.0%
Calcium	1.35E+04	7.00E-01	2.93E+02	1.00E+00	0.00E+00	8.37E+00	3.01E+02	No TRV	No TRV	No HQ
Chromium	2.04E+01	1.50E-03	9.49E-04	1.60E-01	0.00E+00	1.26E-02	1.36E-02	7.68E+02	1.77E-05	0.0%
Cobalt	9.80E+00	4.00E-03	1.22E-03	1.00E+00	0.00E+00	6.08E-03	7.29E-03	No TRV	No TRV	No HQ
Copper	1.99E+01	8.00E-02	4.94E-02	1.60E-01	0.00E+00	1.23E-02	6.17E-02	4.27E+00	1.44E-02	0.0%
Cyanide	4.71E-01	1.00E+00	1.46E-02	0.00E+00	0.00E+00	2.92E-04	1.49E-02	1.81E+01	8.23E-04	0.0%
Iron	2.53E+04	8.00E-04	6.27E-01	1.00E+00	0.00E+00	1.57E+01	1.63E+01	No TRV	No TRV	No HQ
Lead	2.29E+01	9.00E-03	6.39E-03	2.00E+00	0.00E+00	1.42E-02	2.06E-02	2.24E+00	9.17E-03	0.0%
Magnesium	4.18E+03	2.00E-01	2.59E+01	1.00E+00	0.00E+00	2.59E+00	2.85E+01	No TRV	No TRV	No HQ
Mercury	3.32E-02	1.80E-01	1.85E-04	3.40E-01	0.00E+00	2.06E-05	2.06E-04	3.68E-01	5.59E-04	0.0%
Nickel	2.36E+01	1.20E-02	8.78E-03	2.30E-01	0.00E+00	1.46E-02	2.34E-02	1.12E+01	2.09E-03	0.0%
Potassium	1.99E+03	2.00E-01	1.23E+01	1.00E+00	0.00E+00	1.23E+00	1.36E+01	No TRV	No TRV	No HQ
Selenium	6.00E-01	5.00E-03	9.30E-05	7.60E-01	0.00E+00	3.72E-04	4.65E-04	5.61E-02	8.29E-03	0.0%
Silver	9.66E-01	8.00E-02	2.40E-03	1.50E-01	0.00E+00	5.99E-04	2.99E-03	No TRV	No TRV	No HQ
Sodium	7.78E+01	1.50E-02	3.62E-02	1.00E+00	0.00E+00	4.82E-02	8.44E-02	No TRV	No TRV	No HQ
Thallium	1.90E+00	8.00E-04	4.71E-05	1.00E+00	0.00E+00	1.18E-03	1.23E-03	2.10E-03	5.84E-01	1.8%
Zinc	8.57E+01	3.00E-01	7.97E-01	1.80E+00	0.00E+00	5.31E-02	8.50E-01	4.49E+01	1.89E-02	0.1%
Organics										
2,4-Dinitrotoluene	2.14E-01	1.00E+00	6.63E-03	1.00E+00	0.00E+00	1.33E-04	6.77E-03	2.05E+00	3.30E-03	0.0%
2,6-Dinitrotoluene	2.14E-01	2.00E-02	1.33E-04	5.00E-02	0.00E+00	1.33E-04	2.65E-04	1.96E-01	1.35E-03	0.0%
2-Methylnaphthalene	4.70E-02	2.00E-02	2.91E-05	5.00E-02	0.00E+00	2.91E-05	5.83E-05	No TRV	No TRV	No HQ
Acenaphthene	1.50E-01	2.00E-02	9.30E-05	5.00E-02	0.00E+00	9.30E-05	1.86E-04	No TRV	No TRV	No HQ
Anthracene	4.32E-01	2.00E-02	2.68E-04	5.00E-02	0.00E+00	2.68E-04	5.36E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	8.66E-01	3.90E-03	1.05E-04	5.00E-02	0.00E+00	5.37E-04	6.42E-04	No TRV	No TRV	No HQ
Benzo(a)pyrene	6.98E-01	2.60E-03	5.63E-05	5.00E-02	0.00E+00	4.33E-04	4.89E-04	1.52E-01	3.22E-03	0.0%
Benzo(b)fluoranthene	1.10E+00	2.30E-03	7.84E-05	5.00E-02	0.00E+00	6.82E-04	7.60E-04	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	3.90E-01	1.20E-03	1.45E-05	5.00E-02	0.00E+00	2.42E-04	2.56E-04	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	5.00E-01	2.30E-03	3.57E-05	5.00E-02	0.00E+00	3.10E-04	3.46E-04	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phtha	2.10E-01	8.70E-03	5.66E-05	5.00E-02	0.00E+00	1.30E-04	1.87E-04	2.78E+00	6.73E-05	0.0%
Carbazole	2.59E-01	2.00E-02	1.61E-04	5.00E-02	0.00E+00	1.61E-04	3.21E-04	No TRV	No TRV	No HQ
Chrysene	8.67E-01	3.90E-03	1.05E-04	5.00E-02	0.00E+00	5.38E-04	6.42E-04	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.10E-01	7.60E-03	4.95E-05	5.00E-02	0.00E+00	1.30E-04	1.80E-04	8.35E+01	2.15E-06	0.0%
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	4.77E-06	5.00E-02	0.00E+00	6.82E-05	7.30E-05	No TRV	No TRV	No HQ

Appendix Table L-565 Hazard Quotient Table for White-tailed Deer for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _v	ADDP (mg/kgBW/d) EPC x SP _v x IP x AUF	BAF _i	ADDA (mg/kgBW/d) EPC x BAF _i x IA x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Dibenzofuran	1.60E-01	2.00E-02	9.92E-05	5.00E-02	0.00E+00	9.92E-05	1.98E-04	No TRV	No TRV	No HQ
Fluoranthene	2.70E+00	2.00E-02	1.67E-03	5.00E-02	0.00E+00	1.67E-03	3.35E-03	No TRV	No TRV	No HQ
Fluorene	2.35E-01	2.00E-02	1.46E-04	5.00E-02	0.00E+00	1.46E-04	2.91E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	4.80E-01	1.20E-03	1.79E-05	5.00E-02	0.00E+00	2.98E-04	3.15E-04	No TRV	No TRV	No HQ
Naphthalene	2.10E-01	2.00E-02	1.30E-04	5.00E-02	0.00E+00	1.30E-04	2.60E-04	No TRV	No TRV	No HQ
Nitrobenzene	2.14E-01	2.00E-02	1.33E-04	5.00E-02	0.00E+00	1.33E-04	2.65E-04	No TRV	No TRV	No HQ
Phenanthrene	2.04E+00	2.00E-02	1.26E-03	5.00E-02	0.00E+00	1.26E-03	2.53E-03	No TRV	No TRV	No HQ
Pyrene	2.10E+00	6.70E-03	4.36E-04	5.00E-02	0.00E+00	1.30E-03	1.74E-03	No TRV	No TRV	No HQ
Chloroform	2.00E-03	2.00E-02	1.24E-06	5.00E-02	0.00E+00	1.24E-06	2.48E-06	4.21E+00	5.89E-07	0.0%
Methylene Chloride	5.52E-03	2.00E-02	3.42E-06	5.00E-02	0.00E+00	3.42E-06	6.84E-06	1.64E+00	4.17E-06	0.0%
Toluene	1.43E-01	2.00E-02	8.87E-05	5.00E-02	0.00E+00	8.87E-05	1.77E-04	3.94E+00	4.50E-05	0.0%

HI = 3.22E+01

EPC = Exposure point concentration

SP_v = Soil-to-plant; vegetative

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.10E-02

AUF = 1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_A(kg/kgBW/d) = 0.00E+00

ADD_S = Average daily dose; soil

I_S (kg/kgBW/d) = 6.20E-04

ADD_{total} = Average daily dose; total

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-566. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.40E+04	1.30E-04	0.00E+00	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03
Antimony	4.17E-01	6.00E-03	0.00E+00	4.00E-02	1.21E-03	5.00E-02	1.02E-02	3.04E-02	4.17E-02
Arsenic	1.23E+01	1.20E-03	0.00E+00	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	8.84E+01	3.00E-03	0.00E+00	3.00E-02	1.93E-01	7.50E-03	3.23E-01	6.44E+00	6.95E+00
Beryllium	6.30E-01	3.00E-04	0.00E+00	2.00E-03	9.17E-05	5.00E-02	1.53E-02	4.59E-02	6.13E-02
Cadmium	1.00E-01	3.00E-02	0.00E+00	1.10E-01	8.01E-04	1.10E+01	5.36E-01	7.28E-03	5.44E-01
Calcium	1.35E+04	7.00E-02	0.00E+00	7.00E-01	6.88E+02	1.00E+00	6.58E+03	9.83E+02	8.25E+03
Chromium	2.04E+01	9.00E-04	0.00E+00	1.50E-03	2.23E-03	1.60E-01	1.59E+00	1.49E+00	3.08E+00
Cobalt	9.80E+00	1.40E-03	0.00E+00	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00
Copper	1.99E+01	5.00E-02	0.00E+00	8.00E-02	1.16E-01	1.60E-01	1.55E+00	1.45E+00	3.12E+00
Cyanide	4.71E-01	1.00E+00	0.00E+00	1.00E+00	3.43E-02	0.00E+00	0.00E+00	3.43E-02	6.86E-02
Iron	2.53E+04	2.00E-04	0.00E+00	8.00E-04	1.47E+00	1.00E+00	1.23E+04	1.84E+03	1.42E+04
Lead	2.29E+01	1.80E-03	0.00E+00	9.00E-03	1.50E-02	2.00E+00	2.23E+01	1.67E+00	2.40E+01
Magnesium	4.18E+03	1.10E-01	0.00E+00	2.00E-01	6.09E+01	1.00E+00	2.04E+03	3.04E+02	2.40E+03
Mercury	3.32E-02	4.00E-02	0.00E+00	1.80E-01	4.35E-04	3.40E-01	5.50E-03	2.42E-03	8.36E-03
Nickel	2.36E+01	1.20E-02	0.00E+00	1.20E-02	2.06E-02	2.30E-01	2.64E+00	1.72E+00	4.38E+00
Potassium	1.99E+03	1.10E-01	0.00E+00	2.00E-01	2.90E+01	1.00E+00	9.70E+02	1.45E+02	1.14E+03
Selenium	6.00E-01	5.00E-03	0.00E+00	5.00E-03	2.18E-04	7.60E-01	2.22E-01	4.37E-02	2.66E-01
Silver	9.66E-01	2.00E-02	0.00E+00	8.00E-02	5.63E-03	1.50E-01	7.06E-02	7.03E-02	1.47E-01
Sodium	7.78E+01	1.10E-02	0.00E+00	1.50E-02	8.50E-02	1.00E+00	3.79E+01	5.66E+00	4.37E+01
Thallium	1.90E+00	8.00E-05	0.00E+00	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00
Zinc	8.57E+01	1.80E-01	0.00E+00	3.00E-01	1.87E+00	1.80E+00	7.52E+01	6.24E+00	8.33E+01
Organics									
2,4-Dinitrotoluene	2.14E-01	1.00E+00	0.00E+00	1.00E+00	1.56E-02	1.00E+00	1.04E-01	1.56E-02	1.35E-01
2,6-Dinitrotoluene	2.14E-01	2.00E-02	0.00E+00	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02
2-Methylnaphthalene	4.70E-02	2.00E-02	0.00E+00	2.00E-02	6.84E-05	5.00E-02	1.14E-03	3.42E-03	4.63E-03
Acenaphthene	1.50E-01	2.00E-02	0.00E+00	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02
Anthracene	4.32E-01	2.00E-02	0.00E+00	2.00E-02	6.29E-04	5.00E-02	1.05E-02	3.14E-02	4.26E-02
Benzo(a)anthracene	8.66E-01	3.90E-03	0.00E+00	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.30E-02	8.44E-02
Benzo(a)pyrene	6.98E-01	2.60E-03	0.00E+00	2.60E-03	1.32E-04	5.00E-02	1.70E-02	5.08E-02	6.79E-02
Benzo(b)fluoranthene	1.10E+00	2.30E-03	0.00E+00	2.30E-03	1.84E-04	5.00E-02	2.68E-02	8.01E-02	1.07E-01
Benzo(g,h,i)perylene	3.90E-01	1.20E-03	0.00E+00	1.20E-03	3.41E-05	5.00E-02	9.50E-03	2.84E-02	3.79E-02
Benzo(k)fluoranthene	5.00E-01	2.30E-03	0.00E+00	2.30E-03	8.37E-05	5.00E-02	1.22E-02	3.64E-02	4.87E-02
Bis(2-ethylhexyl)phthalate	2.10E-01	8.70E-03	0.00E+00	8.70E-03	1.33E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02
Carbazole	2.59E-01	2.00E-02	0.00E+00	2.00E-02	3.77E-04	5.00E-02	6.31E-03	1.89E-02	2.55E-02
Chrysene	8.67E-01	3.90E-03	0.00E+00	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.31E-02	8.45E-02
Di-n-butylphthalate	2.10E-01	7.60E-03	0.00E+00	7.60E-03	1.16E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	0.00E+00	1.40E-03	1.12E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02

Appendix Table L-566. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADD _S (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.05E+02	2.26E+01	0.00E+00	2.26E+01	6.68E+01	3.38E-01	5.9%
Antimony	5.00E-02	3.73E-03	4.10E-04	0.00E+00	4.10E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.68E-01	1.85E-02	0.00E+00	1.85E-02	4.98E+00	3.72E-03	0.1%
Barium	7.50E-03	9.31E-02	1.02E-02	0.00E+00	1.02E-02	1.19E+01	8.60E-04	0.0%
Beryllium	5.00E-02	5.47E-03	6.02E-04	0.00E+00	6.02E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.72E-02	2.99E-03	0.00E+00	2.99E-03	1.46E+00	2.05E-03	0.0%
Calcium	1.00E+00	1.47E+04	1.62E+03	0.00E+00	1.62E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.54E+00	1.69E-01	0.00E+00	1.69E-01	1.03E+00	1.65E-01	2.9%
Cobalt	1.00E+00	9.81E+00	1.08E+00	0.00E+00	1.08E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	2.78E+00	3.06E-01	0.00E+00	3.06E-01	3.89E+01	7.86E-03	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.53E+04	2.78E+03	0.00E+00	2.78E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	6.43E-01	7.07E-02	0.00E+00	7.07E-02	6.82E-01	1.04E-01	1.8%
Magnesium	1.00E+00	4.29E+03	4.72E+02	0.00E+00	4.72E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.94E-01	2.13E-02	0.00E+00	2.13E-02	2.72E-01	7.86E-02	1.4%
Nickel	3.00E-01	2.35E+00	2.58E-01	0.00E+00	2.58E-01	7.06E+01	3.66E-03	0.1%
Potassium	1.00E+00	2.04E+03	2.25E+02	0.00E+00	2.25E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	3.56E-01	3.92E-02	0.00E+00	3.92E-02	4.85E-01	8.08E-02	1.4%
Silver	1.50E-01	3.92E-02	4.32E-03	0.00E+00	4.32E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	7.80E+01	8.57E+00	0.00E+00	8.57E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.90E+00	2.09E-01	0.00E+00	2.09E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	7.43E+02	8.18E+01	0.00E+00	8.18E+01	1.66E+01	4.93E+00	86.1%
2,4-Dinitrotoluene	1.00E+00	2.42E-01	2.66E-02	0.00E+00	2.66E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	7.16E-06	7.88E-07	0.00E+00	7.88E-07	No TRV	No TRV	No HQ
2-Methylnaphthalene	1.90E-08	1.57E-10	1.73E-11	0.00E+00	1.73E-11	No TRV	No TRV	No HQ
Acenaphthene	1.20E-02	3.17E-04	3.49E-05	0.00E+00	3.49E-05	No TRV	No TRV	No HQ
Anthracene	4.80E-02	3.65E-03	4.02E-04	0.00E+00	4.02E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	1.15E-01	1.26E-02	0.00E+00	1.26E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.82E-01	2.00E-02	0.00E+00	2.00E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranthene	1.90E+00	3.63E-01	4.00E-02	0.00E+00	4.00E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	6.00E+00	4.06E-01	4.47E-02	0.00E+00	4.47E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	1.90E+00	1.65E-01	1.82E-02	0.00E+00	1.82E-02	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalate	1.90E-01	6.97E-03	7.66E-04	0.00E+00	7.66E-04	6.69E-01	1.14E-03	0.0%
Carbazole	8.70E-03	3.97E-04	4.36E-05	0.00E+00	4.36E-05	No TRV	No TRV	No HQ
Chrysene	7.60E-01	1.15E-01	1.26E-02	0.00E+00	1.26E-02	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.40E-01	8.79E-03	9.67E-04	0.00E+00	9.67E-04	6.76E-02	1.43E-02	0.2%
Dibenzo(a,h)anthracene	4.80E+00	9.17E-02	1.01E-02	0.00E+00	1.01E-02	No TRV	No TRV	No HQ

Appendix Table L-566. Hazard Quotients for Red-tailed hawk for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Dibenzofuran	1.60E-01	2.00E-02	0.00E+00	2.00E-02	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02
Fluoranthene	2.70E+00	2.00E-02	0.00E+00	2.00E-02	3.93E-03	5.00E-02	6.58E-02	1.97E-01	2.66E-01
Fluorene	2.35E-01	2.00E-02	0.00E+00	2.00E-02	3.42E-04	5.00E-02	5.72E-03	1.71E-02	2.32E-02
Indeno(1,2,3-cd)pyrene	4.80E-01	1.20E-03	0.00E+00	1.20E-03	4.19E-05	5.00E-02	1.17E-02	3.49E-02	4.67E-02
Naphthalene	2.10E-01	2.00E-02	0.00E+00	2.00E-02	3.06E-04	5.00E-02	5.12E-03	1.53E-02	2.07E-02
Nitrobenzene	2.14E-01	2.00E-02	0.00E+00	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02
Phenanthrene	2.04E+00	2.00E-02	0.00E+00	2.00E-02	2.97E-03	5.00E-02	4.97E-02	1.49E-01	2.01E-01
Pyrene	2.10E+00	6.70E-03	0.00E+00	6.70E-03	1.02E-03	5.00E-02	5.12E-02	1.53E-01	2.05E-01
Chloroform	2.00E-03	2.00E-02	0.00E+00	2.00E-02	2.91E-06	5.00E-02	4.87E-05	1.46E-04	1.97E-04
Methylene Chloride	5.52E-03	2.00E-02	0.00E+00	2.00E-02	8.04E-06	5.00E-02	1.34E-04	4.02E-04	5.44E-04
Toluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 0.00E+00

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

Prey = Shrew

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

BW = Shrew body weight (kg) =

1.70E-02

AUF-s = Shrew AUF =

1.00E+00

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

I_{A,s} = Shrew I_A (kg/kgBW/d) =

4.87E-01

I_A (kg/kgBW/d) =

1.10E-01

ADD_s = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) =

7.28E-02

Appendix Table L-566. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _P + ADD _A + ADD _S	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Dibenzofuran	1.90E-02	5.35E-04	5.89E-05	0.00E+00	5.89E-05	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	6.18E-02	6.80E-03	0.00E+00	6.80E-03	No TRV	No TRV	No HQ
Fluorene	2.40E-02	9.93E-04	1.09E-04	0.00E+00	1.09E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	6.00E+00	5.00E-01	5.50E-02	0.00E+00	5.50E-02	No TRV	No TRV	No HQ
Naphthalene	6.00E-03	2.22E-04	2.44E-05	0.00E+00	2.44E-05	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	4.52E-06	4.97E-07	0.00E+00	4.97E-07	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.72E-02	1.90E-03	0.00E+00	1.90E-03	No TRV	No TRV	No HQ
Pyrene	3.00E-01	1.10E-01	1.21E-02	0.00E+00	1.21E-02	No TRV	No TRV	No HQ
Chloroform	1.50E-04	5.28E-08	5.81E-09	0.00E+00	5.81E-09	No TRV	No TRV	No HQ
Methylene Chloride	3.00E-05	2.92E-08	3.21E-09	0.00E+00	3.21E-09	No TRV	No TRV	No HQ
Toluene	7.60E-04	1.91E-05	2.11E-06	0.00E+00	2.11E-06	No TRV	No TRV	No HQ
HI =								5.73E+00

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Appendix Table L-567. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x AUF-s	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Inorganics									
Aluminum	1.40E+04	1.30E-04	0.00E+00	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03
Antimony	4.17E-01	6.00E-03	0.00E+00	4.00E-02	1.21E-03	5.00E-02	1.02E-02	3.04E-02	4.17E-02
Arsenic	1.23E+01	1.20E-03	0.00E+00	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	8.84E+01	3.00E-03	0.00E+00	3.00E-02	1.93E-01	7.50E-03	3.23E-01	6.44E+00	6.95E+00
Beryllium	6.30E-01	3.00E-04	0.00E+00	2.00E-03	9.17E-05	5.00E-02	1.53E-02	4.59E-02	6.13E-02
Cadmium	1.00E-01	3.00E-02	0.00E+00	1.10E-01	8.01E-04	1.10E+01	5.36E-01	7.28E-03	5.44E-01
Calcium	1.35E+04	7.00E-02	0.00E+00	7.00E-01	6.88E+02	1.00E+00	6.58E+03	9.83E+02	8.25E+03
Chromium	2.04E+01	9.00E-04	0.00E+00	1.50E-03	2.23E-03	1.60E-01	1.59E+00	1.49E+00	3.08E+00
Cobalt	9.80E+00	1.40E-03	0.00E+00	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00
Copper	1.99E+01	5.00E-02	0.00E+00	8.00E-02	1.16E-01	1.60E-01	1.55E+00	1.45E+00	3.12E+00
Cyanide	4.71E-01	1.00E+00	0.00E+00	1.00E+00	3.43E-02	0.00E+00	0.00E+00	3.43E-02	6.86E-02
Iron	2.53E+04	2.00E-04	0.00E+00	8.00E-04	1.47E+00	1.00E+00	1.23E+04	1.84E+03	1.42E+04
Lead	2.29E+01	1.80E-03	0.00E+00	9.00E-03	1.50E-02	2.00E+00	2.23E+01	1.67E+00	2.40E+01
Magnesium	4.18E+03	1.10E-01	0.00E+00	2.00E-01	6.09E+01	1.00E+00	2.04E+03	3.04E+02	2.40E+03
Mercury	3.32E-02	4.00E-02	0.00E+00	1.80E-01	4.35E-04	3.40E-01	5.50E-03	2.42E-03	8.36E-03
Nickel	2.36E+01	1.20E-02	0.00E+00	1.20E-02	2.06E-02	2.30E-01	2.64E+00	1.72E+00	4.38E+00
Potassium	1.99E+03	1.10E-01	0.00E+00	2.00E-01	2.90E+01	1.00E+00	9.70E+02	1.45E+02	1.14E+03
Selenium	6.00E-01	5.00E-03	0.00E+00	5.00E-03	2.18E-04	7.60E-01	2.22E-01	4.37E-02	2.66E-01
Silver	9.66E-01	2.00E-02	0.00E+00	8.00E-02	5.63E-03	1.50E-01	7.06E-02	7.03E-02	1.47E-01
Sodium	7.78E+01	1.10E-02	0.00E+00	1.50E-02	8.50E-02	1.00E+00	3.79E+01	5.66E+00	4.37E+01
Thallium	1.90E+00	8.00E-05	0.00E+00	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00
Zinc	8.57E+01	1.80E-01	0.00E+00	3.00E-01	1.87E+00	1.80E+00	7.52E+01	6.24E+00	8.33E+01
Organics									
2,4-Dinitrotoluene	2.14E-01	1.00E+00	0.00E+00	1.00E+00	1.56E-02	1.00E+00	1.04E-01	1.56E-02	1.35E-01
2,6-Dinitrotoluene	2.14E-01	2.00E-02	0.00E+00	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02
2-Methylnaphthalene	4.70E-02	2.00E-02	0.00E+00	2.00E-02	6.84E-05	5.00E-02	1.14E-03	3.42E-03	4.63E-03
Acenaphthene	1.50E-01	2.00E-02	0.00E+00	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02
Anthracene	4.32E-01	2.00E-02	0.00E+00	2.00E-02	6.29E-04	5.00E-02	1.05E-02	3.14E-02	4.26E-02
Benzo(a)anthracene	8.66E-01	3.90E-03	0.00E+00	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.30E-02	8.44E-02
Benzo(a)pyrene	6.98E-01	2.60E-03	0.00E+00	2.60E-03	1.32E-04	5.00E-02	1.70E-02	5.08E-02	6.79E-02
Benzo(b)fluoranthene	1.10E+00	2.30E-03	0.00E+00	2.30E-03	1.84E-04	5.00E-02	2.68E-02	8.01E-02	1.07E-01
Benzo(g,h,i)perylene	3.90E-01	1.20E-03	0.00E+00	1.20E-03	3.41E-05	5.00E-02	9.50E-03	2.84E-02	3.79E-02
Benzo(k)fluoranthene	5.00E-01	2.30E-03	0.00E+00	2.30E-03	8.37E-05	5.00E-02	1.22E-02	3.64E-02	4.87E-02
Bis(2-ethylhexyl)phthalate	2.10E-01	8.70E-03	0.00E+00	8.70E-03	1.33E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02
Carbazole	2.59E-01	2.00E-02	0.00E+00	2.00E-02	3.77E-04	5.00E-02	6.31E-03	1.89E-02	2.55E-02

Appendix Table L-567. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs _s I _A ^x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
Inorganics								
Aluminum	7.50E-02	2.05E+02	2.56E+01	0.00E+00	2.56E+01	8.33E+01	3.08E-01	5.9%
Antimony	5.00E-02	3.73E-03	4.66E-04	0.00E+00	4.66E-04	No TRV	No TRV	No HQ
Arsenic	1.00E-01	1.68E-01	2.10E-02	0.00E+00	2.10E-02	6.22E+00	3.38E-03	0.1%
Barium	7.50E-03	9.31E-02	1.16E-02	0.00E+00	1.16E-02	1.49E+01	7.83E-04	0.0%
Beryllium	5.00E-02	5.47E-03	6.84E-04	0.00E+00	6.84E-04	No TRV	No TRV	No HQ
Cadmium	2.80E-02	2.72E-02	3.40E-03	0.00E+00	3.40E-03	1.82E+00	1.87E-03	0.0%
Calcium	1.00E+00	1.47E+04	1.84E+03	0.00E+00	1.84E+03	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.54E+00	1.92E-01	0.00E+00	1.92E-01	1.28E+00	1.50E-01	2.9%
Cobalt	1.00E+00	9.81E+00	1.23E+00	0.00E+00	1.23E+00	No TRV	No TRV	No HQ
Copper	5.00E-01	2.78E+00	3.48E-01	0.00E+00	3.48E-01	4.86E+01	7.16E-03	0.1%
Cyanide	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	No TRV	No TRV	No HQ
Iron	1.00E+00	2.53E+04	3.16E+03	0.00E+00	3.16E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	6.43E-01	8.03E-02	0.00E+00	8.03E-02	8.51E-01	9.44E-02	1.8%
Magnesium	1.00E+00	4.29E+03	5.36E+02	0.00E+00	5.36E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.94E-01	2.42E-02	0.00E+00	2.42E-02	3.39E-01	7.15E-02	1.4%
Nickel	3.00E-01	2.35E+00	2.94E-01	0.00E+00	2.94E-01	8.81E+01	3.33E-03	0.1%
Potassium	1.00E+00	2.04E+03	2.55E+02	0.00E+00	2.55E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	3.56E-01	4.45E-02	0.00E+00	4.45E-02	6.05E-01	7.36E-02	1.4%
Silver	1.50E-01	3.92E-02	4.91E-03	0.00E+00	4.91E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	7.80E+01	9.74E+00	0.00E+00	9.74E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.90E+00	2.38E-01	0.00E+00	2.38E-01	No TRV	No TRV	No HQ
Zinc	5.00E+00	7.43E+02	9.29E+01	0.00E+00	9.29E+01	2.07E+01	4.49E+00	86.1%
2,4-Dinitrotoluene	1.00E+00	2.42E-01	3.02E-02	0.00E+00	3.02E-02	No TRV	No TRV	No HQ
2,6-Dinitrotoluene	1.90E-04	7.16E-06	8.95E-07	0.00E+00	8.95E-07	No TRV	No TRV	No HQ
2-Methylnaphthalen	1.90E-08	1.57E-10	1.97E-11	0.00E+00	1.97E-11	No TRV	No TRV	No HQ
Acenaphthene	1.20E-02	3.17E-04	3.96E-05	0.00E+00	3.96E-05	No TRV	No TRV	No HQ
Anthracene	4.80E-02	3.65E-03	4.56E-04	0.00E+00	4.56E-04	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	1.15E-01	1.43E-02	0.00E+00	1.43E-02	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.82E-01	2.28E-02	0.00E+00	2.28E-02	No TRV	No TRV	No HQ
Benzo(b)fluoranth	1.90E+00	3.63E-01	4.54E-02	0.00E+00	4.54E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	6.00E+00	4.06E-01	5.08E-02	0.00E+00	5.08E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranth	1.90E+00	1.65E-01	2.06E-02	0.00E+00	2.06E-02	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)ph	1.90E-01	6.97E-03	8.71E-04	0.00E+00	8.71E-04	8.35E-01	1.04E-03	0.0%
Carbazole	8.70E-03	3.97E-04	4.96E-05	0.00E+00	4.96E-05	No TRV	No TRV	No HQ

Appendix Table L-567. Hazard Quotients for Barn Owl for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x	SP _v	Prey ADDP (mg/kgBW/d) EPC x SP _v x IP-s x	BAF _i	Prey ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x	Prey ADDS (mg/kgBW/d) EPC x IS-s x	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A +
			AUF		AUF-s		AUF-s	AUF-s	ADD _s
Chrysene	8.67E-01	3.90E-03	0.00E+00	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.31E-02	8.45E-02
Di-n-butylphthalate	2.10E-01	7.60E-03	0.00E+00	7.60E-03	1.16E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	0.00E+00	1.40E-03	1.12E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02
Dibenzofuran	1.60E-01	2.00E-02	0.00E+00	2.00E-02	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02
Fluoranthene	2.70E+00	2.00E-02	0.00E+00	2.00E-02	3.93E-03	5.00E-02	6.58E-02	1.97E-01	2.66E-01
Fluorene	2.35E-01	2.00E-02	0.00E+00	2.00E-02	3.42E-04	5.00E-02	5.72E-03	1.71E-02	2.32E-02
Indeno(1,2,3-cd)pyrene	4.80E-01	1.20E-03	0.00E+00	1.20E-03	4.19E-05	5.00E-02	1.17E-02	3.49E-02	4.67E-02
Naphthalene	2.10E-01	2.00E-02	0.00E+00	2.00E-02	3.06E-04	5.00E-02	5.12E-03	1.53E-02	2.07E-02
Nitrobenzene	2.14E-01	2.00E-02	0.00E+00	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02
Phenanthrene	2.04E+00	2.00E-02	0.00E+00	2.00E-02	2.97E-03	5.00E-02	4.97E-02	1.49E-01	2.01E-01
Pyrene	2.10E+00	6.70E-03	0.00E+00	6.70E-03	1.02E-03	5.00E-02	5.12E-02	1.53E-01	2.05E-01
Chloroform	2.00E-03	2.00E-02	0.00E+00	2.00E-02	2.91E-06	5.00E-02	4.87E-05	1.46E-04	1.97E-04
Methylene Chloride	5.52E-03	2.00E-02	0.00E+00	2.00E-02	8.04E-06	5.00E-02	1.34E-04	4.02E-04	5.44E-04
Toluene	1.43E-01	2.00E-02	0.00E+00	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02

EPC = Exposure point concentration
 SP_r = Soil-to-plant; reproductive
 ADD_p = Average daily dose; plant
 I_p (kg/kgBW/d) = 0.00E+00
 AUF = 1.00E+00
 SP_v = Soil-to-plant; vegetative
 Prey = Shrew
 I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00
 BAF_i = Soil-to-animal; invertebrates
 ADD_A = Average daily dose; animal
 I_{A,s} = Shrew I_A (kg/kgBW/d) = 4.87E-01
 I_A (kg/kgBW/d) = 1.25E-01
 ADD_s = Average daily dose; soil
 I_{s,s} = Shrew I_s (kg/kgBW/d) = 7.28E-02
 ADD_{total} = Average daily dose; total

Appendix Table L-567. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} ^x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/H x 100
		Chrysene	7.60E-01	1.15E-01	1.43E-02	0.00E+00	1.43E-02	No TRV
Di-n-butylphthalate	2.40E-01	8.79E-03	1.10E-03	0.00E+00	1.10E-03	8.43E-02	1.30E-02	0.2%
Dibenzo(a,h)anthrac	4.80E+00	9.17E-02	1.15E-02	0.00E+00	1.15E-02	No TRV	No TRV	No HQ
Dibenzofuran	1.90E-02	5.35E-04	6.69E-05	0.00E+00	6.69E-05	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	6.18E-02	7.73E-03	0.00E+00	7.73E-03	No TRV	No TRV	No HQ
Fluorene	2.40E-02	9.93E-04	1.24E-04	0.00E+00	1.24E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyr	6.00E+00	5.00E-01	6.25E-02	0.00E+00	6.25E-02	No TRV	No TRV	No HQ
Naphthalene	6.00E-03	2.22E-04	2.77E-05	0.00E+00	2.77E-05	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	4.52E-06	5.65E-07	0.00E+00	5.65E-07	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.72E-02	2.16E-03	0.00E+00	2.16E-03	No TRV	No TRV	No HQ
Pyrene	3.00E-01	1.10E-01	1.37E-02	0.00E+00	1.37E-02	No TRV	No TRV	No HQ
Chloroform	1.50E-04	5.28E-08	6.60E-09	0.00E+00	6.60E-09	No TRV	No TRV	No HQ
Methylene Chloride	3.00E-05	2.92E-08	3.65E-09	0.00E+00	3.65E-09	No TRV	No TRV	No HQ
Toluene	7.60E-04	1.91E-05	2.39E-06	0.00E+00	2.39E-06	No TRV	No TRV	No HQ
HI = 5.22E+00								

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 0.00E+00

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

BW = Shrew body weight (kg) = 1.70E-02

Appendix Table L-568. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _S
Inorganics									
Aluminum	1.40E+04	1.30E-04	5.78E-03	8.00E-04	8.15E-01	7.50E-02	5.12E+02	1.02E+03	1.53E+03
Antimony	4.17E-01	6.00E-03	7.94E-06	4.00E-02	1.21E-03	5.00E-02	1.02E-02	3.04E-02	4.17E-02
Arsenic	1.23E+01	1.20E-03	4.68E-05	8.00E-03	7.16E-03	6.60E-03	3.96E-02	8.95E-01	9.42E-01
Barium	8.84E+01	3.00E-03	8.42E-04	3.00E-02	1.93E-01	7.50E-03	3.23E-01	6.44E+00	6.95E+00
Beryllium	6.30E-01	3.00E-04	6.00E-07	2.00E-03	9.17E-05	5.00E-02	1.53E-02	4.59E-02	6.13E-02
Cadmium	1.00E-01	3.00E-02	9.52E-06	1.10E-01	8.01E-04	1.10E+01	5.36E-01	7.28E-03	5.44E-01
Calcium	1.35E+04	7.00E-02	3.00E+00	7.00E-01	6.88E+02	1.00E+00	6.58E+03	9.83E+02	8.25E+03
Chromium	2.04E+01	9.00E-04	5.83E-05	1.50E-03	2.23E-03	1.60E-01	1.59E+00	1.49E+00	3.08E+00
Cobalt	9.80E+00	1.40E-03	4.35E-05	4.00E-03	2.85E-03	1.00E+00	4.77E+00	7.13E-01	5.49E+00
Copper	1.99E+01	5.00E-02	3.16E-03	8.00E-02	1.16E-01	1.60E-01	1.55E+00	1.45E+00	3.12E+00
Cyanide	4.71E-01	1.00E+00	1.50E-03	1.00E+00	3.43E-02	0.00E+00	0.00E+00	3.43E-02	6.86E-02
Iron	2.53E+04	2.00E-04	1.61E-02	8.00E-04	1.47E+00	1.00E+00	1.23E+04	1.84E+03	1.42E+04
Lead	2.29E+01	1.80E-03	1.31E-04	9.00E-03	1.50E-02	2.00E+00	2.23E+01	1.67E+00	2.40E+01
Magnesium	4.18E+03	1.10E-01	1.46E+00	2.00E-01	6.09E+01	1.00E+00	2.04E+03	3.04E+02	2.40E+03
Mercury	3.32E-02	4.00E-02	4.22E-06	1.80E-01	4.35E-04	3.40E-01	5.50E-03	2.42E-03	8.36E-03
Nickel	2.36E+01	1.20E-02	8.99E-04	1.20E-02	2.06E-02	2.30E-01	2.64E+00	1.72E+00	4.38E+00
Potassium	1.99E+03	1.10E-01	6.95E-01	2.00E-01	2.90E+01	1.00E+00	9.70E+02	1.45E+02	1.14E+03
Selenium	6.00E-01	5.00E-03	9.52E-06	5.00E-03	2.18E-04	7.60E-01	2.22E-01	4.37E-02	2.66E-01
Silver	9.66E-01	2.00E-02	6.13E-05	8.00E-02	5.63E-03	1.50E-01	7.06E-02	7.03E-02	1.47E-01
Sodium	7.78E+01	1.10E-02	2.72E-03	1.50E-02	8.50E-02	1.00E+00	3.79E+01	5.66E+00	4.37E+01
Thallium	1.90E+00	8.00E-05	4.82E-07	8.00E-04	1.11E-04	1.00E+00	9.26E-01	1.38E-01	1.06E+00
Zinc	8.57E+01	1.80E-01	4.90E-02	3.00E-01	1.87E+00	1.80E+00	7.52E+01	6.24E+00	8.33E+01
Organics									
2,4-Dinitrotoluene	2.14E-01	1.00E+00	6.79E-04	1.00E+00	1.56E-02	1.00E+00	1.04E-01	1.56E-02	1.35E-01
2,6-Dinitrotoluene	2.14E-01	2.00E-02	1.36E-05	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02
2-Methylnaphthalene	4.70E-02	2.00E-02	2.98E-06	2.00E-02	6.84E-05	5.00E-02	1.14E-03	3.42E-03	4.63E-03
Acenaphthene	1.50E-01	2.00E-02	9.52E-06	2.00E-02	2.18E-04	5.00E-02	3.65E-03	1.09E-02	1.48E-02
Anthracene	4.32E-01	2.00E-02	2.74E-05	2.00E-02	6.29E-04	5.00E-02	1.05E-02	3.14E-02	4.26E-02
Benzo(a)anthracene	8.66E-01	3.90E-03	1.07E-05	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.30E-02	8.44E-02
Benzo(a)pyrene	6.98E-01	2.60E-03	5.76E-06	2.60E-03	1.32E-04	5.00E-02	1.70E-02	5.08E-02	6.79E-02
Benzo(b)fluoranthene	1.10E+00	2.30E-03	8.03E-06	2.30E-03	1.84E-04	5.00E-02	2.68E-02	8.01E-02	1.07E-01
Benzo(g,h,i)perylene	3.90E-01	1.20E-03	1.49E-06	1.20E-03	3.41E-05	5.00E-02	9.50E-03	2.84E-02	3.79E-02
Benzo(k)fluoranthene	5.00E-01	2.30E-03	3.65E-06	2.30E-03	8.37E-05	5.00E-02	1.22E-02	3.64E-02	4.87E-02
Bis(2-ethylhexyl)phthalate	2.10E-01	8.70E-03	5.80E-06	8.70E-03	1.33E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02

Appendix Table L-568. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Inorganics								
Aluminum	7.50E-02	2.05E+02	1.35E+01	2.70E+01	4.06E+01	5.46E-01	7.43E+01	68.0%
Antimony	5.00E-02	3.73E-03	2.45E-04	8.06E-04	1.06E-03	3.54E-02	3.00E-02	0.0%
Arsenic	1.00E-01	1.68E-01	1.11E-02	2.38E-02	3.49E-02	3.56E-02	9.79E-01	0.9%
Barium	7.50E-03	9.31E-02	6.13E-03	1.71E-01	1.78E-01	2.79E+00	6.37E-02	0.1%
Beryllium	5.00E-02	5.47E-03	3.60E-04	1.22E-03	1.58E-03	3.45E-01	4.57E-03	0.0%
Cadmium	2.80E-02	2.72E-02	1.79E-03	1.93E-04	1.99E-03	5.04E-01	3.95E-03	0.0%
Calcium	1.00E+00	1.47E+04	9.70E+02	2.61E+01	9.99E+02	No TRV	No TRV	No HQ
Chromium	2.80E-01	1.54E+00	1.01E-01	3.94E-02	1.41E-01	1.43E+03	9.84E-05	0.0%
Cobalt	1.00E+00	9.81E+00	6.45E-01	1.89E-02	6.64E-01	No TRV	No TRV	No HQ
Copper	5.00E-01	2.78E+00	1.83E-01	3.84E-02	2.25E-01	7.96E+00	2.82E-02	0.0%
Cyanide	0.00E+00	0.00E+00	0.00E+00	9.10E-04	2.41E-03	3.37E+01	7.13E-05	0.0%
Iron	1.00E+00	2.53E+04	1.67E+03	4.89E+01	1.71E+03	No TRV	No TRV	No HQ
Lead	1.50E-02	6.43E-01	4.23E-02	4.42E-02	8.67E-02	4.18E+00	2.07E-02	0.0%
Magnesium	1.00E+00	4.29E+03	2.82E+02	8.08E+00	2.92E+02	No TRV	No TRV	No HQ
Mercury	1.30E+01	1.94E-01	1.28E-02	6.42E-05	1.28E-02	6.86E-01	1.87E-02	0.0%
Nickel	3.00E-01	2.35E+00	1.55E-01	4.56E-02	2.01E-01	2.09E+01	9.62E-03	0.0%
Potassium	1.00E+00	2.04E+03	1.34E+02	3.84E+00	1.39E+02	No TRV	No TRV	No HQ
Selenium	7.50E-01	3.56E-01	2.35E-02	1.16E-03	2.46E-02	1.05E-01	2.36E-01	0.2%
Silver	1.50E-01	3.92E-02	2.58E-03	1.87E-03	4.51E-03	No TRV	No TRV	No HQ
Sodium	1.00E+00	7.80E+01	5.13E+00	1.50E-01	5.28E+00	No TRV	No TRV	No HQ
Thallium	1.00E+00	1.90E+00	1.25E-01	3.67E-03	1.29E-01	3.91E-03	3.29E+01	30.1%
Zinc	5.00E+00	7.43E+02	4.89E+01	1.66E-01	4.92E+01	8.36E+01	5.88E-01	0.5%
2,4-Dinitrotoluene	1.00E+00	2.42E-01	1.59E-02	4.13E-04	1.70E-02	3.82E+00	4.46E-03	0.0%
2,6-Dinitrotoluene	1.90E-04	7.16E-06	4.71E-07	4.13E-04	4.28E-04	3.66E-01	1.17E-03	0.0%
2-Methylnaphthalene	1.90E-08	1.57E-10	1.04E-11	9.08E-05	9.38E-05	No TRV	No TRV	No HQ
Acenaphthene	1.20E-02	3.17E-04	2.09E-05	2.90E-04	3.20E-04	No TRV	No TRV	No HQ
Anthracene	4.80E-02	3.65E-03	2.40E-04	8.35E-04	1.10E-03	No TRV	No TRV	No HQ
Benzo(a)anthracene	7.60E-01	1.15E-01	7.54E-03	1.67E-03	9.22E-03	No TRV	No TRV	No HQ
Benzo(a)pyrene	1.50E+00	1.82E-01	1.20E-02	1.35E-03	1.33E-02	2.83E-01	4.72E-02	0.0%
Benzo(b)fluoranthene	1.90E+00	3.63E-01	2.39E-02	2.13E-03	2.60E-02	No TRV	No TRV	No HQ
Benzo(g,h,i)perylene	6.00E+00	4.06E-01	2.67E-02	7.53E-04	2.75E-02	No TRV	No TRV	No HQ
Benzo(k)fluoranthene	1.90E+00	1.65E-01	1.09E-02	9.66E-04	1.18E-02	No TRV	No TRV	No HQ
Bis(2-ethylhexyl)phthalat	1.90E-01	6.97E-03	4.59E-04	4.06E-04	8.70E-04	5.18E+00	1.68E-04	0.0%

Appendix Table L-568. Hazard Quotient Table for Red Fox for Surface Soil at RVAAP - Pad 70

Analyte	EPC (mg/kg)	SP _r	ADDP (mg/kgBW/d) EPC x SP _r x IP x AUF	SP _v	Prey P-ADDP (mg/kgBW/d) EPC x SP _v x IP- s x AUF-s	BAF _i	Prey P-ADDA (mg/kgBW/d) EPC x BAF _i x IA-s x AUF-s	Prey P-ADDS (mg/kgBW/d) EPC x IS-s x AUF-s	Prey ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s
Carbazole	2.59E-01	2.00E-02	1.64E-05	2.00E-02	3.77E-04	5.00E-02	6.31E-03	1.89E-02	2.55E-02
Chrysene	8.67E-01	3.90E-03	1.07E-05	3.90E-03	2.46E-04	5.00E-02	2.11E-02	6.31E-02	8.45E-02
Di-n-butylphthalate	2.10E-01	7.60E-03	5.07E-06	7.60E-03	1.16E-04	5.00E-02	5.12E-03	1.53E-02	2.05E-02
Dibenzo(a,h)anthracene	1.10E-01	1.40E-03	4.89E-07	1.40E-03	1.12E-05	5.00E-02	2.68E-03	8.01E-03	1.07E-02
Dibenzofuran	1.60E-01	2.00E-02	1.02E-05	2.00E-02	2.33E-04	5.00E-02	3.90E-03	1.16E-02	1.58E-02
Fluoranthene	2.70E+00	2.00E-02	1.71E-04	2.00E-02	3.93E-03	5.00E-02	6.58E-02	1.97E-01	2.66E-01
Fluorene	2.35E-01	2.00E-02	1.49E-05	2.00E-02	3.42E-04	5.00E-02	5.72E-03	1.71E-02	2.32E-02
Indeno(1,2,3-cd)pyrene	4.80E-01	1.20E-03	1.83E-06	1.20E-03	4.19E-05	5.00E-02	1.17E-02	3.49E-02	4.67E-02
Naphthalene	2.10E-01	2.00E-02	1.33E-05	2.00E-02	3.06E-04	5.00E-02	5.12E-03	1.53E-02	2.07E-02
Nitrobenzene	2.14E-01	2.00E-02	1.36E-05	2.00E-02	3.12E-04	5.00E-02	5.21E-03	1.56E-02	2.11E-02
Phenanthrene	2.04E+00	2.00E-02	1.29E-04	2.00E-02	2.97E-03	5.00E-02	4.97E-02	1.49E-01	2.01E-01
Pyrene	2.10E+00	6.70E-03	4.47E-05	6.70E-03	1.02E-03	5.00E-02	5.12E-02	1.53E-01	2.05E-01
Chloroform	2.00E-03	2.00E-02	1.27E-07	2.00E-02	2.91E-06	5.00E-02	4.87E-05	1.46E-04	1.97E-04
Methylene Chloride	5.52E-03	2.00E-02	3.50E-07	2.00E-02	8.04E-06	5.00E-02	1.34E-04	4.02E-04	5.44E-04
Toluene	1.43E-01	2.00E-02	9.08E-06	2.00E-02	2.08E-04	5.00E-02	3.48E-03	1.04E-02	1.41E-02

EPC = Exposure point concentration

SP_r = Soil-to-plant; reproductive

ADD_p = Average daily dose; plant

I_p (kg/kgBW/d) = 3.17E-03

AUF = 1.00E+00

SP_v = Soil-to-plant; vegetative

I_{p,s} = Shrew I_p (kg/kgBW/d) = 7.28E-02

AUF-s = Shrew AUF = 1.00E+00

Prey = Shrew

BAF_i = Soil-to-animal; invertebrates

ADD_A = Average daily dose; animal

IA-s = Shrew IA (kg/kgBW/d) =

I_A (kg/kgBW/d) =

ADD_s = Average daily dose; soil

I_{s,s} = Shrew I_s (kg/kgBW/d) =

ADD_{total} = Average daily dose; total

BW = Shrew body weight (kg) =

4.87E-01

6.58E-02

7.28E-02

1.70E-02

Appendix Table L-568. (Continued) (Right Side)

Analyte	BAF _v	Cs (mg/kg) ADD _{total} x BAF _v /IR _f	ADD _A (mg/kgBW/d) Cs x I _A x AUF	ADDS (mg/kgBW/d) EPC x IS x AUF	ADD _{total} (mg/kgBW/d) ADD _p + ADD _A + ADD _s	TRV (mg/kgBW/d)	Site HQ ADD _{total} / TRV	%HI HQ/HI x 100
Carbazole	8.70E-03	3.97E-04	2.61E-05	5.00E-04	5.43E-04	No TRV	No TRV	No HQ
Chrysene	7.60E-01	1.15E-01	7.55E-03	1.68E-03	9.23E-03	No TRV	No TRV	No HQ
Di-n-butylphthalate	2.40E-01	8.79E-03	5.79E-04	4.06E-04	9.90E-04	1.56E+02	6.36E-06	0.0%
Dibenzo(a,h)anthracene	4.80E+00	9.17E-02	6.04E-03	2.13E-04	6.25E-03	No TRV	No TRV	No HQ
Dibenzofuran	1.90E-02	5.35E-04	3.52E-05	3.09E-04	3.55E-04	No TRV	No TRV	No HQ
Fluoranthene	1.30E-01	6.18E-02	4.07E-03	5.22E-03	9.46E-03	No TRV	No TRV	No HQ
Fluorene	2.40E-02	9.93E-04	6.54E-05	4.54E-04	5.34E-04	No TRV	No TRV	No HQ
Indeno(1,2,3-cd)pyrene	6.00E+00	5.00E-01	3.29E-02	9.27E-04	3.39E-02	No TRV	No TRV	No HQ
Naphthalene	6.00E-03	2.22E-04	1.46E-05	4.06E-04	4.34E-04	No TRV	No TRV	No HQ
Nitrobenzene	1.20E-04	4.52E-06	2.98E-07	4.13E-04	4.27E-04	No TRV	No TRV	No HQ
Phenanthrene	4.80E-02	1.72E-02	1.14E-03	3.94E-03	5.21E-03	No TRV	No TRV	No HQ
Pyrene	3.00E-01	1.10E-01	7.23E-03	4.06E-03	1.13E-02	No TRV	No TRV	No HQ
Chloroform	1.50E-04	5.28E-08	3.48E-09	3.86E-06	3.99E-06	7.84E+00	5.09E-07	0.0%
Methylene Chloride	3.00E-05	2.92E-08	1.92E-09	1.07E-05	1.10E-05	3.06E+00	3.60E-06	0.0%
Toluene	7.60E-04	1.91E-05	1.26E-06	2.76E-04	2.87E-04	7.35E+00	3.90E-05	0.0%
							HI =	1.09E+02

BAF_v = Animal-to-animal; vertebrates

Cs = Concentration in shrew tissue (mg/kg)

IR_f = Shrew Food ingestion rate (kg/kgBW/d) = 5.60E-01

I_s (kg/kgBW/d) = 1.93E-03

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

Summary of Ravenna Dry Sediment and Comparison to Screening Criteria

										Detects >	Region IX	Max Detect >	Region IX	Max Detect >		
										Reasonable	Site	Site	Residential	Residential	Industrial	Industrial
										Detection	Minimum	Maximum	Average	Exposure	Background	Background
Type	Analyte	Units	Limit	Detect	Detect	Result	Concentration	Criteria	Criteria	SRC?	(mg/kg)	Criteria	(mg/kg)	Criteria	COPC?	
Explosives	2,4,6-Trinitrotoluene	mg/kg	3/ 9	0.360	0.970	0.278	0.454			Yes	1.48	No	9.98	No	No	
Metals	Aluminum	mg/kg	9/ 9	7460.000	16100.000	11180.000	13570.000	13900.00	2/ 9	Yes	7494.82	Yes	10000.00	Yes	Yes	
Metals	Antimony	mg/kg	1/ 2	0.320	0.320	0.235	0.320		1/ 2	Yes	3.00	No	74.93	No	No	
Metals	Arsenic	mg/kg	9/ 9	11.700	18.100	14.270	15.750	19.50	0/ 9	No	0.04	Yes	0.30	Yes	No	
Metals	Barium	mg/kg	9/ 9	39.500	528.000	156.000	369.800	123.00	3/ 9	Yes	515.48	Yes	10000.00	No	Yes	
Metals	Beryllium	mg/kg	2/ 2	0.450	0.600	0.525	0.600	0.38	2/ 2	Yes	15.00	No	340.00	No	No	
Metals	Cadmium	mg/kg	3/ 9	0.160	0.180	0.072	0.118		3/ 9	Yes	3.75	No	93.43	No	No	
Metals	Calcium	mg/kg	2/ 2	1080.000	1720.000	1400.000	1720.000	5510.00	0/ 2	No		None		None	No	
Metals	Chromium	mg/kg	9/ 9	9.900	16.900	13.510	14.960	18.10	0/ 9	No	3.01	Yes	6.40	Yes	No	
Metals	Cobalt	mg/kg	2/ 2	8.600	10.400	9.500	10.400	9.10	1/ 2	Yes	325.27	No	2862.02	No	No	
Metals	Copper	mg/kg	2/ 2	18.600	18.800	18.700	18.800	27.60	0/ 2	No	278.40	No	6956.99	No	No	
Metals	Cyanide	mg/kg	1/ 2	0.110	0.110	0.080	0.110		1/ 2	Yes	109.01	No	2138.03	No	No	
Metals	Iron	mg/kg	2/ 2	18200.000	24000.000	21100.000	24000.000	28200.00	0/ 2	No	2248.56	Yes	10000.00	Yes	No	
Metals	Lead	mg/kg	9/ 9	10.200	27.300	16.660	22.720	27.40	0/ 9	No	40.00	No	100.00	No	No	
Metals	Magnesium	mg/kg	2/ 2	2050.000	3280.000	2665.000	3280.000	2760.00	1/ 2	No		None		None	No	
Metals	Manganese	mg/kg	9/ 9	183.000	1050.000	481.400	939.600	1950.00	0/ 9	No	311.89	Yes	4532.45	No	No	
Metals	Mercury	mg/kg	1/ 9	0.040	0.040	0.021	0.026	0.06	0/ 9	No	2.25	No	56.19	No	No	
Metals	Nickel	mg/kg	2/ 2	15.900	28.300	22.100	28.300	17.70	1/ 2	Yes	149.91	No	3746.19	No	No	
Metals	Potassium	mg/kg	2/ 2	665.000	1030.000	847.500	1030.000	1950.00	0/ 2	No		None		None	No	
Metals	Selenium	mg/kg	4/ 9	0.370	1.700	0.436	0.738	1.70	0/ 9	No	37.48	No	936.57	No	No	
Metals	Sodium	mg/kg	2/ 2	52.300	74.000	63.150	74.000	112.00	0/ 2	No		None		None	No	
Metals	Thallium	mg/kg	2/ 2	1.500	1.800	1.650	1.800	0.89	2/ 2	Yes	0.60	Yes	14.99	No	Yes	
Metals	Vanadium	mg/kg	2/ 2	13.000	15.900	14.450	15.900	26.10	0/ 2	No	52.47	No	1311.20	No	No	
Metals	Zinc	mg/kg	9/ 9	38.300	79.700	57.110	67.120	532.00	0/ 9	No	2248.56	No	10000.00	No	No	
Organics-Volatile	Chloroform	mg/kg	1/ 2	0.002	0.002	0.002	0.002			Yes	0.02	No	0.05	No	No	
Organics-Volatile	Toluene	mg/kg	1/ 2	0.025	0.025	0.014	0.025			Yes	52.00	No	52.00	No	No	

Summary of Ravenna Wet Sediment and Comparison to Screening Criteria

									Detects >		Region IX	Max Detect >	Region IX	Max Detect >	
			Results >				Reasonable	Site	Site		Residential	Residential	Industrial	Industrial	
Analysis			Detection	Minimum	Maximum	Average	Exposure	Background	Background		Soil	Soil	Soil	Soil	
Type	Analyte	Units	Limit	Detect	Detect	Result	Concentration	Criteria	Criteria	SRC?	(mg/kg)	Criteria	(mg/kg)	Criteria	COPC?
Explosives	1,3,5-Trinitrobenzene	mg/kg	4/ 8	0.07	0.15	0.11	0.13			Yes	163.51	No	3206.60	No	No
Explosives	1,3-Dinitrobenzene	mg/kg	1/ 8	0.04	0.04	0.11	0.04			Yes	0.55	No	10.69	No	No
Explosives	2,4,6-Trinitrotoluene	mg/kg	1/ 8	0.09	0.09	0.12	0.09			Yes	1.48	No	9.98	No	No
Explosives	2,4-Dinitrotoluene	mg/kg	1/ 8	0.04	0.04	0.11	0.04			Yes	10.90	No	213.77	No	No
Explosives	HMX	mg/kg	1/ 8	0.12	0.12	0.61	0.12			Yes	272.52	No	5344.34	No	No
Explosives	Nitrobenzene	mg/kg	1/ 8	0.07	0.07	0.12	0.07			Yes	1.61	No	10.39	No	No
Metals	Aluminum	mg/kg	8/ 8	4740.00	17900.00	10540.00	16750.00	13900.00	3/ 8	Yes	7494.82	Yes	10000.00	Yes	Yes
Metals	Arsenic	mg/kg	8/ 8	7.70	13.60	10.08	11.91	19.50	0/ 8	No	0.04	Yes	0.30	Yes	No
Metals	Barium	mg/kg	8/ 8	36.80	226.00	106.20	220.30	123.00	3/ 8	Yes	515.48	No	10000.00	No	No
Metals	Cadmium	mg/kg	3/ 8	0.06	0.56	0.38	0.56		3/ 8	Yes	3.75	No	93.43	No	No
Metals	Calcium	mg/kg	4/ 4	975.00	3910.00	1941.00	3910.00	5510.00	0/ 4	No		None		None	No
Metals	Chromium	mg/kg	8/ 8	7.20	21.30	12.53	17.27	18.10	1/ 8	Yes	3.01	Yes	6.40	Yes	Yes
Metals	Cobalt	mg/kg	4/ 4	5.70	8.70	7.18	8.62	9.10	0/ 4	No	325.27	No	2862.02	No	No
Metals	Copper	mg/kg	4/ 4	7.80	49.10	20.13	49.10	27.60	1/ 4	Yes	278.40	No	6956.99	No	No
Metals	Iron	mg/kg	4/ 4	13900.00	21000.00	15880.00	19910.00	28200.00	0/ 4	No	2248.56	Yes	10000.00	Yes	No
Metals	Lead	mg/kg	8/ 8	11.60	40.10	18.71	25.09	27.40	1/ 8	Yes	40.00	Yes	100.00	No	Yes
Metals	Magnesium	mg/kg	4/ 4	1180.00	2630.00	1685.00	2630.00	2760.00	0/ 4	No		None		None	No
Metals	Manganese	mg/kg	8/ 8	303.00	825.00	534.40	793.50	1950.00	0/ 8	No	311.89	Yes	4532.45	No	No
Metals	Mercury	mg/kg	2/ 8	0.05	0.16	0.07	0.10	0.06	1/ 8	Yes	2.25	No	56.19	No	No
Metals	Nickel	mg/kg	4/ 4	10.10	24.70	14.70	24.70	17.70	1/ 4	Yes	149.91	No	3746.19	No	No
Metals	Potassium	mg/kg	4/ 4	666.00	1580.00	948.30	1580.00	1950.00	0/ 4	No		None		None	No
Metals	Selenium	mg/kg	2/ 8	0.44	0.59	0.47	0.59	1.70	0/ 8	No	37.48	No	936.57	No	No
Metals	Sodium	mg/kg	3/ 4	25.90	107.00	160.70	107.00	112.00	0/ 4	No		None		None	No
Metals	Vanadium	mg/kg	4/ 4	13.90	29.20	18.73	29.20	26.10	1/ 4	Yes	52.47	No	1311.20	No	No
Metals	Zinc	mg/kg	8/ 8	52.30	166.00	107.60	139.40	532.00	0/ 8	No	2248.56	No	10000.00	No	No
Organics-Semivolatile	Anthracene	mg/kg	1/ 1	0.15	0.15	0.15	0.15			Yes	1433.29	No	22230.61	No	No
Organics-Semivolatile	Benzo(a)anthracene	mg/kg	1/ 1	0.56	0.56	0.56	0.56			Yes	0.06	Yes	0.36	Yes	Yes
Organics-Semivolatile	Benzo(a)pyrene	mg/kg	1/ 1	0.39	0.39	0.39	0.39			Yes	0.01	Yes	0.04	Yes	Yes
Organics-Semivolatile	Benzo(b)fluoranthene	mg/kg	1/ 1	0.56	0.56	0.56	0.56			Yes	0.06	Yes	0.36	Yes	Yes
Organics-Semivolatile	Benzo(g,h,i)perylene	mg/kg	1/ 1	0.13	0.13	0.13	0.13			Yes		None		None	Yes
Organics-Semivolatile	Benzo(k)fluoranthene	mg/kg	1/ 1	0.19	0.19	0.19	0.19			Yes	0.56	No	3.59	No	No
Organics-Semivolatile	Chrysene	mg/kg	1/ 1	0.51	0.51	0.51	0.51			Yes	5.57	No	35.87	No	No
Organics-Semivolatile	Fluoranthene	mg/kg	1/ 1	1.50	1.50	1.50	1.50			Yes	199.84	No	3740.33	No	No

Summary of Ravenna Wet Sediment and Comparison to Screening Criteria

									Detects >		Region IX	Max Detect >	Region IX	Max Detect >	
			Results >				Reasonable	Site	Site		Residential	Residential	Industrial	Industrial	
Analysis			Detection	Minimum	Maximum	Average	Exposure	Background	Background		Soil	Soil	Soil	Soil	
Type	Analyte	Units	Limit	Detect	Detect	Result	Concentration	Criteria	Criteria	SRC?	(mg/kg)	Criteria	(mg/kg)	Criteria	COPC?
Organics-Semivolatile	Indeno(1,2,3-cd)pyrene	mg/kg	1/ 1	0.17	0.17	0.17	0.17			Yes	0.06	Yes	0.36	No	Yes
Organics-Semivolatile	Phenanthrene	mg/kg	1/ 1	0.64	0.64	0.64	0.64			Yes	None	None	None	None	Yes
Organics-Semivolatile	Pyrene	mg/kg	1/ 1	0.94	0.94	0.94	0.94			Yes	148.33	No	2647.21	No	No
Organics-Volatile	Acetone	mg/kg	1/ 1	0.02	0.02	0.02	0.02			Yes	144.36	No	605.17	No	No

Appendix Table L-571. Aquatic Bioaccumulation Factors for Ecological Constituents of Potential Concern

Ecological constituent of potential concern	Sediment-to-animal (BAF _i)		Water-to-animal (BCF)	
	BAF _i	Reference	BCF	Reference
Inorganics				
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)
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)
Iron	1.00E+00	default value	2.00E+03	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)
Sodium	1.00E+00	default value	1.00E+02	NRC (1992)
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
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

Appendix Table L-571. Aquatic Bioaccumulation Factors for Ecological Constituents of Potential Concern

Ecological constituent of potential concern	Sediment-to-animal (BAF _i)		Water-to-animal (BCF)	
	BAF _i	Reference	BCF	Reference
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)
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-Dichlorobenzene	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)
MCCPP	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)
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)
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)

Appendix Table L-571. Aquatic Bioaccumulation Factors for Ecological Constituents of Potential Concern

Ecological constituent of potential concern	Sediment-to-animal (BAF _i)		Water-to-animal (BCF)	
	BAF _i	Reference	BCF	Reference
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
HMX	1.00E+00	default value	1.00E+05	default value
2-Nitrotoluene	1.00E+00	default value	1.00E+05	default value
3-Nitrotoluene	1.00E+00	default value	1.00E+05	default value
4-Nitrotoluene	1.00E+00	default value	1.00E+05	default value
Nitrobenzene	5.00E-02	HAZWRAP (1994)	1.30E+01	HAZWRAP (1994)
Nitrocellulose	1.00E+00	default value	1.00E+05	default value
Nitroglycerin	1.00E+00	default value	1.00E+05	default value
RDX	1.00E+00	default value	1.00E+05	default value
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/kg_{sue}/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 L-572 Derivation of TRVs for Sediment-dwelling Biota Exposed to Sediment

Ecological constituent of potential concern	Benchmarks			Sediment TRV ^b (mg/kg)	Reference
	OME	NOAA	Long et al. ^a		
	"Low" (mg/kg)	ER-L (mg/kg)	ER-L (mg/kg)		
Inorganics					
Aluminum	none	none	none	No TRV	none
Ammonia	none	none	none	No TRV	none
Antimony	none	2.00E+00	none	2.00E+00	EPA Region V (1995)
Arsenic	6.00E+00	3.30E+01	8.20E+00	6.00E+00	Persaud et al. (1993)
Arsenic (III)	none	none	none	No TRV	none
Arsenic (V)	none	none	none	No TRV	none
Barium	none	none	none	No TRV	none
Beryllium	none	none	none	No TRV	none
Bismuth	none	none	none	No TRV	none
Boron	none	none	none	No TRV	none
Cadmium	6.00E-01	5.00E+00	1.20E+00	6.00E-01	Persaud et al. (1993)
Calcium	none	none	none	No TRV	none
Cerium	none	none	none	No TRV	none
Chloride	none	none	none	No TRV	none
Chromium (III)	none	none	8.10E+01	8.10E+01	Long et al. (1995)
Chromium	2.60E+01	8.00E+01	8.10E+01	2.60E+01	EPA Region V (1996)
Chromium (VI)	none	none	none	No TRV	none
Cobalt	none	none	none	No TRV	none
Copper	1.60E+01	7.00E+01	3.40E+01	1.60E+01	Persaud et al. (1993)
Cyanide	none	none	none	No TRV	none
Fluoride	none	none	none	No TRV	none
Fluorine	none	none	none	No TRV	none
Iodine	none	none	none	No TRV	none
Iron	none	none	none	No TRV	none
Lanthanum	none	none	none	No TRV	none
Lead	3.10E+01	3.50E+01	4.67E+01	3.10E+01	Persaud et al. (1993)
Lithium	none	none	none	No TRV	none
Magnesium	none	none	none	No TRV	none
Manganese	4.60E+02	none	none	4.60E+02	Persaud et al. (1993)
Mercury	1.50E+01	1.50E-01	1.50E-01	1.50E+01	Persaud et al. (1993)
Methyl mercury	none	none	none	No TRV	none
Molybdenum	none	none	none	No TRV	none
Neodymium	none	none	none	No TRV	none
Nickel	1.60E+01	3.00E+01	2.09E+01	1.60E+01	EPA Region V (1996)
Niobium	none	none	none	No TRV	none
Nitrate	none	none	none	No TRV	none
Nitrite	none	none	none	No TRV	none
Phosphorus	none	none	none	No TRV	none
Potassium	none	none	none	No TRV	none
Selenium	none	none	none	No TRV	none
Silver	nd	1.00E+00	1.00E+00	1.00E+00	Long and Morgan (1991)
Sodium	none	none	none	No TRV	none
Strontium	none	none	none	No TRV	none
Sulfate	none	none	none	No TRV	none
Thallium	none	none	none	No TRV	none
Tin	none	none	none	No TRV	none
Uranium	none	none	none	No TRV	none
Vanadium	none	none	none	No TRV	none
Zinc	1.20E+02	1.20E+02	1.50E+02	1.20E+02	Persaud et al. (1993)
Zirconium	none	none	none	No TRV	none

Appendix Table L-572 Derivation of TRVs for Sediment-dwelling Biota Exposed to Sediment

Ecological constituent of potential concern	Benchmarks			Sediment TRV ^b (mg/kg)	Reference
	OME	NOAA	Long et al. ^a		
	"Low" (mg/kg)	ER-L (mg/kg)	ER-L (mg/kg)		
Organics					
Acenaphthene	none	1.50E-01	1.60E-02	1.50E-01	Long and Morgan (1991)
Acenaphthylene	none	none	4.40E-02	4.40E-02	Long et al. (1995)
Acetone	none	none	none	8.70E-03	Jones et al. (1997)
Acetophenone	none	none	none	No TRV	none
Acrolein	none	none	none	No TRV	none
Aldrin	2.00E-03	none	none	2.00E-03	Persaud et al. (1993)
alpha-BHC	3.00E-03	none	none	3.00E-03	Persaud et al. (1993)
Anthracene	2.20E-01	8.50E-02	8.53E-02	2.20E-01	Persaud et al. (1993)
Aroclor-1016	7.00E-03	5.00E-02	2.27E-02	7.00E-03	Persaud et al. (1993)
Aroclor-1221	none	5.00E-02	2.27E-02	5.00E-02	Long and Morgan (1991)
Aroclor-1232	none	5.00E-02	none	5.00E-02	Long and Morgan (1991)
Aroclor-1242	none	5.00E-02	2.27E-02	5.00E-02	Long and Morgan (1991)
Aroclor-1248	3.00E-02	5.00E-02	2.27E-02	3.00E-02	Persaud et al. (1993)
Aroclor-1254	6.00E-02	5.00E-02	2.27E-02	6.00E-02	Persaud et al. (1993)
Aroclor-1260	5.00E-03	5.00E-02	2.27E-02	5.00E-03	Persaud et al. (1993)
Benzidine	none	none	none	No TRV	none
Benzene	none	none	none	No TRV	none
Benzo(a)anthracene	3.20E-01	2.30E-01	2.61E-01	3.20E-01	Persaud et al. (1993)
Benzo(a)pyrene	3.70E-01	4.00E-01	4.30E-01	3.70E-01	Persaud et al. (1993)
Benzo(b)fluoranthene	none	none	none	No TRV	none
Benzo(g,h,i)perylene	1.70E-01	none	none	1.70E-01	Persaud et al. (1993)
Benzo(k)fluoranthene	2.40E-01	none	none	2.40E-01	Persaud et al. (1993)
Benzoic Acid	none	none	none	No TRV	none
beta-BHC	6.00E-03	none	none	6.00E-03	Persaud et al. (1993)
BHC-mixed isomers	3.00E-03	none	none	3.00E-03	Persaud et al. (1993)
Bis(2-chloroethoxy)methane	none	none	none	No TRV	none
Bis(2-chloroethyl)ether	none	none	none	No TRV	none
Bis(2-chloroisopropyl)ether	none	none	none	No TRV	none
Bis(2-ethylhexyl)phthalate	none	none	none	No TRV	none
Bromacil	none	none	none	No TRV	none
Bromodichloromethane	none	none	none	No TRV	none
Bromoform	none	none	none	No TRV	none
Bromomethane	none	none	none	No TRV	none
2-Butanone	none	none	none	No TRV	none
Butylbenzylphthalate	none	none	none	No TRV	none
Carbazole	none	none	none	No TRV	none
Carbon disulfide	none	none	none	No TRV	none
Carbon tetrachloride	none	none	none	No TRV	none
2-Chloroaniline	none	none	none	No TRV	none
3-Chloroaniline	none	none	none	No TRV	none
4-Chloroaniline	none	none	none	No TRV	none
Chlorobenzene	none	none	none	No TRV	none
alpha-Chlordane	3.00E-03	5.00E-04	none	3.00E-03	Persaud et al. (1993)
Chlordecone (Kepone)	none	none	none	No TRV	none
Chloroethane	none	none	none	No TRV	none
Chloroform	none	none	none	No TRV	none
Chloromethane	none	none	none	No TRV	none
4-Chloro-3-methylphenol	none	none	none	No TRV	none
2-Chloronaphthalene	none	none	none	No TRV	none
2-Chlorophenol	none	none	none	No TRV	none

Appendix Table L-572 Derivation of TRVs for Sediment-dwelling Biota Exposed to Sediment

Ecological constituent of potential concern	Benchmarks			Sediment TRV ^b (mg/kg)	Reference
	OME	NOAA	Long et al. ^a		
	"Low" (mg/kg)	ER-L (mg/kg)	ER-L (mg/kg)		
4-Chlorophenyl phenyl ether	none	none	none	No TRV	none
2-Chlorotoluene	none	none	none	No TRV	none
Chlorpyrifos	none	none	none	No TRV	none
Chrysene	3.40E-01	4.00E-01	3.84E-01	3.40E-01	Persaud et al. (1993)
Copper gluconate	none	none	none	No TRV	none
o-Cresol	none	none	none	No TRV	none
2,4-D	none	none	none	No TRV	none
2,4-DB	none	none	none	No TRV	none
4,4'-DDD	8.00E-03	2.00E-03	none	8.00E-03	Persaud et al. (1993)
4,4'-DDE	6.00E-03	2.00E-03	2.20E-03	6.00E-03	Persaud et al. (1993)
4,4'-DDT	8.00E-03	1.00E-03	1.58E-03	8.00E-03	Persaud et al. (1993)
Decane	none	none	none	No TRV	none
delta-BHC	none	none	none	No TRV	none
Dibenzo(a,h)anthracene	6.00E-02	6.00E-02	6.34E-02	6.00E-02	Persaud et al. (1993)
Dibenzofuran	none	none	none	No TRV	none
Dibromochloromethane	none	none	none	No TRV	none
Di-n-butylphthalate	none	none	none	No TRV	none
Di-n-hexylphthalate	none	none	none	No TRV	none
1,2-Dichlorobenzene	none	none	none	No TRV	none
1,3-Dichlorobenzene	none	none	none	No TRV	none
1,4-Dichlorobenzene	none	none	none	No TRV	none
3,3'-Dichlorobenzidine	none	none	none	No TRV	none
Dichlorodifluoromethane	none	none	none	No TRV	none
1,1-Dichloroethane	none	none	none	No TRV	none
1,2-Dichloroethane	none	none	none	No TRV	none
1,1-Dichloroethene	none	none	none	No TRV	none
1,2-Dichloroethene	none	none	none	No TRV	none
1,2-c-Dichloroethene	none	none	none	No TRV	none
1,2-t-Dichloroethene	none	none	none	No TRV	none
2,4-Dichlorophenol	none	none	none	No TRV	none
Dichloroprop	none	none	none	No TRV	none
1,2-Dichloropropane	none	none	none	No TRV	none
1,3-Dichloropropane	none	none	none	No TRV	none
1,3-Dichloropropene	none	none	none	No TRV	none
Dieldrin	2.00E-03	2.00E-05	nd	5.20E-02	SQC EPA Region V (1996)
Diethylphthalate	none	none	none	No TRV	none
Dimethyl benzene	none	none	none	No TRV	none
2,4-Dimethylphenol	none	none	none	No TRV	none
2,6-Dimethylphenol	none	none	none	No TRV	none
Dimethyl phthalate	none	none	none	No TRV	none
Di-n-octylphthalate	none	none	none	No TRV	none
1,4-Dioxane	none	none	none	No TRV	none
Endosulfan I	none	none	none	No TRV	none
Endosulfan II	none	none	none	No TRV	none
Endosulfan sulfate	none	none	none	No TRV	none
Endrin	3.00E-03	2.00E-05	nd	3.00E-03	Persaud et al. (1993)
Endrin aldehyde	none	none	none	No TRV	none
Endrin ketone	none	none	none	No TRV	none
EPN	none	none	none	No TRV	none
Ethanol	none	none	none	No TRV	none
Ethoprop	none	none	none	No TRV	none
Ethylacetate	none	none	none	No TRV	none

Appendix Table L-572 Derivation of TRVs for Sediment-dwelling Biota Exposed to Sediment

Ecological constituent of potential concern	Benchmarks			Sediment TRV ^b (mg/kg)	Reference
	OME "Low" (mg/kg)	NOAA ER-L (mg/kg)	Long et al. ^a ER-L (mg/kg)		
Ethylbenzene	none	none	none	No TRV	none
Ethyl parathium	none	none	none	No TRV	none
Fensulfothion	none	none	none	No TRV	none
Fluoranthene	7.50E-01	6.00E-01	6.00E-01	7.50E-01	Persaud et al. (1993)
Fluorene	1.90E-01	3.50E-02	1.90E-02	1.90E-01	Persaud et al. (1993)
Formaldehyde	none	none	none	No TRV	none
gamma-BHC (lindane)	3.00E-03	none	none	3.00E-03	Persaud et al. (1993)
gamma-Chlordane	none	none	none	No TRV	none
Heptachlor	none	none	none	No TRV	none
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	none	none	none	No TRV	none
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	none	No TRV	none
1,2,3,4,7,8,9-Heptachlorodibenzofuran	none	none	none	No TRV	none
Heptachlorodibenzofuran	none	none	none	No TRV	none
Heptachlorodibenzo-p-dioxin	none	none	none	No TRV	none
Heptachlor Epoxide	none	none	none	No TRV	none
Hexachlorobutadiene	none	none	none	No TRV	none
Hexachlorocyclopentadiene	none	none	none	No TRV	none
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	none	none	none	No TRV	none
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	none	No TRV	none
1,2,3,6,7,8-Hexachlorodibenzofuran	none	none	none	No TRV	none
2,3,4,6,7,8-Hexachlorodibenzofuran	none	none	none	No TRV	none
Hexachloroethane	none	none	none	No TRV	none
Hexane	none	none	none	No TRV	none
2-Hexanone	none	none	none	No TRV	none
Indeno(1,2,3-cd)pyrene	2.00E-01	none	none	2.00E-01	Persaud et al. (1993)
Isophorone	none	none	none	No TRV	none
MCPA	none	none	none	No TRV	none
MCPB	none	none	none	No TRV	none
MCPP	none	none	none	No TRV	none
Methanol	none	none	none	No TRV	none
Methoxychlor	none	none	none	No TRV	none
2-Methyl-4,6-dinitrophenol	none	none	none	No TRV	none
Methylene chloride	none	none	none	3.70E-01	Jones et al. (1997)
Methyl ethyl ketone	none	none	none	No TRV	none
1-Methylnaphthalene	none	none	none	No TRV	none
2-Methylnaphthalene	none	6.50E-02	7.00E-02	6.50E-02	Long and Morgan (1991)
Methyl parathion	none	none	none	No TRV	none
4-Methyl-2-pentanone	none	none	none	No TRV	none
2-Methylphenol	none	none	none	No TRV	none
3-Methylphenol	none	none	none	No TRV	none
4-Methylphenol	none	none	none	No TRV	none
N,N-dimethylformamide	none	none	none	No TRV	none
Naphthalene	1.60E-01	3.40E-01	1.60E-01	1.60E-01	Persaud et al. (1993)
Octachlorodibenzo-p-dioxin	none	none	none	No TRV	none
Octachlorodibenzofuran	none	none	none	No TRV	none
2-Octanone	none	none	none	No TRV	none
2,2-Oxibis-(1-chloropropane)	none	none	none	No TRV	none
PCB	none	none	none	No TRV	none
1,2,3,4,8-Pentachlorodibenzofuran	none	none	none	No TRV	none
1,2,3,7,8-Pentachlorodibenzofuran	none	none	none	No TRV	none
2,3,4,7,8-Pentachlorodibenzofuran	none	none	none	No TRV	none
Pentachlorobenzene	none	none	none	No TRV	none

Appendix Table L-572 Derivation of TRVs for Sediment-dwelling Biota Exposed to Sediment

Ecological constituent of potential concern	Benchmarks			Sediment TRV ^b (mg/kg)	Reference
	OME	NOAA	Long et al. ^a		
	"Low" (mg/kg)	ER-L (mg/kg)	ER-L (mg/kg)		
Pentachlorophenol	none	none	none	No TRV	none
1-Pentanol	none	none	none	No TRV	none
Phenanthrene	5.60E-01	2.25E-01	2.40E-01	5.60E-01	Persaud et al. (1993)
Phenol	none	none	none	No TRV	none
Prometon	none	none	none	No TRV	none
2-Propanol	none	none	none	No TRV	none
Pyrene	4.90E-01	3.50E-01	6.65E-01	4.90E-01	Persaud et al. (1993)
Pyridine	none	none	none	No TRV	none
Stiropnos	none	none	none	No TRV	none
Styrene	none	none	none	No TRV	none
2,3,7,8-TCDD	none	none	none	No TRV	none
2,3,7,8-Tetrachlorodibenzofuran	none	none	none	No TRV	none
Tetrachlorodibenzofuran	none	none	none	No TRV	none
1,2,4,5-Tetrachlorobenzene	none	none	none	No TRV	none
1,1,1,2-Tetrachloroethane	none	none	none	No TRV	none
1,1,2,2-Tetrachloroethane	none	none	none	No TRV	none
Tetrachloroethene	none	none	none	No TRV	none
Toluene	none	none	none	6.70E-01	SQB EPA Region V (1996)
Total petroleum hydrocarbons	none	none	none	No TRV	none
Toxaphene	none	none	none	No TRV	none
Tributyl Phosphate	none	none	none	No TRV	none
Trichloroacetic acid	none	none	none	No TRV	none
1,2,4-Trichlorobenzene	none	none	none	No TRV	none
1,1,1-Trichloroethane	none	none	none	No TRV	none
1,1,2-Trichloroethane	none	none	none	No TRV	none
Trichloroethene	none	none	none	No TRV	none
Trichlorofluoromethane	none	none	none	No TRV	none
2,4,5-Trichlorophenol	none	none	none	No TRV	none
2,4,6-Trichlorophenol	none	none	none	No TRV	none
Trichlorotrifluoroethane	none	none	none	No TRV	none
2,3,5-Trimethylnaphthalene	none	none	none	No TRV	none
Vinyl acetate	none	none	none	No TRV	none
Vinyl chloride	none	none	none	No TRV	none
Xylenes	none	none	none	2.50E-02	SQB EPA Region V (1996)
Explosives					
Acrylonitrile	none	none	none	No TRV	none
4-Amino-2,6-Dinitrotoluene	none	none	none	No TRV	none
2,4-Dinitrophenol	none	none	none	No TRV	none
1,3-Dinitrobenzene	none	none	none	No TRV	none
2,4-Dinitrotoluene	none	none	none	No TRV	none
2,6-Dinitrotoluene	none	none	none	No TRV	none
Dinitrotoluene mixture 2,4-/2,6-	none	none	none	No TRV	none
HMX	none	none	none	No TRV	none
2-Nitroaniline	none	none	none	No TRV	none
3-Nitroaniline	none	none	none	No TRV	none
4-Nitroaniline	none	none	none	No TRV	none
Nitrobenzene	none	none	none	No TRV	none
2-Nitrophenol	none	none	none	No TRV	none
4-Nitrophenol	none	none	none	No TRV	none
N-nitroso-di-n-propylamine	none	none	none	No TRV	none
N-nitrosodiphenylamine	none	none	none	No TRV	none

Appendix Table L-572 Derivation of TRVs for Sediment-dwelling Biota Exposed to Sediment

Ecological constituent of potential concern	Benchmarks			Sediment TRV^b (mg/kg)	Reference
	OME	NOAA	Long et al.^a		
	"Low" (mg/kg)	ER-L (mg/kg)	ER-L (mg/kg)		
1,3,5-Trinitrobenzene	none	none	none	No TRV	none
2,4,6-Trinitrotoluene	none	none	none	No TRV	none

OME = Ontario Ministry of Environment

Persaud et al. (1993)

NOAA = National Oceanographic and Atmospheric Administration

ER-L = Effects Range - Low

Long and Morgan (1991)

^a Long, E.R., MacDonald, D.D., Smith, S.L. and F.D. Calder (1995)

**Appendix Table L-573 Hazard Quotients for Sediment Dwelling
Biota for Dry Sediment at Winklepeck Burial Grounds - Screen**

Ecological constituent of potential concern	EPC (mg/kg)	Sediment TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ/H x 100
Inorganics				
Aluminum	1.36E+04	No TRV	No TRV	No TRV
Antimony	3.20E-01	2.00E+00	1.60E-01	1.62%
Arsenic	1.58E+01	6.00E+00	2.63E+00	26.58%
Barium	3.70E+02	No TRV	No TRV	No TRV
Beryllium	6.00E-01	No TRV	No TRV	No TRV
Cadmium	1.18E-01	6.00E-01	1.96E-01	1.99%
Calcium	1.72E+03	No TRV	No TRV	No TRV
Chromium	1.50E+01	2.60E+01	5.75E-01	5.83%
Cobalt	1.04E+01	No TRV	No TRV	No TRV
Copper	1.88E+01	1.60E+01	1.18E+00	11.90%
Cyanide	1.10E-01	No TRV	No TRV	No TRV
Iron	2.40E+04	No TRV	No TRV	No TRV
Lead	2.27E+01	3.10E+01	7.33E-01	7.42%
Magnesium	3.28E+03	No TRV	No TRV	No TRV
Manganese	9.40E+02	4.60E+02	2.04E+00	20.69%
Mercury	2.57E-02	1.50E+01	1.71E-03	0.02%
Nickel	2.83E+01	1.60E+01	1.77E+00	17.91%
Potassium	1.03E+03	No TRV	No TRV	No TRV
Selenium	7.38E-01	No TRV	No TRV	No TRV
Sodium	7.40E+01	No TRV	No TRV	No TRV
Thallium	1.80E+00	No TRV	No TRV	No TRV
Vanadium	1.59E+01	No TRV	No TRV	No TRV
Zinc	6.71E+01	1.20E+02	5.59E-01	5.66%
Organics				
Chloroform	2.00E-03	No TRV	No TRV	No TRV
Toluene	2.50E-02	6.70E-01	3.73E-02	0.38%
Explosives				
2,4,6-Trinitrotoluene	4.54E-01	No TRV	No TRV	No TRV
HI =				9.87E+00

EPC = Exposure point concentration

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)

**Appendix Table L-574 Hazard Quotients for Sediment Dwelling
Biota for Wet Sediment at Winklepeck Burial Grounds - Screen**

Ecological constituent of potential concern	EPC (mg/kg)	Sediment TRV (mg/kg)	Site HQ EPC / TRV	%HI HQ/H x 100
Inorganics				
Aluminum	1.68E+04	No TRV	No TRV	No TRV
Arsenic	1.19E+01	6.00E+00	1.99E+00	7.42%
Barium	2.20E+02	No TRV	No TRV	No TRV
Cadmium	5.60E-01	6.00E-01	9.33E-01	3.49%
Calcium	3.91E+03	No TRV	No TRV	No TRV
Chromium	1.73E+01	2.60E+01	6.64E-01	2.48%
Cobalt	8.62E+00	No TRV	No TRV	No TRV
Copper	4.91E+01	1.60E+01	3.07E+00	11.47%
Iron	1.99E+04	No TRV	No TRV	No TRV
Lead	2.51E+01	3.10E+01	8.09E-01	3.02%
Magnesium	2.63E+03	No TRV	No TRV	No TRV
Manganese	7.94E+02	4.60E+02	1.73E+00	6.44%
Mercury	1.00E-01	1.50E+01	6.67E-03	0.02%
Nickel	2.47E+01	1.60E+01	1.54E+00	5.77%
Potassium	1.58E+03	No TRV	No TRV	No TRV
Selenium	5.90E-01	No TRV	No TRV	No TRV
Sodium	1.07E+02	No TRV	No TRV	No TRV
Vanadium	2.92E+01	No TRV	No TRV	No TRV
Zinc	1.39E+02	1.20E+02	1.16E+00	4.34%
Organics				
Anthracene	1.50E-01	2.20E-01	6.82E-01	2.55%
Benzo(a)anthracene	5.60E-01	3.20E-01	1.75E+00	6.54%
Benzo(a)pyrene	3.90E-01	3.70E-01	1.05E+00	3.94%
Benzo(b)fluoranthene	5.60E-01	No TRV	No TRV	No TRV
Benzo(g,h,i)perylene	1.30E-01	1.70E-01	7.65E-01	2.86%
Benzo(k)fluoranthene	1.90E-01	2.40E-01	7.92E-01	2.96%
Chrysene	5.10E-01	3.40E-01	1.50E+00	5.60%
Fluoranthene	1.50E+00	7.50E-01	2.00E+00	7.47%
Indeno(1,2,3-cd)pyrene	1.70E-01	2.00E-01	8.50E-01	3.18%
Phenanthrene	6.40E-01	5.60E-01	1.14E+00	4.27%
Pyrene	9.40E-01	4.90E-01	1.92E+00	7.17%
Acetone	2.10E-02	8.70E-03	2.41E+00	9.02%
Explosives				
1,3,5-Trinitrobenzene	1.30E-01	No TRV	No TRV	No TRV
1,3-Dinitrobenzene	4.40E-02	No TRV	No TRV	No TRV
2,4,6-Trinitrotoluene	9.40E-02	No TRV	No TRV	No TRV
2,4-Dinitrotoluene	3.70E-02	No TRV	No TRV	No TRV
HMX	1.20E-01	No TRV	No TRV	No TRV
Nitrobenzene	7.10E-02	No TRV	No TRV	No TRV
HI =				2.68E+01

EPC = Exposure point concentration
TRV = Toxicity reference value
HQ = Hazard quotient
HI = Hazard index (Sum of HQs)

Explosives Results for Surface Water Samples at the Winklepeck Burning Grounds

Appendix Table L-575 Surface Water Sample Results		
Customer ID	Sample	
Date	Results	
Filtered		
Field Type		
Analyte (ug/L)		
1,3,5-Trinitrobenzene	0.2 UJ	
1,3-Dinitrobenzene	0.2 UJ	
2,4,6-Trinitrotoluene	0.2 UJ	
2,4-Dinitrotoluene	0.13 UJ	
2,6-Dinitrotoluene	0.13 UJ	
2-Nitrotoluene	0.2 UJ	
3-Nitrotoluene	0.2 UJ	
4-Nitrotoluene	0.2 UJ	
HMX	0.5 UJ	
Nitrobenzene	0.2 UJ	
Nitroglycerin	2.5 UJ	
RDX	0.5 U	
Tetryl	0.2 UJ	
Cyanide	10 U	10 U
Aluminum	200 U	188 U
Antimony	5 U	5 U
Arsenic	5 U	5 U
Barium	5.8 J	7.9 J
Beryllium	4 U	4 U
Cadmium	5 U	5 U
Calcium	6080 J	5730 J
Chromium	10 U	10 U
Cobalt	50 U	50 U
Copper	25 U	5.5 J
Iron	422 =	867 =
Lead	3 U	3 U
Magnesium	1960 J	1750 J
Manganese	105 =	103 =
Mercury	0.2 U	0.2 U
Nickel	40 U	40 U
Potassium	588 J	524 J
Selenium	5 U	5 U
Silver	10 U	10 U
Sodium	700 J	1450 J
Thallium	2 U	2 U
Vanadium	50 U	50 U
Zinc	16 J	18.4 J
1,2,4-Trichlorobenzene	10 U	
1,2-Dichlorobenzene	10 U	
1,3-Dichlorobenzene	10 U	
1,4-Dichlorobenzene	10 U	
2,2'-oxybis (1-chloropropane)	10 U	

Qualifiers: U-not detected, J-estimated, UJ-estimated nondetect, =-detected.

Explosives Results for Surface Water Samples at the Winklepeck Burning Grounds

Customer ID	Sample	
Date	Results	
Filtered		
Field Type		
Analyte (ug/L)		
2,4,5-Trichlorophenol	10 U	
2,4,6-Trichlorophenol	10 U	
2,4-Dichlorophenol	10 U	
2,4-Dimethylphenol	10 U	
2,4-Dinitrophenol	25 U	
2,4-Dinitrotoluene	10 U	
2,6-Dinitrotoluene	10 U	
2-Chloronaphthalene	10 U	
2-Chlorophenol	10 U	
2-Methylnaphthalene	10 U	
2-Methylphenol	10 U	
2-Nitroaniline	25 U	
2-Nitrophenol	10 U	
3,3'-Dichlorobenzidine	10 U	
3-Nitroaniline	25 U	
4,6-Dinitro-o-Cresol	25 U	
4-Bromophenyl-phenyl Ether	10 U	
4-Chloroaniline	10 U	
4-Chlorophenyl-phenylether	10 U	
4-Methylphenol	10 U	
4-Nitroaniline	25 U	
4-Nitrophenol	25 U	
4-chloro-3-methylphenol	10 U	
Acenaphthene	10 U	
Acenaphthylene	10 U	
Anthracene	10 U	
Benzo(a)anthracene	10 U	
Benzo(a)pyrene	10 U	
Benzo(b)fluoranthene	10 U	
Benzo(g,h,i)perylene	10 U	
Benzo(k)fluoranthene	10 U	
Bis(2-chloroethoxy)methane	10 U	
Bis(2-chloroethyl)ether	10 U	
Bis(2-ethylhexyl)phthalate	10 U	
Butyl Benzyl Phthalate	10 U	
Carbazole	10 U	
Chrysene	10 U	
Di-n-butyl Phthalate	10 U	
Di-n-octyl Phthalate	10 U	
Dibenzo(a,h)anthracene	10 U	
Dibenzofuran	10 U	
Diethyl Phthalate	10 U	
Dimethyl Phthalate	10 U	
Fluoranthene	10 U	

Qualifiers: U-not detected, J-estimated, UJ-estimated nondetect, ==-detected.

Explosives Results for Surface Water Samples at the Winklepeck Burning Grounds

Customer ID	Sample	
Date	Results	
Filtered		
Field Type		
Analyte (ug/L)		
Fluorene	10 U	
Hexachlorobenzene	10 U	
Hexachlorobutadiene	10 U	
Hexachlorocyclopentadiene	10 U	
Hexachloroethane	10 U	
Indeno(1,2,3-cd)pyrene	10 U	
Isophorone	10 U	
N-Nitroso-di-n-propylamine	10 U	
N-Nitrosodiphenylamine	10 U	
Naphthalene	10 U	
Nitrobenzene	10 U	
Pentachlorophenol	10 U	
Phenanthrene	10 U	
Phenol	10 U	
Pyrene	10 U	
1,1,1-Trichloroethane	5 U	
1,1,2,2-Tetrachloroethane	5 U	
1,1,2-Trichloroethane	5 U	
1,1-Dichloroethane	5 U	
1,1-Dichloroethene	5 U	
1,2-Dichloroethane	5 U	
1,2-Dichloroethene	5 U	
1,2-Dichloropropane	5 U	
1,3-cis-Dichloropropene	5 U	
1,3-trans-Dichloropropene	5 U	
2-Butanone	10 U	
2-Hexanone	10 U	
4-Methyl-2-pentanone	10 U	
Acetone	7.2 J	
Benzene	5 U	
Bromodichloromethane	5 U	
Bromoform	5 U	
Bromomethane	10 U	
Carbon Disulfide	5 U	
Carbon Tetrachloride	5 U	
Chlorobenzene	5 U	
Chloroethane	10 U	
Chloroform	5 U	
Chloromethane	10 U	
Dibromochloromethane	5 U	
Ethylbenzene	5 U	
Methylene Chloride	5 U	
Styrene	5 U	
Tetrachloroethene	5 U	

Qualifiers: U-not detected, J-estimated, UJ-estimated nondetect, =-detected.

Explosives Results for Surface Water Samples at the Winklepeck Burning Grounds

Customer ID	Sample	
Date	Results	
Filtered		
Field Type		
Analyte (ug/L)		
Toluene	5 U	
Trichloroethene	5 U	
Vinyl Chloride	10 U	
Xylenes, Total	5 U	

Appendix Table L-576 Surface Water Screening Values from EPA Region V

Ecological constituent of potential concern	Benchmarks		Surface Water TRV ^b (µg/L)	Reference
	NAWQC	Tier II		
	chronic ^a (µg/L)	chronic (µg/L)		
Inorganics				
Aluminum	8.70E+01	none	8.70E+01	Suter and Tsao (1996)
Ammonia	none	none	No TRV	none
Antimony	none	3.00E+01	3.00E+01	Suter and Tsao (1996)
Arsenic	1.90E+02	none	1.90E+02	Suter and Tsao (1996)
Arsenic (III)	1.90E+02	none	1.90E+02	Suter and Tsao (1996)
Arsenic (V)	none	3.10E+00	3.10E+00	Suter and Tsao (1996)
Barium	none	4.00E+00	4.00E+00	Suter and Tsao (1996)
Beryllium	none	6.60E-01	6.60E-01	Suter and Tsao (1996)
Bismuth	none	none	No TRV	none
Boron	none	1.60E+00	1.60E+00	Suter and Tsao (1996)
Cadmium	1.10E+00	none	1.10E+00	Suter and Tsao (1996)
Calcium	none	none	No TRV	none
Cerium	none	none	No TRV	none
Chloride	none	none	No TRV	none
Chromium (III)	2.10E+02	none	2.10E+02	Suter and Tsao (1996)
Chromium	2.10E+02	none	2.10E+02	Suter and Tsao (1996)
Chromium (VI)	1.10E+01	none	1.10E+01	Suter and Tsao (1996)
Cobalt	none	3.00E+00	3.00E+00	EPA Region V (1995)
Copper	1.20E+01	none	1.20E+01	Suter and Tsao (1996)
Cyanide	5.20E+00	none	5.20E+00	Suter and Tsao (1996)
Fluoride	none	none	No TRV	none
Fluorine	none	1.18E+03	1.18E+03	Suter and Tsao (1996)
Iodine	none	none	No TRV	none
Iron	1.00E+03	none	1.00E+03	EPA Region V (1995)
Lanthanum	none	none	No TRV	none
Lead	2.50E+00	none	2.50E+00	EPA Region V (1995)
Lithium	none	none	No TRV	none
Magnesium	none	none	No TRV	none
Manganese	none	1.20E+02	1.20E+02	Suter and Tsao (1996)
Mercury	none	1.30E+00	1.30E+00	EPA Region V (1995)
Methyl mercury	none	3.00E-03	3.00E-03	Suter and Tsao (1996)
Molybdenum	none	3.70E+02	3.70E+02	Suter and Tsao (1996)
Neodymium	none	none	No TRV	none
Nickel	1.60E+02	none	1.60E+02	EPA Region V (1995)
Niobium	none	none	No TRV	none
Nitrate	none	none	No TRV	none
Nitrite	none	none	No TRV	none
Phosphorus	none	none	No TRV	none
Potassium	none	none	No TRV	none
Selenium	5.00E+00	none	5.00E+00	Suter and Tsao (1996)
Silver	none	3.60E-01	3.60E-01	Suter and Tsao (1996)
Sodium	none	none	No TRV	none
Strontium	none	1.50E+03	1.50E+03	Suter and Tsao (1996)
Sulfate	none	none	No TRV	none

Appendix Table L-576 Surface Water Screening Values from EPA Region V

Ecological constituent of potential concern	Benchmarks		Surface Water TRV ^b (µg/L)	Reference
	NAWQC chronic ^a (µg/L)	Tier II chronic (µg/L)		
	Thallium	none	1.20E+01	
Tin	none	7.30E+01	7.30E+01	Suter and Tsao (1996)
Uranium	none	2.60E+00	2.60E+00	Suter and Tsao (1996)
Vanadium	none	2.00E+01	2.00E+01	Suter and Tsao (1996)
Zinc	1.10E+02	none	1.10E+02	Suter and Tsao (1996)
Zirconium	none	1.70E+01	1.70E+01	Suter and Tsao (1996)
Organics				
Acenaphthene	2.30E+01	none	2.30E+01	Suter and Tsao (1996)
Acenaphthylene	none	none	No TRV	none
Acetone	none	1.50E+03	1.50E+03	Suter and Tsao (1996)
Acetophenone	none	none	No TRV	none
Acrolein	none	none	No TRV	none
Aldrin	none	none	No TRV	none
alpha-BHC	none	none	No TRV	none
Anthracene	none	7.30E-01	7.30E-01	Suter and Tsao (1996)
Aroclor-1016	none	none	No TRV	none
Aroclor-1221	none	2.80E-01	2.80E-01	Suter and Tsao (1996)
Aroclor-1232	none	5.80E-01	5.80E-01	Suter and Tsao (1996)
Aroclor-1242	none	5.30E-02	5.30E-02	Suter and Tsao (1996)
Aroclor-1248	none	8.10E-02	8.10E-02	Suter and Tsao (1996)
Aroclor-1254	none	3.30E-02	3.30E-02	Suter and Tsao (1996)
Aroclor-1260	none	9.40E+01	9.40E+01	Suter and Tsao (1996)
Benzidine	none	3.86E+00	3.86E+00	Suter and Tsao (1996)
Benzene	none	1.30E+02	1.30E+02	Suter and Tsao (1996)
Benzo(a)anthracene	none	2.70E-02	2.70E-02	Suter and Tsao (1996)
Benzo(a)pyrene	none	1.40E-02	1.40E-02	Suter and Tsao (1996)
Benzo(b)fluoranthene	none	none	No TRV	none
Benzo(g,h,i)perylene	none	none	No TRV	none
Benzo(k)fluoranthene	none	none	No TRV	none
Benzoic Acid	none	4.20E+01	4.20E+01	Suter and Tsao (1996)
beta-BHC	none	none	No TRV	none
BHC-mixed isomers	none	2.20E+00	2.20E+00	Suter and Tsao (1996)
Bis(2-chloroethoxy)methane	none	none	No TRV	none
Bis(2-chloroethyl)ether	none	none	No TRV	none
Bis(2-chloroisopropyl)ether	none	none	No TRV	none
Bis(2-ethylhexyl)phthalate	none	3.20E+01	3.20E+01	EPA Region V (1995)
Bromacil	none	none	No TRV	none
Bromodichloromethane	none	none	No TRV	none
Bromoform	none	none	No TRV	none
Bromomethane	none	none	No TRV	none
2-Butanone	none	1.40E+04	1.40E+04	Suter and Tsao (1996)
Butylbenzylphthalate	none	1.90E+01	1.90E+01	Suter and Tsao (1996)
Carbazole	none	none	No TRV	none
Carbon disulfide	none	9.20E-01	9.20E-01	Suter and Tsao (1996)

Appendix Table L-576 Surface Water Screening Values from EPA Region V

Ecological constituent of potential concern	Benchmarks		Surface Water TRV ^b (µg/L)	Reference
	NAWQC chronic ^a (µg/L)	Tier II chronic (µg/L)		
	Carbon tetrachloride	none	9.80E+00	
2-Chloroaniline	none	none	No TRV	none
3-Chloroaniline	none	none	No TRV	none
4-Chloroaniline	none	none	No TRV	none
Chlorobenzene	none	6.40E+01	6.40E+01	Suter and Tsao (1996)
Chlordane	1.70E-01	none	1.70E-01	Suter and Tsao (1996)
Chlordecone (Kepone)	none	none	No TRV	none
Chloroethane	none	none	No TRV	none
Chloroform	none	2.80E+01	2.80E+01	Suter and Tsao (1996)
Chloromethane	none	none	No TRV	none
4-Chloro-3-methylphenol	none	none	No TRV	none
2-Chloronaphthalene	none	none	No TRV	none
2-Chlorophenol	none	none	No TRV	none
4-Chlorophenyl phenyl ether	none	none	No TRV	none
2-Chlorotoluene	none	none	No TRV	none
Chlorpyrifos	none	none	No TRV	none
Chrysene	none	none	No TRV	none
Copper gluconate	none	none	No TRV	none
o-Cresol	none	none	No TRV	none
2,4-D	none	none	No TRV	none
2,4-DB	none	none	No TRV	none
4,4'-DDD	none	1.10E-02	1.10E-02	Suter and Tsao (1996)
4,4'-DDE	none	none	No TRV	none
4,4'-DDT	none	1.30E-02	1.30E-02	Suter and Tsao (1996)
Decane	none	4.90E+01	4.90E+01	Suter and Tsao (1996)
delta-BHC	none	none	No TRV	none
Dibenzo(a,h)anthracene	none	none	No TRV	none
Dibenzofuran	none	3.70E+00	3.70E+00	Suter and Tsao (1996)
Dibromochloromethane	none	none	No TRV	none
Di-n-butylphthalate	none	3.50E+01	3.50E+01	Suter and Tsao (1996)
Di-n-hexylphthalate	none	none	No TRV	none
Dicamba	none	none	No TRV	none
1,2-Dichlorobenzene	none	1.40E+01	1.40E+01	Suter and Tsao (1996)
1,3-Dichlorobenzene	none	7.10E+01	7.10E+01	Suter and Tsao (1996)
1,4-Dichlorobenzene	none	1.50E+01	1.50E+01	Suter and Tsao (1996)
3,3'-Dichlorobenzidine	none	none	No TRV	none
Dichlorodifluoromethane	none	none	No TRV	none
1,1-Dichloroethane	none	4.70E+01	4.70E+01	Suter and Tsao (1996)
1,2-Dichloroethane	none	9.10E+02	9.10E+02	Suter and Tsao (1996)
1,1-Dichloroethene	none	2.50E+01	2.50E+01	Suter and Tsao (1996)
1,2-Dichloroethene	none	5.90E+02	5.90E+02	Suter and Tsao (1996)
1,2-c-Dichloroethene	none	none	No TRV	none
1,2-t-Dichloroethene	none	none	No TRV	none
2,4-Dichlorophenol	none	none	No TRV	none
Dichloroprop	none	none	No TRV	none

Appendix Table L-576 Surface Water Screening Values from EPA Region V

Ecological constituent of potential concern	Benchmarks		Surface Water TRV^b (µg/L)	Reference
	NAWQC chronic^a (µg/L)	Tier II chronic (µg/L)		
1,2-Dichloropropane	none	none	No TRV	none
1,3-Dichloropropane	none	none	No TRV	none
1,3-Dichloropropene	none	5.50E-02	5.50E-02	Suter and Tsao (1996)
Dieldrin	6.20E-02	none	6.20E-02	Suter and Tsao (1996)
Diethylphthalate	none	2.10E+02	2.10E+02	Suter and Tsao (1996)
Dimethyl benzene	none	none	No TRV	none
2,4-Dimethylphenol	none	none	No TRV	none
2,6-Dimethylphenol	none	none	No TRV	none
Dimethyl phthalate	none	none	No TRV	none
Di-n-octylphthalate	none	none	No TRV	none
1,4-Dioxane	none	none	No TRV	none
Endosulfan I	none	5.10E-02	5.10E-02	Suter and Tsao (1996)
Endosulfan II	none	5.10E-02	5.10E-02	Suter and Tsao (1996)
Endosulfan sulfate	none	5.10E-02	5.10E-02	Suter and Tsao (1996)
Endrin	6.10E-02	none	6.10E-02	Suter and Tsao (1996)
Endrin aldehyde	none	none	No TRV	none
Endrin ketone	none	none	No TRV	none
EPN	none	none	No TRV	none
Ethanol	none	none	No TRV	none
Ethoprop	none	none	No TRV	none
Ethylacetate	none	none	No TRV	none
Ethylbenzene	none	7.30E+00	7.30E+00	Suter and Tsao (1996)
Ethyl parathium	none	none	No TRV	none
Fensulfothion	none	none	No TRV	none
Fluoranthene	6.16E+00	none	6.16E+00	Suter and Tsao (1996)
Fluorene	none	3.90E+00	3.90E+00	Suter and Tsao (1996)
Formaldehyde	none	none	No TRV	none
gamma-BHC (lindane)	8.00E-02	none	8.00E-02	Suter and Tsao (1996)
gamma-Chlordane	none	none	No TRV	none
Heptachlor	none	6.90E-03	6.90E-03	Suter and Tsao (1996)
Heptachlor epoxide	none	none	No TRV	none
Hexachlorobutadiene	none	none	No TRV	none
Hexachlorocyclopentadiene	none	none	No TRV	none
Hexachloroethane	none	1.20E+01	1.20E+01	Suter and Tsao (1996)
Hexane	none	5.80E-01	5.80E-01	Suter and Tsao (1996)
2-Hexanone	none	9.88E+01	9.88E+01	Suter and Tsao (1996)
Indeno(1,2,3-cd)pyrene	none	none	No TRV	none
Isophorone	none	none	No TRV	none
MCPA	none	none	No TRV	none
MCPB	none	none	No TRV	none
MCPB	none	none	No TRV	none
Methanol	none	none	No TRV	none
Methoxychlor	1.90E-02	none	1.90E-02	Suter and Tsao (1996)
2-Methyl-4,6-dinitrophenol	none	none	No TRV	none
Methylene chloride	none	2.20E+03	2.20E+03	Suter and Tsao (1996)

Appendix Table L-576 Surface Water Screening Values from EPA Region V

Ecological constituent of potential concern	Benchmarks		Surface Water TRV ^b (µg/L)	Reference
	NAWQC chronic ^a (µg/L)	Tier II chronic (µg/L)		
	Methyl ethyl ketone	none	2.08E+04	
1-Methylnaphthalene	none	2.10E+00	2.10E+00	Suter and Tsao (1996)
2-Methylnaphthalene	none	none	No TRV	none
Methyl parathion	none	none	No TRV	none
4-Methyl-2-pentanone	none	1.70E+02	1.70E+02	Suter and Tsao (1996)
2-Methylphenol	none	1.30E+01	1.30E+01	Suter and Tsao (1996)
3-Methylphenol	none	none	No TRV	none
4-Methylphenol	none	none	No TRV	none
N,N-dimethylformamide	none	none	No TRV	none
Naphthalene	none	1.20E+01	1.20E+01	Suter and Tsao (1996)
2-Octanone	none	8.30E+00	8.30E+00	Suter and Tsao (1996)
2,2-Oxibis-(1-chloropropane)	none	none	No TRV	none
PCB	none	1.90E-01	1.90E-01	Suter and Tsao (1996)
Pentachlorobenzene	none	none	No TRV	none
Pentachlorophenol	none	none	No TRV	none
1-Pentanol	none	1.10E+02	1.10E+02	Suter and Tsao (1996)
Phenanthrene	6.30E+00	none	6.30E+00	Suter and Tsao (1996)
Phenol	1.10E+02	none	1.10E+02	Suter and Tsao (1996)
Prometon	none	none	No TRV	none
2-Propanol	none	7.50E+00	7.50E+00	Suter and Tsao (1996)
Pyrene	none	none	No TRV	none
Pyridine	none	none	No TRV	none
Stiropfos	none	none	No TRV	none
Styrene	none	none	No TRV	none
1,2,4,5-Tetrachlorobenzene	none	none	No TRV	none
1,1,1,2-Tetrachloroethane	none	7.19E+02	7.19E+02	Suter and Tsao (1996)
1,1,2,2-Tetrachloroethane	none	6.10E+02	6.10E+02	Suter and Tsao (1996)
Tetrachloroethene	none	9.80E+01	9.80E+01	Suter and Tsao (1996)
Toluene	none	1.30E+02	1.30E+02	EPA (1994)
Total petroleum hydrocarbons	none	none	No TRV	none
Toxaphene	none	none	No TRV	none
Tributyl phosphate	none	none	No TRV	none
Trichloroacetic acid	none	none	No TRV	none
1,2,4-Trichlorobenzene	none	1.10E+02	1.10E+02	Suter and Tsao (1996)
1,1,1-Trichloroethane	none	1.10E+01	1.10E+01	Suter and Tsao (1996)
1,1,2-Trichloroethane	none	1.20E+03	1.20E+03	Suter and Tsao (1996)
Trichloroethene	none	4.70E+01	4.70E+01	Suter and Tsao (1996)
Trichlorofluoromethane	none	none	No TRV	none
2,4,5-Trichlorophenol	none	none	No TRV	none
2,4,6-Trichlorophenol	none	none	No TRV	none
Trichlorotrifluoroethane	none	none	No TRV	none
2,3,5-Trimethylnaphthalene	none	none	No TRV	none
Vinyl acetate	none	1.60E+01	1.60E+01	Suter and Tsao (1996)
Vinyl chloride	none	none	No TRV	none
Xylenes	none	1.30E+01	1.30E+01	Suter and Tsao (1996)

Appendix Table L-576 Surface Water Screening Values from EPA Region V

Ecological constituent of potential concern	Benchmarks		Surface Water TRV ^b (µg/L)	Reference
	NAWQC chronic ^a (µg/L)	Tier II chronic (µg/L)		
Dioxins and Furans				
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	none	none	No TRV	none
1,2,3,4,6,7,8-Heptachlorodibenzofuran	none	none	No TRV	none
1,2,3,4,7,8,9-Heptachlorodibenzofuran	none	none	No TRV	none
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none
1,2,3,6,7,8-Hexachlorodibenzofuran	none	none	No TRV	none
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none
1,2,3,7,8,9-Hexachlorodibenzofuran	none	none	No TRV	none
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	none	none	No TRV	none
1,2,3,4,7,8-Hexachlorodibenzofuran	none	none	No TRV	none
2,3,4,6,7,8-Hexachlorodibenzofuran	none	none	No TRV	none
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	none	none	No TRV	none
1,2,3,7,8-Pentachlorodibenzofuran	none	none	No TRV	none
2,3,4,7,8-Pentachlorodibenzofuran	none	none	No TRV	none
2,3,7,8-Tetrachlorodibenzofuran	none	none	No TRV	none
Octachlorodibenzo-p-dioxin	none	none	No TRV	none
Octachlorodibenzofuran	none	none	No TRV	none
Explosives				
2,4,6-Trinitrotoluene	none	none	No TRV	none
Acrylonitrile	none	none	No TRV	none
2,4-Dinitrophenol	none	none	No TRV	none
2,4-Dinitrotoluene	none	none	No TRV	none
2,6-Dinitrotoluene	none	none	No TRV	none
Dinitrotoluene mixture 2,4-/2,6-	none	none	No TRV	none
2-Nitroaniline	none	none	No TRV	none
3-Nitroaniline	none	none	No TRV	none
4-Nitroaniline	none	none	No TRV	none
Nitrobenzene	none	none	No TRV	none
2-Nitrophenol	none	none	No TRV	none
4-Nitrophenol	none	3.00E+02	3.00E+02	Suter and Tsao (1996)
N-nitroso-di-n-propylamine	none	none	No TRV	none
N-nitrosodiphenylamine	none	2.10E+02	2.10E+02	Suter and Tsao (1996)

^a Assumes hardness = 100 mg/L CaCO₃

^b NAWQC is first choice for TRV; Tier II is second choice.

**Appendix Table L-577 Hazard Quotients for Aquatic Biota for
Winklepeck Burial Brounds**

Ecological constituent of potential concern	EPC (µg/L)	Surface water TRV (µg/L)	Site HQ EPC / TRV	%HI HQ / HI x 100
Organics				
Acetone	7.20E+00	1.50E+03	4.80E-03	100.00%
HI =			4.80E-03	

RME = Reasonable maximum exposure, max detected

TRV = Toxicity reference value

HQ = Hazard quotient

HI = Hazard index (Sum of HQs)