ATTACHMENT U-5a

TIER 2 EXPOSURE AND RISK WORKBOOKS

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TIER 2 EXPOSURE AND RISK WORKBOOKS

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Table U.A5A-1
Tier 2 Dose Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

CPEC	RCRA Canyon															
	Terrestrial Invertivorous Mammal			Terrestrial Herbivorous Mammal			Terrestrial Carnivorous Mammal			Terrestrial Invertivorous & Herbivorous Bird				Terrestrial Carnivorous Bird		
	Ornate Shrew			California Vole			Striped Skunk			Western Meadowlark				American Kestrel		
	SubsurfaceSoil[a]	Surface Water	Soil Invertebrates	SubsurfaceSoil[a]	Surface Water	Vegetation	SubsurfaceSoil[a]	Surface Water	Mammals	Surface Soil[a]	Surface Water	Soil Invertebrates	Vegetation	Surface Soil[a]	Surface Water	Mammals
	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)
Inorganics																
Barium	263	0.000073	93	28	0.00069	51	24	0.029	7.3	356	0.00043	119	146	21	0.0020	43
Chromium	3.3	0.000010	0.75	0.35	0.000094	0.15	0.31	0.0039	0.099	4.9	0.000059	0.95	0.43	0.30	0.00027	0.58
Copper	1.9	0.000017	31	0.20	0.00016	4.4	0.17	0.0066	3.2	2.9	0.00010	39	12	0.18	0.00046	19
Lead	0.93	0.00000065	0.15	0.098	0.0000061	0.046	0.086	0.00026	0.050	1.4	0.0000039	0.19	0.13	0.082	0.000018	0.29
Molybdenum	0.12	0.000033	0.77	0.012	0.00031	0.34	0.011	0.013	0.065	0.088	0.00020	0.99	0.98	0.0053	0.00090	0.38
Selenium	0.051	0.00029	0.38	0.0054	0.0027	0.15	0.0047	0.11	0.030	0.056	0.0017	0.45	0.30	0.0034	0.0077	0.16
Vanadium	1.1	0.000027	0.075	0.11	0.00025	0.016	0.097	0.011	0.0059	0.98	0.00016	0.096	0.047	0.059	0.00073	0.034
Zinc	6.4	0.000013	199	0.68	0.00012	23	0.59	0.0051	24	9.6	0.000078	253	66	0.58	0.00035	140
Polychlorinated Biphenyls (PCBs)																
Aroclor 1260	0.0011	0.0	0.00042	0.00011	0.0	0.0000093	0.000097	0.0	0.0000015	0.0011	0.0	0.00054	0.000027	0.000063	0.0	0.0000088
Sum of PCB Congeners	0.00018	0.0	0.000077	0.000019	0.0	0.0000072	0.000017	0.0	0.00000028	0.00019	0.0	0.000099	0.000021	0.000012	0.0	0.0000016
Total Avian PCB TEQ	1.33E-07	0.00E+00	5.76E-06	1.40E-08	0.00E+00	4.04E-08	1.23E-08	0.00E+00	2.08E-08	1.50E-07	0.00E+00	7.34E-06	1.16E-07	9.05E-09	0.00E+00	1.21E-07
Total Mammalian PCB TEQ	4.05E-08	0.00E+00	5.97E-07	4.27E-09	0.00E+00	4.00E-10	3.74E-09	0.00E+00	2.15E-09	4.81E-08	0.00E+00	7.60E-07	1.15E-09	2.90E-09	0.00E+00	1.25E-08
Pesticides																
Total DDT	0.00015	0.0	0.023	0.000016	0.0	0.00044	0.000014	0.0	--	0.00016	0.0	0.029	0.0013	0.0000098	0.0	--

Table U.A5A-1
Tier 2 Dose Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

CPEC	West Canyon Spray Area															
	Terrestrial Invertivorous Mammal			Terrestrial Herbivorous Mammal			Terrestrial Carnivorous Mammal			Terrestrial Invertivorous & Herbivorous Bird				Terrestrial Carnivorous Bird		
	Ornate Shrew			California Vole			Striped Skunk			Western Meadowlark				American Kestrel		
	SubsurfaceSoil[a]	Surface Water	Soil Invertebrates	SubsurfaceSoil[a]	Surface Water	Vegetation	SubsurfaceSoil[a]	Surface Water	Mammals	Surface Soil[b]	Surface Water	Soil Invertebrates	Vegetation	Surface Soil[b]	Surface Water	Mammals
	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/L)	(mg/kg-d)
Inorganics																
Barium	5.6	0.000073	2.6	0.59	0.00069	0.88	0.52	0.029	0.13	6.1	0.00043	3.3	2.5	0.0014	0.0020	0.73
Chromium	7.5	0.000010	2.2	0.79	0.000094	0.58	0.69	0.0039	0.39	19	0.000059	2.8	1.7	0.00035	0.00027	2.3
Copper	9.9	0.000017	160	1.0	0.00016	23	0.91	0.0066	17	15	0.00010	204	65	0.029	0.00046	98
Lead	0.66	0.00000065	0.099	0.069	0.0000061	0.027	0.061	0.00026	0.029	0.81	0.0000039	0.13	0.078	0.00022	0.000018	0.17
Molybdenum	0.14	0.000033	0.95	0.014	0.00031	0.40	0.013	0.013	0.080	0.11	0.00020	1.2	1.2	0.0017	0.00090	0.47
Selenium	0.050	0.00029	0.33	0.0052	0.0027	0.12	0.0046	0.11	0.028	0.046	0.0017	0.39	0.24	0.0016	0.0077	0.15
Vanadium	1.1	0.000027	0.081	0.12	0.00025	0.018	0.10	0.011	0.0064	1.1	0.00016	0.10	0.051	0.000090	0.00073	0.037
Zinc	5.8	0.000013	163	0.61	0.00012	19	0.53	0.0051	20	7.9	0.000078	207	54	0.12	0.00035	115
Polychlorinated Biphenyls (PCBs)																
Aroclor 1260	0.00095	0.0	0.00034	0.00010	0.0	0.0000090	0.000088	0.0	0.0000012	0.00085	0.0	0.00044	0.000026	0.0	0.0	0.0000072
Sum of PCB Congeners	0.00016	0.0	0.000069	0.000017	0.0	0.0000071	0.000015	0.0	0.00000025	0.00017	0.0	0.000088	0.000020	0.0000000052	0.0	0.0000014
Total Avian PCB TEQ	7.69E-08	0.00E+00	5.33E-06	8.10E-09	0.00E+00	3.78E-08	7.10E-09	0.00E+00	1.92E-08	1.04E-07	0.00E+00	6.79E-06	1.08E-07	4.20E-10	0.00E+00	1.12E-07
Total Mammalian PCB TEQ	1.88E-08	0.00E+00	4.03E-07	1.98E-09	0.00E+00	1.41E-10	1.73E-09	0.00E+00	1.45E-09	1.69E-08	0.00E+00	5.14E-07	4.03E-10	3.16E-11	0.00E+00	8.47E-09
Pesticides																
Total DDT	0.00028	0.0	0.035	0.000030	0.0	0.00060	0.000026	0.0	--	0.00025	0.0	0.045	0.0017	--	0.0	--

Table U.A5A-1
Tier 2 Dose Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

CPEC	Administration Building Area										
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous & Herbivorous Bird			Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark			American Kestrel	
	SubsurfaceSoil[a]	Soil Invertebrates	SubsurfaceSoil[a]	Vegetation	SubsurfaceSoil[a]	Mammals	Surface Soil[a]	Soil Invertebrates	Vegetation	Surface Soil[a]	Mammals
	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Inorganics											
Barium	6.8	1.9	0.71	0.87	0.62	0.088	4.3	2.4	2.5	0.26	0.51
Chromium	1.0	0.19	0.11	0.027	0.092	0.018	0.89	0.24	0.078	0.053	0.10
Copper	0.47	4.9	0.050	0.68	0.044	0.51	0.46	6.2	2.0	0.028	3.0
Lead	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Molybdenum	0.14	0.69	0.015	0.42	0.013	0.058	0.079	0.88	1.2	0.0048	0.34
Selenium	0.051	0.33	0.0054	0.12	0.0047	0.028	0.046	0.39	0.24	0.0028	0.15
Vanadium	1.1	0.076	0.12	0.017	0.11	0.0059	0.99	0.097	0.049	0.059	0.034
Zinc	1.8	35	0.19	4.0	0.17	4.2	1.7	44	11	0.10	24
Polychlorinated Biphenyls (PCBs)											
Aroclor 1260	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sum of PCB Congeners	0.0000042	0.0000015	0.00000045	0.0000040	0.00000039	0.000000032	0.0000038	0.0000019	0.000011	0.00000023	0.00000019
Total Avian PCB TEQ	2.04E-09	2.22E-06	2.14E-10	1.80E-08	1.88E-10	8.00E-09	1.83E-09	2.83E-06	5.17E-08	1.11E-10	4.67E-08
Total Mammalian PCB TEQ	3.80E-11	3.94E-08	3.99E-12	2.84E-13	3.50E-12	1.42E-10	3.42E-11	5.01E-08	8.14E-13	2.06E-12	8.27E-10
Pesticides											
Total DDT	0.00011	0.013	0.000011	0.00030	0.0000098	--	0.000095	0.017	0.00087	0.0000057	--

Table U.A5A-1
Tier 2 Dose Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

CPEC	Roadway Areas										
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous & Herbivorous Bird			Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark			American Kestrel	
	SubsurfaceSoil[a]	Soil Invertebrates	SubsurfaceSoil[a]	Vegetation	SubsurfaceSoil[a]	Mammals	Surface Soil[a]	Soil Invertebrates	Vegetation	Surface Soil[a]	Mammals
	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Inorganics											
Barium	5.9	2.0	0.62	0.76	0.55	0.093	4.5	2.5	2.2	0.27	0.54
Chromium	2.5	0.57	0.26	0.11	0.23	0.070	3.5	0.72	0.30	0.21	0.41
Copper	1.0	25	0.11	3.5	0.094	2.6	2.4	32	10	0.14	15
Lead	2.2	0.20	0.23	0.068	0.21	0.073	2.0	0.25	0.19	0.12	0.42
Molybdenum	0.12	0.99	0.013	0.37	0.011	0.083	0.11	1.3	1.1	0.0068	0.49
Selenium	0.050	0.33	0.0053	0.12	0.0046	0.028	0.046	0.39	0.24	0.0028	0.15
Vanadium	1.1	0.080	0.11	0.017	0.10	0.0063	1.0	0.10	0.050	0.063	0.037
Zinc	2.2	50	0.23	5.8	0.20	6.1	2.4	64	17	0.15	35
Polychlorinated Biphenyls (PCBs)											
Aroclor 1260	0.055	0.020	0.0058	0.000017	0.0050	0.000071	0.049	0.025	0.000048	0.0030	0.00041
Sum of PCB Congeners	0.013	0.0046	0.0014	0.000013	0.0012	0.000017	0.012	0.0059	0.000038	0.00070	0.000097
Total Avian PCB TEQ	1.45E-05	1.51E-05	1.52E-06	9.16E-08	1.33E-06	5.45E-08	1.30E-05	1.93E-05	2.63E-07	7.85E-07	3.18E-07
Total Mammalian PCB TEQ	9.90E-07	1.78E-06	1.04E-07	7.40E-09	9.13E-08	6.42E-09	8.91E-07	2.27E-06	2.12E-08	5.37E-08	3.75E-08
Pesticides											
Total DDT	0.00086	0.20	0.000090	0.0020	0.000079	--	0.0015	0.26	0.0057	0.000088	--

Table U.A5A-1
Tier 2 Dose Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

CPEC	Remaining Onsite Areas										
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous & Herbivorous Bird			Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark			American Kestrel	
	SubsurfaceSoil[a]	Soil Invertebrates	SubsurfaceSoil[a]	Vegetation	SubsurfaceSoil[a]	Mammals	Surface Soil[a]	Soil Invertebrates	Vegetation	Surface Soil[a]	Mammals
	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Inorganics											
Barium	7.8	1.4	0.010	1.0	0.72	0.063	3.1	1.8	2.9	0.18	1.9
Chromium	1.2	0.19	0.00032	0.031	0.11	0.018	0.89	0.24	0.089	0.053	0.059
Copper	0.77	4.9	0.010	1.0	0.071	0.51	0.46	6.2	3.0	0.028	2.0
Lead	0.38	0.056	0.00013	0.013	0.035	0.014	0.37	0.071	0.036	0.023	0.024
Molybdenum	0.12	1.2	0.0044	0.43	0.011	0.098	0.13	1.5	1.2	0.0079	0.81
Selenium	0.052	0.32	0.0029	0.12	0.0048	0.027	0.043	0.37	0.25	0.0026	0.15
Vanadium	1.0	0.076	0.00017	0.016	0.094	0.0059	0.98	0.096	0.047	0.059	0.031
Zinc	1.8	35	0.041	4.1	0.17	4.3	1.7	45	12	0.10	7.7
Polychlorinated Biphenyls (PCBs)											
Aroclor 1260	0.023	0.0083	0.00000015	0.000015	0.0021	0.000036	0.021	0.011	0.000042	0.0013	0.000028
Sum of PCB Congeners	0.0030	0.00016	0.00000011	0.000011	0.00028	0.00000068	0.00039	0.00020	0.000031	0.000024	0.000020
Total Avian PCB TEQ	5.89E-06	5.87E-06	7.87E-10	7.77E-08	5.43E-07	2.54E-08	1.63E-07	7.48E-06	2.23E-07	9.85E-09	1.47E-07
Total Mammalian PCB TEQ	5.99E-07	5.65E-07	4.54E-11	4.48E-09	5.52E-08	2.44E-09	4.15E-08	7.19E-07	1.28E-08	2.50E-09	8.47E-09
Pesticides											
Total DDT	0.0029	0.33	0.000030	0.0029	0.00026	--	0.0024	0.42	0.0084	0.00014	0.0055

Table U.A5A-1
Tier 2 Dose Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

CPEC	Former Ponds and Pads Areas South of the PSCT										
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous & Herbivorous Bird			Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark			American Kestrel	
	SubsurfaceSoil[a]	Soil Invertebrates	SubsurfaceSoil[a]	Vegetation	SubsurfaceSoil[a]	Mammals	Surface Soil[a]	Soil Invertebrates	Vegetation	Surface Soil[a]	Mammals
	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Inorganics											
Barium	18	8.8	1.9	3.5	1.6	0.50	25	11	10	1.5	2.9
Chromium	1.1	0.23	0.12	0.033	0.10	0.022	1.1	0.29	0.094	0.066	0.13
Copper	0.60	6.3	0.063	0.89	0.055	0.66	0.60	8.0	2.6	0.036	3.9
Lead	0.43	0.068	0.046	0.016	0.040	0.017	0.48	0.086	0.047	0.029	0.10
Molybdenum	0.14	1.1	0.015	0.41	0.013	0.094	0.13	1.4	1.2	0.0076	0.55
Selenium	0.044	0.28	0.0047	0.10	0.0041	0.026	0.037	0.33	0.21	0.0022	0.14
Vanadium	0.96	0.070	0.10	0.015	0.089	0.0054	0.91	0.089	0.043	0.055	0.032
Zinc	2.1	42	0.22	4.9	0.20	5.1	2.0	54	14	0.12	30
Polychlorinated Biphenyls (PCBs)											
Aroclor 1260	0.0036	0.0021	0.00038	0.000012	0.00034	0.0000089	0.0052	0.0026	0.000034	0.00031	0.000052
Sum of PCB Congeners	0.043	0.017	0.0045	0.000016	0.0039	0.000071	0.041	0.021	0.000046	0.0025	0.00042
Total Avian PCB TEQ	6.20E-05	2.13E-05	6.53E-06	1.22E-07	5.72E-06	9.20E-08	6.29E-05	2.71E-05	3.51E-07	3.79E-06	5.37E-07
Total Mammalian PCB TEQ	2.39E-06	2.64E-06	2.51E-07	2.12E-08	2.20E-07	1.14E-08	2.55E-06	3.37E-06	6.07E-08	1.54E-07	6.66E-08
Pesticides											
Total DDT	0.00081	0.066	0.000086	0.0012	0.000075	--	0.00047	0.083	0.0035	0.000028	--

Table U.A5A-1
Tier 2 Dose Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

CPEC = Constituent of Potential Ecological Concern
TEQ = Toxic Equivalent
mg/kg-d = milligrams per kilogram per day
"--" = No Data; CPEC was not analyzed in the samples.
An intake value of 0.0 for indicates that no intake was calculated because:

a.) CPEC was not detected in the onsite media. Offsite detections resulted in inclusion of the compound if the frequency of detection was >5%.

b.) Compound was not a CPEC in the matrix.

c.) No bioaccumulation, resulting in intake = 0 (prey and vegetation only)

[a] For burrowing receptors, subsurface soil (0-5 feet below ground surface) exposure point concentrations were used.

[b] For non-burrowing receptors, surface soil (0-0.5 feet below ground surface) exposure point concentrations were used.

Dose Calculations:

Soil Intake (mg/kg-bw/day)= (Soil EPC (mg/kg dw) * SIR (kg/day dw))
Prey Intake (mg/kg-bw/day) = (Soil EPC (mg/kg dw) * BAF * FIR (kg/day dw) * fp)

Where:

dw = Dry weight.
EPC = Exposure point concentration
FIR = Food ingestion rate
fp = fraction of prey in diet.
SIR = Soil ingestion rate (i.e., FIR * fs)
BAF = Bioaccumulation Factor
kg = kilograms.
kg/day = kilogram per day.
mg/kg = Milligrams per kilogram.
mg/kg-bw/day = Milligrams per kilogram body weight per day.

Table U.A5A-2

Tier 2 Dose Estimates for Wildlife in Background Areas

Based on 95% Upper Tolerance Level Concentration

CPEC	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous & Herbivorous Bird			Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark			American Kestrel	
	Subsurface Soil	Soil Invertebrates	Subsurface Soil	Vegetation	Subsurface Soil	Mammals	Surface Soil	Soil Invertebrates	Vegetation	Surface Soil	Mammals
	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Inorganics											
Barium	6.350517596	1.508025197	0.668324683	0.817787959	0.585641187	0.117249808	5.716047231	3.085273142	2.346450819	0.344640475	0.683894949
Chromium	1.715369695	0.184695101	0.180524483	0.046495202	0.158190435	0.030951399	1.543989769	0.377868245	0.133407083	0.093092542	0.180533392
Copper	0.693447324	4.103009069	0.072977983	0.928994386	0.063949325	0.690009745	0.624166077	8.394358202	2.665531589	0.037633155	4.024690433
Lead	0.434317008	0.035996679	0.045707263	0.013170419	0.040052472	0.014194399	0.390925069	0.073645711	0.037789429	0.023570239	0.082793126
Molybdenum	0.364972276	1.790531203	0.038409465	1.072645496	0.033657539	0.243429935	0.328508462	3.663253001	3.077704772	0.019806924	1.419878687
Selenium	0.120440851	1.183189028	0.012675123	0.719601075	0.011106988	0.127170778	0.108407792	2.420689878	2.064726576	0.006536285	0.741762007
Vanadium	2.956275432	0.127396729	0.311116663	0.044516683	0.27262607	0.015969809	2.660918539	0.260641338	0.127730186	0.160436083	0.093148736
Zinc	3.795711666	43.99019342	0.399458431	8.160633259	0.35003841	8.538386651	3.416488	89.9996648	23.4150239	0.205992008	49.8027214

Table U.A5A-2

Tier 2 Dose Estimates for Wildlife in Background Areas

Based on 95% Upper Tolerance Level Concentration

CPEC	Aquatic Invertivorous Bird (Wading Bird)			Aquatic Invertivorous Bird (Duck)			Aquatic Invertivorous Mammal		
	Killdeer			Mallard			Raccoon		
	Sediment	Surface Water	Aquatic Invertebrates	Sediment	Surface Water	Aquatic Invertebrates	Sediment	Surface Water	Aquatic Invertebrates
	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)	(mg/kg-d)
Inorganics									
Barium	10.17557895	--	147.50067	0.346978183	--	42.87138133	0.542723263	--	23.45113673
Chromium	2.748575923	--	15.72185428	0.093723992	--	4.569590159	0.146597663	--	2.499618168
Copper	1.111126437	--	19.89085982	0.037888422	--	5.781320426	0.059262885	--	3.162448506
Lead	0.695916032	--	0.561372266	0.023730117	--	0.163164035	0.037117281	--	0.089252596
Molybdenum	0.584803388	--	8.477049999	0.019941275	--	2.46387249	0.031190992	--	1.347766479
Selenium	0.192985118	--	0.649912559	0.006580621	--	0.188898458	0.010293027	--	0.103329621
Vanadium	4.736907442	--	0	0.161524326	--	0	0.252647036	--	0
Zinc	6.081955235	--	99.61076064	0.207389259	--	28.95207801	0.324386318	--	15.83711835

Table U.A5A-2
Tier 2 Dose Estimates for Wildlife in Background Areas
Based on 95% Upper Tolerance Level Concentration

CPEC = Constituent of Potential Ecological Concern
mg/kg-d = milligrams per kilogram per day
TEQ = Toxic Equivalent
"--" = No Data; CPEC was not analyzed in the samples.
An intake value of 0.0 for indicates that no intake was calculated because:

a.) CPEC was not detected in the onsite media. Offsite detections resulted in inclusion of the compound if the frequency of detection was >5%.

b.) Compound was not a CPEC in the matrix.

c.) No bioaccumulation, resulting in intake = 0 (prey and vegetation only)

[a] For burrowing receptors, subsurface soil (0-5 feet below ground surface) exposure point concentrations were used.

[b] For non-burrowing receptors, surface soil (0-0.5 feet below ground surface) exposure point concentrations were used.

Dose Calculations:

Soil/Sediment Intake (mg/kg-bw/day)= (Soil/Sediment EPC (mg/kg dw) * SIR (kg/day dw))
Surface Water Intake (mg/kg
Prey Intake (mg/kg-bw/day)

Where:

dw = Dry weight.
EPC = Exposure point concentration
FIR = Food ingestion rate
fp = fraction of prey in diet.
SIR = Soil ingestion rate (i.e., FIR * fs)

BAF = Bioaccumulation Factor
kg = kilograms.
kg/day = kilogram per day.
mg/kg = Milligrams per kilogram.
mg/kg-bw/day = Milligrams per kilogram body weight per day.
mg/L = Milligrams per liter

Table U.A5A-3
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

	RCRA Canyon											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Barium	**3**	**7**	0.6	**2**	0.3	0.6	**11**	**23**	**12**	**24**	**2**	**3**
Chromium	0.4	**2**	0.05	0.2	0.04	0.2	**2**	**2**	**2**	**2**	0.3	0.3
Copper	**4**	**6**	0.5	0.8	0.4	0.6	**3**	**10**	**1**	**4**	**2**	**5**
Lead	0.1	0.2	0.02	0.03	0.02	0.03	0.5	**1**	0.5	0.9	0.1	0.2
Molybdenum	0.3	**3**	0.1	**1**	0.03	0.3	0.03	0.3	0.03	0.3	0.01	0.1
Selenium	0.4	**9**	0.1	**3**	0.1	**3**	0.5	**2**	0.4	**2**	0.2	0.7
Vanadium	0.1	0.3	0.02	0.03	0.01	0.03	**2**	**3**	**1**	**3**	0.1	0.3
Zinc	0.5	**21**	0.06	**2**	0.06	**3**	**2**	**15**	0.4	**4**	0.8	**8**
Polychlorinated Biphenyls (PCBs)												
Aroclor 1260	0.001	0.004	0.00009	0.0003	0.00008	0.0003	0.001	0.02	0.0008	0.01	0.00006	0.0008
Sum of PCB Congeners	0.0002	0.0007	0.00002	0.00007	0.00001	0.00005	0.0002	0.003	0.0002	0.002	0.00001	0.0001
Total Avian PCB TEQ	--	--	--	--	--	--	0.05	0.5	0.002	0.02	0.0009	0.009
Total Mammalian PCB TEQ	0.06	0.6	0.0005	0.005	0.0006	0.006	--	--	--	--	--	--
Pesticides												
Total DDT	0.03	0.2	0.0006	0.003	0.00002	0.00009	0.01	0.1	0.0006	0.006	0.000004	0.00004

Table U.A5A-3
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

	West Canyon Spray Area											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Barium	0.07	0.2	0.01	0.03	0.006	0.01	0.2	0.5	0.2	0.4	0.02	0.04
Chromium	**1**	**4**	0.1	0.6	0.1	0.5	**8**	**8**	**8**	**8**	0.8	0.9
Copper	**18**	**30**	**3**	**4**	**2**	**3**	**18**	**54**	**7**	**20**	**8**	**24**
Lead	0.09	0.2	0.01	0.02	0.01	0.02	0.3	0.6	0.3	0.5	0.05	0.1
Molybdenum	0.4	**4**	0.2	**2**	0.04	0.4	0.04	0.4	0.04	0.4	0.01	0.1
Selenium	0.3	**8**	0.1	**3**	0.1	**3**	0.5	**2**	0.3	**1**	0.2	0.7
Vanadium	0.1	0.3	0.02	0.03	0.01	0.03	**2**	**3**	**2**	**3**	0.05	0.1
Zinc	0.4	**18**	0.05	**2**	0.05	**2**	**1**	**13**	0.4	**4**	0.7	**7**
Polychlorinated Biphenyls (PCBs)												
Aroclor 1260	0.001	0.004	0.00009	0.0003	0.00007	0.0002	0.001	0.01	0.0007	0.01	0.000006	0.00008
Sum of PCB Congeners	0.0002	0.0006	0.00002	0.00007	0.00001	0.00004	0.0002	0.003	0.0002	0.002	0.000001	0.00002
Total Avian PCB TEQ	--	--	--	--	--	--	0.05	0.5	0.002	0.02	0.0008	0.008
Total Mammalian PCB TEQ	0.04	0.4	0.0002	0.002	0.0003	0.003	--	--	--	--	--	--
Pesticides												
Total DDT	0.05	0.2	0.0008	0.004	0.00004	0.0002	0.02	0.2	0.0009	0.009	0	0

Table U.A5A-3
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

	Administration Building Area											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Barium	0.07	0.2	0.01	0.03	0.006	0.01	0.2	0.3	0.2	0.3	0.02	0.04
Chromium	0.1	0.5	0.01	0.06	0.01	0.05	0.4	0.4	0.3	0.4	0.06	0.06
Copper	0.6	**1**	0.08	0.1	0.06	0.1	0.5	**2**	0.2	0.6	0.2	0.7
Lead	0	0	0	0	0	0	0	0	0	0	0	0
Molybdenum	0.3	**3**	0.2	**2**	0.03	0.3	0.03	0.3	0.04	0.4	0.01	0.1
Selenium	0.3	**8**	0.1	**2**	0.03	0.7	0.5	**2**	0.3	**1**	0.2	0.7
Vanadium	0.1	0.3	0.02	0.03	0.01	0.03	**2**	**3**	**1**	**3**	0.1	0.3
Zinc	0.09	**4**	0.01	0.4	0.01	0.5	0.3	**3**	0.08	0.8	0.1	**1**
Polychlorinated Biphenyls (PCBs)												
Aroclor 1260	0	0	0	0	0	0	0	0	0	0	0	0
Sum of PCB Congeners	0.000004	0.00002	0.000003	0.00001	0.0000003	0.000001	0.000005	0.00006	0.00001	0.0002	0.0000003	0.000005
Total Avian PCB TEQ	--	--	--	--	--	--	0.02	0.2	0.0004	0.004	0.0003	0.003
Total Mammalian PCB TEQ	0.004	0.04	0.0000004	0.000004	0.00001	0.0001	--	--	--	--	--	--
Pesticides												
Total DDT	0.02	0.09	0.0004	0.002	0.00001	0.00007	0.008	0.08	0.0004	0.004	0.000003	0.00003

Table U.A5A-3
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

	Roadway Areas											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Barium	0.07	0.2	0.01	0.03	0.005	0.01	0.2	0.3	0.2	0.3	0.02	0.04
Chromium	0.3	**1**	0.04	0.2	0.03	0.1	**2**	**2**	**1**	**1**	0.2	0.2
Copper	**3**	**5**	0.4	0.6	0.3	0.5	**3**	**8**	**1**	**3**	**1**	**4**
Lead	0.3	0.5	0.03	0.06	0.03	0.06	0.7	**1**	0.7	**1**	0.2	0.3
Molybdenum	0.4	**4**	0.1	**1**	0.04	0.4	0.04	0.4	0.03	0.3	0.01	0.1
Selenium	0.3	**8**	0.1	**2**	0.03	0.7	0.5	**2**	0.3	**1**	0.2	0.7
Vanadium	0.1	0.3	0.02	0.03	0.01	0.03	**2**	**3**	**2**	**3**	0.1	0.3
Zinc	0.1	**5**	0.01	0.6	0.02	0.7	0.4	**4**	0.1	**1**	0.2	**2**
Polychlorinated Biphenyls (PCBs)												
Aroclor 1260	0.06	0.2	0.005	0.02	0.004	0.01	0.06	0.8	0.04	0.5	0.003	0.04
Sum of PCB Congeners	0.01	0.05	0.001	0.004	0.0009	0.003	0.01	0.2	0.009	0.1	0.0006	0.009
Total Avian PCB TEQ	--	--	--	--	--	--	0.2	**2**	0.09	0.9	0.008	0.08
Total Mammalian PCB TEQ	0.3	**3**	0.01	0.1	0.01	0.1	--	--	--	--	--	--
Pesticides												
Total DDT	0.3	**1**	0.003	0.01	0.0001	0.0005	0.1	**1**	0.003	0.03	0.00004	0.0004

Table U.A5A-3
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

	Remaining On-site Areas											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Barium	0.08	0.2	0.008	0.02	0.006	0.02	0.1	0.2	0.1	0.3	0.05	0.1
Chromium	0.1	0.6	0.003	0.01	0.01	0.05	0.4	0.4	0.4	0.4	0.04	0.04
Copper	0.6	**1**	0.1	0.2	0.06	0.1	0.5	**2**	0.3	0.8	0.2	0.5
Lead	0.05	0.09	0.001	0.003	0.005	0.01	0.1	0.3	0.1	0.3	0.01	0.03
Molybdenum	0.5	**5**	0.2	**2**	0.04	0.4	0.05	0.5	0.04	0.4	0.02	0.2
Selenium	0.3	**7**	0.1	**2**	0.03	0.6	0.4	**2**	0.3	**1**	0.2	0.7
Vanadium	0.1	0.3	0.002	0.004	0.01	0.02	**2**	**3**	**1**	**3**	0.1	0.3
Zinc	0.09	**4**	0.01	0.4	0.01	0.5	0.3	**3**	0.08	0.8	0.05	0.5
Polychlorinated Biphenyls (PCBs)												
Aroclor 1260	0.02	0.09	0.00001	0.00004	0.002	0.006	0.02	0.3	0.02	0.2	0.001	0.01
Sum of PCB Congeners	0.002	0.009	0.000008	0.00003	0.0002	0.0008	0.0005	0.007	0.0003	0.005	0.00003	0.0005
Total Avian PCB TEQ	--	--	--	--	--	--	0.05	0.5	0.003	0.03	0.001	0.01
Total Mammalian PCB TEQ	0.1	**1**	0.0005	0.005	0.006	0.06	--	--	--	--	--	--
Pesticides												
Total DDT	0.5	**2**	0.004	0.02	0.0004	0.002	0.2	**2**	0.005	0.05	0.002	0.02

Table U.A5A-3
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations

	Former Ponds and Pads Areas South of the PSTC											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Barium	0.2	0.5	0.04	0.1	0.02	0.04	0.9	**2**	0.8	**2**	0.1	0.2
Chromium	0.1	0.6	0.02	0.06	0.01	0.05	0.5	0.5	0.4	0.4	0.07	0.07
Copper	0.7	**1**	0.1	0.2	0.08	0.1	0.7	**2**	0.3	0.8	0.3	**1**
Lead	0.06	0.1	0.007	0.01	0.006	0.01	0.2	0.3	0.2	0.3	0.04	0.08
Molybdenum	0.5	**5**	0.2	**2**	0.04	0.4	0.04	0.4	0.04	0.4	0.02	0.2
Selenium	0.3	**7**	0.09	**2**	0.02	0.6	0.4	**2**	0.3	**1**	0.1	0.6
Vanadium	0.1	0.2	0.01	0.03	0.01	0.02	**1**	**3**	**1**	**3**	0.1	0.3
Zinc	0.1	**5**	0.01	0.5	0.01	0.5	0.3	**3**	0.09	0.9	0.2	**2**
Polychlorinated Biphenyls (PCBs)												
Aroclor 1260	0.004	0.02	0.0003	0.001	0.0003	0.001	0.006	0.09	0.004	0.06	0.0003	0.004
Sum of PCB Congeners	0.05	0.2	0.004	0.01	0.003	0.01	0.05	0.7	0.03	0.5	0.002	0.03
Total Avian PCB TEQ	--	--	--	--	--	--	0.6	**6**	0.5	**5**	0.03	0.3
Total Mammalian PCB TEQ	0.5	**5**	0.03	0.3	0.02	0.2	--	--	--	--	--	--
Pesticides												
Total DDT	0.09	0.5	0.002	0.009	0.0001	0.0005	0.04	0.4	0.002	0.02	0.00001	0.0001

Table U.A5A-3

Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units

Based on Non-spatial Exposure Point Concentrations

CPEC = Constituent of Potential Ecological Concern

High HQ = Hazard Quotient based on NOAEL-based toxicity reference value.

HMW = High Molecular Weight

HQ = Hazard Quotient (unitless) = Sum of Intakes (mg/kg-d) / Toxicity Reference Value (mg/kg-d)

LMW = Low Molecular Weight

Low HQ = Hazard Quotient based on LOAEL-based toxicity reference value.

NAC = Not Area CPEC in the subarea

TEQ = Toxic Equivalent

Total DDT = Sum DDD, DDE, DDT

Total HMW PAH = Sum HMW PAH

Total LMW PAH = Sum LMW PAH

Total TEQ = Total PCB TEQ + Total Dioxin TEQ

"--" = No HQ calculated because no toxicity reference value available or compound was not a CPEC in the matrix.

An HQ value of 0.0 indicates sum of intakes = 0.0.

HQ > 1

Table U.A5A-4

Tier 2 Risk Estimates for Wildlife in Background Areas Based on 95% Upper Tolerance Level Concentration

CPEC	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Barium	0.06	0.2	0.01	0.03	0.01	0.01	0.2	0.4	0.2	0.4	0.02	0.05
Chromium	0.2	0.8	0.02	0.09	0.02	0.08	0.7	0.7	0.6	0.6	0.1	0.1
Copper	0.5	0.9	0.1	0.2	0.08	0.1	0.7	**2**	0.3	0.8	0.3	**1**
Lead	0.05	0.1	0.01	0.01	0.01	0.01	0.1	0.3	0.1	0.3	0.03	0.07
Vanadium	0.4	0.7	0.04	0.09	0.03	0.07	**4**	**9**	**4**	**8**	0.4	0.7
Zinc	0.1	**5**	0.02	0.9	0.02	0.9	0.5	**5**	0.2	**2**	0.3	**3**

CPEC = Constituent of Potential Ecological Concern

HQ = Hazard Quotient (unitless) = Sum of Intakes (mg/kg-d) / Toxicity Reference Value (mg/kg-d)

Low HQ = Hazard Quotient based on LOAEL-based toxicity reference value.

High HQ = Hazard Quotient based on NOAEL-based toxicity reference value.

TEQ = Toxic Equivalent

"--" = No HQ calculated because no toxicity reference value available or compound was not a CPEC in the matrix.

An HQ value of 0.0 indicates sum of intakes = 0.0.

HQ > 1

Table U.A5A-5
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations
Using BTAG TRVs

	RCRA Canyon											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Copper	0.05	**12**	0.007	**2**	0.005	**1**	0.8	**18**	0.3	**7**	0.4	**8**
Lead	0.004	**1**	0.0006	0.1	0.0006	0.1	0.2	**111**	0.2	**107**	0.04	**27**
Zinc	0.5	**21**	0.06	**2**	0.06	**3**	**2**	**15**	0.4	**4**	0.8	**8**
Polychlorinated Biphenyls (PCBs)												
Sum of PCB Congeners	0.0002	0.0007	0.00002	0.00007	0.00001	0.00005	0.0002	0.003	0.0002	0.002	0.00001	0.0001
Pesticides												
Total DDT	0.001	0.03	0.00003	0.0006	0.0000009	0.00002	0.02	**3**	0.0009	0.2	0.000007	0.001

Table U.A5A-5
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations
Using BTAG TRVs

	West Canyon Spray Area											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Copper	0.3	**64**	0.04	**9**	0.03	**7**	**4**	**95**	**2**	**35**	**2**	**42**
Lead	0.003	0.8	0.0004	0.1	0.0004	0.09	0.1	**67**	0.1	**63**	0.02	**12**
Zinc	0.4	**18**	0.05	**2**	0.05	**2**	**1**	**13**	0.4	**4**	0.7	**7**
Polychlorinated Biphenyls (PCBs)												
Sum of PCB Congeners	0.0002	0.0006	0.00002	0.00007	0.00001	0.00004	0.0002	0.003	0.0002	0.002	0.000001	0.00002
Pesticides												
Total DDT	0.002	0.04	0.00004	0.0008	0.000002	0.00003	0.03	**5**	0.001	0.2	0	0

Table U.A5A-5
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations
Using BTAG TRVs

	Administration Building Area											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Copper	0.008	**2**	0.001	0.3	0.0009	0.2	0.1	**3**	0.05	**1**	0.06	**1**
Lead	0	0	0	0	0	0	0	0	0	0	0	0
Zinc	0.09	**4**	0.01	0.4	0.01	0.5	0.3	**3**	0.08	0.8	0.1	**1**
Polychlorinated Biphenyls (PCBs)												
Sum of PCB Congeners	0.000004	0.00002	0.000003	0.00001	0.0000003	0.000001	0.000005	0.00006	0.00001	0.0002	0.0000003	0.000005
Pesticides												
Total DDT	0.0008	0.02	0.00002	0.0004	0.0000006	0.00001	0.01	**2**	0.0006	0.1	0.000004	0.0006

Table U.A5A-5
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations
Using BTAG TRVs

	Roadway Areas											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Copper	0.04	**10**	0.006	**1**	0.004	**1**	0.7	**15**	0.2	**5**	0.3	**7**
Lead	0.01	**2**	0.001	0.3	0.001	0.3	0.3	**161**	0.3	**157**	0.06	**39**
Zinc	0.1	**5**	0.01	0.6	0.02	0.7	0.4	**4**	0.1	**1**	0.2	**2**
Polychlorinated Biphenyls (PCBs)												
Sum of PCB Congeners	0.01	0.05	0.001	0.004	0.0009	0.003	0.01	0.2	0.009	0.1	0.0006	0.009
Pesticides												
Total DDT	0.01	0.3	0.0001	0.003	0.000005	0.0001	0.2	**29**	0.005	0.8	0.00006	0.01

Table U.A5A-5
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations
Using BTAG TRVs

	Remaining On-site Areas											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Copper	0.009	**2**	0.002	0.4	0.0009	0.2	0.1	**3**	0.07	**1**	0.04	0.9
Lead	0.002	0.4	0.00005	0.01	0.0002	0.05	0.05	**32**	0.05	**29**	0.005	**3**
Zinc	0.09	**4**	0.01	0.4	0.01	0.5	0.3	**3**	0.08	0.8	0.05	0.5
Polychlorinated Biphenyls (PCBs)												
Sum of PCB Congeners	0.002	0.009	0.000008	0.00003	0.0002	0.0008	0.0005	0.007	0.0003	0.005	0.00003	0.0005
Pesticides												
Total DDT	0.02	0.4	0.0002	0.004	0.00002	0.0003	0.3	**47**	0.007	**1**	0.004	0.6

Table U.A5A-5
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations
Using BTAG TRVs

CPEC	Former Ponds and Pads Areas South of the PSTC											
	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Copper	0.01	**3**	0.002	0.4	0.001	0.3	0.2	**4**	0.06	**1**	0.07	**2**
Lead	0.002	0.5	0.0003	0.06	0.0002	0.06	0.06	**41**	0.06	**38**	0.01	**9**
Zinc	0.1	**5**	0.01	0.5	0.01	0.5	0.3	**3**	0.09	0.9	0.2	**2**
Polychlorinated Biphenyls (PCBs)												
Sum of PCB Congeners	0.05	0.2	0.004	0.01	0.003	0.01	0.05	0.7	0.03	0.5	0.002	0.03
Pesticides												
Total DDT	0.004	0.08	0.00008	0.002	0.000005	0.00009	0.06	**9**	0.003	0.4	0.00002	0.003

Table U.A5A-5
Tier 2 Risk Estimates for Wildlife in Terrestrial Exposure Units
Based on Non-spatial Exposure Point Concentrations
Using BTAG TRVs

CPEC = Constituent of Potential Ecological Concern
High HQ = Hazard Quotient based on NOAEL-based toxicity reference value.
HMW = High Molecular Weight
HQ = Hazard Quotient (unitless) = Sum of Intakes (mg/kg-d) / Toxicity Reference Value (mg/kg-d)
LMW = Low Molecular Weight
Low HQ = Hazard Quotient based on LOAEL-based toxicity reference value.
NAC = Not Area CPEC in the subarea
TEQ = Toxic Equivalent
Total DDT = Sum DDD, DDE, DDT
Total HMW PAH = Sum HMW PAH
Total LMW PAH = Sum LMW PAH
Total TEQ = Total PCB TEQ + Total Dioxin TEQ
"--" = No HQ calculated because no toxicity reference value available or compound was not a CPEC in the matrix.
An HQ value of 0.0 indicates sum of intakes = 0.0.

HQ > 1

Table U.A5A-6
Tier 2 Risk Estimates for Wildlife in Background Areas
Based on 95% Upper Tolerance Level Concentration
Using BTAG TRVs

	Terrestrial Invertivorous Mammal		Terrestrial Herbivorous Mammal		Terrestrial Carnivorous Mammal		Terrestrial Invertivorous Bird		Terrestrial Herbivorous Bird		Terrestrial Carnivorous Bird	
	Ornate Shrew		California Vole		Striped Skunk		Western Meadowlark		Western Meadowlark		American Kestrel	
CPEC	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ	Low HQ	High HQ
Inorganics												
Copper	0.5	0.9	0.1	0.2	0.08	0.1	0.7	**2**	0.3	0.8	0.3	**1**
Lead	0.05	0.1	0.01	0.01	0.01	0.01	0.1	0.3	0.1	0.3	0.03	0.07
Zinc	0.1	**5**	0.02	0.9	0.02	0.9	0.5	**5**	0.2	**2**	0.3	**3**

CPEC = Constituent of Potential Ecological Concern
HQ = Hazard Quotient (unitless) = Sum of Intakes (mg/kg-d) / Toxicity Reference Value (mg/kg-d)
Low HQ = Hazard Quotient based on LOAEL-based toxicity reference value.
High HQ = Hazard Quotient based on NOAEL-based toxicity reference value.
TEQ = Toxic Equivalent
"--" = No HQ calculated because no toxicity reference value available or compound was not a CPEC in the matrix.
An HQ value of 0.0 indicates sum of intakes = 0.0.

HQ > 1