

**Table 5-15**  
**Human Health Risk Screening Evaluation for Contaminants in Surface Sediment Samples - WS-001**

Bellows OU1 EE/CA, Bellows AFS, Hawaii

Chemical Name	Chemical Class	Concentration in Sediment (mg/kg)	Dermal Absorption Factor	Chemical Intake (mg/kg-day)				Oral RfD (mg/kg-day)	Oral SF (kg-day/mg)	Ingestion HQ	Dermal HQ	Ingestion ILCR	Dermal ILCR	Chemical-specific HI	% Contrib.	Chemical-specific ILCR	% Contrib.	
				Ingestion (non-carcinogen exposure)	Dermal contact (non-carcinogen exposure)	Ingestion (carcinogen exposure)	Dermal contact (carcinogen exposure)											
TPH-Diesel	TPH	2.80E+01	0.1	8.58E-05	5.83E-05	7.35E-06	5.00E-06	0.08		1.07E-03	7.29E-04				1.80E-03	0.23		
TPH-Gasoline	TPH	1.50E-01	0.1	4.60E-07	3.13E-07	3.94E-08	2.68E-08	0.2		2.30E-06	1.56E-06				3.86E-06	<0.01		
4,4'-DDD	PEST/PCB	7.10E-03	0.03	2.18E-08	4.44E-09	1.86E-09	3.80E-10		0.24			4.47E-10	9.13E-11			5.39E-10	0.02	
4,4'-DDE	PEST/PCB	1.70E-03	0.03	5.21E-09	1.06E-09	4.46E-10	9.11E-11		0.34			1.52E-10	3.10E-11			1.83E-10	0.01	
4,4'-DDT	PEST/PCB	1.90E-02	0.03	5.82E-08	1.19E-08	4.99E-09	1.02E-09	0.0005	0.34	1.16E-04	2.38E-05	1.70E-09	3.46E-10		1.40E-04	0.02	2.04E-09	0.06
Chlordane (alpha)	PEST/PCB	3.30E-03	0.04	1.01E-08	2.75E-09	8.67E-10	2.36E-10	0.00006	1.3	1.69E-04	4.58E-05	1.13E-09	3.06E-10		2.14E-04	0.03	1.43E-09	0.04
Chlordane (gamma)	PEST/PCB	1.90E-03	0.04	5.82E-09	1.58E-09	4.99E-10	1.36E-10	0.00006	1.3	9.70E-05	2.64E-05	6.49E-10	1.76E-10		1.23E-04	0.02	8.25E-10	0.03
Dieldrin	PEST/PCB	1.50E-03	0.1	4.60E-09	3.13E-09	3.94E-10	2.68E-10	0.00005	16	9.19E-05	6.25E-05	6.30E-09	4.29E-09		1.54E-04	0.02	1.06E-08	0.33
Endosulfan I	PEST/PCB	8.40E-03	0.1	2.57E-08	1.75E-08	2.21E-09	1.50E-09	0.006		4.29E-06	2.92E-06				7.21E-06	<0.01		
Endosulfan II	PEST/PCB	1.10E-02	0.1	3.37E-08	2.29E-08	2.89E-09	1.96E-09	0.006		5.62E-06	3.82E-06				9.44E-06	<0.01		
Endosulfan Sulfate	PEST/PCB	1.50E-02	0.1	4.60E-08	3.13E-08	3.94E-09	2.68E-09											
Endrin	PEST/PCB	1.40E-02	0.1	4.29E-08	2.92E-08	3.68E-09	2.50E-09	0.0003		1.43E-04	9.72E-05				2.40E-04	0.03		
Endrin Aldehyde	PEST/PCB	4.10E-03	0.1	1.26E-08	8.54E-09	1.08E-09	7.32E-10											
Heptachlor	PEST/PCB	3.10E-03	0.1	9.50E-09	6.46E-09	8.14E-10	5.54E-10	0.0005	4.5	1.90E-05	1.29E-05	3.66E-09	2.49E-09		3.19E-05	<0.01	6.15E-09	0.19
Heptachlor Epoxide	PEST/PCB	4.50E-03	0.1	1.38E-08	9.38E-09	1.18E-09	8.04E-10	0.000013	9.1	1.06E-03	7.21E-04	1.08E-08	7.31E-09		1.78E-03	0.23	1.81E-08	0.56
Methoxychlor	PEST/PCB	2.50E-02	0.1	7.66E-08	5.21E-08	6.57E-09	4.46E-09	0.005		1.53E-05	1.04E-05				2.57E-05	<0.01		
b-BHC	PEST/PCB	9.30E-03	0.04	2.85E-08	7.75E-09	2.44E-09	6.64E-10		1.8			4.40E-09	1.20E-09				5.59E-09	0.17
g-BHC (Lindane)	PEST/PCB	4.20E-01	0.04	1.29E-06	3.50E-07	1.10E-07	3.00E-08	0.0003	1.3	4.29E-03	1.17E-03	1.43E-07	3.90E-08		5.46E-03	0.70	1.82E-07	5.67
Benzo (a) anthracene	PAH	4.70E-03	0.13	1.44E-08	1.27E-08	1.23E-09	1.09E-09		0.73			9.01E-10	7.96E-10				1.70E-09	0.05
Benzo (g,h,i) perylene	PAH	8.00E-03	0.13	2.45E-08	2.17E-08	2.10E-09	1.86E-09											
Chrysene	PAH	1.00E-02	0.13	3.06E-08	2.71E-08	2.63E-09	2.32E-09		0.0073			1.92E-11	1.69E-11				3.61E-11	0.00
Indeno (1,2,3-c,d) pyrene	PAH	1.40E-02	0.13	4.29E-08	3.79E-08	3.68E-09	3.25E-09		0.73			2.68E-09	2.37E-09				5.06E-09	0.16
Phenanthrene	PAH	4.00E-03	0.13	1.23E-08	1.08E-08	1.05E-09	9.29E-10											
Pyrene	PAH	8.00E-03	0.13	2.45E-08	2.17E-08	2.10E-09	1.86E-09	0.03		8.17E-07	7.22E-07				1.54E-06	<0.01		
Aluminum	METALS	2.69E+04	0.01	8.24E-02	5.60E-03	7.06E-03	4.80E-04	1		8.24E-02	5.60E-03				8.80E-02	11.32		
Arsenic	METALS	5.30E+00	0.03	1.62E-05	3.31E-06	1.39E-06	2.84E-07	0.0003	1.5	5.41E-02	1.10E-02	2.09E-06	4.26E-07		6.52E-02	8.38	2.51E-06	78.10
Barium	METALS	1.69E+01	0.01	5.18E-05	3.52E-06	4.44E-06	3.02E-07	0.07		7.40E-04	5.03E-05				7.90E-04	0.10		
Beryllium	METALS	3.90E-01	0.01	1.19E-06	8.13E-08	1.02E-07	6.96E-09	0.005	4.3	2.39E-04	1.63E-05	4.40E-07	2.99E-08		2.55E-04	0.03	4.70E-07	14.61
Cadmium	METALS	9.20E-01	0.01	2.82E-06	1.92E-07	2.42E-07	1.64E-08	0.001		2.82E-03	1.92E-04				3.01E-03	0.39		
Chromium	METALS	1.11E+02	0.01	3.40E-04	2.31E-05	2.91E-05	1.98E-06	0.005		6.80E-02	4.63E-03				7.26E-02	9.34		
Cobalt	METALS	2.24E+01	0.01	6.86E-05	4.67E-06	5.88E-06	4.00E-07	0.06		1.14E-03	7.78E-05				1.22E-03	0.16		
Copper	METALS	5.01E+01	0.01	1.53E-04	1.04E-05	1.32E-05	8.95E-07	0.037		4.15E-03	2.82E-04				4.43E-03	0.57		
Iron	METALS	4.04E+04	0.01	1.24E-01	8.42E-03	1.06E-02	7.21E-04	0.3		4.13E-01	2.81E-02				4.41E-01	56.68		
Lead	METALS	6.70E+00	0.01	2.05E-05	1.40E-06	1.76E-06	1.20E-07											
Manganese	METALS	5.05E+02	0.01	1.55E-03	1.05E-04	1.33E-04	9.02E-06	0.0467		3.31E-02	2.25E-03				3.54E-02	4.55		
Nickel	METALS	8.14E+01	0.01	2.49E-04	1.70E-05	2.14E-05	1.45E-06	0.02		1.25E-02	8.48E-04				1.33E-02	1.71		
Silver	METALS	7.50E-01	0.01	2.30E-06	1.56E-07	1.97E-07	1.34E-08	0.005		4.60E-04	3.13E-05				4.91E-04	0.06		
Vanadium	METALS	8.84E+01	0.01	2.71E-04	1.84E-05	2.32E-05	1.58E-06	0.007		3.87E-02	2.63E-03				4.13E-02	5.32		
Zinc	METALS	6.29E+01	0.01	1.93E-04	1.31E-05	1.65E-05	1.12E-06	0.3		6.42E-04	4.37E-05				6.86E-04	0.09		

Total Hazard Index 7.77E-01 Total Risk 3.22E-06

EXPOSURE ASSUMPTIONS	
Exposure Setting	Recreational User
Exposure Case	RME
Sediment Ingestion Rate - (mg/day)	200
Exposed Skin Surface Area (cm2)	1360
Sediment Adherence Factor (mg/cm2)	1
Correction Factor	1.00E-06
Fraction of chemical absorbed (unitless)	chemical - specific
Body Weight - (kilograms)	46.5
Number of Days/Year Exposed	260
Number of Years Exposed	6
Averaging Time - Noncancer (yrs)	6
Averaging Time - Noncancer (yrs)	70
Ingestion (Noncancer) (d-1)	3.06E-06
Ingestion (Cancer) (d-1)	2.63E-07
Dermal (Noncancer) (d-1)	2.08E-05
Dermal (Cancer) (d-1)	1.79E-06