APPENDIX G

Risk Calculation Tables

Table G-1
Occupational Worker Scenario - Potential Excess Lifetime Cancer Risk Under RME Exposure Scenario
Surface Soil
Weyerhaeuser - Bly Truck Shop

								Ingestion		Dermal		Inhalation			%
Chemical	WOE	SF_o (mg/kg-day)$^{-1}$	SF_d (mg/kg-day)$^{-1}$	SF_i (mg/kg-day)$^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	Contribution
2-Methylnaphthalene					3.60E+00	1.00E-02	1.00E+00	3.02E-07		1.99E-09		1.60E-11			
Acenaphthene					5.10E-01		1.00E+00	4.28E-08				1.64E-08			
Acetone					4.10E-01		1.00E+00	3.44E-08				1.92E-07			
Anthracene	D				2.60E-01		1.00E+00	2.18E-08				2.19E-09			
Benzene	A	5.50E-02	5.50E-02	2.73E-02	1.50E-02		1.00E+00	1.26E-09	6.9E-11			1.06E-08	2.9E-10	3.6E-10	0
Benzo(a)anthracene	B2	7.30E-01	7.30E-01		1.30E-01	1.30E-01	1.00E+00	1.09E-08	8.0E-09	9.35E-10	6.8E-10	5.78E-13		8.6E-09	6
Benzo(a)pyrene	B2	7.30E+00	7.30E+00		4.90E-02	1.30E-01	1.00E+00	4.11E-09	3.0E-08	3.53E-10	2.6E-09	2.18E-13		3.3E-08	24
Benzo(b)fluoranthene	B2	7.30E-01	7.30E-01		4.00E-03	1.30E-01	1.00E+00	3.35E-10	2.4E-10	2.88E-11	2.1E-11	1.78E-14		2.7E-10	0
Benzo(g,h,i)perylene					5.00E-03		1.00E+00	4.19E-10				2.22E-14			
Benzo(k)fluoranthene	B2	7.30E-02	7.30E-02		4.10E-02	1.30E-01	1.00E+00	3.44E-09	2.5E-10	2.95E-10	2.2E-11	1.82E-13		2.7E-10	0
Benzoic acid	D				1.50E-01	1.00E-01	1.00E+00	1.26E-08		8.30E-10		6.67E-13			
Bromodichloromethane	B2	6.20E-02	6.20E-02		2.70E-02		1.00E+00	2.26E-09	1.4E-10			1.92E-08		1.4E-10	0
Chloroform	B2			8.10E-02	1.65E-02		1.00E+00	1.38E-09				3.64E-08	2.9E-09	2.9E-09	2
Chromium	D			2.90E+02	4.30E+01		2.50E-02	3.61E-06				1.91E-10	5.5E-08	5.5E-08	42
Chrysene	B2	7.30E-03	7.30E-03		1.20E-01	1.30E-01	1.00E+00	1.01E-08	7.3E-11	8.64E-10	6.3E-12	2.59E-10		8.0E-11	0
cis-1,2-dichloroethene					4.00E-03		1.00E+00	3.35E-10				8.10E-09			
Copper	D				4.30E+01		1.00E+00	3.61E-06				1.91E-10			
Dibenzofuran	D				1.80E-01		1.00E+00	1.51E-08				1.63E-09			
Dibromochloromethane	C	8.40E-02	8.40E-02	8.40E-02	2.70E-02		1.00E+00	2.26E-09	1.9E-10			9.91E-09	8.3E-10	1.0E-09	1
Ethylbenzene	D				4.00E-03		1.00E+00	3.35E-10				5.66E-09			
Fluoranthene	D				7.70E-01	1.30E-01	1.00E+00	6.46E-08		5.54E-09		3.42E-12			
Fluorene	D				1.10E+00		1.00E+00	9.23E-08				1.79E-08			
Indeno(1,2,3-cd)pyrene	B2	7.30E-01	7.30E-01		4.00E-03	1.30E-01	1.00E+00	3.35E-10	2.4E-10	2.88E-11	2.1E-11	1.78E-14		2.7E-10	0
Lead	B2				5.00E+01		1.00E+00	4.19E-06				2.22E-10			
Methyl ethyl ketone		6.00E-01	6.00E-01	1.40E+00	6.20E-02		1.00E+00	5.20E-09	3.1E-09			1.87E-08	2.6E-08	2.9E-08	22
Naphthalene	C				2.60E-01		1.00E+00	2.18E-08				3.53E-08			
Phenanthrene					1.50E+00		1.00E+00	1.26E-07				6.67E-12			
Pyrene	D				6.60E-01		1.00E+00	5.54E-08				1.02E-09			
Tetrachloroethene		5.40E-01	5.40E-01	2.10E-02	1.80E-02		1.00E+00	1.51E-09	8.2E-10			4.14E-08	8.7E-10	1.7E-09	1
Toluene	D				2.60E-02		1.00E+00	2.18E-09				3.84E-08			
TPH (as diesel)					5.90E+03		1.00E+00	4.95E-04				2.62E-08			
TPH (as gasoline)					2.10E+02		1.00E+00	1.76E-05				9.34E-10			
TPH (as motor oil)					8.80E+03		1.00E+00	7.38E-04				3.91E-08			
Xylene-total					2.00E-02		1.00E+00	1.68E-09				1.92E-08			
Total Risk									4.3E-08		3.3E-09		8.7E-08		100
												Total Risk =	1.3E-07		

Note:
Cancer WOE Classifications:
- Group A: Human carcinogen
- Group B (B1, B2): Probable human carcinogen
- Group C: Possible human carcinogen
- Group D: Not classifiable
- Group E: No evidence of carcinogenicity

ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

Table G-2
Occupational Worker Scenario - Potential Noncarcinogenic Risk Under RME Exposure Scenario
Surface Soil
Weyerhaeuser - Bly Truck Shop

							Ingestion		Dermal		Inhalation			%
Chemical	RfD_o (mg/kg-day)	RfD_d (mg/kg-day)	RfD_i (mg/kg-day)	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	Total HI	Contribution
2-Methylnaphthalene	4.00E-03	4.00E-03		3.60E+00	1.00E-02	1.00E+00	3.52E-06	0.001	2.32E-08	0.0000	1.87E-10		0.00	5
Acenaphthene	6.00E-02	6.00E-02		5.10E-01		1.00E+00	4.99E-07	0.000			1.92E-07		0.00	0
Acetone	9.00E-01	9.00E-01	9.00E-01	4.10E-01		1.00E+00	4.01E-07	0.000			2.24E-06	0.00	0.00	0
Anthracene	3.00E-01	3.00E-01		2.60E-01		1.00E+00	2.54E-07	0.000			2.55E-08		0.00	0
Benzene	4.00E-03	4.00E-03	2.73E-02	1.50E-02		1.00E+00	1.47E-08	0.000			1.24E-07	0.00	0.00	0
Benzo(a)anthracene				1.30E-01	1.30E-01	1.00E+00	1.27E-07		1.09E-08		6.75E-12			
Benzo(a)pyrene				4.90E-02	1.30E-01	1.00E+00	4.79E-08		4.11E-09		2.54E-12			
Benzo(b)fluoranthene				4.00E-03	1.30E-01	1.00E+00	3.91E-09		3.36E-10		2.08E-13			
Benzo(g,h,i)perylene				5.00E-03		1.00E+00	4.89E-09				2.59E-13			
Benzo(k)fluoranthene				4.10E-02	1.30E-01	1.00E+00	4.01E-08		3.44E-09		2.13E-12			
Benzoic acid	4.00E+00	4.00E+00		1.50E-01	1.00E-01	1.00E+00	1.47E-07	0.000	9.69E-09	0.0000	7.78E-12		0.00	0
Bromodichloromethane	2.00E-02	2.00E-02		2.70E-02		1.00E+00	2.64E-08	0.000			2.24E-07		0.00	0
Chloroform	1.00E-02	1.00E-02	1.40E-02	1.65E-02		1.00E+00	1.61E-08	0.000			4.25E-07	0.00	0.00	0
Chromium	3.00E-03	7.50E-05	2.20E-06	4.30E+01		2.50E-02	4.21E-05	0.014			2.23E-09	0.00	0.02	85
Chrysene				1.20E-01	1.30E-01	1.00E+00	1.17E-07		1.01E-08		3.02E-09			
cis-1,2-dichloroethene	1.00E-02	1.00E-02	1.00E-02	4.00E-03		1.00E+00	3.91E-09	0.000			9.45E-08	0.00	0.00	0
Copper	4.00E-02	4.00E-02		4.30E+01		1.00E+00	4.21E-05	0.001			2.23E-09		0.00	6
Dibenzofuran	2.00E-03	2.00E-03		1.80E-01		1.00E+00	1.76E-07	0.000			1.90E-08		0.00	0
Dibromochloromethane	2.00E-02	2.00E-02	2.00E-02	2.70E-02		1.00E+00	2.64E-08	0.000			1.16E-07	0.00	0.00	0
Ethylbenzene	1.00E-01	1.00E-01	1.00E+00	4.00E-03		1.00E+00	3.91E-09	0.000			6.60E-08	0.00	0.00	0
Fluoranthene	4.00E-02	4.00E-02		7.70E-01	1.30E-01	1.00E+00	7.53E-07	0.000	6.46E-08	0.0000	4.00E-11		0.00	0
Fluorene	4.00E-02	4.00E-02		1.10E+00		1.00E+00	1.08E-06	0.000			2.09E-07		0.00	0
Indeno(1,2,3-cd)pyrene				4.00E-03	1.30E-01	1.00E+00	3.91E-09		3.36E-10		2.08E-13			
Lead				5.00E+01		1.00E+00	4.89E-05				2.59E-09			
Methyl ethyl ketone				6.20E-02		1.00E+00	6.07E-08				2.19E-07			
Naphthalene	2.00E-02	2.00E-02	8.60E-04	2.60E-01		1.00E+00	2.54E-07	0.000			4.12E-07	0.00	0.00	3
Phenanthrene				1.50E+00		1.00E+00	1.47E-06				7.78E-11			
Pyrene	3.00E-02	3.00E-02		6.60E-01		1.00E+00	6.46E-07	0.000			1.19E-08		0.00	0
Tetrachloroethene	1.00E-02	1.00E-02	1.00E-02	1.80E-02		1.00E+00	1.76E-08	0.000			4.83E-07	0.00	0.00	0
Toluene	2.00E-01	2.00E-01	1.10E-01	2.60E-02		1.00E+00	2.54E-08	0.000			4.48E-07	0.00	0.00	0
TPH (as diesel)				5.90E+03		1.00E+00	5.77E-03				3.06E-07			
TPH (as gasoline)				2.10E+02		1.00E+00	2.05E-04				1.09E-08			
TPH (as motor oil)				8.80E+03		1.00E+00	8.61E-03				4.57E-07			
Xylene-total	2.00E-01	2.00E-01	1.00E-01	2.00E-02		1.00E+00	1.96E-08	0.000			2.25E-07	0.00	0.00	0
Note:											**Total HI =**	0.02		

ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose

Table G-3
Occupational Worker Scenario - Potential Excess Lifetime Cancer Risk Under CTE Exposure Scenario
Surface Soil
Weyerhaeuser - Bly Truck Shop

								Ingestion		Dermal		Inhalation			%
Chemical	WOE	SF_o (mg/kg-day)$^{-1}$	SF_d (mg/kg-day)$^{-1}$	SF_i (mg/kg-day)$^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	Contribution
2-Methylnaphthalene					3.60E+00	1.00E-02	1.00E+00	1.51E-07		1.99E-09		1.60E-11			
Acenaphthene					5.10E-01		1.00E+00	2.14E-08				1.64E-08			
Acetone					4.10E-01		1.00E+00	1.72E-08				1.92E-07			
Anthracene	D				2.60E-01		1.00E+00	1.09E-08				2.19E-09			
Benzene	A	5.50E-02	5.50E-02	2.73E-02	1.50E-02		1.00E+00	6.29E-10	3.5E-11			1.06E-08	2.9E-10	3.2E-10	0
Benzo(a)anthracene	B2	7.30E-01	7.30E-01		1.30E-01	1.30E-01	1.00E+00	5.45E-09	4.0E-09	9.35E-10	6.8E-10	5.78E-13		4.7E-09	4
Benzo(a)pyrene	B2	7.30E+00	7.30E+00		4.90E-02	1.30E-01	1.00E+00	2.05E-09	1.5E-08	3.53E-10	2.6E-09	2.18E-13		1.8E-08	16
Benzo(b)fluoranthene	B2	7.30E-01	7.30E-01		4.00E-03	1.30E-01	1.00E+00	1.68E-10	1.2E-10	2.88E-11	2.1E-11	1.78E-14		1.4E-10	0
Benzo(g,h,i)perylene					5.00E-03		1.00E+00	2.10E-10				2.22E-14			
Benzo(k)fluoranthene	B2	7.30E-02	7.30E-02		4.10E-02	1.30E-01	1.00E+00	1.72E-09	1.3E-10	2.95E-10	2.2E-11	1.82E-13		1.5E-10	0
Benzoic acid	D				1.50E-01	1.00E-01	1.00E+00	6.29E-09		8.30E-10		6.67E-13			
Bromodichloromethane	B2	6.20E-02	6.20E-02		2.70E-02		1.00E+00	1.13E-09	7.0E-11			1.92E-08		7.0E-11	0
Chloroform	B2			8.10E-02	1.65E-02		1.00E+00	6.92E-10				3.64E-08	2.9E-09	2.9E-09	3
Chromium	D			2.90E+02	4.30E+01		2.50E-02	1.80E-06				1.91E-10	5.5E-08	5.5E-08	50
Chrysene	B2	7.30E-03	7.30E-03		1.20E-01	1.30E-01	1.00E+00	5.03E-09	3.7E-11	8.64E-10	6.3E-12	2.59E-10		4.3E-11	0
cis-1,2-dichloroethene					4.00E-03		1.00E+00	1.68E-10				8.10E-09			
Copper	D				4.30E+01		1.00E+00	1.80E-06				1.91E-10			
Dibenzofuran	D				1.80E-01		1.00E+00	7.55E-09				1.63E-09			
Dibromochloromethane	C	8.40E-02	8.40E-02	8.40E-02	2.70E-02		1.00E+00	1.13E-09	9.5E-11			9.91E-09	8.3E-10	9.3E-10	1
Ethylbenzene	D				4.00E-03		1.00E+00	1.68E-10				5.66E-09			
Fluoranthene	D				7.70E-01	1.30E-01	1.00E+00	3.23E-08		5.54E-09		3.42E-12			
Fluorene	D				1.10E+00		1.00E+00	4.61E-08				1.79E-08			
Indeno(1,2,3-cd)pyrene	B2	7.30E-01	7.30E-01		4.00E-03	1.30E-01	1.00E+00	1.68E-10	1.2E-10	2.88E-11	2.1E-11	1.78E-14		1.4E-10	0
Lead	B2				5.00E+01		1.00E+00	2.10E-06				2.22E-10			
Methyl ethyl ketone		6.00E-01	6.00E-01	1.40E+00	6.20E-02		1.00E+00	2.60E-09	1.6E-09			1.87E-08	2.6E-08	2.8E-08	25
Naphthalene	C				2.60E-01		1.00E+00	1.09E-08				3.53E-08			
Phenanthrene					1.50E+00		1.00E+00	6.29E-08				6.67E-12			
Pyrene	D				6.60E-01		1.00E+00	2.77E-08				1.02E-09			
Tetrachloroethene		5.40E-01	5.40E-01	2.10E-02	1.80E-02		1.00E+00	7.55E-10	4.1E-10			4.14E-08	8.7E-10	1.3E-09	1
Toluene	D				2.60E-02		1.00E+00	1.09E-09				3.84E-08			
TPH (as diesel)					5.90E+03		1.00E+00	2.47E-04				2.62E-08			
TPH (as gasoline)					2.10E+02		1.00E+00	8.81E-06				9.34E-10			
TPH (as motor oil)					8.80E+03		1.00E+00	3.69E-04				3.91E-08			
Xylene-total					2.00E-02		1.00E+00	8.39E-10				1.92E-08			
Total Risk									2.2E-08		3.3E-09		8.7E-08		100
												Total Risk =	1.1E-07		

Note:
Cancer WOE Classifications:
Group A: Human carcinogen
Group B (B1, B2): Probable human carcinogen
Group C: Possible human carcinogen
Group D: Not classifiable
Group E: No evidence of carcinogenicity
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

Table G-4
Occupational Worker Scenario - Potential Noncarcinogenic Risk Under CTE Exposure Scenario
Surface Soil
Weyerhaeuser - Bly Truck Shop

Chemical	RfD_o (mg/kg-day)	RfD_d (mg/kg-day)	RfD_i (mg/kg-day)	EPC (mg/kg)	ABS_d	ABS_{gi}	Ingestion CDI (mg/kg-day)	Ingestion HQ	Dermal CDI (mg/kg-day)	Dermal HQ	Inhalation CDI (mg/kg-day)	Inhalation HQ	Total HI	% Contribution
2-Methylnaphthalene	4.00E-03	4.00E-03		3.60E+00	1.00E-02	1.00E+00	1.76E-06	0.000	2.32E-08	0.0000	1.87E-10		0.00	5
Acenaphthene	6.00E-02	6.00E-02		5.10E-01		1.00E+00	2.50E-07	0.000			1.92E-07		0.00	0
Acetone	9.00E-01	9.00E-01	9.00E-01	4.10E-01		1.00E+00	2.01E-07	0.000			2.24E-06	0.00	0.00	0
Anthracene	3.00E-01	3.00E-01		2.60E-01		1.00E+00	1.27E-07	0.000			2.55E-08		0.00	0
Benzene	4.00E-03	4.00E-03	2.73E-02	1.50E-02		1.00E+00	7.34E-09	0.000			1.24E-07	0.00	0.00	0
Benzo(a)anthracene				1.30E-01	1.30E-01	1.00E+00	6.36E-08		1.09E-08		6.75E-12			
Benzo(a)pyrene				4.90E-02	1.30E-01	1.00E+00	2.40E-08		4.11E-09		2.54E-12			
Benzo(b)fluoranthene				4.00E-03	1.30E-01	1.00E+00	1.96E-09		3.36E-10		2.08E-13			
Benzo(g,h,i)perylene				5.00E-03		1.00E+00	2.45E-09				2.59E-13			
Benzo(k)fluoranthene				4.10E-02	1.30E-01	1.00E+00	2.01E-08		3.44E-09		2.13E-12			
Benzoic acid	4.00E+00	4.00E+00		1.50E-01	1.00E-01	1.00E+00	7.34E-08	0.000	9.69E-09	0.0000	7.78E-12		0.00	0
Bromodichloromethane	2.00E-02	2.00E-02		2.70E-02		1.00E+00	1.32E-08	0.000			2.24E-07		0.00	0
Chloroform	1.00E-02	1.00E-02	1.40E-02	1.65E-02		1.00E+00	8.07E-09	0.000			4.25E-07	0.00	0.00	0
Chromium	3.00E-03	7.50E-05	2.20E-06	4.30E+01		2.50E-02	2.10E-05	0.007			2.23E-09	0.00	0.01	83
Chrysene				1.20E-01	1.30E-01	1.00E+00	5.87E-08		1.01E-08		3.02E-09			
cis-1,2-dichloroethene	1.00E-02	1.00E-02	1.00E-02	4.00E-03		1.00E+00	1.96E-09	0.000			9.45E-08	0.00	0.00	0
Copper	4.00E-02	4.00E-02		4.30E+01		1.00E+00	2.10E-05	0.001			2.23E-09		0.00	5
Dibenzofuran	2.00E-03	2.00E-03		1.80E-01		1.00E+00	8.81E-08	0.000			1.90E-08		0.00	0
Dibromochloromethane	2.00E-02	2.00E-02	2.00E-02	2.70E-02		1.00E+00	1.32E-08	0.000			1.16E-07	0.00	0.00	0
Ethylbenzene	1.00E-01	1.00E-01	1.00E+00	4.00E-03		1.00E+00	1.96E-09	0.000			6.60E-08	0.00	0.00	0
Fluoranthene	4.00E-02	4.00E-02		7.70E-01	1.30E-01	1.00E+00	3.77E-07	0.000	6.46E-08	0.0000	4.00E-11		0.00	0
Fluorene	4.00E-02	4.00E-02		1.10E+00		1.00E+00	5.38E-07	0.000			2.09E-07		0.00	0
Indeno(1,2,3-cd)pyrene				4.00E-03	1.30E-01	1.00E+00	1.96E-09		3.36E-10		2.08E-13			
Lead				5.00E+01		1.00E+00	2.45E-05				2.59E-09			
Methyl ethyl ketone				6.20E-02		1.00E+00	3.03E-08				2.19E-07			
Naphthalene	2.00E-02	2.00E-02	8.60E-04	2.60E-01		1.00E+00	1.27E-07	0.000			4.12E-07	0.00	0.00	5
Phenanthrene				1.50E+00		1.00E+00	7.34E-07				7.78E-11			
Pyrene	3.00E-02	3.00E-02		6.60E-01		1.00E+00	3.23E-07	0.000			1.19E-08		0.00	0
Tetrachloroethene	1.00E-02	1.00E-02	1.00E-02	1.80E-02		1.00E+00	8.81E-09	0.000			4.83E-07	0.00	0.00	1
Toluene	2.00E-01	2.00E-01	1.10E-01	2.60E-02		1.00E+00	1.27E-08	0.000			4.48E-07	0.00	0.00	0
TPH (as diesel)				5.90E+03		1.00E+00	2.89E-03				3.06E-07			
TPH (as gasoline)				2.10E+02		1.00E+00	1.03E-04				1.09E-08			
TPH (as motor oil)				8.80E+03		1.00E+00	4.31E-03				4.57E-07			
Xylene-total	2.00E-01	2.00E-01	1.00E-01	2.00E-02		1.00E+00	9.78E-09	0.000			2.25E-07	0.00	0.00	0
								0.01		0.000007		0.0016		100
											Total HI =	0.01		

Note:
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose

Table G-5
Trench Worker Scenario - Potential Excess Lifetime Cancer Risk Under RME Exposure Scenario
Subsurface Soil
Weyerhaeuser - Bly Truck Shop

								Ingestion		Dermal		Inhalation			%
Chemical	WOE	SF_o (mg/kg-day)$^{-1}$	SF_d (mg/kg-day)$^{-1}$	SF_i (mg/kg-day)$^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	Contribution
1,1,2,2-tetrachloroethane	C	2.00E-01	2.00E-01	2.00E-01	8.40E-02		1.00E+00	1.39E-10	2.8E-11			2.11E-10	4.2E-11	7.0E-11	1
1,2-Dichloroethene					1.90E-02		1.00E+00	3.16E-11				2.30E-10			
2-Methylnaphthalene					4.70E+01	1.00E-02	1.00E+00	7.80E-08		2.34E-09		1.25E-12			
Acenaphthene					2.40E+00		1.00E+00	3.99E-09				4.64E-10			
Acenaphthylene					8.10E-01		1.00E+00	1.35E-09				2.16E-14			
Acetone					4.10E-01		1.00E+00	6.81E-10				1.15E-09			
Anthracene	D				4.30E-01		1.00E+00	7.14E-10				2.17E-11			
Arsenic	A	1.50E+00	1.50E+00	1.50E+01	3.00E+00	3.00E-02	1.00E+00	4.98E-09	7.5E-09	4.48E-10	6.7E-10	8.01E-14	1.2E-12	8.1E-09	79
Benzene	A	5.50E-02	5.50E-02	2.73E-02	8.70E-02		1.00E+00	1.44E-10	7.9E-12			3.69E-10	1.0E-11	1.8E-11	0
Benzo(a)anthracene	B2	7.30E-01	7.30E-01		1.30E-01	1.30E-01	1.00E+00	2.16E-10	1.6E-10	8.42E-11	6.1E-11	3.47E-15		2.2E-10	2
Benzo(a)pyrene	B2	7.30E+00	7.30E+00		4.90E-02	1.30E-01	1.00E+00	8.14E-11	5.9E-10	3.17E-11	2.3E-10	1.31E-15		8.3E-10	8
Benzo(g,h,i)perylene					3.10E-02		1.00E+00	5.15E-11				8.27E-16			
Benzoic acid	D				1.50E-01	1.00E-01	1.00E+00	2.49E-10		7.47E-11		4.00E-15			
Bis(2-ethylhexyl)phthalate	B2	1.40E-02	1.40E-02		4.20E-02	1.00E-01	1.00E+00	6.97E-11	9.8E-13	2.09E-11	2.9E-13	1.12E-15		1.3E-12	0
Chromium	D			2.90E+02	4.30E+01		2.50E-02	7.14E-08				1.15E-12	3.3E-10	3.3E-10	3
Chrysene	B2	7.30E-03	7.30E-03		1.20E-01	1.30E-01	1.00E+00	1.99E-10	1.5E-12	7.77E-11	5.7E-13	1.55E-12		2.0E-12	0
cis-1,2-dichloroethene					4.00E-03		1.00E+00	6.64E-12				4.86E-11			
Copper	D				6.56E+01		1.00E+00	1.09E-07				1.75E-12			
Dibenzofuran	D				1.10E+00		1.00E+00	1.83E-09				5.96E-11			
Dimethyldisulfide					4.10E+03		1.00E+00	6.81E-06				1.09E-10			
Ethylbenzene	D				6.70E+01		1.00E+00	1.11E-07				5.68E-07			
Fluoranthene	D				7.70E-01	1.30E-01	1.00E+00	1.28E-09		4.99E-10		2.05E-14			
Fluorene	D				4.10E+00		1.00E+00	6.81E-09				4.01E-10			
Lead	B2				5.00E+01		1.00E+00	8.30E-08				1.33E-12			
m/p-xylene					3.40E-01		1.00E+00	5.65E-10				1.96E-09			
Mercaptomethane					7.70E+01		1.00E+00	1.28E-07				2.05E-12			
Methyl ethyl ketone				1.40E+00	1.90E-01		1.00E+00	3.16E-10				3.45E-10	4.8E-10	4.8E-10	5
Methylene chloride	B2			1.60E-03	4.90E-02		1.00E+00	8.14E-11				6.92E-10	1.1E-12	1.1E-12	0
Naphthalene	C				9.00E+00		1.00E+00	1.49E-08				7.33E-09			
o-Xylene					2.10E-01		1.00E+00	3.49E-10				1.21E-09			
Phenanthrene					7.90E+00		1.00E+00	1.31E-08				2.11E-13			
Pyrene	D				6.60E-01		1.00E+00	1.10E-09				6.14E-12			
Tetrachloroethene				2.10E-02	5.30E-01		1.00E+00	8.80E-10				7.32E-09	1.5E-10	1.5E-10	1
Toluene	D				3.40E-01		1.00E+00	5.65E-10				3.01E-09			
TPH (as diesel)					2.20E+04		1.00E+00	3.65E-05				5.87E-10			
TPH (as gasoline)					5.60E+03		1.00E+00	9.30E-06				1.49E-10			
TPH (as motor oil)					8.80E+03		1.00E+00	1.46E-05				2.35E-10			
Xylene-total					1.50E+01		1.00E+00	2.49E-08				8.66E-08			
Total Risk									8.3E-09		9.7E-10		1.0E-09		100
												Total Risk =	1.0E-08		

Note:
Cancer WOE Classifications:
- Group A: Human carcinogen
- Group B (B1, B2): Probable human carcinogen
- Group C: Possible human carcinogen
- Group D: Not classifiable
- Group E: No evidence of carcinogenicity

ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

Table G-6
Trench Worker Scenario - Potential Noncarcinogenic Risk Under RME Exposure Scenario
Subsurface Soil
Weyerhaeuser - Bly Truck Shop

							Ingestion		Dermal		Inhalation			%
Chemical	RfD_o (mg/kg-day)	RfD_d (mg/kg-day)	RfD_i (mg/kg-day)	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	CDI (mg/kg-day)	HQ	Total HI	Contribution
1,1,2,2-tetrachloroethane	6.00E-02	6.00E-02	6.00E-02	8.40E-02		1.00E+00	9.76E-09	0.000			1.48E-08	0.00	0.00	0
1,2-Dichloroethene	1.00E-02	1.00E-02		1.90E-02		1.00E+00	2.21E-09	0.000			1.61E-08		0.00	0
2-Methylnaphthalene	4.00E-03	4.00E-03		4.70E+01	1.00E-02	1.00E+00	5.46E-06	0.001	1.64E-07	0.0000	8.78E-11		0.00	25
Acenaphthene	6.00E-02	6.00E-02		2.40E+00		1.00E+00	2.79E-07	0.000			3.25E-08		0.00	0
Acenaphthylene				8.10E-01		1.00E+00	9.42E-08				1.51E-12			
Acetone	9.00E-01	9.00E-01	9.00E-01	4.10E-01		1.00E+00	4.77E-08	0.000			8.05E-08	0.00	0.00	0
Anthracene	3.00E-01	3.00E-01		4.30E-01		1.00E+00	5.00E-08	0.000			1.52E-09		0.00	0
Arsenic	3.00E-04	3.00E-04		3.00E+00	3.00E-02	1.00E+00	3.49E-07	0.001	3.14E-08	0.0001	5.60E-12		0.00	23
Benzene	4.00E-03	4.00E-03	2.73E-02	8.70E-02		1.00E+00	1.01E-08	0.000			2.58E-08	0.00	0.00	0
Benzo(a)anthracene				1.30E-01	1.30E-01	1.00E+00	1.51E-08		5.89E-09		2.43E-13			
Benzo(a)pyrene				4.90E-02	1.30E-01	1.00E+00	5.70E-09		2.22E-09		9.15E-14			
Benzo(g,h,i)perylene				3.10E-02		1.00E+00	3.60E-09				5.79E-14			
Benzoic acid	4.00E+00	4.00E+00		1.50E-01	1.00E-01	1.00E+00	1.74E-08	0.000	5.23E-09	0.0000	2.80E-13		0.00	0
Bis(2-ethylhexyl)phthalate	2.00E-02	2.00E-02		4.20E-02	1.00E-01	1.00E+00	4.88E-09	0.000	1.46E-09	0.0000	7.85E-14		0.00	0
Chromium	3.00E-03	7.50E-05	2.20E-06	4.30E+01		2.50E-02	5.00E-06	0.002			8.03E-11	0.00	0.00	31
Chrysene				1.20E-01	1.30E-01	1.00E+00	1.39E-08		5.44E-09		1.09E-10			
cis-1,2-dichloroethene	1.00E-02	1.00E-02	1.00E-02	4.00E-03		1.00E+00	4.65E-10	0.000			3.40E-09	0.00	0.00	0
Copper	4.00E-02	4.00E-02		6.56E+01		1.00E+00	7.63E-06	0.000			1.23E-10		0.00	3
Dibenzofuran	2.00E-03	2.00E-03		1.10E+00		1.00E+00	1.28E-07	0.000			4.17E-09		0.00	1
Dimethyldisulfide				4.10E+03		1.00E+00	4.77E-04				7.66E-09			
Ethylbenzene	1.00E-01	1.00E-01	1.00E+00	6.70E+01		1.00E+00	7.79E-06	0.000			3.98E-05	0.00	0.00	2
Fluoranthene	4.00E-02	4.00E-02		7.70E-01	1.30E-01	1.00E+00	8.95E-08	0.000	3.49E-08	0.0000	1.44E-12		0.00	0
Fluorene	4.00E-02	4.00E-02		4.10E+00		1.00E+00	4.77E-07	0.000			2.81E-08		0.00	0
Lead				5.00E+01		1.00E+00	5.81E-06				9.34E-11			
m/p-xylene	2.00E-01	2.00E-01	1.00E-01	3.40E-01		1.00E+00	3.95E-08	0.000			1.37E-07	0.00	0.00	0
Mercaptomethane				7.70E+01		1.00E+00	8.95E-06				1.44E-10			
Methyl ethyl ketone				1.90E-01		1.00E+00	2.21E-08				2.41E-08			
Methylene chloride	6.00E-02	6.00E-02	8.60E-01	4.90E-02		1.00E+00	5.70E-09	0.000			4.84E-08	0.00	0.00	0
Naphthalene	2.00E-02	2.00E-02	8.60E-04	9.00E+00		1.00E+00	1.05E-06	0.000			5.13E-07	0.00	0.00	12
o-Xylene	2.00E-01	2.00E-01	1.00E-01	2.10E-01		1.00E+00	2.44E-08	0.000			8.49E-08	0.00	0.00	0
Phenanthrene				7.90E+00		1.00E+00	9.18E-07				1.48E-11			
Pyrene	3.00E-02	3.00E-02		6.60E-01		1.00E+00	7.67E-08	0.000			4.29E-10		0.00	0
Tetrachloroethene	1.00E-02	1.00E-02	1.00E-02	5.30E-01		1.00E+00	6.16E-08	0.000			5.12E-07	0.00	0.00	1
Toluene	2.00E-01	2.00E-01	1.10E-01	3.40E-01		1.00E+00	3.95E-08	0.000			2.11E-07	0.00	0.00	0
TPH (as diesel)				2.20E+04		1.00E+00	2.56E-03				4.11E-08			
TPH (as gasoline)				5.60E+03		1.00E+00	6.51E-04				1.05E-08			
TPH (as motor oil)				8.80E+03		1.00E+00	1.02E-03				1.64E-08			
Xylene-total	2.00E-01	2.00E-01	1.00E-01	1.50E+01		1.00E+00	1.74E-06	0.000			6.06E-06	0.00	0.00	1
Note:											**Total HI =**	0.006		

ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose

Table G-7
Trench Worker Scenario - Potential Excess Lifetime Cancer Risk Under CTE Exposure Scenario
Subsurface Soil
Weyerhaeuser - Bly Truck Shop

								Ingestion		Dermal		Inhalation			%
Chemical	WOE	SF_o (mg/kg-day)$^{-1}$	SF_d (mg/kg-day)$^{-1}$	SF_i (mg/kg-day)$^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	Contribution
1,1,2,2-tetrachloroethane	C	2.00E-01	2.00E-01	2.00E-01	1.23E-02		1.00E+00	3.10E-12	6.2E-13			1.55E-11	3.1E-12	3.7E-12	0
1,2-Dichloroethene					7.07E-03		1.00E+00	1.78E-12				4.29E-11			
2-Methylnaphthalene					7.55E+00	1.00E-02	1.00E+00	1.90E-09		6.27E-11		1.01E-13			
Acenaphthene					4.64E-01		1.00E+00	1.17E-10				4.49E-11			
Acenaphthylene					1.58E-01		1.00E+00	3.97E-11				2.10E-15			
Acetone					1.05E-01		1.00E+00	2.65E-11				1.48E-10			
Anthracene	D				1.07E-01		1.00E+00	2.69E-11				2.70E-12			
Arsenic	A	1.50E+00	1.50E+00	1.50E+01	1.25E+00	3.00E-02	1.00E+00	3.15E-10	4.7E-10	3.12E-11	4.7E-11	1.67E-14	2.5E-13	5.2E-10	65
Benzene	A	5.50E-02	5.50E-02	2.73E-02	1.65E-02		1.00E+00	4.16E-12	2.3E-13			3.51E-11	9.6E-13	1.2E-12	0
Benzo(a)anthracene	B2	7.30E-01	7.30E-01		4.55E-02	1.30E-01	1.00E+00	1.14E-11	8.4E-12	4.91E-12	3.6E-12	6.07E-16		1.2E-11	1
Benzo(a)pyrene	B2	7.30E+00	7.30E+00		3.38E-02	1.30E-01	1.00E+00	8.52E-12	6.2E-11	3.65E-12	2.7E-11	4.52E-16		8.9E-11	11
Benzo(g,h,i)perylene					3.10E-02		1.00E+00	7.80E-12				4.14E-16			
Benzoic acid	D				1.50E-01	1.00E-01	1.00E+00	3.77E-11		1.25E-11		2.00E-15			
Bis(2-ethylhexyl)phthalate	B2	1.40E-02	1.40E-02		4.20E-02	1.00E-01	1.00E+00	1.06E-11	1.5E-13	3.49E-12	4.9E-14	5.60E-16		2.0E-13	0
Chromium	D			2.90E+02	2.86E+01		2.50E-02	7.18E-09				3.81E-13	1.1E-10	1.1E-10	14
Chrysene	B2	7.30E-03	7.30E-03		4.69E-02	1.30E-01	1.00E+00	1.18E-11	8.6E-14	5.06E-12	3.7E-14	3.03E-13		1.2E-13	0
cis-1,2-dichloroethene					4.00E-03		1.00E+00	1.01E-12				2.43E-11			
Copper	D				3.42E+01		1.00E+00	8.61E-09				4.56E-13			
Dibenzofuran	D				2.16E-01		1.00E+00	5.43E-11				5.85E-12			
Dimethyldisulfide					4.10E+03		1.00E+00	1.03E-06				5.47E-11			
Ethylbenzene	D				6.37E+00		1.00E+00	1.60E-09				2.70E-08			
Fluoranthene	D				1.53E-01	1.30E-01	1.00E+00	3.85E-11		1.65E-11		2.04E-15			
Fluorene	D				8.61E-01		1.00E+00	2.17E-10				4.21E-11			
Lead	B2				1.22E+01		1.00E+00	3.08E-09				1.63E-13			
m/p-xylene					1.93E-01		1.00E+00	4.85E-11				5.56E-10			
Mercaptomethane					7.70E+01		1.00E+00	1.94E-08				1.03E-12			
Methyl ethyl ketone		6.00E-01	6.00E-01	1.40E+00	2.95E-02		1.00E+00	7.42E-12	4.5E-12			2.67E-11	3.7E-11	4.2E-11	5
Methylene chloride	B2	7.50E-03	7.50E-03	1.60E-03	1.63E-02		1.00E+00	4.11E-12	3.1E-14			1.15E-10	1.8E-13	2.2E-13	0
Naphthalene	C				1.51E+00		1.00E+00	3.80E-10				6.15E-10			
o-Xylene					1.08E-01		1.00E+00	2.72E-11				3.12E-10			
Phenanthrene					1.49E+00		1.00E+00	3.75E-10				1.99E-14			
Pyrene	D				1.72E-01		1.00E+00	4.34E-11				8.02E-13			
Tetrachloroethene		5.40E-01	5.40E-01	2.10E-02	6.01E-02		1.00E+00	1.51E-11	8.2E-12			4.15E-10	8.7E-12	1.7E-11	2
Toluene	D				5.12E-02		1.00E+00	1.29E-11				2.26E-10			
TPH (as diesel)					4.21E+03		1.00E+00	1.06E-06				5.62E-11			
TPH (as gasoline)					9.19E+02		1.00E+00	2.31E-07				1.23E-11			
TPH (as motor oil)					2.55E+03		1.00E+00	6.42E-07				3.41E-11			
Xylene-total					1.98E+00		1.00E+00	4.97E-10				5.70E-09			
Total Risk									5.6E-10		7.7E-11		1.6E-10		100
												Total Risk =	8.0E-10		

Note:
Cancer WOE Classifications:
- Group A: Human carcinogen
- Group B (B1, B2): Probable human carcinogen
- Group C: Possible human carcinogen
- Group D: Not classifiable
- Group E: No evidence of carcinogenicity

ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

Table G-8
Trench Worker Scenario - Potential Noncarcinogenic Risk Under CTE Exposure Scenario
Subsurface Soil
Weyerhaeuser - Bly Truck Shop

							Ingestion		Dermal		Inhalation			%
Chemical	**RfD_o (mg/kg-day)**	**RfD_d (mg/kg-day)**	**RfD_i (mg/kg-day)**	**EPC (mg/kg)**	**ABS_d**	**ABS_{gi}**	**CDI (mg/kg-day)**	**HQ**	**CDI (mg/kg-day)**	**HQ**	**CDI (mg/kg-day)**	**HQ**	**Total HI**	**Contribution**
1,1,2,2-tetrachloroethane	6.00E-02	6.00E-02	6.00E-02	1.23E-02		1.00E+00	2.17E-10	0.000			1.09E-09	0.00	0.00	0
1,2-Dichloroethene	1.00E-02	1.00E-02		7.07E-03		1.00E+00	1.25E-10	0.000			3.00E-09		0.00	0
2-Methylnaphthalene	4.00E-03	4.00E-03		7.55E+00	1.00E-02	1.00E+00	1.33E-07	0.000	4.39E-09	0.0000	7.05E-12		0.00	9
Acenaphthene	6.00E-02	6.00E-02		4.64E-01		1.00E+00	8.17E-09	0.000			3.14E-09		0.00	0
Acenaphthylene				1.58E-01		1.00E+00	2.78E-09				1.47E-13			
Acetone	9.00E-01	9.00E-01	9.00E-01	1.05E-01		1.00E+00	1.85E-09	0.000			1.03E-08	0.00	0.00	0
Anthracene	3.00E-01	3.00E-01		1.07E-01		1.00E+00	1.88E-09	0.000			1.89E-10		0.00	0
Arsenic	3.00E-04	3.00E-04		1.25E+00	3.00E-02	1.00E+00	2.21E-08	0.000	2.19E-09	0.0000	1.17E-12		0.00	22
Benzene	4.00E-03	4.00E-03	2.73E-02	1.65E-02		1.00E+00	2.91E-10	0.000			2.46E-09	0.00	0.00	0
Benzo(a)anthracene				4.55E-02	1.30E-01	1.00E+00	8.01E-10		3.44E-10		4.25E-14			
Benzo(a)pyrene				3.38E-02	1.30E-01	1.00E+00	5.96E-10		2.56E-10		3.16E-14			
Benzo(g,h,i)perylene				3.10E-02		1.00E+00	5.46E-10				2.90E-14			
Benzoic acid	4.00E+00	4.00E+00		1.50E-01	1.00E-01	1.00E+00	2.64E-09	0.000	8.72E-10	0.0000	1.40E-13		0.00	0
Bis(2-ethylhexyl)phthalate	2.00E-02	2.00E-02		4.20E-02	1.00E-01	1.00E+00	7.40E-10	0.000	2.44E-10	0.0000	3.92E-14		0.00	0
Chromium	3.00E-03	7.50E-05	2.20E-06	2.86E+01		2.50E-02	5.03E-07	0.000			2.67E-11	0.00	0.00	48
Chrysene				4.69E-02	1.30E-01	1.00E+00	8.26E-10		3.54E-10		2.12E-11			
cis-1,2-dichloroethene	1.00E-02	1.00E-02	1.00E-02	4.00E-03		1.00E+00	7.05E-11	0.000			1.70E-09	0.00	0.00	0
Copper	4.00E-02	4.00E-02		3.42E+01		1.00E+00	6.03E-07	0.000			3.20E-11		0.00	4
Dibenzofuran	2.00E-03	2.00E-03		2.16E-01		1.00E+00	3.80E-09	0.000			4.10E-10		0.00	1
Dimethyldisulfide				4.10E+03		1.00E+00	7.22E-05				3.83E-09			
Ethylbenzene	1.00E-01	1.00E-01	1.00E+00	6.37E+00		1.00E+00	1.12E-07	0.000			1.89E-06	0.00	0.00	1
Fluoranthene	4.00E-02	4.00E-02		1.53E-01	1.30E-01	1.00E+00	2.70E-09	0.000	1.16E-09	0.0000	1.43E-13		0.00	0
Fluorene	4.00E-02	4.00E-02		8.61E-01		1.00E+00	1.52E-08	0.000			2.95E-09		0.00	0
Lead				1.22E+01		1.00E+00	2.16E-07				1.14E-11			
m/p-xylene	2.00E-01	2.00E-01	1.00E-01	1.93E-01		1.00E+00	3.39E-09	0.000			3.89E-08	0.00	0.00	0
Mercaptomethane				7.70E+01		1.00E+00	1.36E-06				7.19E-11			
Methyl ethyl ketone				2.95E-02		1.00E+00	5.19E-10				1.87E-09			
Methylene chloride	6.00E-02	6.00E-02	8.60E-01	1.63E-02		1.00E+00	2.88E-10	0.000			8.07E-09	0.00	0.00	0
Naphthalene	2.00E-02	2.00E-02	8.60E-04	1.51E+00		1.00E+00	2.66E-08	0.000			4.31E-08	0.00	0.00	14
o-Xylene	2.00E-01	2.00E-01	1.00E-01	1.08E-01		1.00E+00	1.91E-09	0.000			2.19E-08	0.00	0.00	0
Phenanthrene				1.49E+00		1.00E+00	2.63E-08				1.39E-12			
Pyrene	3.00E-02	3.00E-02		1.72E-01		1.00E+00	3.04E-09	0.000			5.61E-11		0.00	0
Tetrachloroethene	1.00E-02	1.00E-02	1.00E-02	6.01E-02		1.00E+00	1.06E-09	0.000			2.91E-08	0.00	0.00	1
Toluene	2.00E-01	2.00E-01	1.10E-01	5.12E-02		1.00E+00	9.01E-10	0.000			1.58E-08	0.00	0.00	0
TPH (as diesel)				4.21E+03		1.00E+00	7.42E-05				3.93E-09			
TPH (as gasoline)				9.19E+02		1.00E+00	1.62E-05				8.58E-10			
TPH (as motor oil)				2.55E+03		1.00E+00	4.50E-05				2.38E-09			
Xylene-total	2.00E-01	2.00E-01	1.00E-01	1.98E+00		1.00E+00	3.48E-08	0.000			3.99E-07	0.00	0.00	1
Note:											**Total HI =**	0.0004		

ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose

Table G-9
Trespasser Scenario - Potential Excess Lifetime Cancer Risk
Surface Soil
Weyerhaeuser - Bly Truck Shop

								Ingestion		Dermal		Inhalation			%
Chemical	WOE	SF_o (mg/kg-day)$^{-1}$	SF_d (mg/kg-day)$^{-1}$	SF_i (mg/kg-day)$^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	CDI (mg/kg-day)	ELCR	Total ELCR	Contribution
2-Methylnaphthalene					3.60E+00	1.00E-02	1.00E+00	1.24E-07		4.72E-09		6.35E-12			
Acenaphthene					5.10E-01		1.00E+00	1.76E-08				6.52E-09			
Acetone					4.10E-01		1.00E+00	1.41E-08				7.61E-08			
Anthracene	D				2.60E-01		1.00E+00	8.97E-09				8.68E-10			
Benzene	A	5.50E-02	5.50E-02	2.73E-02	1.50E-02		1.00E+00	5.18E-10	2.8E-11			4.21E-09	1.1E-10	1.4E-10	0
Benzo(a)anthracene	B2	7.30E-01	7.30E-01		1.30E-01	1.30E-01	1.00E+00	4.49E-09	3.3E-09	2.22E-09	1.6E-09	2.29E-13		4.9E-09	8
Benzo(a)pyrene	B2	7.30E+00	7.30E+00		4.90E-02	1.30E-01	1.00E+00	1.69E-09	1.2E-08	8.35E-10	6.1E-09	8.65E-14		1.8E-08	31
Benzo(b)fluoranthene	B2	7.30E-01	7.30E-01		4.00E-03	1.30E-01	1.00E+00	1.38E-10	1.0E-10	6.82E-11	5.0E-11	7.06E-15		1.5E-10	0
Benzo(g,h,i)perylene					5.00E-03		1.00E+00	1.73E-10				8.82E-15			
Benzo(k)fluoranthene	B2	7.30E-02	7.30E-02		4.10E-02	1.30E-01	1.00E+00	1.41E-09	1.0E-10	6.99E-10	5.1E-11	7.23E-14		1.5E-10	0
Benzoic acid	D				1.50E-01	1.00E-01	1.00E+00	5.18E-09		1.97E-09		2.65E-13			
Bromodichloromethane	B2	6.20E-02	6.20E-02		2.70E-02		1.00E+00	9.32E-10	5.8E-11			7.61E-09		5.8E-11	0
Chloroform	B2			8.10E-02	1.65E-02		1.00E+00	5.69E-10				1.44E-08	1.2E-09	1.2E-09	2
Chromium	D			2.90E+02	4.30E+01		2.50E-02	1.48E-06				7.59E-11	2.2E-08	2.2E-08	37
Chrysene	B2	7.30E-03	7.30E-03		1.20E-01	1.30E-01	1.00E+00	4.14E-09	3.0E-11	2.05E-09	1.5E-11	1.03E-10		4.5E-11	0
cis-1,2-dichloroethene					4.00E-03		1.00E+00	1.38E-10				3.21E-09			
Copper	D				4.30E+01		1.00E+00	1.48E-06				7.59E-11			
Dibenzofuran	D				1.80E-01		1.00E+00	6.21E-09				6.45E-10			
Dibromochloromethane	C	8.40E-02	8.40E-02	8.40E-02	2.70E-02		1.00E+00	9.32E-10	7.8E-11			3.93E-09	3.3E-10	4.1E-10	1
Ethylbenzene	D				4.00E-03		1.00E+00	1.38E-10				2.24E-09			
Fluoranthene	D				7.70E-01	1.30E-01	1.00E+00	2.66E-08		1.31E-08		1.36E-12			
Fluorene	D				1.10E+00		1.00E+00	3.80E-08				7.12E-09			
Indeno(1,2,3-cd)pyrene	B2	7.30E-01	7.30E-01		4.00E-03	1.30E-01	1.00E+00	1.38E-10	1.0E-10	6.82E-11	5.0E-11	7.06E-15		1.5E-10	0
Lead	B2				5.00E+01		1.00E+00	1.73E-06				8.82E-11			
Methyl ethyl ketone		6.00E-01	6.00E-01	1.40E+00	6.20E-02		1.00E+00	2.14E-09	1.3E-09			7.43E-09	1.0E-08	1.2E-08	19
Naphthalene	C				2.60E-01		1.00E+00	8.97E-09				1.40E-08			
Phenanthrene					1.50E+00		1.00E+00	5.18E-08				2.65E-12			
Pyrene	D				6.60E-01		1.00E+00	2.28E-08				4.06E-10			
Tetrachloroethene		5.40E-01	5.40E-01	2.10E-02	1.80E-02		1.00E+00	6.21E-10	3.4E-10			1.64E-08	3.5E-10	6.8E-10	1
Toluene	D				2.60E-02		1.00E+00	8.97E-10				1.52E-08			
TPH (as diesel)					5.90E+03		1.00E+00	2.04E-04				1.04E-08			
TPH (as gasoline)					2.10E+02		1.00E+00	7.25E-06				3.71E-10			
TPH (as motor oil)					8.80E+03		1.00E+00	3.04E-04				1.55E-08			
Xylene-total					2.00E-02		1.00E+00	6.90E-10				7.63E-09			
Total Risk									1.8E-08		7.9E-09		3.4E-08		100
												Total Risk =	6.0E-08		

Note:
Cancer WOE Classifications:
Group A: Human carcinogen
Group B (B1, B2): Probable human carcinogen
Group C: Possible human carcinogen
Group D: Not classifiable
Group E: No evidence of carcinogenicity
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

Table G-10
Trespasser Scenario - Potential Noncarcinogenic Risk
Surface Soil
Weyerhaeuser - Bly Truck Shop

Chemical	RfD_o (mg/kg-day)	RfD_d (mg/kg-day)	RfD_i (mg/kg-day)	EPC (mg/kg)	ABS_d	ABS_{gi}	Ingestion CDI (mg/kg-day)	Ingestion HQ	Dermal CDI (mg/kg-day)	Dermal HQ	Inhalation CDI (mg/kg-day)	Inhalation HQ	Total HI	% Contribution
2-Methylnaphthalene	4.00E-03	4.00E-03		3.60E+00	1.00E-02	1.00E+00	1.74E-06	0.000	6.61E-08	0.0000	8.89E-11		0.00	5
Acenaphthene	6.00E-02	6.00E-02		5.10E-01		1.00E+00	2.46E-07	0.000			9.13E-08		0.00	0
Acetone	9.00E-01	9.00E-01	9.00E-01	4.10E-01		1.00E+00	1.98E-07	0.000			1.06E-06	0.00	0.00	0
Anthracene	3.00E-01	3.00E-01		2.60E-01		1.00E+00	1.26E-07	0.000			1.21E-08		0.00	0
Benzene	4.00E-03	4.00E-03	2.73E-02	1.50E-02		1.00E+00	7.25E-09	0.000			5.89E-08	0.00	0.00	0
Benzo(a)anthracene				1.30E-01	1.30E-01	1.00E+00	6.28E-08		3.10E-08		3.21E-12			
Benzo(a)pyrene				4.90E-02	1.30E-01	1.00E+00	2.37E-08		1.17E-08		1.21E-12			
Benzo(b)fluoranthene				4.00E-03	1.30E-01	1.00E+00	1.93E-09		9.54E-10		9.88E-14			
Benzo(g,h,i)perylene				5.00E-03		1.00E+00	2.42E-09				1.24E-13			
Benzo(k)fluoranthene				4.10E-02	1.30E-01	1.00E+00	1.98E-08		9.78E-09		1.01E-12			
Benzoic acid	4.00E+00	4.00E+00		1.50E-01	1.00E-01	1.00E+00	7.25E-08	0.000	2.75E-08	0.0000	3.71E-12		0.00	0
Bromodichloromethane	2.00E-02	2.00E-02		2.70E-02		1.00E+00	1.30E-08	0.000			1.07E-07		0.00	0
Chloroform	1.00E-02	1.00E-02	1.40E-02	1.65E-02		1.00E+00	7.97E-09	0.000			2.02E-07	0.00	0.00	0
Chromium	3.00E-03	7.50E-05	2.20E-06	4.30E+01		2.50E-02	2.08E-05	0.007			1.06E-09	0.00	0.01	85
Chrysene				1.20E-01	1.30E-01	1.00E+00	5.80E-08		2.86E-08		1.44E-09			
cis-1,2-dichloroethene	1.00E-02	1.00E-02	1.00E-02	4.00E-03		1.00E+00	1.93E-09	0.000			4.50E-08	0.00	0.00	0
Copper	4.00E-02	4.00E-02		4.30E+01		1.00E+00	2.08E-05	0.001			1.06E-09		0.00	6
Dibenzofuran	2.00E-03	2.00E-03		1.80E-01		1.00E+00	8.69E-08	0.000			9.03E-09		0.00	0
Dibromochloromethane	2.00E-02	2.00E-02	2.00E-02	2.70E-02		1.00E+00	1.30E-08	0.000			5.50E-08	0.00	0.00	0
Ethylbenzene	1.00E-01	1.00E-01	1.00E+00	4.00E-03		1.00E+00	1.93E-09	0.000			3.14E-08	0.00	0.00	0
Fluoranthene	4.00E-02	4.00E-02		7.70E-01	1.30E-01	1.00E+00	3.72E-07	0.000	1.84E-07	0.0000	1.90E-11		0.00	0
Fluorene	4.00E-02	4.00E-02		1.10E+00		1.00E+00	5.31E-07	0.000			9.96E-08		0.00	0
Indeno(1,2,3-cd)pyrene				4.00E-03	1.30E-01	1.00E+00	1.93E-09		9.54E-10		9.88E-14			
Lead				5.00E+01		1.00E+00	2.42E-05				1.24E-09			
Methyl ethyl ketone				6.20E-02		1.00E+00	2.99E-08				1.04E-07			
Naphthalene	2.00E-02	2.00E-02	8.60E-04	2.60E-01		1.00E+00	1.26E-07	0.000			1.96E-07	0.00	0.00	3
Phenanthrene				1.50E+00		1.00E+00	7.25E-07				3.71E-11			
Pyrene	3.00E-02	3.00E-02		6.60E-01		1.00E+00	3.19E-07	0.000			5.68E-09		0.00	0
Tetrachloroethene	1.00E-02	1.00E-02	1.00E-02	1.80E-02		1.00E+00	8.69E-09	0.000			2.30E-07	0.00	0.00	0
Toluene	2.00E-01	2.00E-01	1.10E-01	2.60E-02		1.00E+00	1.26E-08	0.000			2.13E-07	0.00	0.00	0
TPH (as diesel)				5.90E+03		1.00E+00	2.85E-03				1.46E-07			
TPH (as gasoline)				2.10E+02		1.00E+00	1.01E-04				5.19E-09			
TPH (as motor oil)				8.80E+03		1.00E+00	4.25E-03				2.17E-07			
Xylene-total	2.00E-01	2.00E-01	1.00E-01	2.00E-02		1.00E+00	9.66E-09	0.000			1.07E-07	0.00	0.00	0
											Total HI =	0.0088		

Note:
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose

Table G-11
Recreational User Scenario - Potential Excess Lifetime Cancer Risk
Sediment
Weyerhaeuser - Bly Truck Shop

Chemical	WOE	SF_o (mg/kg-day)$^{-1}$	SF_d (mg/kg-day)$^{-1}$	SF_i (mg/kg-day)$^{-1}$	EPC (mg/kg)	ABS_d	ABS_{gi}	Ingestion CDI (mg/kg-day)	Ingestion ELCR	Dermal CDI (mg/kg-day)	Dermal ELCR	Inhalation CDI (mg/kg-day)	Inhalation ELCR	Total ELCR	% Contribution
Acenaphthene					6.60E-03		1.00E+00	2.28E-10				8.44E-11			
Acenaphthylene					5.00E-03		1.00E+00	1.73E-10				8.82E-15			
Acetone					1.20E-01		1.00E+00	4.14E-09				2.23E-08			
Anthracene	D				3.60E-02		1.00E+00	1.24E-09				1.20E-10			
Benzo(a)anthracene	B2	7.30E-01	7.30E-01		1.00E-01	1.30E-01	1.00E+00	3.45E-09	2.5E-09	1.70E-09	1.2E-09	1.76E-13		3.8E-09	8
Benzo(a)pyrene	B2	7.30E+00	7.30E+00		3.20E-02	1.30E-01	1.00E+00	1.10E-09	8.1E-09	5.45E-10	4.0E-09	5.65E-14		1.2E-08	27
Benzo(b)fluoranthene	B2	7.30E-01	7.30E-01		9.60E-02	1.30E-01	1.00E+00	3.31E-09	2.4E-09	1.64E-09	1.2E-09	1.69E-13		3.6E-09	8
Benzo(g,h,i)perylene					1.60E-02		1.00E+00	5.52E-10				2.82E-14			
Benzo(k)fluoranthene	B2	7.30E-02	7.30E-02		8.30E-02	1.30E-01	1.00E+00	2.86E-09	2.1E-10	1.41E-09	1.0E-10	1.46E-13		3.1E-10	1
Chromium	D			2.90E+02	3.40E+01		2.50E-02	1.17E-06				6.00E-11	1.7E-08	1.7E-08	38
Chrysene	B2	7.30E-03	7.30E-03		2.40E-01	1.30E-01	1.00E+00	8.28E-09	6.0E-11	4.09E-09	3.0E-11	2.05E-10		9.0E-11	0
Copper	D				2.50E+01		1.00E+00	8.63E-07				4.41E-11			
Dibenzo(a,h)anthracene	B2	7.30E+00	7.30E+00		6.20E-03	1.30E-01	1.00E+00	2.14E-10	1.6E-09	1.06E-10	7.7E-10	1.09E-14		2.3E-09	5
Dibenzofuran	D				6.30E-03		1.00E+00	2.17E-10				2.26E-11			
Fluoranthene	D				4.80E-01	1.30E-01	1.00E+00	1.66E-08		8.18E-09		8.47E-13			
Fluorene	D				9.90E-03		1.00E+00	3.42E-10				6.40E-11			
Indeno(1,2,3-cd)pyrene	B2	7.30E-01	7.30E-01		2.20E-02	1.30E-01	1.00E+00	7.59E-10	5.5E-10	3.75E-10	2.7E-10	3.88E-14		8.3E-10	2
Methyl ethyl ketone		6.00E-01	6.00E-01	1.40E+00	2.60E-02		1.00E+00	8.97E-10	5.4E-10			3.12E-09	4.4E-09	4.9E-09	11
Naphthalene	C				6.30E-03		1.00E+00	2.17E-10				3.39E-10			
Phenanthrene					1.50E-01		1.00E+00	5.18E-09				2.65E-13			
Pyrene					3.20E-01		1.00E+00	1.10E-08				1.97E-10			
Toluene					4.10E-02		1.00E+00	1.41E-09				2.40E-08			
TPH (as diesel)					9.70E+01		1.00E+00	3.35E-06				1.71E-10			
TPH (as motor oil)					1.30E+02		1.00E+00	4.49E-06				2.29E-10			
Total Risk									1.6E-08		7.6E-09		2.2E-08		100
												Total Risk =	4.5E-08		

Note:
Cancer WOE Classifications:
Group A: Human carcinogen
Group B (B1, B2): Probable human carcinogen
Group C: Possible human carcinogen
Group D: Not classifiable
Group E: No evidence of carcinogenicity
ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
ELCR = Excess Lifetime Cancer Risk
EPC = Exposure Point Concentration
mg/kg-day = milligrams per kilogram per day
SF_d = Dermal Slope Factor
SF_o = Oral Slope Factor
SF_i = Inhalation Slope Factor
WOE = Weight of Evidence

Table G-12
Recreational User Scenario - Potential Noncarcinogenic Risk
Sediment
Weyerhaeuser - Bly Truck Shop

Chemical	RfD_o (mg/kg-day)	RfD_d (mg/kg-day)	RfD_i (mg/kg-day)	EPC (mg/kg)	ABS_d	ABS_{gi}	Ingestion CDI (mg/kg-day)	Ingestion HQ	Dermal CDI (mg/kg-day)	Dermal HQ	Inhalation CDI (mg/kg-day)	Inhalation HQ	Total HI	% Contribution
Acenaphthene	6.00E-02	6.00E-02		6.60E-03		1.00E+00	3.19E-09	0.000			1.18E-09		0.00	0
Acenaphthylene				5.00E-03		1.00E+00	2.42E-09				1.24E-13			
Acetone	9.00E-01	9.00E-01	9.00E-01	1.20E-01		1.00E+00	5.80E-08	0.000			3.12E-07	0.00	0.00	0
Anthracene	3.00E-01	3.00E-01		3.60E-02		1.00E+00	1.74E-08	0.000			1.68E-09		0.00	0
Benzo(a)anthracene				1.00E-01	1.30E-01	1.00E+00	4.83E-08		2.39E-08		2.47E-12			
Benzo(a)pyrene				3.20E-02	1.30E-01	1.00E+00	1.55E-08		7.64E-09		7.90E-13			
Benzo(b)fluoranthene				9.60E-02	1.30E-01	1.00E+00	4.64E-08		2.29E-08		2.37E-12			
Benzo(g,h,i)perylene				1.60E-02		1.00E+00	7.73E-09				3.95E-13			
Benzo(k)fluoranthene				8.30E-02	1.30E-01	1.00E+00	4.01E-08		1.98E-08		2.05E-12			
Chromium	3.00E-03	7.50E-05	2.20E-06	3.40E+01		2.50E-02	1.64E-05	0.005			8.40E-10	0.00	0.01	95
Chrysene				2.40E-01	1.30E-01	1.00E+00	1.16E-07		5.73E-08		2.88E-09			
Copper	4.00E-02	4.00E-02		2.50E+01		1.00E+00	1.21E-05	0.000			6.18E-10		0.00	5
Dibenzo(a,h)anthracene				6.20E-03	1.30E-01	1.00E+00	2.99E-09		1.48E-09		1.53E-13			
Dibenzofuran	2.00E-03	2.00E-03		6.30E-03		1.00E+00	3.04E-09	0.000			3.16E-10		0.00	0
Fluoranthene	4.00E-02	4.00E-02		4.80E-01	1.30E-01	1.00E+00	2.32E-07	0.000	1.15E-07	0.0000	1.19E-11		0.00	0
Fluorene	4.00E-02	4.00E-02		9.90E-03		1.00E+00	4.78E-09	0.000			8.97E-10		0.00	0
Indeno(1,2,3-cd)pyrene				2.20E-02	1.30E-01	1.00E+00	1.06E-08		5.25E-09		5.43E-13			
Methyl ethyl ketone				2.60E-02		1.00E+00	1.26E-08				4.36E-08			
Naphthalene	2.00E-02	2.00E-02	8.60E-04	6.30E-03		1.00E+00	3.04E-09	0.000			4.75E-09	0.00	0.00	0
Phenanthrene				1.50E-01		1.00E+00	7.25E-08				3.71E-12			
Pyrene	3.00E-02	3.00E-02		3.20E-01		1.00E+00	1.55E-07	0.000			2.75E-09		0.00	0
Toluene	2.00E-01	2.00E-01	1.10E-01	4.10E-02		1.00E+00	1.98E-08	0.000			3.36E-07	0.00	0.00	0
TPH (as diesel)				9.70E+01		1.00E+00	4.69E-05				2.40E-09			
TPH (as motor oil)				1.30E+02		1.00E+00	6.28E-05				3.21E-09			
Note:											**Total HI =**	0.006		

ABS_d = Dermal Absorption Factor
ABS_{gi} = Gastrointestinal Aborption Factor
CDI = Chronic Daily Intake
EPC = Exposure Point Concentration
HI = Hazard Index
HQ = Hazard Quotient;
mg/kg-day = milligrams per kilogram per day
RfC = Reference Concentration
RfD_d = Dermal Reference Dose;
RfD_o = Oral Reference Dose
RfD_i = Inhalation Reference Dose