

Appendix H
Model Inputs
Controlled Waters Risk Assessment
PLOT D

Level of Assessment	STAGE 2			STAGE 3a- Dilution at source area through surrounding clean zone								STAGE 3B- Dilution of contaminant concentration through St.Bees Sandstone infiltration											
Analyte	Measured Concentration (µg/L)	Marine EQS Screening Value (µg/L)	Value used	Type of contamination	Location	Depth of sample (m)	Estimated catchment area of contamination (m ²)	Estimated catchment area of clean water (m ²)	Total catchment (m ²)	Percentage of Contaminated Catchment Infiltrating Total Catchment (%)	Resultant simulated concentration as analyte enters Evaporites (µg/L)	Rainfall (m/day)	Infiltration into Source Zone and Clean Zone around Source (%)	Effective Rainfall (m/day)	Area of Source and Clean Zone Around Source (m ²)	Discharge Contribution from onsite source zone and dilution zone (L/day)	Infiltration into St.Bees Sandstone (%)	Effective Rainfall (m/day)	Length of St.Bees Dilution Zone (m)	Width of St.Bees Dilution Zone (m)	Discharge Contribution from St.Bees Dilution Zone (L/day)	Dilution Factor	Concentration after Dilution of Clean St.Bees Water (µg/L)
Fluoranthene	5.0	0.20	MAX	Soil leachate hotspot	TP706D	2	1250	3550	4800	26%	1.30	0.0029	15%	0.0004	4800	2111	7.5%	0.0002	300	69	4570	0.46	0.60
Phenanthrene	28.0	10	MAX	Soil leachate hotspot	TP706D	2	1250	3550	4800	26%	7.29	0.0029	15%	0.0004	4800	2111	7.5%	0.0002	300	69	4570	0.46	3.37
TPH Aromatic 12-16	37.0	10	MAX	Soil leachate hotspot	TP706D	2	1250	3550	4800	26%	9.64	0.0029	15%	0.0004	4800	2111	7.5%	0.0002	300	69	4570	0.46	4.45
TPH Aromatic 16-21	100.0	10	MAX	Soil leachate hotspot	TP706D	2	1250	3550	4800	26%	26.82	0.0029	15%	0.0004	2600	1143	7.5%	0.0002	300	51	3363	0.34	9.15
Toluene *	51.7	40	MAX	Soil hotspot	WS402	0.45	300	1050	1350	22%	11.50	0.0029	15%	0.0004	1350	594	7.5%	0.0002	300	37	2423	0.24	2.82
Fluoranthene	2.0	0.20	MAX	Soil leachate hotspot	TP713D	4.8	580	2500	3080	19%	0.38	0.0029	15%	0.0004	3080	1354	7.5%	0.0002	300	55	3661	0.37	0.14
Arsenic	55.0	25	MAX	Soil leachate hotspot	WS715D	1.5	750	1900	2650	28%	15.57	0.0029	15%	0.0004	2650	1165	7.5%	0.0002	300	51	3395	0.34	5.34
Selenium	17.0	10	MAX	Soil leachate hotspot	TP718D	1.5	1550	3050	4600	34%	5.73	0.0029	15%	0.0004	4600	2023	7.5%	0.0002	300	68	4474	0.45	2.59
Selenium	20.0	10	MAX	Groundwater hotspot	WS715D	water	1550	0	1550	100%	20.00	0.0029	15%	0.0004	1550	682	7.5%	0.0002	300	39	2597	0.26	5.25
Lead	38	25	MAX	Soil leachate hotspot	TP709	3.9	350	1100	1450	24%	9	0.0029	15%	0.0004	1450	638	7.5%	0.0002	300	38	2512	0.25	2
Chloroform *	169	12	MAX	Soil hotspot	TP708D	0.5	750	1900	2650	28%	47.80	0.0029	15%	0.0004	2650	1165	7.5%	0.0002	300	51	3395	0.34	16.4
Trichloroethene *	30.6	10	MAX	Soil hotspot	TP708D	0.5	1550	3050	4600	34%	10.30	0.0029	15%	0.0004	4600	2023	7.5%	0.0002	300	68	4474	0.45	4.66
Naphthalene	72.0	5	MAX	Groundwater hotspot	WS717D	water	1500	0	1500	100%	72	0.0029	15%	0.0004	1500	660	7.5%	0.0002	300	39	2555	0.26	19
Toluene *	50.0	40	MAX	Soil hotspot	WS416	0.6	450	1300	1750	26%	12.84	0.0029	15%	0.0004	1750	770	7.5%	0.0002	300	42	2759	0.28	3.58
Nickel	206	30	MAX	Groundwater hotspot	WS416	water	1500	0	1500	100%	206	0.0029	15%	0.0004	1500	660	7.5%	0.0002	300	39	2555	0.26	53
Zinc	375	40	MAX	Groundwater hotspot	WS416	water	1500	0	1500	100%	375	0.0029	15%	0.0004	1500	660	7.5%	0.0002	300	39	2555	0.26	97

* Pore water concentration calculated from concentration measured in soil
Exceedence of Controlled Waters Screening Criteria