## CONTROLLED WATERS Detailed Risk Assessment For Leachable Chromium in Stockpiles 1 and 4

		Level of Assessment	Input Parameters					Stage 3a Assessment- not considered to change dilution so input concentration= output concentration						STAGE 3B- Dilution of contaminant concentration through St.Bees Sandstone Inflittration														
		Analyte	Input concentration (µg/L)	Type of contamination	Location	Volume of spoil to be spread (m3)	Thickness of contaminated zone (m)	Resultant catchment area of contamination (m <sup>2</sup> )	Estimated catchment area of clean water (m <sup>2</sup> )	Total catchment (m <sup>2</sup> )	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 (m2)	Discharge Contribution from onsite source zone and dilution zone (m3/day)	Discharge Contribution from onsite source zone and dilution zone (L/day)	Flux from Source Zone and dilution zone passing offsite (µg/day)	Rainfall (m/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)	Marine EQS Screening Value (µg/L)
	Current Model	Chromium	28	Soil leachate	Spoil Sample	3100	1	3100	0	3100	100%	28	0.00293	15%	0.0004	3100	1.36	1363	38168	0.0029	7.5%	0.0002	300	55.68	3672	0.371	10.39	15
Sensitivity	Decrease thickness of zone to 0.20m	Chromium	28	Soil leachate	Spoil Sample	3100	0.2	15500	0	15500	100%	28	0.00293	15%	0.0004	15500	6.82	6816	190841	0.0029	7.5%	0.0002	300	124.50	8212	0.830	23.24	15
	Decrease thickness to 0.5m	Chromium	28	Soil leachate	Spoil Sample	3100	0.5	6200	0	6200	100%	28	0.00293	15%	0.0004	6200	2.73	2726	76336	0.0029	7.5%	0.0002	300	78.74	5194	0.525	14.70	15
	Increase thickness of zone to 3m	Chromium	28	Soil leachate	Spoil Sample	3100	3	1033	0	1033	100%	28	0.00293	15%	0.0004	1033	0.45	454	12723	0.0029	7.5%	0.0002	300	32.15	2120	0.214	6.00	15
	Increase concentration to 40µg/l	Chromium	40	Soil leachate	Spoil Sample	3100	1	3100	0	3100	100%	40	0.00293	15%	0.0004	3100	1.36	1363	54526	0.0029	7.5%	0.0002	300	55.68	3672	0.371	14.85	15