## ASPECTS AND IMPACT REGISTER/RISK ASSSESSMENT FOR WATERCOURSES INCLUDING RIVERS, PANS, WETLANDS, SPRINGS, DRAINAGE LINES COMPILED BY: Andrew Husted (Pr Sci Nat 400213/11)

					Severity			-													
r. Phase	Activity	Aspect	Impact	Flow Regime	Physico & Chemical (Water Quality)	Habitat (Geomorph+Veget	Biota	Severity	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	Risk Rating	Control Measures	Borderline LOW MODERATE Rating Classes	Type Watercourse
С	Underground Mining	Blasting (dislodging of rock)		2	2	ation)	2	1.75	3	4	8.75	2	3	1	3	9	78.75	Moderate*	Section 7.3		
		Fractures in bedrock	1																	Low	-
				2	1	2	2	1.75	3	4	8.75	3	2	1	3	9	78.75	Moderate*	Low	Low	Floodplain, valle
		Disruption (draining of aquifers)		3	1	2	1	1.75	3	4	8.75	3	2	1	3	9	78.75	Moderate*			
		Operation of machinery, vehicles and equipment		1	2	2	2	1.75	2	2	5.75	3	2	1	1	7	40.25			Low	
2 0	Underground Mining	Blasting (dislodging of rock)		3	2	3	3	2.75	3	2	7.75	2	3	1	3	9	69.75	Moderate*	Section 7.4	LOW	bottom wetlan
		Fractures in bedrock		3	2	3	3	2.75	3	2	7.75	3	2	1	3	9	69.75	Moderate*	Low Low		seepage wetland depressions and ri
		Disruption (draining of aquifers)		4	2	3	3	3	3	2	8	3	2	1	3	9	72	Moderate*			
		Operation of machinery, vehicles and				-	-		-				-			_		Woderate		Low	
3 C	Clasura Hadar	equipment		1	2	2	2	1.75	2	2	5.75	3	2	1	1	7	40.25		Costion 7 F	Low	1
	Mining	Pollution of water resources		1	4	2	2	2.25	3	5	10.25	3	2	1	1	7	71.75	Moderate*	Section 7.5 Low Low	Low	
	Willing	Management of water quality  Operation of machinery, vehicles and		1	2	2	2	1.75	2	5	8.75	3	2	1	3	9	78.75	Moderate*		Low	
		equipment		1	2	2	2	1.75	2	5	8.75	3	2	1	1	7	61.25	Moderate*		Low	
					Severity																
Phase	Activity	Aspect	Impact	Flow Regime	Severity Physico & Chemical (Water Quality)	Habitat (Geomorph+Veget ation)	Biota	Severity	Spatial scale	Duration	Consequence	Frequency of activity	Frequency of impact	Legal Issues	Detection	Likelihood	Significance	Risk Rating	Control Measures	Borderline LOW MODERATE Rating Classes	Type Watercours
<b>Phase</b>	Activity  Vent Shafts	Aspect  Clearing of vegetation	Impact	Flow Regime	Physico & Chemical (Water	(Geomorph+Veget	Biota 2	Severity	Spatial scale	Duration 1	Consequence			Legal Issues	Detection 2	Likelihood 8	Significance	Risk Rating	Control Measures  Section 8.3		Type Watercour
			Impact		Physico & Chemical (Water Quality)	(Geomorph+Veget ation)				Duration  1 1		activity	impact	Legal Issues  1 1			_			Rating Classes	Type Watercou
		Clearing of vegetation	Impact	1	Physico & Chemical (Water Quality)	(Geomorph+Veget ation)	2	1.25	1	Duration  1 1 1	3.25	activity 1	impact 4	Legal Issues  1 1 1	2	8	26	Low		Rating Classes  Low	Type Watercou
		Clearing of vegetation Stripping and stockpiling of topsoil	Impact	1 1	Physico & Chemical (Water Quality)  1 1	(Geomorph+Veget ation) 1	2	1.25	1	1 1	3.25	activity  1 1	impact 4 3	1 1	2 2	8 7	26 21	Low Low Low		Rating Classes  Low Low Low	Type Watercou
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		Clearing of vegetation Stripping and stockpiling of topsoil Establish working area Digging of settling pond	Impact	1 1 1 1 1 1	Physico & Chemical (Water Quality)  1 1 1 1 1 1 1 1	(Geomorph+Veget ation)  1  1  1  1  1  1	2 1 1 1 1	1.25 1 1 1 1	1 1 1 1	1 1 1 1 1	3.25 3 3 3 3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	4 3 2 1 3 3	1 1 1 1 1	2 2 2 2 1 1 2	8 7 6 4 7	26 21 18 12 21 22,75	Low Low Low Low		Rating Classes  Low Low Low Low Low Low Low Low	Type Waterco
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C	Vent Shafts  Vent Shafts	Clearing of vegetation Stripping and stockpiling of topsoil Establish working area Digging of settling pond Construct shaft collar Drilling of pilot hole Reaming Installation of goose neck Creation of berm for storm water Erection of lence (security / access control) Water use for drilling Removal of pilot cuttings Vehicle access Leaks and spillages from machinery, equipment & vehicles Solid waste disposal Human sanitation& ablutions Re-fuelling of machinery and vehicles Shaft collar Fence	Impact	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Physico & Chemical (Water Quality)  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(Geomorph+Veget ation)  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 1 1 1 1 2 1 1 1 2 1 1 2 1 1 1 2 1 1 1 1 2 1 1 1 1 1 2 1	1.25 1 1 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1 1.25 1 1 1 1.25 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2	3.25 3 3 3 3 3.25 4 3 3 3.25 4 4 4.25 4 4.25 4 4.25 4 4 6 6.25 6	activity  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Impact	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 1 1 2 1 1 1 2 2 2 2 2 2 2 3 3 2 2	8 7 6 4 7 7 7 7 4 6 5 7 6 9 10 7 8 7	26 21 18 12 21 22.75 28 12 18 16.25 21 18 38.25 40 29.75 32 28 30 25	Low	Section 8.3	Rating Classes  Low Low Low Low Low Low Low Low Low Lo	Floodplain, bottom wet seepage we
C	Vent Shafts  Vent Shafts	Clearing of vegetation Stripping and stockpilling of topsoil Establish working area Digiging of settling pond Construct shaft collar Drilling of pilot hole Reaming Installation of goose neck Creation of berm for storm water Erection of fence (security / access control) Water use for drilling Removal of pilot cuttings Vehicle access Leaks and spillages from machinery, equipment & vehicles Solid waste disposal Human sanitation& ablutions Re-fuelling of machinery and vehicles Shaft collar Fence Berm for storm water management	Impact	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Physico & Chemical (Water Quality)  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(Geomorph+Veget ation)  1  1  1  1  1  1  1  1  1  1  1  1  1	2 1 1 1 1 2 1 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 1 1 2 1	1.25 1 1 1 1 1 1.25 1 1 1 1 1.25 1 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2	3.25 3 3 3 3 3.25 4 3 3 3.25 4 3 3 4.25 4 4.25 4 4 6 6 6.25	activity  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Impact	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 1 1 2 1 1 1 2 2 2 2 2 2 2 3 3 2 2 1 2 2 2 2	8 7 6 4 7 7 7 7 4 6 5 7 6 9 10 7 8 7	26 21 18 12 21 22.75 28 12 18 16.25 21 18 38.25 40 29.75 32 28 30 30 34	Low	Section 8.3  Section 8.3	Rating Classes  Low Low Low Low Low Low Low Low Low Lo	Floodplain, bottom wet seepage wel
C	Vent Shafts  Vent Shafts	Clearing of vegetation Stripping and stockpiling of topsoil Establish working area Digging of settling pond Construct shaft collar Drilling of pilot hole Reaming Installation of goose neck Creation of berm for storm water Erection of fence (security / access control) Water use for drilling Removal of pilot cuttings Vehicle access Leaks and spillages from machinery, equipment & vehicles Solid waste disposal Human sanitation& ablutions Re-fuelling of machinery and vehicles Shaft collar Fence Berm for storm water management Removal of structures	Impact	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Physico & Chemical (Water Quality)  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(Geomorph+Veget ation)  1  1  1  1  1  1  1  1  1  1  1  1  1	2 1 1 1 1 2 1 1 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1 1 2 1 1 1 2 1 1 1 1 2 1	1.25 1 1 1 1 1.25 1 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1.25 1 1 1 1.25	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2	3.25 3 3 3 3 3.25 4 3 3 3.25 3 4.25 4 4.25 4 4 6 6.25 6 4.25	activity  1 1 1 1 1 1 1 2 3 1 1 1 1 2 2 1 1 1 1	Impact	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 1 1 2 1 1 1 2 1 1 2 2 2 2 2 2 2 2	8 7 6 4 7 7 7 7 4 6 5 7 6 9 10 7 8 7 5 4 4 6	26 21 18 12 21 22.75 28 12 18 16.25 21 18 38.25 40 29.75 32 28 30 25 30	Low	Section 8.3  Section 8.3	Rating Classes  Low Low Low Low Low Low Low Low Low Lo	Floodplain, bottom wet seepage wet depressions ar