

Activity, Phase and Impact				Impact Rating (before mitigation)								Impact Rating (after mitigation)								
Impacted Environment	Phase impact occurs (C, O, D, PC)	Activity No.	Activity	Summary of Impact	Reference in EIA	Nature of Impact (positive / Negative)	Extent (5)	Duration (5)	Severity (5)	Probability (5)	Consequence (15)	Significance (75)	Mitigation Measures	Nature of Impact (positive / Negative)	Extent	Duration	Severity	Probability	Consequence	Significance (75)
Biophysical Impacts																				
Topography	D, PC	22	Final replacement of overburden, topsoil and revegetation	Restoration of natural surface flow dynamics. Possible surface subsidence and slumping. The discard dump remain a permanent feature and form part of the future topography	7.2/ 11.3.1	P	1	2	3	4	6	24	Rehabilitated areas need to be contoured. Monitor for sinkholes and drainage problems and act appropriately	P	1	2	4	5	7	35
Soil	D,PC	22	Final replacement of overburden, topsoil and revegetation	Compaction of soil, change in soil structure and fertility.	7.4/ 11.3.2	N	1	3	3	5	7	35	Revegetation must be undertaken with a adequate seed mix. Take into account developments in surrounding areas and design post-mining land use options to support and enhance long-term development options. Integrate available land with activities in adjacent areas.	P	1	3	4	5	8	40
	D, PC	23	Monitoring and rehabilitation	Monitoring of the rehabilitated areas to ensure erosion and soil loss is not occurring		P	1	2	3	4	6	24	Take into account developments in surrounding areas and design post-mining land use options to support and enhance long-term development options. Rehabilitation must ensure long-term stability and not compromise post-mining land use objectives.	P	1	2	4	4	7	28
Surface Water	D, PC	22	Final replacement of overburden, topsoil and revegetation	Siltation of surface water due to run off over exposed soils. Decant from the pit is possible and could result in AMD contaminated water entering surface water bodies	7.5/ 11.3.3	N	2	2	5	4	9	36	Exposed areas must be vegetated. The final decant point must be at level higher than the level of spoil replacement. Decant water to be contained.	N	2	2	3	3	7	21
	D	23	Waste and sewage disposal	Potential for surface water contamination if not removed off site		N	1	2	3	2	6	12	All waste must be removed off site for final disposal. All sewage handling facilities must be emptied and decommissioned.	N	1	1	2	2	4	8
Groundwater	PC	24	Post-closure monitoring and rehabilitation	Reduce ongoing negative impact on the groundwater environment		N	1	3	3	3	10	30	Groundwater monitoring should be ongoing for several years to determine what the long term impacts will be or to confirm predictions regarding post mine flooding and geochemical behavior.	P	1	3	2	3	9	27
Air Quality	D	21 & 22	Demolition of infrastructure and final replacement of overburden and topsoil and revegetation	These activities will result in the generation of increased dust fallout levels	7.7/ 11.3.5	N	1	1	2	4	4	16	Exposed areas must be vegetated. Demolition of infrastructure will be short lived.	N	1	1	1	2	3	6

Noise	D	21 & 22	Demolition of infrastructure no longer required, final replacement of overburden and topsoil and revegetation	Machinery which will be responsible for demolition activities will be a source of noise during the decommissioning phase	7.8/ 11.3.6	N	2	1	2	4	5	20	Limiting demolition activities . Limiting demolition activities to daylight hours. Mining-related machine and vehicles must be serviced on a regular basis to ensure noise suppression mechanisms are effective e.g. installing exhaust mufflers.	N	1	1	2	3	4	12
Flora & fauna	D	21	Demolition of infrastructure no longer required	Of concern here is the destruction of vegetation, creation of favourable habitat for fast growing invasive and ground compaction. Also of concern are the possible spillages from infrastructure holding hazardous material	7.10/ 11.3.8	N	1	1	4	4	6	24	Heavy vehicles will be restricted to areas where infrastructure is to be removed. Monitoring plan to check for invasive species.	N	1	1	2	3	4	12
	D, PC	22	Final replacement of overburden and topsoil and revegetation	This may be considered to be a positive impact if implemented properly. The replacement of overburden and topsoil throughout the life of mine as well as the final replacement during the decommissioning phase may result in the restoration of the natural vegetation		P	1	2	4	4	7	28	Once overburden and topsoil has been placed on the area seeding must be undertaken as soon as possible with grasses such as A standard seed-mix is 5 kg/ha of Smuts finger grass (Digitaria eriantha), 5 kg/ha of Rhodes grass (Chloris gayana) and 5 kg/ha of teff (Eragrostis tef). A second option is 10 kg/ha of love grass (Eragrostis curvula) and 5 kg/ha of teff. Any alien invasive species that establish themselves in rehabilitated areas must be removed. If compaction of the areas occur they must be ripped to encourage plant growth. Rehabilitated areas must be monitored and maintained to prevent soil erosion as stipulated in the rehabilitation plan that is compiled as part of the closure plan for the mine.	P	1	2	5	5	8	40
Wetlands	D	21 & 23	Demolition of infrastructure no longer required & waste and sewage handling	May result in impacts to water quality through spillages and leaks. These spillages and leaks may be considered for infrastructure such as sewerage and waste facilities, toxicant, pollutant and fuel storage infrastructure and general vehicle use.	7.12/ 11.3.10	N	2	2	3	4	7	28	Correct and careful handling of the infrastructure housing pollutants and toxicants to prevent spillages and leaks. Vehicles must use existing roads.	N	2	1	1	2	4	8
	D, PC	22	Final replacement of overburden, topsoil and revegetation	May result in the restoration of the catchment size prior to being impacted on. This will restore the lost seepage areas and maintain sub-surface flow dynamics and restore ecological functioning.		P	2	3	5	4	10	40	The footprint of the area disturbed by the mining operation will have topsoil and overburden replaced to restore the total catchment area. The soil profile will be replaced to represent the original make-up and structure. Exposed areas will be vegetated.	P	2	3	5	5	10	50
Social Impacts																				
Socio-economic	D, PC	20	Retrenchment	Loss of employment and required services	7.15/ 11.3.13	N	2	5	4	5	11	55	The LED plan should be implemented to assist local business development. The workforce should be empowered to develop skills that will equip them to obtain employment in other sectors of the economy	P	2	5	3	3	10	30
Visual	D	21	Demolition of infrastructure no longer required	Increased transportation of removed infrastructure and machinery. The act of demolition will cause dust clouds . Removed infrastructure will no longer cause an impact	7.13/ 11.3.11	N	2	1	3	4	6	24	Dirt roads need to be wet by a water douser so as to reduce dust plumes.	N	2	1	2	3	5	15
	D, PC	22	Final replacement of overburden, topsoil and revegetation	Revegetation will assist in making the noticeable area of disturbance to be reduced		P	2	1	3	4	6	24	Revegetation growth must be encouraged and monitored to ensure areas of soil loss and erosion do not occur.	P	2	1	3	5	6	30

Traffic	D	21	Demolition of infrastructure no longer required	Materials and equipment will either be transported off site for disposal or will be sold and transported to its new destination. Traffic on the surrounding roads will decrease. The vehicular movement occurring on site will also have reduced from the operational phase but it will still be mildly contributing to noise and dusts levels	7.13/ 11.3.11	P/N	2	1	2	2	5	10	vehicle movement on site must be restricted to daylight hours. All speed and safety controls must be adhered to. Vehicles must be maintained.	P	2	1	1	2	4	8
Cultural and Heritage Impacts																				
No further impacts expected											0	0							0	0

Significance		
High	57 - 75	
Medium-High	38 - 56	
Medium-Low	19 - 37	
Low	0 - 18	

- C** - Construction Phase
- O** - Operational Phase
- D** - Decommissioning Phase
- PC** - Post Closure Phase