



IMPACT ASSESSMENT MATRIX FOR MPONENG LOWER COMPARTMENT TSF PROJECT

Identifier	Impact	Project Aspect / Alternative	Phase	Event	Pre-Mitigation Significance Score							Pre-Mitigation Significance	Post-Mitigation Significance Score							Post-Mitigation Significance	Confidence	Cumulative Impact			Priority Factor	Final score	Final Significance	
					Pre-Nature	Pre-Extent	Pre-Duration	Pre-Magnitude	Pre-Reversibility	Consequence	Pre-Probability		Post-Nature	Post-Extent	Post-Duration	Post-Magnitude	Post-Reversibility	Consequence2	Post-Probability			Cumulative Impact	Irreplaceable loss					
1.1	Disturbance / destruction of sites of heritage significance	TSF and Associated Infrastructure: Pipeline Route 1	All	Normal operations or events	-1	2	4	2	1	-2,25	3	-6,75	Medium to low -	-1	1	4	1	1	-1,75	2	-3,5	Low -	High	2	3	1,38	-4,81	Medium to low -
1.2		TSF and Associated Infrastructure: Pipeline Route 2	All	Normal operations or events	-1	2	4	2	1	-2,25	3	-6,75	Medium to low -	-1	1	4	1	1	-1,75	2	-3,5	Low -	High	2	3	1,38	-4,81	Medium to low -
2.1	Disturbance / destruction of palaeontological resources	TSF and Associated Infrastructure: Pipeline Route 1	All	Normal operations or events	-1	1	5	4	5	-3,75	3	-11,25	Medium to high -	-1	1	5	1	5	-3	2	-6	Medium to low -	Medium	1	3	1,25	-7,50	Medium to low -
2.2		TSF and Associated Infrastructure: Pipeline Route 1	All	Normal operations or events	-1	1	5	4	5	-3,75	3	-11,25	Medium to high -	-1	1	5	1	5	-3	2	-6	Medium to low -	Medium	1	3	1,25	-7,50	Medium to low -
3.1	Soil compaction, Soil erosion, Land degradation and Soil contamination, Soil fertility losses	All	Construction	Normal operations or events	-1	2	3	3	3	-2,75	2	-5,5	Medium to low -	-1	1	2	2	3	-2	1	-2	Low -	Medium	2	3	1,38	-2,75	Low -
3.2		All	Operation	Normal operations or events	-1	2	3	2	2	-2,25	2	-4,5	Medium to low -	-1	1	2	2	1	-1,5	1	-1,5	Low -	Medium	2	3	1,38	-2,06	Low -
3.3		All	Decommissioning	Normal operations or events	-1	1	2	2	3	-2	2	-4	Low -	-1	1	2	1	3	-1,75	2	-3,5	Low -	Medium	2	2	1,25	-4,38	Medium to low -
3.4		All	Closure and Rehabilitation	Normal operations or events	-1	1	2	2	2	-1,75	2	-3,5	Low -	-1	1	2	1	2	-1,5	1	-1,5	Low -	Medium	1	2	1,13	-1,69	Low -
3.5	Loss of Land Capability	All	Construction	Normal operations or events	-1	2	3	3	3	-2,75	3	-8,25	Medium to low -	-1	1	2	2	2	-1,75	2	-3,5	Low -	Medium	2	2	1,25	-4,38	Medium to low -
3.6		All	Operation	Normal operations or events	-1	2	2	2	2	-2	3	-6	Medium to low -	-1	1	1	1	1	-1	1	-1	Low -	Medium	2	1	1,13	-1,13	Low -
3.7		All	Decommissioning	Normal operations or events	-1	1	2	2	3	-2	2	-4	Low -	-1	1	1	1	2	-1,25	1	-1,25	Low -	Medium	2	1	1,13	-1,41	Low -
3.8		All	Closure and Rehabilitation	Normal operations or events	-1	1	3	2	3	-2,25	2	-4,5	Medium to low -	-1	1	2	1	2	-1,5	1	-1,5	Low -	Medium	2	2	1,25	-1,88	Low -
4.1	Air quality impacts due to current operations at Mponeng Mine	All	Operation	Normal operations or events	-1	3	4	3	2	-3	4	-12	Medium to high -	-1	2	4	2	2	-2,5	3	-7,5	Medium to low -	Medium	1	1	1,00	-7,50	Medium to low -
4.2	Increase in air quality impacts due to recommencement of deposition on Mponeng Lower Compartment TSF	All	All	Normal operations or events	-1	3	4	3	2	-3	4	-12	Medium to high -	-1	2	4	2	2	-2,5	3	-7,5	Medium to low -	Medium	1	1	1	-7,5	Medium to low -



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5.1	Exhalation and dispersion of radon gas to the atmosphere during the operational phase of the redepositioning of tailings at the lower Mponeng TSF	All	Operation	Normal operations or events	-1	2	5	1	3	-2,75	2	-5,5	Medium to low -	-1	2	5	1	3	-2,75	1	-2,75	Low -	Medium	1	1	1,00	-2,75	Low -
5.2	Emission and dispersion of particulate matter that contains radionuclides to the atmosphere during the operational phase of the proposed redepositioning of tailings	All	Operation	Normal operations or events	-1	2	5	1	2	-2,5	2	-5	Medium to low -	-1	2	5	1	2	-2,5	1	-2,5	Low -	Medium	1	1	1,00	-2,50	Low -
5.3	Implementation of the NNR-approved decommissioning plan for the redepositioning of tailings	All	Closure and Rehabilitation	Normal operations or events	1	2	5	4	5	4	4	16	High +	1	2	5	4	5	4	4	16	High +	Medium	1	1	1,00	16,00	High +
5.4	Exhalation, emission and dispersion of radon gas and particulate matter that contains radionuclides during the post-closure phase of the redepositioning of tailings at the lower Mponeng TSF	All	Closure and Rehabilitation	Abnormal or unplanned events	-1	2	5	1	2	-2,5	2	-5	Medium to low -	-1	2	5	1	2	-2,5	1	-2,5	Low -	Medium	1	1	1,00	-2,50	Low -
5.5	Leaching and migration of radionuclides from the TSF during the post-closure phase of the redepositioning of tailings at the lower Mponeng TSF	All	Closure and Rehabilitation	Normal operations or events	-1	3	5	1	3	-3	2	-6	Medium to low -	-1	3	5	1	2	-2,75	2	-5,5	Medium to low -	Medium	1	1	1,00	-5,50	Medium to low -
6.1	Noise Pollution on Humans and Fauna	All	Construction	Normal operations or events	-1	2	2	4	2	-2,5	3	-7,5	Medium to low -	-1	2	2	3	2	-2,25	3	-6,75	Medium to low -	Medium	1	1	1,00	-6,75	Medium to low -
6.2		All	Operation	Normal operations or events	-1	2	2	3	2	-2,25	3	-6,75	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
6.3		All	Closure and Rehabilitation	Normal operations or events	-1	2	2	2	2	-2	3	-6	Medium to low -	-1	2	1	2	2	-1,75	2	-3,5	Low -	Medium	1	1	1,00	-3,50	Low -
7.2	Nuisance and Impact on Sense of Place	All	Construction	Normal operations or events	-1	2	1	3	2	-2	3	-6	Medium to low -	-1	2	1	2	2	-1,75	3	-5,25	Medium to low -	Medium	1	1	1,00	-5,25	Medium to low -
7.3		All	Operation	Abnormal or unplanned events	-1	2	3	2	3	-2,5	3	-7,5	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
7.4		All	Operation	Normal operations or events	-1	2	4	3	3	-3	3	-9	Medium to high -	-1	2	3	3	3	-2,75	2	-5,5	Medium to low -	Low	1	1	1,00	-5,50	Medium to low -
7.5		All	Closure and Rehabilitation	Normal operations or events	-1	2	1	3	2	-2	3	-6	Medium to low -	-1	2	1	3	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
8.1	Groundwater contamination from Mponeng Lower Compartment TSF	Unlined TSF	Operation	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	4	4	4	4	-4	4	-16	High -	Medium	2	2	1,25	-20,00	High -
8.2		Lined TSF	Operation	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	1	3	2	2	-2	3	-6	Medium to low -	Medium	2	2	1,25	-7,50	Medium to low -
8.3		Scavenger Boreholes	Operation	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	3	3	2	2	-2,5	3	-7,5	Medium to low -	Medium	2	2	1,25	-9,38	Medium to high -
8.4		Unlined TSF with Phytoremediation	Operation	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	2	3	2	2	-2,25	3	-6,75	Medium to low -	Medium	1	1	1,00	-6,75	Medium to low -
8.5		Unlined TSF	Decommissioning	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	4	4	4	4	-4	4	-16	High -	Medium	2	2	1,25	-20,00	High -
8.6		Lined TSF	Decommissioning	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	1	3	2	2	-2	3	-6	Medium to low -	Medium	2	2	1,25	-7,50	Medium to low -
8.7		Scavenger Boreholes	Decommissioning	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	3	3	2	2	-2,5	3	-7,5	Medium to low -	Medium	2	2	1,25	-9,38	Medium to high -
8.8		Unlined TSF with Phytoremediation	Decommissioning	Normal operations or events	-1	4	4	4	4	-4	4	-16	High -	-1	2	3	2	2	-2,25	3	-6,75	Medium to low -	Medium	2	2	1,25	-8,44	Medium to low -



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9.1	Hydrological - Erosion of Soils	All	All	Normal operations or events	-1	3	3	2	2	-2,5	4	-10	Medium to high -	-1	1	1	1	2	-1,25	3	-3,75	Low -	Medium	2	1	1,13	-4,22	Low -
9.2		All	Operation	Normal operations or events	-1	3	3	2	2	-2,5	3	-7,5	Medium to low -	-1	1	1	1	2	-1,25	2	-2,5	Low -	Medium	2	1	1,13	-2,81	Low -
9.3	Hydrological - Pollutants Entering the Surface Water Environment	All	Construction	Normal operations or events	-1	3	2	3	3	-2,75	3	-8,25	Medium to low -	-1	3	2	3	3	-2,75	1	-2,75	Low -	Medium	3	1	1,25	-3,44	Low -
9.4		All	Operation	Normal operations or events	-1	5	3	5	5	-4,5	3	-13,5	Medium to high -	-1	5	3	5	5	-4,5	1	-4,5	Medium to low -	Medium	3	1	1,25	-5,63	Medium to low -
9.5		All	Decommissioning	Normal operations or events	-1	5	3	5	5	-4,5	3	-13,5	Medium to high -	-1	5	3	5	5	-4,5	1	-4,5	Medium to low -	Medium	3	1	1,25	-5,63	Medium to low -
9.6		All	Closure and Rehabilitation	Normal operations or events	-1	5	3	3	3	-3,5	4	-14	High -	-1	5	3	3	3	-3,5	1	-3,5	Low -	Medium	3	3	1,50	-5,25	Medium to low -
9.7	Hydrological - Increase in Runoff	All	Construction	Normal operations or events	-1	1	4	1	2	-2	5	-10	Medium to high -	-1	1	4	1	2	-2	5	-10	Medium to high -	High	1	1	1,00	-10,00	Medium to high -
9.8		All	Operation	Normal operations or events	-1	1	4	1	2	-2	5	-10	Medium to high -	-1	1	4	1	2	-2	5	-10	Medium to high -	High	1	1	1,00	-10,00	Medium to high -
9.9		All	Decommissioning	Normal operations or events	-1	1	4	1	2	-2	5	-10	Medium to high -	-1	1	4	1	2	-2	5	-10	Medium to high -	High	1	1	1,00	-10,00	Medium to high -
9.10		All	Closure and Rehabilitation	Normal operations or events	-1	1	1	1	2	-1,25	5	-6,25	Medium to low -	-1	1	1	1	2	-1,25	5	-6,25	Medium to low -	High	1	3	1,25	-7,81	Medium to low -
9.11	Hydrological - Flood Risk	All	Construction	Normal operations or events	-1	3	1	4	4	-3	1	-3	Low -	-1	3	1	4	4	-3	1	-3	Low -	Medium	3	2	1,38	-4,13	Low -
9.12		All	Operation	Normal operations or events	-1	4	1	5	5	-3,75	1	-3,75	Low -	-1	4	1	5	5	-3,75	1	-3,75	Low -	Medium	3	3	1,50	-5,63	Medium to low -
9.13		All	Decommissioning	Normal operations or events	-1	4	1	5	5	-3,75	1	-3,75	Low -	-1	4	1	5	5	-3,75	1	-3,75	Low -	Medium	3	3	1,50	-5,63	Medium to low -
9.14		All	Closure and Rehabilitation	Normal operations or events	-1	3	1	4	4	-3	1	-3	Low -	-1	3	1	4	4	-3	1	-3	Low -	Medium	3	2	1,38	-4,13	Low -
10.1	Direct loss, disturbance and degradation of wetlands.	All	All	Normal operations or events	-1	1	1	3	3	-2	3	-6	Medium to low -	-1	1	1	2	2	-1,5	2	-3	Low -	Medium	2	2	1,25	-3,75	Low -
10.2	Alteration of surface topography (excavations, reshaping and compacting)	All	Construction	Normal operations or events	-1	1	2	3	2	-2	4	-8	Medium to low -	-1	1	2	2	2	-1,75	3	-5,25	Medium to low -	Medium	2	2	1,25	-6,56	Medium to low -
10.3	Increased bare surfaces, runoff and potential for erosion	All	Construction	Normal operations or events	-1	3	2	3	3	-2,75	3	-8,25	Medium to low -	-1	3	1	2	2	-2	2	-4	Low -	Medium	2	2	1,25	-5,00	Medium to low -
10.4	Degradation of wetland vegetation and the introduction and spread of alien and invasive vegetation	All	Construction	Normal operations or events	-1	3	2	2	3	-2,5	3	-7,5	Medium to low -	-1	2	1	2	2	-1,75	2	-3,5	Low -	Medium	2	2	1,25	-4,38	Medium to low -
10.5	Waste and pollutant spills	All	Construction	Normal operations or events	-1	3	2	3	4	-3	3	-9	Medium to high -	-1	2	2	2	2	-2	3	-6	Medium to low -	Medium	2	2	1,25	-7,50	Medium to low -
10.6	Increased sediment loads to downstream reaches	All	Construction	Normal operations or events	-1	3	2	2	3	-2,5	3	-7,5	Medium to low -	-1	2	1	2	2	-1,75	2	-3,5	Low -	Medium	2	2	1,25	-4,38	Medium to low -
10.7	Contamination of wetlands with hydrocarbons due to machinery leaks and eutrophication of wetland systems with human sewerage and other waste.	All	Construction	Normal operations or events	-1	3	2	3	3	-2,75	3	-8,25	Medium to low -	-1	3	1	3	2	-2,25	2	-4,5	Medium to low -	Medium	2	2	1,25	-5,63	Medium to low -
10.8	Terrain alteration for pipeline and bridges	All	Construction	Normal operations or events	-1	3	1	3	3	-2,5	3	-7,5	Medium to low -	-1	1	1	2	2	-1,5	2	-3	Low -	Medium	2	2	1,25	-3,75	Low -
10.9	Final Landscaping and reshaping	All	Construction	Normal operations or events	1	2	2	3	3	2,5	3	7,5	Low to medium +	1	2	2	2	2	2	2	4	Low +	Medium	2	2	1,25	5,00	Medium to low +
10.10	Alteration of surface drainage and runoff	All	Construction	Normal operations or events	-1	3	3	3	3	-3	4	-12	Medium to high -	-1	2	3	2	2	-2,25	2	-4,5	Medium to low -	Medium	2	2	1,25	-5,63	Medium to low -
10.11	Stormwater	All	Operation	Normal operations or events	-1	3	3	3	3	-3	3	-9	Medium to high -	-1	2	1	2	2	-1,75	2	-3,5	Low -	Medium	2	2	1,25	-4,38	Medium to low -
10.12	Disruption of wetland soil profile, hydrological regime and increased sediment loads	All	Operation	Normal operations or events	-1	3	2	3	3	-2,75	3	-8,25	Medium to low -	-1	3	1	2	2	-2	2	-4	Low -	Medium	2	2	1,25	-5,00	Medium to low -
10.13	Degradation of wetland vegetation and the introduction and spread of alien and invasive vegetation	All	Operation	Normal operations or events	-1	3	2	2	3	-2,5	3	-7,5	Medium to low -	-1	2	1	2	2	-1,75	2	-3,5	Low -	Medium	2	2	1,25	-4,38	Medium to low -
10.14	Slurry and pollutant spills into water resources	All	Operation	Normal operations or events	-1	3	4	4	4	-3,75	3	-11,25	Medium to high -	-1	3	3	3	3	-3	3	-9	Medium to high -	Medium	2	2	1,25	-11,25	Medium to high -
10.15	Water quality impairment	All	Operation	Abnormal or unplanned events	-1	3	4	5	4	-4	4	-16	High -	-1	3	4	5	4	-4	2	-8	Medium to low -	Medium	2	2	1,25	-10,00	Medium to high -
10.16		All	Operation	Normal operations or events	-1	4	4	4	4	-4	3	-12	Medium to high -	-1	4	4	3	4	-3,75	2	-7,5	Medium to low -	Medium	2	2	1,25	-9,38	Medium to high -



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																								Cumulative Impact	Irreplaceable loss	Priority Factor		
11.1	Destruction, further loss and fragmentation of the habitats, ecosystems vegetation community, and the loss of floral SCC.	TSF and Associated Infrastructure: Pipeline Route 1	Construction	Normal operations or events	-1	3	4	5	4	-4	5	-20	High -	-1	3	3	4	4	-3,5	3	-10,5	Medium to high -	High	1	2	1,13	-11,81	Medium to high -
11.2	Introduction of invasive and alien species, especially plants	TSF and Associated Infrastructure: Pipeline Route 1	Construction	Normal operations or events	-1	4	3	2	2	-2,75	4	-11	Medium to high -	-1	3	2	2	1	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
11.3	Direct loss and displacement of faunal community (including SCC) due to habitat loss, mortality and disturbance (noise, dust, vibration), including the reduced dispersal/migration of fauna	TSF and Associated Infrastructure: Pipeline Route 1	Construction	Normal operations or events	-1	4	4	3	2	-3,25	4	-13	Medium to high -	-1	3	2	3	1	-2,25	2	-4,5	Medium to low -	High	2	3	1,38	-6,19	Medium to low -
11.4	Destruction of non-resilient habitats (Rocky Outcrops)	TSF and Associated Infrastructure: Pipeline Route 1	Construction	Normal operations or events	-1	2	4	4	5	-3,75	4	-15	High -	-1	2	3	3	5	-3,25	4	-13	Medium to high -	High	1	2	1,13	-14,63	High -
11.5	Increased risk of contamination (soil and water resource) from fuel spills, construction waste, and hazardous materials.	TSF and Associated Infrastructure: Pipeline Route 1	Construction	Normal operations or events	-1	2	3	3	3	-2,75	4	-11	Medium to high -	-1	2	3	2	3	-2,5	3	-7,5	Medium to low -	High	1	2	1,13	-8,44	Medium to low -
11.6	Clearing of vegetation leading to soil erosion and loss of topsoil.	TSF and Associated Infrastructure: Pipeline Route 1	Construction	Normal operations or events	-1	2	4	4	3	-3,25	3	-9,75	Medium to high -	-1	2	3	3	3	-2,75	3	-8,25	Medium to low -	High	1	1	1,00	-8,25	Medium to low -
11.7	Continued destruction, further loss and fragmentation of the habitats, ecosystems and vegetation community.	TSF and Associated Infrastructure: Pipeline Route 1	Operation	Normal operations or events	-1	3	3	3	4	-3,25	3	-9,75	Medium to high -	-1	2	3	3	2	-2,5	3	-7,5	Medium to low -	High	1	2	1,13	-8,44	Medium to low -
11.8	Continued encroachment by alien and invasive plant species	TSF and Associated Infrastructure: Pipeline Route 1	Operation	Normal operations or events	-1	3	3	2	2	-2,5	4	-10	Medium to high -	-1	2	3	1	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
11.9	Ongoing loss and displacement of faunal community due to habitat loss, mortality and disturbance, including the reduced dispersal/migration of fauna	TSF and Associated Infrastructure: Pipeline Route 1	Operation	Normal operations or events	-1	4	4	3	3	-3,5	4	-14	High -	-1	3	3	3	3	-3	3	-9	Medium to high -	High	1	2	1,13	-10,13	Medium to high -
11.10	Environmental pollution due to pipe leakage	TSF and Associated Infrastructure: Pipeline Route 1	Operation	Normal operations or events	-1	3	3	3	3	-3	4	-12	Medium to high -	-1	3	2	2	3	-2,5	3	-7,5	Medium to low -	High	1	2	1,13	-8,44	Medium to low -
11.11	Destruction, further loss and fragmentation of the habitats, ecosystems vegetation community, and the loss of floral SCC.	TSF and Associated Infrastructure: Pipeline Route 2	Construction	Normal operations or events	-1	3	4	4	3	-3,5	4	-14	High -	-1	3	3	3	3	-3	3	-9	Medium to high -	High	1	1	1,00	-9,00	Medium to high -
11.12	Introduction of invasive and alien species, especially plants	TSF and Associated Infrastructure: Pipeline Route 2	Construction	Normal operations or events	-1	4	3	2	2	-2,75	4	-11	Medium to high -	-1	3	2	2	1	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
11.13	Direct loss and displacement of faunal community (including SCC) due to habitat loss, mortality and disturbance (noise, dust, vibration), including the reduced dispersal/migration of fauna	TSF and Associated Infrastructure: Pipeline Route 2	Construction	Normal operations or events	-1	4	4	3	2	-3,25	4	-13	Medium to high -	-1	3	2	3	1	-2,25	2	-4,5	Medium to low -	High	2	3	1,38	-6,19	Medium to low -
11.14	Destruction of non-resilient habitats (Rocky Outcrops)	TSF and Associated Infrastructure: Pipeline Route 2	Construction	Normal operations or events	-1	2	4	4	4	-3,5	4	-14	High -	-1	2	3	3	3	-2,75	3	-8,25	Medium to low -	High	1	1	1,00	-8,25	Medium to low -
11.15	Increased risk of contamination (soil and water resource) from fuel spills, construction waste, and hazardous materials.	TSF and Associated Infrastructure: Pipeline Route 2	Construction	Normal operations or events	-1	2	3	3	3	-2,75	4	-11	Medium to high -	-1	2	3	2	3	-2,5	3	-7,5	Medium to low -	High	1	2	1,13	-8,44	Medium to low -
11.16	Clearing of vegetation leading to soil erosion and loss of topsoil.	TSF and Associated Infrastructure: Pipeline Route 2	Construction	Normal operations or events	-1	2	4	4	3	-3,25	3	-9,75	Medium to high -	-1	2	3	3	3	-2,75	3	-8,25	Medium to low -	High	1	1	1,00	-8,25	Medium to low -
11.17	Continued destruction, further loss and fragmentation of the habitats, ecosystems and vegetation community.	TSF and Associated Infrastructure: Pipeline Route 2	Operation	Normal operations or events	-1	3	3	3	4	-3,25	3	-9,75	Medium to high -	-1	2	3	3	2	-2,5	3	-7,5	Medium to low -	High	1	2	1,13	-8,44	Medium to low -
11.18	Continued encroachment by alien and invasive plant species	TSF and Associated Infrastructure: Pipeline Route 2	Operation	Normal operations or events	-1	3	3	2	2	-2,5	4	-10	Medium to high -	-1	2	3	1	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -



Identifier	Impact	Project Aspect / Alternative	Phase	Event	Pre-Nature	Pre-Extent	Pre-Duration	Pre-Magnitude	Pre-Reversibility	Consequence	Pre-Probability	Pre-Mitigation Significance Score	Pre-Mitigation Significance	Post-Nature	Post-Extent	Post-Duration	Post-Magnitude	Post-Reversibility	Consequence2	Post-Probability	Post-mitigation Significance Score	Post-Mitigation Significance	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score	Final Significance
11.19	Ongoing loss and displacement of faunal community due to habitat loss, mortality and disturbance, including the reduced dispersal/migration of fauna	TSF and Associated Infrastructure: Pipeline Route 2	Operation	Normal operations or events	-1	4	3	2	2	-2,75	4	-11	Medium to high -	-1	3	2	1	2	-2	3	-6	Medium to low -	High	1	2	1,13	-6,75	Medium to low -
11.20	Environmental pollution due to pipe leakage	TSF and Associated Infrastructure: Pipeline Route 2	Operation	Normal operations or events	-1	4	3	2	2	-2,75	4	-11	Medium to high -	-1	3	2	1	2	-2	3	-6	Medium to low -	High	1	2	1,13	-6,75	Medium to low -
11.21	Destruction, further loss and fragmentation of the habitats, ecosystems vegetation community	TSF & RWD	Construction	Normal operations or events	-1	3	3	2	3	-2,75	3	-8,25	Medium to low -	-1	2	2	2	2	-2	3	-6	Medium to low -	High	2	1	1,13	-6,75	Medium to low -
11.22	Introduction of invasive and alien species, especially plants	TSF & RWD	Construction	Normal operations or events	-1	2	3	4	3	-3	4	-12	Medium to high -	-1	1	2	2	2	-1,75	2	-3,5	Low -	High	2	1	1,13	-3,94	Low -
11.23	Direct loss and displacement of faunal community due to habitat loss, mortality and disturbance (road collisions, noise, dust, vibration), including the reduced dispersal/migration of fauna	TSF & RWD	Construction	Normal operations or events	-1	3	3	3	2	-2,75	4	-11	Medium to high -	-1	3	3	2	3	-2,75	2	-5,5	Medium to low -	High	2	1	1,13	-6,19	Medium to low -
11.24	Increased risk of contamination (soil and water resource) from fuel spills, construction waste, and hazardous materials.	TSF & RWD	Construction	Normal operations or events	-1	3	4	3	3	-3,25	4	-13	Medium to high -	-1	2	3	2	3	-2,5	3	-7,5	Medium to low -	High	2	1	1,13	-8,44	Medium to low -
11.25	Clearing of vegetation leading to soil erosion and loss of topsoil.	TSF & RWD	Construction	Normal operations or events	-1	2	3	4	3	-3	4	-12	Medium to high -	-1	1	4	3	3	-2,75	3	-8,25	Medium to low -	High	1	1	1,00	-8,25	Medium to low -
11.26	Continued destruction, further loss and fragmentation of the habitats, ecosystems and vegetation community.	TSF & RWD	Operation	Normal operations or events	-1	2	3	2	3	-2,5	4	-10	Medium to high -	-1	2	3	2	2	-2,25	3	-6,75	Medium to low -	High	2	1	1,13	-7,59	Medium to low -
11.27	Continued encroachment by alien and invasive plant species	TSF & RWD	Operation	Normal operations or events	-1	2	3	3	3	-2,75	4	-11	Medium to high -	-1	1	2	2	2	-1,75	2	-3,5	Low -	High	2	1	1,13	-3,94	Low -
11.28	Ongoing loss and displacement of faunal community due to habitat loss, mortality and disturbance (road collisions, noise, dust, vibration), including the reduced dispersal/migration of fauna	TSF & RWD	Operation	Normal operations or events	-1	3	3	4	3	-3,25	4	-13	Medium to high -	-1	3	3	2	3	-2,75	3	-8,25	Medium to low -	High	1	1	1,00	-8,25	Medium to low -
11.29	Continued risk of contamination (soil and water resource) from fuel spills and hazardous materials.	TSF & RWD	Operation	Normal operations or events	-1	2	2	3	3	-2,5	4	-10	Medium to high -	-1	2	2	2	2	-2	2	-4	Low -	High	1	1	1,00	-4,00	Low -
11.30	Continuous stripping of topsoil, leading to ongoing land degradation, including erosion	TSF & RWD	Operation	Normal operations or events	-1	2	2	4	3	-2,75	4	-11	Medium to high -	-1	2	2	3	2	-2,25	3	-6,75	Medium to low -	High	2	1	1,13	-7,59	Medium to low -
11.31	Environmental pollution due to water/ Acid Mine drainage runoff.	TSF & RWD	Operation	Normal operations or events	-1	3	2	3	4	-3	3	-9	Medium to high -	-1	3	2	2	2	-2,25	2	-4,5	Medium to low -	High	2	1	1,13	-5,06	Medium to low -
12.1	Visual - Change of Landscape Character	Pipelines	Operation	Normal operations or events	-1	3	2	2	2	-2,25	3	-6,75	Medium to low -	-1	3	2	1	2	-2	2	-4	Low -	High	1	1	1,00	-4,00	Low -
12.2		TSF & RWD	Operation	Normal operations or events	-1	3	2	3	2	-2,5	3	-7,5	Medium to low -	-1	3	2	1	2	-2	2	-4	Low -	High	1	1	1,00	-4,00	Low -
12.3		Pipelines	Closure and Rehabilitation	Normal operations or events	-1	3	2	1	1	-1,75	2	-3,5	Low -	-1	3	2	1	2	-2	1	-2	Low -	High	1	1	1,00	-2,00	Low -
12.4		TSF & RWD	Closure and Rehabilitation	Normal operations or events	-1	3	2	1	1	-1,75	2	-3,5	Low -	-1	3	1	1	2	-1,75	1	-1,75	Low -	High	1	1	1,00	-1,75	Low -
13.1	Socio-economic: Upliftment of communities / employment opportunities, integration of Merafong City IDP and perceptions relating to the risk of TSF failure	All	All	Normal operations or events	1	2	1	3	2	2	3	6	Low to medium +	1	3	1	3	2	2,25	3	6,75	Low to medium +	Medium	1	1	1,00	6,75	Medium to low +
13.2		All	All	Normal operations or events	1	2	2	3	2	2,25	3	6,75	Low to medium +	1	3	2	3	2	2,5	2	5	Low to medium +	Medium	1	1	1,00	5,00	Medium to low +
13.3		All	All	Normal operations or events	1	2	3	2	2	2,25	2	4,5	Low to medium +	1	2	3	1	2	2	2	4	Low +	Medium	1	1	1,00	4,00	Low +
13.3		All	All	Abnormal or unplanned events	-1	3	3	4	4	-3,5	5	-17,5	High -	-1	3	3	4	4	-3,5	3	-10,5	Medium to high -	Low	2	1	1,13	-11,81	Medium to high -
13.4		All	All	Normal operations or events	1	2	1	2	2	1,75	2	3,5	Low +	1	2	1	1	2	1,5	2	3	Low +	Medium	1	1	1,00	3,00	Low +