



IMPACT ASSESSMENT MATRIX FOR WEST WITS RECLAMATION AND DEPOSITION PROJECT

Identifier	Impact	Alternative	Phase	Event	Pre-Mitigation Significance Score							Pre-Mitigation Significance	Post-Mitigation Significance Score							Post-Mitigation Significance	Confidence	Cumulative Impact		Irreplaceable loss	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			Pre-Probability	Post-Probability					
1.1	Disturbance / destruction of sites of heritage significance	All	Planning (pre-construction)	Normal operations or events	-1	2	5	3	5	-3,75	2	-7,5	Medium to low -	-1	1	5	2	5	-3,25	2	-6,5	Medium to low -	Medium	1	2	1,13	-7,31	Medium to low -
1.3		All	Construction	Normal operations or events	-1	2	5	4	5	-4	4	-16	High -	-1	2	5	3	5	-3,75	2	-7,5	Medium to low -	Medium	1	2	1,13	-8,44	Medium to low -
1.4		All	Operation	Normal operations or events	-1	2	5	3	5	-3,75	2	-7,5	Medium to low -	-1	2	5	2	5	-3,5	1	-3,5	Low -	Medium	1	2	1,13	-3,94	Low -
1.6		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	2	5	3	5	-3,75	2	-7,5	Medium to low -	-1	1	5	2	5	-3,25	1	-3,3	Low -	Medium	1	1	1,00	-3,25	Low -
2.1	Disturbance / destruction of palaeontological resources	All	Planning (pre-construction)	Normal operations or events	-1	1	5	4	5	-3,75	2	-7,5	Medium to low -	-1	1	5	1	5	-3	2	-6	Medium to low -	Medium	1	3	1,25	-7,50	Medium to low -
2.2		All	Construction	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 -
2.4		All	Operation	Normal operations or events	-1	1	5	4	5	-3,75	2	-7,5	Medium to low -	-1	1	5	1	5	-3	2	-6	Medium to low -	Medium	1	3	1,25	-7,50	Medium to low -
2.5		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	1	5	4	5	-3,75	2	-7,5	Medium to low -	-1	1	5	1	5	-3	2	-6	Medium to low -	Medium	1	3	1,25	-7,50	Medium to low -
3.1	Soils and Agriculture: Soil erosion and sedimentation & loss of soil fertility	All	Planning (pre-construction)	Normal operations or events	-1	1	3	2	2	-2	3	-6	Medium to low -	-1	1	3	1	2	-1,75	2	-3,5	Low -	Medium	1	2	1,13	-3,94	Low -
3.2		All	Construction	Normal operations or events	-1	1	3	3	2	-2,25	3	-6,75	Medium to low -	-1	1	3	1	2	-1,75	2	-3,5	Low -	Medium	1	2	1,13	-3,94	Low -
3.4		All	Operation	Normal operations or events	-1	1	3	3	2	-2,25	2	-4,5	Medium to low -	-1	1	3	1	2	-1,75	2	-3,5	Low -	Medium	1	2	1,13	-3,94	Low -
3.6		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	1	3	3	2	-2,25	2	-4,5	Medium to low -	-1	1	3	1	2	-1,75	2	-3,5	Low -	Medium	1	2	1,13	-3,94	Low -
4.1	Air quality: release of dust, particulate matter that contains radionuclides & greenhouse gas emissions	All	Planning (pre-construction)	Normal operations or events	-1	2	2	2	2	-2	3	-6	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
4.2		All	Construction	Normal operations or events	-1	3	2	2	3	-2,5	3	-7,5	Medium to low -	-1	2	2	2	3	-2,25	2	-4,5	Medium to low -	Low	2	2	1,25	-5,625	Medium to low -
4.3		All	Operation	Normal operations or events	-1	3	4	3	2	-3	4	-12	Medium to high -	-1	2	3	2	2	-2,25	3	-6,8	Medium to low -	Medium	2	2	1,25	-8,438	Medium to low -
4.4		All	Operation	Abnormal or unplanned events	-1	3	4	3	3	-3,25	4	-13	Medium to high -	-1	2	3	3	3	-2,75	2	-5,5	Medium to low -	Low	2	2	1,25	-6,875	Medium to low -
4.5		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	3	3	3	3	-3	2	-6	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1	-4	Low -
5.1	Health and Safety of the Community: Release of gases, pollution of surface water, pollution of groundwater & TSF Stability	All	Planning (pre-construction)	Normal operations or events	-1	2	2	2	2	-2	3	-6	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
5.2		All	Construction	Normal operations or events	-1	3	3	4	3	-3,25	3	-9,75	Medium to high -	-1	3	3	3	3	-3	2	-6	Medium to low -	Medium	1	1	1,00	-6,00	Medium to low -
5.5		All	Operation	Normal operations or events	-1	3	4	3	3	-3,25	3	-9,75	Medium to high -	-1	3	4	3	3	-3,25	2	-6,5	Medium to low -	Low	1	1	1,00	-6,50	Medium to low -
5.6		All	Operation	Abnormal or unplanned events	-1	4	4	4	4	-4	4	-16	High -	-1	3	4	4	3	-3,5	3	-11	Medium to high -	Low	1	1	1,00	-10,50	Medium to high -
5.7		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	3	3	3	3	-3	3	-9	Medium to high -	-1	2	2	3	3	-2,5	2	-5	Medium to low -	Medium	1	1	1,00	-5,00	Medium to low -
6.1	Noise Pollution on Humans and Fauna	All	Planning (pre-construction)	Normal operations or events	-1	2	2	3	2	-2,25	3	-6,75	Medium to low -	-1	2	2	3	2	-2,25	2	-4,5	Medium to low -	Medium	1	1	1,00	-4,50	Medium to low -
6.2		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	-6,8	Medium to low -	Medium	1	1	1,00	-6,75	Medium to low -
6.3		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 -
6.4		All	Decommissioning, 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 -
7.1	Nuisance and Impact on Sense of Place	All	Planning (pre-construction)	Normal operations or events	-1	2	1	3	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		All	Construction	Abnormal or unplanned events	-1	2	1	3	2	-2	3	-6	Medium to low -	-1	2	1	2	2	-1,75	3	-5,3	Medium to low -	Medium	1	1	1,00	-5,25	Medium to low -
7.3		All	Operation	Normal operations or 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	Abnormal or unplanned 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	Decommissioning, 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	ater ity: on of 3 flow	All	Planning (pre-construction)	Normal operations or events	-1	2	2	2	2	-2	3	-6	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -



Identifier	Impact	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
8.2	Impact on Groundwater Quality and Quantity: Leaching and migration of radionuclides into groundwater, loss of path & cone of depression	All	Construction	Normal operations or events	-1	3	3	4	3	-3,25	3	-9,75	Medium to high -	-1	3	3	3	3	-3	2	-6	Medium to low -	Medium	2	2	1,25	-7,50	Medium to low -
8.3		All	Operation	Normal operations or events	-1	3	4	3	3	-3,25	3	-9,75	Medium to high -	-1	3	3	3	2	-2,75	2	-5,5	Medium to low -	Medium	2	2	1,25	-6,88	Medium to low -
8.4		All	Operation	Abnormal or unplanned events	-1	3	4	4	4	-3,75	3	-11,25	Medium to high -	-1	3	4	3	2	-3	2	-6	Medium to low -	Low	2	2	1,25	-7,50	Medium to low -
8.7		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	3	3	3	3	-3	2	-6	Medium to low -	-1	2	2	3	3	-2,5	1	-2,5	Low -	Medium	1	2	1,13	-2,81	Low -
9.1	Impact on Surface water Quality and Quantity: Introduction of pollutants to water environment, wetland disturbance and decrease in functionality & altering of Hydrological Regime	All	Planning (pre-construction)	Normal operations or events	-1	2	2	2	2	-2	3	-6	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
9.2		All	Construction	Normal operations or events	-1	3	2	3	3	-2,75	4	-11	Medium to high -	-1	3	2	3	3	-2,75	3	-8,3	Medium to low -	Low	2	2	1,25	-10,31	Medium to high -
9.4		All	Operation	Abnormal or unplanned events	-1	3	4	5	4	-4	3	-12	Medium to high -	-1	3	3	4	3	-3,25	2	-6,5	Medium to low -	Low	2	2	1,25	-8,13	Medium to low -
9.6		All	Operation	Normal operations or events	-1	3	4	3	3	-3,25	3	-9,75	Medium to high -	-1	3	3	3	2	-2,75	2	-5,5	Medium to low -	Medium	2	2	1,25	-6,88	Medium to low -
9.7		All	Operation	Abnormal or unplanned events	-1	3	4	4	4	-3,75	2	-7,5	Medium to low -	-1	3	3	3	2	-2,75	2	-5,5	Medium to low -	Medium	2	2	1,25	-6,88	Medium to low -
9.10		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	3	2	3	3	-2,75	3	-8,25	Medium to low -	-1	2	2	3	3	-2,5	2	-5	Medium to low -	Medium	2	2	1,25	-6,25	Medium to low -
10.1	Impacts on natural habitat: Destruction, loss and fragmentation of natural habitats	All	Planning (pre-construction)	Normal operations or events	-1	4	4	2	3	-3,25	4	-13	Medium to high -	-1	4	4	2	3	-3,25	3	-9,8	Medium to high -	Medium	2	2	1,25	-12,19	Medium to high -
10.2		All	Construction	Normal operations or events	-1	4	4	5	3	-4	4	-16	High -	-1	4	4	4	3	-3,75	2	-7,5	Medium to low -	Medium	2	2	1,25	-9,38	Medium to high -
10.4		All	Operation	Normal operations or events	-1	3	4	3	3	-3,25	3	-9,75	Medium to high -	-1	3	3	3	2	-2,75	2	-5,5	Medium to low -	Medium	2	2	1,25	-6,88	Medium to low -
10.5		All	Operation	Abnormal or unplanned events	-1	3	4	4	4	-3,75	2	-7,5	Medium to low -	-1	3	3	3	2	-2,75	2	-5,5	Medium to low -	Medium	2	2	1,25	-6,88	Medium to low -
10.8		All	Operation	Normal operations or events	-1	4	4	2	3	-3,25	3	-9,75	Medium to high -	-1	4	3	3	3	-3,25	2	-6,5	Medium to low -	Medium	2	2	1,25	-8,13	Medium to low -
10.9		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	4	4	2	3	-3,25	2	-6,5	Medium to low -	-1	4	3	2	2	-2,75	2	-5,5	Medium to low -	Medium	1	2	1,13	-6,19	Medium to low -
11.1	Impacts on Vegetation and Flora species: Loss of species, introduction or spread of alien plant species	All	Planning (pre-construction)	Normal operations or events	-1	4	4	2	3	-3,25	4	-13	Medium to high -	-1	4	4	2	3	-3,25	2	-6,5	Medium to low -	Medium	1	2	1,13	-7,31	Medium to low -
11.2		All	Construction	Normal operations or events	-1	4	4	5	3	-4	4	-16	High -	-1	4	4	4	3	-3,75	2	-7,5	Medium to low -	Medium	1	2	1,13	-8,44	Medium to low -
11.4		All	Operation	Normal operations or events	-1	4	4	2	3	-3,25	3	-9,75	Medium to high -	-1	4	3	2	3	-3	2	-6	Medium to low -	Medium	1	2	1,13	-6,75	Medium to low -
11.5		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	4	4	2	2	-3	2	-6	Medium to low -	-1	4	3	2	2	-2,75	2	-5,5	Medium to low -	Medium	1	2	1,13	-6,19	Medium to low -
12.1	Impacts on Fauna species: Loss of Fauna SCC, loss of fauna community, mortality / disturbance of wildlife due to increased human presence and use of machinery and	All	Planning (pre-construction)	Normal operations or events	-1	4	4	2	3	-3,25	4	-13	Medium to high -	-1	4	4	2	3	-3,25	2	-6,5	Medium to low -	Medium	2	2	1,25	-8,13	Medium to low -
12.2		All	Construction	Normal operations or events	-1	4	4	5	3	-4	4	-16	High -	-1	4	4	4	3	-3,75	2	-7,5	Medium to low -	Medium	2	2	1,25	-9,38	Medium to high -
12.4		All	Operation	Normal operations or events	-1	4	4	2	3	-3,25	2	-6,5	Medium to low -	-1	4	3	2	2	-2,75	2	-5,5	Medium to low -	Medium	1	2	1,13	-6,19	Medium to low -
12.5		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	4	4	2	3	-3,25	2	-6,5	Medium to low -	-1	4	3	2	2	-2,75	2	-5,5	Medium to low -	Medium	1	2	1,13	-6,19	Medium to low -



Identifier	Impact	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
13.1	Visual - Change of Landscape Character	All	Planning (pre-construction)	Normal operations or events	-1	3	2	2	2	-2,25	3	-6,75	Medium to low -	-1	3	2	2	2	-2,25	2	-4,5	Medium to low -	Medium	1	1	1,00	-4,50	Medium to low -
13.2		All	Construction	Normal operations or events	-1	3	2	2	2	-2,25	3	-6,75	Medium to low -	-1	3	2	2	2	-2,25	2	-4,5	Medium to low -	Medium	1	1	1,00	-4,50	Medium to low -
13.3		All	Operation	Normal operations or events	-1	3	2	2	2	-2,25	3	-6,75	Medium to low -	-1	3	2	2	2	-2,25	3	-6,8	Medium to low -	Medium	1	1	1,00	-6,75	Medium to low -
13.4		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	3	2	2	2	-2,25	3	-6,75	Medium to low -	-1	3	1	2	2	-2	1	-2	Low -	Medium	1	1	1,00	-2,00	Low -
14.1	Impacts on Traffic and road infrastructure	All	Planning (pre-construction)	Normal operations or events	-1	2	1	2	2	-1,75	3	-5,25	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
14.2		All	Construction	Normal operations or events	-1	2	1	2	2	-1,75	3	-5,25	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
14.3		All	Operation	Normal operations or events	-1	2	1	2	2	-1,75	3	-5,25	Medium to low -	-1	2	2	2	2	-2	2	-4	Low -	Medium	1	1	1,00	-4,00	Low -
14.4		All	Decommissioning, Closure and Rehabilitation	Normal operations or events	-1	2	1	2	2	-1,75	2	-3,5	Low -	-1	2	1	2	2	-1,75	2	-3,5	Low -	Medium	1	1	1,00	-3,50	Low -
15.1	Socio-economic: Upliftment of communities / employment opportunities, integration of Meratong City IDP and perceptions relating to the risk of TSF failure, reclamation of existing TSFs	All	Planning (pre-construction)	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 +
15.2		All	Construction	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 +
15.3		All	Operation	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 +
15.4		All	Decommissioning, Closure and Rehabilitation	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 +