Heritage

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation								Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
10.2.1	Burial grounds and graves (Mining area)	Alternative 1	Planning	-1	2	5	4	5	4	-16	-1	2	4	2	5	3	-9,75	Medium	2	2	1,25	-12,1875
10.2.1	Burial grounds and graves (No-Go)	Alternative 2	Planning	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.2.1	Burial grounds and graves (OC mining)	Alternative 3	Planning	-1	1	5	4	5	4	-15	-1	1	4	2	5	3	-9	Medium	2	3	1,38	-12,375
10.2.1	Burial grounds and graves (UG mining)	Alternative 3	Planning	-1	1	5	4	5	4	-15	-1	1	4	2	5	3	-9	Medium	2	3	1,38	-12,375
10.3.1	Burial grounds and graves (Mining area)	Alternative 1	Construction	-1	2	5	5	5	5	-21,25	-1	2	5	3	5	3	-11,25	High	3	3	1,50	-16,875
10.3.1	Burial grounds and graves (No-Go)	Alternative 2	Construction	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.3.1	Burial grounds and graves (OC mining)	Alternative 3	Construction	-1	1	5	5	5	5	-20	-1	1	5	4	5	3	-11,25	High	3	3	1,50	-16,875
10.3.1	Burial grounds and graves (UG mining)	Alternative 3	Construction	-1	1	5	4	5	5	-18,75	-1	1	5	1	5	3	-9	High	3	3	1,50	-13,5
10.4.1	Burial grounds and graves (Mining area)	Alternative 1	Operation	-1	2	5	5	5	4	-17	-1	2	5	3	5	3	-11,25	High	3	3	1,50	-16,875
10.4.1	Burial grounds and graves (No-Go)	Alternative 2	Operation	1	2	5	1	1	1	2,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.4.1	Burial grounds and graves (OC mining)	Alternative 3	Operation	-1	1	5	5	5	5	-20	-1	1	5	4	5	3	-11,25	High	3	3	1,50	-16,875
10.4.1	Burial grounds and graves (UG mining)	Alternative 3	Operation	-1	1	5	4	5	5	-18,75	-1	1	5	3	5	3	-10,5	High	3	3	1,50	-15,75
10.5.1	Burial grounds and graves (Mining area)	Alternative 2	Decommissioning	-1	2	5	2	2	2	-5,5	-1	2	2	2	2	1	-2	High	1	1	1,00	-2
10.5.1	Burial grounds and graves (No-Go)	Alternative 3	Decommissioning	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.5.1	Burial grounds and graves (OC mining)	Alternative 3	Decommissioning	-1	1	5	2	2	1	-2,5	-1	1	2	2	2	1	-1,75	High	1	1	1,00	-1,75
10.5.1	Burial grounds and graves (UG mining)	Alternative 3	Decommissioning	-1	1	5	2	2	2	-5	-1	1	2	2	2	1	-1,75	High	1	1	1,00	-1,75
10.2.2	Historical/ Recent Structures (Mining area)	Alternative 1	Planning	-1	2	4	1	4	2	-5,5	-1	2	2	1	5	1	-2,5	Medium	1	1	1,00	-2,5
10.2.2	Historical/ Recent Structures (No-Go)	Alternative 2	Planning	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.2.2	Historical/ Recent Structures (OC Mining)	Alternative 3	Planning	-1	1	4	2	1	3	-6	-1	1	2	1	5	1	-2,25	Medium	1	1	1,00	-2,25
10.2.2	Historical/ Recent Structures (UG mining)	Alternative 3	Planning	-1	1	4	2	4	3	-8,25	-1	1	2	1	5	1	-2,25	Medium	1	1	1,00	-2,25
10.3.2	Historical/ Recent Structures (Mining area)	Alternative 1	Construction	-1	2	5	2	5	2	-7	-1	2	2	1	5	1	-2,5	Medium	1	2	1,13	-2,8125
10.3.2	Historical/ Recent Structures (No-Go)	Alternative 2	Construction	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.3.2	Historical/ Recent Structures (OC mining)	Alternative 3	Construction	-1	1	5	2	5	5	-16,25	-1	1	2	1	5	1	-2,25	High	1	2	1,13	-2,53125
10.3.2	Historical/ Recent Structures (UG mining)	Alternative 3	Construction	-1	1	5	2	5	4	-13	-1	1	2	1	5	1	-2,25	High	1	2	1,13	-2,53125
10.4.2	Historical/ Recent Structures (Mining area)	Alternative 1	Operation	-1	2	5	2	5	2	-7	-1	2	2	1	5	1	-2,5	Medium	1	2	1,13	-2,8125
10.4.2	Historical/ Recent Structures (No-Go)	Alternative 2	Operation	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.4.2	Historical/ Recent Structures (OC mining)	Alternative 3	Operation	-1	1	5	2	5	5	-16,25	-1	1	2	1	5	1	-2,25	High	1	2	1,13	-2,53125
10.4.2	Historical/ Recent Structures (UG mining)	Alternative 3	Operation	-1	1	5	2	5	4	-13	1	1	2	1	5	1	2,25	High	1	2	1,13	2,53125
10.5.2	Historical/ Recent Structures (Mining area)	Alternative 1	Decommissioning	-1	2	2	1	1	2	-3	-1	2	1	1	5	1	-2,25	Medium	1	1	1,00	-2,25
10.5.2	Historical/ Recent Structures (No-Go)	Alternative 2	Decommissioning	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	High	1	1	1,00	1,25
10.5.2	Historical/ Recent Structures (OC mining)	Alternative 3	Decommissioning	-1	1	2	2	1	3	-4,5	-1	1	1	1	5	1	-2	Medium	1	1	1,00	-2
10.5.2	Historical/ Recent Structures (UG mining)	Alternative 3	Decommissioning	-1	1	2	2	1	3	-4,5	-1	1	1	1	5	1	-2	Medium	1	1	1,00	-2

Fossils

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation								Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
11.3.1.1	Loss of Fossils A1 - Mining option	Alternative 1	Construction	-1	2	5	5	5	4	-17	1	2	5	3	5	2	7,5	Medium	3	3	1,50	11,25
11.3.1.1	Loss of Fossils A2 - No-Go option	Alternative 2	Construction	1	2	1	1	1	1	1,25	1	2	1	1	1	1	1,25	Medium	3	3	1,50	1,875
11.3.1.1	Loss of Fossils P3A - Opencast	Alternative 3	Construction	-1	2	5	5	5	4	-17	1	2	5	3	5	2	7,5	Medium	3	3	1,50	11,25
11.3.1.1	Loss of Fossils P3B - Underground	Alternative 3	Construction	-1	2	5	5	5	4	-17	1	2	5	3	5	2	7,5	Medium	3	3	1,50	11,25
11.4	Loss of Fossils A1 - Mining option	Alternative 1	Operation	-1	2	5	5	5	4	-17	1	2	5	3	5	2	7,5	Medium	3	3	1,50	11,25
11.4	Loss of Fossils A2 - No-Go option	Alternative 2	Operation	-1	2	1	1	1	1	-1,25	1	2	1	1	1	1	1,25	Medium	3	3	1,50	1,875
11.4	Loss of Fossils P3A - Opencast	Alternative 3	Operation	-1	2	5	5	5	4	-17	1	2	5	3	5	2	7,5	Medium	3	3	1,50	11,25
11.4	Loss of Fossils P3B - Underground	Alternative 3	Operation	-1	2	5	5	5	4	-17	1	2	5	3	5	2	7,5	Medium	3	3	1,50	11,25

Aquatic Ecology

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation								Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
10.5.1	Destruction, loss and fragmentation of riverine/wetland habitat due to clearing for opencast infrastructure	Alternative 1	Construction	-1	2	4	3	4	4	-13	-1	2	3	3	2	3	-7,5	Medium	2	2	1,25	-9,375
10.5.1	Loss or fragmentation of riverine/wetland buffer zones due to clearing for placement of waste (overburden) and topsoil stockpiles	Alternative 1	Construction	-1	3	4	3	4	4	-14	-1	2	3	2	2	3	-6,75	Medium	2	1	1,13	-7,59375
10.5.1	Water quality impairment due to contamination (influx of pollutants) from construction related activities	Alternative 1	Construction	-1	3	4	3	3	4	-13	-1	2	3	3	3	3	-8,25	High	3	2	1,38	-11,34375
10.5.1	Degradation in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota	Alternative 1	Construction	-1	3	4	4	3	3	-10,5	-1	2	3	3	2	3	-7,5	Medium	2	1	1,13	-8,4375
10.5.2	Construction of underground access portals (shafts) and voids	Alternative 1	Construction	-1	2	4	3	3	4	-12	-1	1	3	3	3	3	-7,5	Medium	2	1	1,13	-8,4375
10.5.2	Water quality impairment due to contamination (influx of pollutants) from underground construction related activities which includes decant of underground water	Alternative 1	Construction	-1	3	4	4	4	4	-15	-1	2	3	3	3	3	-8,25	High	2	2	1,25	-10,3125
10.5.4	Alteration of hydrological characteristics in currently diverted channel for river diversion	Alternative 3	Construction	-1	3	2	4	3	4	-12	-1	2	2	3	2	3	-6,75	Medium	2	2	1,25	-8,4375
10.5.4	Increase in erosion and sedimentation of downstream riverine/wetland habitat due to reconstruction of new (original) channel	Alternative 3	Construction	-1	3	3	4	3	5	-16,25	-1	2	2	3	2	4	-9	Medium	2	1	1,13	-10,125
10.5.4	Water quality impairment due to contamination (influx of pollutants) from construction related activities	Alternative 3	Construction	-1	3	3	3	3	4	-12	-1	2	2	3	2	3	-6,75	Medium	2	1	1,13	-7,59375
10.5.4	Degradation in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota	Alternative 3	Construction	-1	3	4	4	4	4	-15	-1	2	2	3	2	3	-6,75	Medium	2	1	1,13	-7,59375
10.5.5	Retain channel in current diverted position	Alternative 3	Construction	-1	1	2	2	2	2	-3,5	1	1	2	2	1	2	3	Medium	1	1	1,00	3
10.5.5	Rehabilitation of channel in current diverted position which includes reshaping steep banks to gentle profile to improve vegetation extent and growth to improve phytoremediation capacity of channel and increase PES	Alternative 3	Construction	1	2	2	3	2	2	4,5	1	1	2	2	2	2	3,5	High	2	1	1,13	3,9375
10.6.1	Water quality impairment due to contamination (influx of pollutants) from operation of opencast related activities which includes leaching, discharges and potential leaks	Alternative 1	Operation	-1	5	4	4	4	4	-17	-1	3	4	3	3	4	-13	High	2	2	1,25	-16,25
10.6.1	Degradation in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	3	4	3	3	2	-6,5	High	3	1	1,25	-8,125
10.6.1	Destruction, loss and fragmentation of riverine/wetland habitat due to indiscriminate dumping/placement of overburden and topsoil	Alternative 1	Operation	-1	2	4	3	3	3	-9	-1	1	3	2	2	3	-6	Low	1	1	1,00	-6
10.6.2	Destruction, loss and fragmentation of riverine/wetland habitat due to indiscriminate dumping/placement of discard dumps	Alternative 1	Operation	-1	2	4	3	3	3	-9	-1	1	3	2	2	3	-6	Low	1	1	1,00	-6
10.6.2	Water quality impairment due to contamination (influx of pollutants) from underground operation related activities which includes decant of underground water, leaching, discharges and potential leaks, as well as transport and storage of carboniferous material	Alternative 1	Operation	-1	5	4	4	4	4	-17	-1	3	4	3	3	4	-13	High	2	2	1,25	-16,25
10.6.2	Degradation in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	3	4	3	3	3	-9,75	High	2	1	1,13	-10,96875
10.6.4	Increase in erosion and sedimentation of downstream riverine/wetland habitat due to operation of new (original) channel and exposed river bank until vegetation has established	Alternative 3	Operation	-1	3	3	3	3	4	-12	-1	2	2	3	2	3	-6,75	High	2	1	1,13	-7,59375
10.6.4	Initial decline in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota until system can establish itself through revegetation	Alternative 3	Operation	-1	3	3	3	3	4	-12	-1	2	2	3	2	3	-6,75	High	2	1	1,13	-7,59375
10.6.4	Closure and rehab of currently diverted channel	Alternative 3	Operation	1	3	5	4	4	5	20	1	1	5	3	3	5	15	Medium	2	2	1,25	18,75
10.6.5	Operation of channel in current diverted position	Alternative 3	Operation	1	2	5	2	2	2	5,5	1	1	5	2	2	2	5	Medium	1	1	1,00	5
10.6.5	Adaptive rehabilitation of channel in current diverted position to increase phytoremediation capacity of channel and increase PES	Alternative 3	Operation	1	2	2	3	2	4	9	1	2	2	2	2	4	8	High	3	1	1,25	10
10,7	Removal of surface and underground infrastructure	Alternative 1	Decommissioning	-1	3	2	3	2	3	-7,5	-1	2	2	2	2	3	-6	Medium	1	1	1,00	-6
10,7	Removal of pollution control facilities	Alternative 1	Decommissioning	-1	3	2	4	3	3	-9	-1	2	2	3	2	3	-6,75	Medium	3	2	1,38	-9,28125
10,7	Acid Mine Drainage decant following cessation of opencast and underground mining activities and return of groundwater to voids	Alternative 1	Decommissioning	-1	4	5	5	4	5	-22,5	-1	4	4	4	3	4	-15	High	3	3	1,50	-22,5
10,7	Seepage from permanent waste stockpiles	Alternative 1	Decommissioning	-1	3	4	4	3	4	-14	-1	2	3	3	2	3	-7,5	High	2	2	1,25	-9,375
10,7	Degradation in riverine/wetland Present Ecological Status through water quality impairment (AMD) and loss of instream habitat and sensitive aquatic biota	Alternative 1	Decommissioning	-1	4	4	4	3	4	-15	-1	3	4	3	3	3	-9,75	High	2	2	1,25	-12,1875
10,7	Subsidence of undermined areas altering base and surface flow and subsequent modification of riverine/wetland habitat	Alternative 1	Decommissioning	-1	3	4	4	4	3	-11,25	-1	2	3	3	3	3	-8,25	Medium	2	2	1,25	-10,3125
10,8	Acid Mine Drainage decant following cessation of opencast and underground mining activities and return of groundwater to voids	Alternative 1	Rehab and closure	-1	4	5	5	4	5	-22,5	-1	4	4	4	3	4	-15	Medium	3	3	1,50	-22,5
10,8	Degradation in riverine/wetland Present Ecological Status assoicated with AMD and loss of sensitive aquatic biota	Alternative 1	Rehab and closure	-1	4	4	4	3	4	-15	-1	3	4	3	3	3	-9,75	Medium	2	2	1,25	-12,1875
10,8	Subsidence of undermined areas altering base and surface flow and subsequent modification of riverine/wetland habitat	Alternative 1	Rehab and closure	-1	3	4	4	4	3	-11,25	-1	2	3	3	3	3	-8,25	Medium	2	2	1,25	-10,3125
10.5.3	Alteration of hydrological characteristics for PCDs and stormwater infrastructure	Alternative 1	Construction	-1	2	2	4	4	5	-15	-1	1	2	3	3	4	-9	High	2	2	1,25	-11,25
10.5.3	Increase in erosion and sedimentation of downstream riverine/wetland habitat due to contrsution of PCDs and stormwater infrastructure	Alternative 1	Construction	-1	3	3	4	3	5	-16,25	-1	2	2	3	2	4	-9	High	2	1	1,13	-10,125
10.5.3	Water quality impairment due to contamination (influx of pollutants) from construction related activities	Alternative 1	Construction	-1	3	4	3	3	4	-13	-1	2	3	3	3	3	-8,25	High	2	2	1,25	-10,3125
10.5.3	Degradation in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota	Alternative 1	Construction	-1	2	4	4	3	3	-9,75	-1	1	3	3	2	3	-6,75	Medium	2	1	1,13	-7,59375
10.6.3	Water quality impairment due to contamination (influx of pollutants) from operation of PCDs and stormwater infrastructure which includes leaching, discharges and potential leaks	Alternative 1	Operation	-1	4	4	4	4	4	-16	-1	3	3	3	3	3	-9	High	3	2	1,38	-12,375
10.6.3	Degradation in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	2	3	3	3	3	-8,25	High	2	1	1,13	-9,28125
10.6.3	Destruction, loss and fragmentation of riverine/wetland habitat due to failing infrastructure	Alternative 1	Operation	-1	3	4	3	3	3	-9,75	-1	1	3	2	2	3	-6	Medium	2	1	1,13	-6,75
10.7.3	Removal of stormwater infrastructure	Alternative 1	Decommissioning	-1	3	2	3	2	3	-7,5	-1	2	2	2	2	3	-6	Medium	2	1	1,13	-6,75
10.7.3	Removal of pollution control facilities	Alternative 1	Decommissioning	-1	3	2	4	3	3	-9	-1	2	2	3	2	3	-6,75	Medium	2	2	1,25	-8,4375
10.7.3	Degradation in riverine/wetland Present Ecological Status through loss of instream habitat and sensitive aquatic biota	Alternative 1	Decommissioning	-1	4	4	4	3	4	-15	-1	3	3	3	2	3	-8,25	High	2	2	1,25	-10,3125
10.7.3	Destruction, loss and fragmentation of riverine/wetland habitat due to removal of infrastructure	0	Decommissioning	-1	2	4	3	3	3	-9	-1	1	3	2	2	3	-6	Medium	2	1	1,13	-6,75
10.8.3	Degradation in riverine/wetland Present Ecological Status associated with rehabilitation activities and loss of sensitive aquatic biota	Alternative 1	Rehab and closure	-1	3	3	3	3	4	-12	1	2	2	3	2	3	6,75	Medium	2	1	1,13	7,59375

Groundwater

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation								Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
1.1.1	Impact on the groundwater quantity and change in the regional phreatic/ piezometric levels due to mine dewatering.	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	3	2	2	3	3	-7,5	Medium	2	2	1,25	-9,38
1.1.2	A depletion in aquifer storage and formation of a depression zone may potentially lead to a reduction in groundwater contribution to baseflow of local drainages and/or groundwater supported wetlands.	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	3	2	2	3	3	-7,5	Medium	2	2	1,25	-9,38
1.1.3	Impact on groundwater quality due to leachate of contaminants from mine waste facilities.	Alternative 1	Operation	-1	4	4	4	4	4	-16	-1	3	4	4	3	2	-7	Medium	2	2	1,25	-8,75
1.1.4	Impact on groundwater quality due to leachate from carbonaceous material usied to backfill mine pits.	Alternative 1	Operation	-1	4	4	4	4	4	-16	-1	3	4	3	3	3	-9,75	Medium	2	2	1,25	-12,19
1.1.5	Impact on groundwater quality due to dust suppression with poor quality water obtained from mine dirty water containment facilities.	Alternative 1	Operation	-1	4	4	4	4	4	-16	-1	3	4	2	3	3	-9	Medium	2	2	1,25	-11,25
1.1.6	Impact on groundwater quality due to hydrocarbon contamination caused by mine heavy vehicles and machinery.	Alternative 1	Operation	-1	4	4	4	4	4	-16	-1	3	4	2	2	3	-8,25	Medium	2	2	1,25	-10,31
1.1.7	Post-operational water level rebound and flooding of mine voids.	Alternative 1	Rehab and closure	1	3	3	2	1	4	9	1	2	2	1	2	4	7	Medium	2	1	1,13	7,88
1.1.8	Decanting of poor water quality caused by leachate of sulphide bearing minerals such as pyrite in the presence of oxygen and water to create an acidic environment (i.e. acid rock drainage).	Alternative 1	Rehab and closure	-1	4	4	4	4	4	-16	-1	3	3	3	3	2	-6	Medium	2	2	1,25	-7,50
1.1.9	Seepage of poor water quality from waste facilities.	Alternative 1	Rehab and closure	-1	4	4	4	4	4	-16	-1	3	2	3	3	2	-5,5	Medium	2	2	1,25	-6,88

Terrestrial Ecology

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation								Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
9.6.1	Temporary disturbance of wildlife due to increased human presence and possible use of machinery and/or vehicles.	Alternative 1	Planning	-1	2	3	3	2	2	-5	-1	1	2	2	1	2	-3	Medium	2	1	1,13	-3,375
9.7.1.1	Destruction, further loss and fragmentation of the vegetation community and the associated habitat.	Alternative 1	Construction	-1	3	4	4	4	4	-15	-1	2	2	2	3	3	-6,75	High	2	2	1,25	-8,4375
9.7.1.2	Introduction of alien species, especially plants	Alternative 1	Construction	-1	3	4	4	4	4	-15	-1	2	2	2	3	3	-6,75	High	2	2	1,25	-8,4375
9.7.1.3	Erosion due to storm water runoff and wind	Alternative 1	Construction	-1	3	4	4	4	4	-15	-1	2	3	2	3	3	-7,5	High	2	2	1,25	-9,375
9.7.1.4	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, light, dust, vibration and poaching).	Alternative 1	Construction	-1	3	4	3	4	4	-14	-1	2	2	2	3	3	-6,75	High	2	2	1,25	-8,4375
9.7.2.1	Destruction, further loss and fragmentation of the vegetation community	Alternative 1	Construction	-1	2	3	2	3	4	-10	-1	1	2	1	2	2	-3	High	1	1	1,00	-3
9.7.2.2	Introduction of alien species, especially plants	Alternative 1	Construction	-1	2	3	3	3	4	-11	-1	1	2	2	2	2	-3,5	High	1	1	1,00	-3,5
9.7.2.3	Erosion due to storm water runoff and wind	Alternative 1	Construction	-1	2	4	3	3	4	-12	-1	2	2	2	2	2	-4	High	1	1	1,00	-4
9.7.2.4	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, light, dust, vibration and poaching).	Alternative 1	Construction	-1	2	3	3	3	4	-11	-1	2	2	2	2	2	-4	High	2	1	1,13	-4,5
9.8.1.1	Continued fragmentation, further loss and fragmentation of the vegetation community	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	2	3	2	3	2	-5	High	2	2	1,25	-6,25
9.8.1.2	Vegetation loss due to erosion and encroachment by alien invasive plant species	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	2	3	2	3	2	-5	High	2	2	1,25	-6,25
9.8.1.3	Potential leaks, discharges, pollutant from mining activities leaching into the surrounding environment	Alternative 1	Operation	-1	4	4	4	4	4	-16	-1	2	3	2	3	2	-5	High	2	2	1,25	-6,25
9.8.1.4	Continued displacement and fragmentation of the faunal community (including threatened or protected species) due to ongoing anthropogenic disturbances (noise, dust and vibrations) and habitat degradation/loss (litter, road mortalities and/or poaching).	Alternative 1	Operation	-1	3	4	3	4	4	-14	-1	2	3	2	3	2	-5	High	2	2	1,25	-6,25
9.8.2.1	Subsidence; negative impacts on availability of surface water for fauna. Catchment morphology and resultant modification to surface water baseflow and riverine habitat.	Alternative 1	Operation	-1	4	4	4	5	4	-17	-1	3	4	2	3	3	-9	Medium	2	2	1,25	-11,25
9.8.2.2	Subsidence; detrimental effects to habitat composition (including wetlands) and floral distribution due to changing groundwater dynamics.	Alternative 1	Operation	-1	3	4	3	5	4	-15	-1	3	4	3	3	3	-9,75	Medium	2	2	1,25	-12,1875
9.8.2.3	Subsidence; physical alteration of surface-level environment leading to negative impacts on habitats (especially wetlands) and associated fauna.	Alternative 1	Operation	-1	3	4	3	5	4	-15	-1	3	4	3	3	3	-9,75	Medium	2	2	1,25	-12,1875
9.9.1.1	Continued encroachment of an indigenous and VU vegetation community by alien invasive plant species as well as erosion due to disturbed soils	Alternative 1	Decommissioning	-1	3	4	4	4	4	-15	1	2	3	3	2	3	7,5	High	1	1	1,00	7,5
9.9.1.2	Continued displacement and fragmentation of the faunal community (including potential threatened or protected species) due to ongoing habitat degradation/loss (infringement, litter, road mortalities and/or poaching).	Alternative 1	Decommissioning	-1	3	4	3	4	4	-14	1	2	3	3	2	3	7,5	High	1	1	1,00	7,5
9.9.2.1	Subsidence; negative impacts on availability of surface water for fauna	Alternative 1	Decommissioning	-1	4	4	3	5	4	-16	-1	2	4	3	5	3	-10,5	Medium	2	2	1,25	-13,125
9.9.2.2	Subsidence; detrimental effects to habitat composition and floral distribution due to changing groundwater dynamics	Alternative 1	Decommissioning	-1	3	4	3	5	4	-15	-1	2	4	3	5	3	-10,5	Medium	2	2	1,25	-13,125
9.9.2.3	Subsidence; physical alteration of surface-level environment leading to negative impacts on habitats (especially wetlands) and associated fauna.	Alternative 1	Decommissioning	-1	3	4	3	5	4	-15	-1	3	4	3	5	3	-11,25	Medium	2	2	1,25	-14,0625
9.7.3.1	Destruction, further loss and fragmentation of the vegetation community and the associated habitat.	Alternative 1	Construction	-1	2	4	4	4	4	-14	-1	1	2	2	3	3	-6	High	2	2	1,25	-7,5
9.7.3.2	Introduction of alien species, especially plants	Alternative 1	Construction	-1	2	4	4	4	4	-14	-1	1	2	2	3	3	-6	High	2	2	1,25	-7,5
9.7.3.3	Erosion due to storm water runoff and wind	Alternative 1	Construction	-1	3	4	4	4	4	-15	-1	2	3	2	3	3	-7,5	High	2	2	1,25	-9,375
9.7.3.4	Displacement of faunal community due to habitat loss, direct mortalities and disturbance (road collisions, noise, light, dust, vibration and poaching).	Alternative 1	Construction	-1	2	4	3	4	4	-13	-1	1	2	2	3	3	-6	High	2	2	1,25	-7,5
9.8.3.1	Continued fragmentation, further loss and fragmentation of the vegetation community	Alternative 1	Operation	-1	2	4	4	4	4	-14	-1	1	3	2	3	2	-4,5	High	2		1,00	-4,5
9.8.3.2	Vegetation loss due to erosion and encroachment by alien invasive plant species	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	2	3	2	3	2	-5	High	2		1,00	-5
9.8.3.3	Potential leaks, discharges, pollutant from mining activities leaching into the surrounding environment	Alternative 1	Operation	-1	3	4	4	4	4	-15	-1	2	3	2	3	2	-5	High	2		1,00	-5
9.8.3.4	Continued displacement and fragmentation of the faunal community (including threatened or protected species) due to ongoing anthropogenic disturbances (noise, dust and vibrations) and habitat degradation/loss (litter, road mortalities and/or poaching).	Alternative 1	Operation	-1	3	4	3	4	4	-14	-1	2	3	2	3	2	-5	High	2		1,00	-5
9.9.3.1	Continued encroachment of an indigenous and EN vegetation community by alien invasive plant species as well as erosion due to disturbed soils	Alternative 1	Decommissioning	-1	3	4	4	4	4	-15	1	2	3	3	2	3	7,5	High	1	1	1,00	7,5

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IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation								Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitud	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
13.6.1	Topsoil stripping	Alternative 1	Construction	-1	2	2	3	2	5	-11,25	-1	2	2	1	2	5	-8,75	Medium	2	1	1,13	-9,84375
13.6.2	Construction related pollution	Alternative 1	Construction	-1	2	2	2	3	3	-6,75	-1	2	2	2	3	2	-4,5	High	2	1	1,13	-5,0625
13.7.1	Contaminated water discharge	Alternative 1	Operation	-1	4	4	3	3	5	-17,5	-1	4	1	3	3	2	-5,5	High	1	1	1,00	-5,5
13.7.3	Loss of catchment yield	Alternative 1	Operation	-1	2	5	4	4	5	-18,75	-1	2	5	1	3	4	-11	High	2	3	1,38	-15,125
13.7.4	Pollution from wash bays and workshops	Alternative 1	Operation	-1	3	1	2	2	2	-4	-1	3	1	2	2	1	-2	Medium	2	1	1,13	-2,25
13.7.2	Contamination due to burst water pipes	Alternative 1	Operation	-1	3	2	3	2	4	-10	-1	2	2	2	2	3	-6	Medium	2	1	1,13	-6,75
13.7.5	Vehicle fleet related pollution	Alternative 1	Operation	-1	2	2	2	3	3	-6,75	-1	2	2	2	3	2	-4,5	Medium	1	1	1,00	-4,5
13.8.1	Removal of surface infrastructure	Alternative 1	Decommissioning	-1	2	2	2	2	5	-10	-1	2	2	1	2	5	-8,75	Medium	1	1	1,00	-8,75

Water	13.8.2	Pit infilling and dump reshaping	Alternative 1	Rehab and closure	1	3	5	2	5	5	18,75	1	3	5	2	5	5	18,75	High	2	1	1,13	21,09375
	13.9.1	Pit decant	Alternative 1	Rehab and closure	-1	3	5	3	5	5	-20	-1	2	2	1	3	5	-10	High	2	1	1,13	-11,25
	13.7.1	Contaminated water discharge	Alternative 1	Operation	-1	4	4	3	3	5	-17,5	-1	4	1	3	3	2	-5,5	High	1	1	1,00	-5,5
	13.7.3	Loss of catchment yield	Alternative 2	Operation	-1	2	5	3	4	5	-17,5	-1	2	5	2	3	4	-12	High	1	2	1,13	-13,5
	13.7.4	Pollution from wash bays and workshops	Alternative 2	Operation	-1	3	1	2	2	2	-4	-1	3	1	2	2	1	-2	Medium	2	1	1,13	-2,25
	13.7.2	Contamination due to burst water pipes	Alternative 2	Operation	-1	3	2	3	2	4	-10	-1	2	2	2	2	3	-6	Medium	2	1	1,13	-6,75
	13.7.5	Vehicle fleet related pollution	Alternative 2	Operation	-1	2	2	2	3	3	-6,75	-1	2	2	2	3	2	-4,5	Medium	1	1	1,00	-4,5
	13.8.1	Removal of surface infrastructure	Alternative 2	Decommissioning	-1	2	2	2	3	3	-6,75	-1	2	2	2	3	2	-4,5	Medium	1	1	1,00	-4,5
	13.8.2	Pit infilling and dump reshaping	Alternative 2	Rehab and closure	1	3	5	2	5	5	18,75	1	3	5	2	5	5	18,75	High	2	1	1,13	21,09375
	13.9.1	Pit decant	Alternative 2	Rehab and closure	-1	3	5	3	5	5	-20	-1	2	2	1	3	5	-10	High	2	1	1,13	-11,25
	13.7.3	Loss of catchment yield	Alternative 3	Operation	-1	2	5	5	4	5	-26	-1	2	5	3	3	4	-13	High	2	3	1,38	-17,875
	13.7.6	Discharge of treated water	Alternative 1	Planning	1	3	3	3	1	5	12,5	1	3	3	3	1	5	12,5	High	2	1	1,13	14,0625
	13.7.6	Discharge of treated water	Alternative 2	Operation	1	3	3	3	1	5	12,5	1	3	3	3	1	5	12,5	High	2	1	1,13	14,0625

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation							Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
1.1.1	Loss of Land Capability	Alternative P3a	Planning	-1	1	1	1	1	1	-1	-1	1	1	1	1	1	-1	High	1	1	1,00	-1,00
1.1.2	Loss of Land Capability	Alternative P3a	Construction	-1	2	2	3	4	4	-11	-1	2	2	2	2	3	-6	High	2	2	1,25	-7,50
1.1.3	Loss of Land Capability	Alternative P3a	Operation	-1	4	4	5	5	5	-22,5	-1	3	4	4	3	4	-14	High	3	2	1,38	-19,25
1.1.4	Loss of Land Capability	Alternative P3a	Decommissioning	-1	2	2	2	2	2	-4	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.5	Loss of Land Capability	Alternative P3a	Rehab and closure	-1	2	3	1	1	1	-1,75	-1	2	3	1	1	1	-1,75	High	2	1	1,13	-1,97
1.1.6	Loss of Land Capability	Alternative P3b	Planning	-1	1	1	1	1	1	-1	-1	1	1	1	1	1	-1	High	2	1	1,13	-1,13
1.1.7	Loss of Land Capability	Alternative P3b	Construction	-1	2	2	3	3	4	-10	-1	2	2	3	3	3	-7,5	High	2	2	1,25	-9,38
1.1.8	Loss of Land Capability	Alternative P3b	Operation	-1	3	3	3	4	4	-13	-1	3	4	3	3	3	-9,75	High	3	2	1,38	-13,41
1.1.9	Loss of Land Capability	Alternative P3b	Decommissioning	-1	2	2	3	3	2	-5	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.10	Loss of Land Capability	Alternative P3b	Rehab and closure	-1	2	3	1	1	1	-1,75	-1	1	1	1	1	1	-1	High	2	1	1,13	-1,13
1.1.11	Loss of Land Capability	Alternative P3b	Planning	-1	1	1	1	1	1	-1	-1	1	1	1	1	1	-1	High	1	1	1,00	-1,00
1.1.12	Loss of Land Capability	Alternative P3b	Construction	-1	2	2	2	3	3	-6,75	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.13	Loss of Land Capability	Alternative P3b	Operation	-1	2	3	2	3	3	-7,5	-1	2	3	2	2	2	-4,5	High	3	3	1,50	-6,75
1.1.14	Loss of Land Capability	Alternative P3b	Decommissioning	-1	2	2	2	3	2	-4,5	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.15	Loss of Land Capability	Alternative P3b	Rehab and closure	-1	2	2	2	2	2	-4	-1	2	2	2	1	1	-1,75	High	2	1	1,13	-1,97
1.1.16	Loss of Land Capability	Process Alternative P2a	Construction	-1	2	3	4	3	4	-12	-1	2	3	3	3	3	-8,25	High	3	2	1,38	-11,34
1.1.17	Loss of Land Capability	Process Alternative P2a	Operation	-1	2	3	4	3	4	-12	-1	2	3	3	3	3	-8,25	High	3	2	1,38	-11,34
1.1.18	Loss of Land Capability	Process Alternative P2a	Decommissioning	-1	2	3	4	3	4	-12	-1	2	3	3	3	3	-8,25	High	3	2	1,38	-11,34
1.1.19	Loss of Land Capability	Process Alternative P2b	Construction	-1	2	3	2	3	3	-7,5	-1	2	3	2	3	3	-7,5	High	3	1	1,25	-9,38
1.1.20	Loss of Land Capability	Process Alternative P2b	Operation	-1	2	3	2	3	3	-7,5	-1	2	3	2	3	3	-7,5	High	3	1	1,25	-9,38
1.1.21	Loss of Land Capability	Process Alternative P2b	Decommissioning	-1	2	3	2	3	3	-7,5	-1	2	3	2	3	3	-7,5	High	3	1	1,25	-9,38

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation							Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
1.1.1	Loss of Wetland Functionality - Process Alternative P3a, Planning Phase	Process Alternative P3a	Planning	-1	1	1	1	1	1	-1	-1	1	1	1	1	1	-1	High	1	1	1,00	-1,00
1.1.2	Loss of Wetland Functionality - Process Alternative P3a, Construction Planning	Process Alternative P3a	Construction	-1	2	2	4	4	4	-12	-1	2	2	2	2	3	-6	High	2	2	1,25	-7,50
1.1.3	Loss of Wetland Functionality - Process Alternative P3a, Operation Construction	Process Alternative P3a	Operation	-1	4	4	5	5	5	-22,5	-1	4	4	5	5	5	-22,5	High	3	3	1,50	-33,75
1.1.4	Loss of Wetland Functionality - Process Alternative P3a, Decommissioning Operation	Process Alternative P3a	Decommissioning	-1	2	2	2	2	2	-4	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.5	Loss of Wetland Functionality - Process Alternative P3a, Rehab and closure Decommissioning	Process Alternative P3a	Rehab and closure	-1	2	3	1	1	1	-1,75	-1	2	3	1	1	1	-1,75	High	2	1	1,13	-1,97
1.1.6	Loss of Wetland Functionality - Process Alternative P3b, Planning Rehab and closure	Process Alternative P3b	Planning	-1	1	1	1	1	1	-1	-1	1	1	1	1	1	-1	High	2	1	1,13	-1,13
1.1.7	Loss of Wetland Functionality - Process Alternative P3b, Construction Planning	Process Alternative P3b	Construction	-1	2	2	4	4	4	-12	-1	2	2	3	3	3	-7,5	High	2	2	1,25	-9,38
1.1.8	Loss of Wetland Functionality - Process Alternative P3b, Operation Construction	Process Alternative P3b	Operation	-1	4	4	3	4	4	-15	-1	3	4	3	3	3	-9,75	High	3	2	1,38	-13,41
1.1.9	Loss of Wetland Functionality - Process Alternative P3b, Decommissioning Operation	Process Alternative P3b	Decommissioning	-1	2	2	3	3	2	-5	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.10	Loss of Wetland Functionality - Process Alternative P3b, Rehab and closure Decommissioning	Process Alternative P3b	Rehab and closure	-1	2	3	1	1	1	-1,75	-1	1	1	1	1	1	-1	High	2	1	1,13	-1,13
1.1.11	Loss of Wetland Functionality - , Planning Rehab and closure	All	Planning	-1	1	1	1	1	1	-1	-1	1	1	1	1	1	-1	High	1	1	1,00	-1,00
1.1.12	Loss of Wetland Functionality - , Construction Planning	All	Construction	-1	2	2	2	3	3	-6,75	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.13	Loss of Wetland Functionality - , Operation Construction	All	Operation	-1	2	3	2	3	3	-7,5	-1	2	3	2	2	2	-4,5	High	3	2	1,38	-6,19
1.1.14	Loss of Wetland Functionality - , Decommissioning Operation	All	Decommissioning	-1	2	2	2	3	2	-4,5	-1	2	2	2	2	2	-4	High	2	2	1,25	-5,00
1.1.15	Loss of Wetland Functionality - , Rehab and closure Decommissioning	All	Rehab and closure	-1	2	2	2	2	2	-4	-1	2	2	2	1	1	-1,75	High	2	2	1,25	-2,19

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation							Priority Factor Criteria			
	1 Air Quality	Alternative 1	Construction	-1	2	2	3	3	3	-7,5	-1	2	2	2	3	3	-6,75	Medium	2	3	1,38	-9,28
	2 Air Quality	Alternative 1	Operation	-1	4	4	4	3	4	-15	-1	3	4	3	3	3	-9,75	Medium	3	3	1,50	-14,63
	3 Air Quality	Alternative 1	Decommissioning	-1	1	2	3	3	3	-6,75	-1	1	2	2	3	3	-6	Medium	2	3	1,38	-8,25
	4 Air Quality	Alternative 1	Rehab and closure	-1	1	4	1	3	2	-4,5	-1	1	4	1	3	2	-4,5	Medium	1	3	1,25	-5,63

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation							Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
1.1.1	Deterioration of road network condition	Alternative 1	Construction	-1	4	2	1	2	4	-9	-1	4	2	1	2	4	-9	High	1	1	1,00	-9,00
1.1.2	Increase in dust along access road	Alternative 1	Construction	-1	3	2	2	2	3	-6,75	-1	2	2	2	2	3	-6	High	1	1	1,00	-6,00
1.1.3	Increase in peak hour traffic volumes	Alternative 1	Construction	-1	4	2	2	1	4	-9	-1	4	2	2	1	4	-9	High	1	1	1,00	-9,00
1.1.4	Deterioration of road network condition	Alternative 1	Operation	-1	3	4	3	3	3	-9,75	-1	3	4	1	3	3	-8,25	High	1	1	1,00	-8,25
1.1.5	Increase in dust along access road	Alternative 1	Operation	-1	3	4	3	2	3	-9	-1	3	4	1	2	3	-7,5	High	1	1	1,00	-7,50
1.1.6	Increase in peak hour traffic volumes	Alternative 1	Operation	-1	4	4	2	1	3	-8,25	-1	4	4	2	1	3	-8,25	High	1	1	1,00	-8,25

IMPACT DESCRIPTION				Pre-Mitigation							Post Mitigation							Priority Factor Criteria			
Identifier	Impact	Alternative	Phase	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Pre-mitiga	Nature	Extent	Duration	Magnitude	Reversibili	Probability	Post-mitig	Confidence	Cumulative Impact	Irreplaceable loss	Priority Factor	Final score
1	Reduction of quantity of water for human consumptions	All	Operation	-1	2	2	3	4	4	-11	-1	4	2	1	3	2	-5	High	1	1	1,00	-5,00
2	Interference with existing land uses	All	Operation	-1	2	4	4	4	4	-14	-1	2	2	2	2	3	-6	High	1	1	1,00	-6,00
3	Impact on sense of place	All	Operation	-1	2	2	4	4	4	-12	-1	2	2	2	1	3	-5,25	High	1	1	1,00	-5,25
4	Safety and security impacts	All	Operation	-1	2	2	3	4	4	-11	-1	2	2	2	1	3	-5,25	High	1	1	1,00	-5,25
5	Disruption or damage to services such as water supply and other infrastructure	All	Construction	-1	3	3	3	4	4	-13	-1	2	2	2	2	3	-6	High	1	1	1,00	-6,00
6	Impact on perceptions and expectations	All	Operation	-1	3	3	3	4	4	-13	-1	2	1	2	3	3	-6	High	1	1	1,00	-6,00
7	Employment opportunities	All	Construction / Operation	1	1	1	1	2	2	2,5	1	4	3	3	2	2	6	High	1	1	1,00	6,00
8	Coal supply for energy security	All	Operation	1	4	3	4	4	4	15	1	4	3	4	4	4	15	High	1	1	1,00	15,00
9	Visual Impacts	All	Operation	-1	2	1	4	4	4	-11	-1	2	2	2	2	2	-4	High	1	1	1,00	-4,00