BP 4 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.7 Public Nuisance – Traffic Disruption ***Activities:*** • Accessing the Site • Fencing of the Site ***Description:*** Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance. Fencing of the site may impact on pedestrian movement across the site. Considering that the site does not form part of an obvious thoroughfare nor is there any evidence of well used paths, this impact is unlikely to be significant.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
1.8 Public Nuisance – Dust Generation ***Activities:*** • Accessing the borrowpit • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Dust will be generated from the use of machinery to construct platforms and during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**S**	**L**	**M**	**M**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.5**
1.9 Public Nuisance – Noise ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** During the site establishment phase, noise will be generated primarily by heavy earthmoving machinery as the mining area is stripped of topsoil and overburden. As such the noise levels are likely to be those commonly experienced on any civils construction site. Activities will be limited to normal working hours. The impact of noise on mine workers' health will be addressed by the Mine Health and Safety Plan and will include the use of protective hearing devices.	Noise Disturbance	**Negative Direct**	**L**	**M**	**S**	**D**	**M**	**M**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 4 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE	
									Without Mitigation	With Mitigation
1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creation of stormwater drainage systems • Topsoil and overburden stockpiles ***Description:*** Without proper management, runoff from exposed soil surfaces and stockpiles is likely to become highly sedimented (ie carry a high sediment load). The compaction of surfaces and the creation of hard, impermeable surfaces will increase the amount of runoff generated. Stormwater runoff will ultimately enter the diversion channel downslope of the site and then run off from an energy dissipater. A stormwater management system is therefore proposed, with regular monitoring of downstream impacts. Spillages of hydrocarbons (such as hydraulic oils) may enter into surface water bodies if washed off site even though the closest drainage line is some distance downslope of the borrowpit.	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**
1.5 Habitat Degradation and Loss ***Activities:*** • Clearing and grubbing ***Description:*** The preparation of the site will involve the clearing of vegetation. The site currently consists of degraded grasslands. The site preparation will effectively result in the complete transformation of the site in terms of plant and animal habitat. The vegetation assessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in the surrounding areas. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not have a significantly detrimental impact on the vegetation type as a whole. Notwithstanding this, an effort should be made to minimize the area of impact and to reestablish the vegetation as close to the original condition as possible, following completion of the mining operations.	Surface Disturbance	**Negative Direct**	**M/L**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**
1.6 Spread of invasive alien species ***Activities:*** • Clearing and grubbing ***Description:*** The removal of indigenous vegetation and the creation of disturbed surfaces is an open invitation for the invasion of alien plant species. Alien invader species such as Black Wattle have been recorded in the area. Invasive alien plants effectively out compete many of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life of the mine through the implementation of a detailed alien plant eradication programme.	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
stems site preparation phase as a result of operating heavy machinery. Compaction of soil will affect the ability of the vegetation to recover. Compacted soil decreases infiltration ce runoff which will contribute to the rate of erosion. ure of underlying soil will increase the risk of erosion, particularly on steeper slopes as te. Erosion may result in the loss of viable topsoil and downstream impacts on the	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
stripping and clearing of the borrowpit may result in spillages of hydraulic oils due to uelling in the field. Spillages may result in the pollution of soil which could affect soil	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
tems e generated by the operation of plant on site. inery during the stripping of vegetation, topsoil and overburden. Exposed surfaces y during high wind conditions. Excessive exposure to dust will impact on human uisance value. The impact on Public Health and Safety is discussed under Section	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**

	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
4)			

BP 3 - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.6 Public Nuisance – Dust Generation ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Dust will be generated from the shaping of the borrowpit as well as the spreading of the topsoil.	Emissions to air - particulate	**Negative Direct**	**M**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.7 Public Nuisance – Noise ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Refer to Section 1.9.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**
3.8 Public Health and Safety ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM – HIGH NEGATIVE**	**LOW NEGATIVE**	**6.12** **6.14** **6.15**
3.9 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Shaping of the borrowpit • Topsoiling • Hydroseeding ***Description:*** This is an existing borrowpit. The final rehabilitation will result in an improvement to the visual impact of the site as the existing high vertical workface will have been removed.	Surface disturbance, change in landform and topography	**Negative Direct**	**M+**	**P**	**S**	**D**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.3** **6.5** **6.6** **6.8** **6.9** **6.10** **6.11** **6.13** **6.14**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.1 Soil Compaction and Erosion ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
3.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
3.3 Air Pollution ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**
3.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
3.5 Spread of invasive alien species ***Activities:*** • Spreading of topsoil • Hydroseeding ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.9 Public Health and Safety ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site • Blasting activities ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public. All surrounding communities will be informed of proposed blasts ahead of time. The project CLO will assist the Contractor in making sure all affected parties are kept well informed in this regard.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM – HIGH NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
2.10 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Excavation of the material – expansion of the borrowpit ***Description:*** As the borrowpit is mined, it will grow in size extending as indicated in the development plans. This will have a visual impact, particularly as the borrowpit is all located within close proximity to an existing gravel road.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**HIGH NEGATIVE**	**MEDIUM NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
2.11 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** Refer to Section 1.14.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16 6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.6 Public Nuisance – Traffic Disruption ***Activities:*** • Transporting of material to construction sites ***Description:*** The transportation of material to the various construction sites along the DR08447 may result in traffic disruption. One should bear in mind, however, that there will already be disruption to traffic caused by the road construction activities and the transportation of material to site is unlikely to add significantly to this. There is generally very little traffic along the DR0847 as it is a rural road.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
2.7 Public Nuisance – Dust Generation ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site ***Description:*** Dust will be generated from excavation and loading of material as well as the exposure of bare soil within the borrowpit. Dust will be generated from the use of trucks to transport material to the construction sites.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
2.8 Public Nuisance – Noise ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site • Blasting activities ***Description:*** Refer to Section 1.9. Infrequent larger noise events will occur when blasting. All surrounding communities will be informed of proposed blasts ahead of time. The project CLO will assist the Contractor in making sure all affected parties, and especially the nearest residents, are kept well informed in this regard.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION POTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – OPERATION PHASE	*ASPECT*	*Nature*	*Severity*	*Duration*	*Extent*	*Probability*	*Confidence*	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.1 Soil Compaction and Erosion ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
2.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
2.3 Air Pollution ***Activities:*** • Extraction of material • Loading of trucks • Transportation of material ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**
2.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
2.5 Spread of invasive alien species ***Activities:*** • Extraction of material ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.13 Change in Landuse ***Activities:*** • General mining activities ***Description:*** The expansion of the borrowpit will result in a temporary change of landuse which will be largely reinstated on closure.	Surface disturbance, change in landform and topography	**Negative Direct**	**H**	**L**	**S**	**D**	**H**	**M**	**HIGH NEGATIVE**	**LOW NEGATIVE**	**6.10**
1.14 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** The site establishment phase is likely to require the use of generalized and specialized services. Preference will be given to local service providers and suppliers where possible and to the employment of local labour. Employment of local labour, use of existing SMME's based in the area, and the support of local businesses in the supply of goods and services will benefit the regional economy.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16** **6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.10 Public Health and Safety ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery on site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage, will minimize the safety risks posed to nearby residents and other members of the public and livestock.	Emissions to air, Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
1.11 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** The site establishment phase will have a visual impact as vegetation and topsoil is stripped. The activities will be visible from some of the surrounding areas. The borrowpit is located in close proximity to a gravel road and is therefore highly visible from that road. BP 3 is a greenfields site and will therefore introduce a new fairly significant visual impact. The proposed rehabilitation activities will remove vertical faces and should go a long way in reducing the visual impact that will be created. Considering that the surrounding landuse is largely rural agricultural in nature, the site establishment activities are likely to be noticeable and therefore will have a significant impact on the aesthetic value of the landscape. This will be mitigated somewhat by minimizing cleared areas and by landscaping where possible.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**		**LOW NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
1.12 Cultural Heritage ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** During site establishment there is the potential for the destruction of national heritage sites to be destroyed or damaged. However no sites of cultural importance were discovered at the BP 130/7 site, or within its surrounds, during the Heritage Impact Assessment undertaken by eThembeni Cultural Heritage. Therefore the expansion of the borrowpit will not impact on such resources.	Surface disturbance, change in landform and topography	**Negative Direct**	**L**	**L**	**L**	**D**	**M**	**M**	**NON - SIGNIFICANT**	**NON - SIGNIFICANT**	**6.9**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.7 Public Nuisance – Traffic Disruption ***Activities:*** • Accessing the Site • Fencing of the Site ***Description:*** Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance. Fencing of the site may impact on pedestrian movement across the site. Considering that the site does not form part of an obvious thoroughfare nor is there any evidence of well used paths, this impact is unlikely to be significant.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
1.8 Public Nuisance – Dust Generation ***Activities:*** • Accessing the borrowpit • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Dust will be generated from the use of machinery to construct platforms and during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**S**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
1.9 Public Nuisance – Noise ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** During the site establishment phase, noise will be generated primarily by heavy earthmoving machinery as the mining area is stripped of topsoil and overburden. As such the noise levels are likely to be those commonly experienced on any civils construction site. Activities will be limited to normal working hours. The impact of noise on mine workers' health will be addressed by the Mine Health and Safety Plan and will include the use of protective hearing devices.	Noise Disturbance	**Negative Direct**	**L**	**M**	**S**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creation of stormwater drainage systems • Topsoil and overburden stockpiles ***Description:*** Without proper management, runoff from exposed soil surfaces and stockpiles is likely to become highly sedimented (ie carry a high sediment load). The compaction of surfaces and the creation of hard, impermeable surfaces will increase the amount of runoff generated. Stormwater runoff will ultimately enter the diversion channel downslope of the site and then run off from an energy dissipater. A stormwater management system is therefore proposed, with regular monitoring of downstream impacts. Spillages of hydrocarbons (such as hydraulic oils) may enter into surface water bodies if washed off site even though the closest drainage line is some distance downslope of the borrowpit.	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
1.5 Habitat Degradation and Loss ***Activities:*** • Clearing and grubbing ***Description:*** The preparation of the site will involve the clearing of vegetation. The site currently consists of degraded grasslands. The site preparation will effectively result in the complete transformation of the site in terms of plant and animal habitat. The vegetation assessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in the surrounding areas. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not have a significantly detrimental impact on the vegetation type as a whole. Notwithstanding this, an effort should be made to minimize the area of impact and to reestablish the vegetation as close to the original condition as possible, following completion of the mining operations.	Surface Disturbance	**Negative Direct**	**M/L**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**
1.6 Spread of invasive alien species ***Activities:*** • Clearing and grubbing ***Description:*** The removal of indigenous vegetation and the creation of disturbed surfaces is an open invitation for the invasion of alien plant species. Alien invader species such as Black Wattle have been recorded in the area. Invasive alien plants effectively out compete many of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life of the mine through the implementation of a detailed alien plant eradication programme.	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 3 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.1 Soil Compaction and Erosion ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems ***Description:*** The compaction of soil may occur during the site preparation phase as a result of operating heavy machinery. Compaction of soil may result in the loss of soil viability which will affect the ability of the vegetation to recover. Compacted soil decreases infiltration and therefore increases the amount of surface runoff which will contribute to the rate of erosion. The removal of vegetation cover and exposure of underlying soil will increase the risk of erosion, particularly on steeper slopes as found downslope and to the west of the site. Erosion may result in the loss of viable topsoil and downstream impacts on the receiving water bodies.	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**		**LOW NEGATIVE**	**6.4 6.7**
1.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** The operation of heavy machinery during the stripping and clearing of the borrowpit may result in spillages of hydraulic oils due to breakdowns or spillages of diesel during refuelling in the field. Spillages may result in the pollution of soil which could affect soil viability.	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
1.3 Air Pollution ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site. Dust will be generated from the use of machinery during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions. Excessive exposure to dust will impact on human health. Lower levels may be considered of nuisance value. The impact on Public Health and Safety is discussed under Section 1.10 below.	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.6 Public Nuisance – Dust Generation ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Dust will be generated from the shaping of the borrowpit as well as the spreading of the topsoil.	Emissions to air - particulate	**Negative Direct**	**M**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.7 Public Nuisance – Noise ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Refer to Section 1.9.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**
3.8 Public Health and Safety ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public.	**Emissions to air Noise, surface disturbance, changes in landform, topography**	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
3.9 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Shaping of the borrowpit • Topsoiling • Hydroseeding ***Description:*** This is an existing borrowpit. The final rehabilitation will result in an improvement to the visual impact of the site as the existing high vertical workface will have been removed.	Surface disturbance, change in landform and topography	**Negative Direct**	**M+**	**P**	**S**	**D**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – CLOSURE PHASE	*ASPECT*	*Nature*	*Severity*	*Duration*	*Extent*	*Probability*	*Confidence*	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.1 Soil Compaction and Erosion ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
3.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
3.3 Air Pollution ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**
3.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
3.5 Spread of invasive alien species ***Activities:*** • Spreading of topsoil • Hydroseeding ***Description;*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.9 Public Health and Safety ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site • Blasting activities ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public. All surrounding communities will be informed of proposed blasts ahead of time. The project CLO will assist the Contractor in making sure all affected parties are kept well informed in this regard.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM – HIGH NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
2.10 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Excavation of the material – expansion of the borrowpit ***Description:*** As the borrowpit is mined, it will grow in size extending as indicated in the development plans. This will have a visual impact, particularly as the borrowpit is all located within close proximity to an existing gravel road.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**HIGH – MEDIUM NEGATIVE**	**MEDIUM NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
2.11 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** Refer to Section 1.14.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16 6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.6 Public Nuisance – Traffic Disruption ***Activities:*** • Transporting of material to construction sites ***Description:*** The transportation of material to the various construction sites along the DR08125 may result in traffic disruption. One should bear in mind, however, that there will already be disruption to traffic caused by the road construction activities and the transportation of material to site is unlikely to add significantly to this. There is generally very little traffic along the DR08125 as it is a rural road.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
2.7 Public Nuisance – Dust Generation ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site ***Description:*** Dust will be generated from excavation and loading of material as well as the exposure of bare soil within the borrowpit. Dust will be generated from the use of trucks to transport material to the construction sites.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
2.8 Public Nuisance – Noise ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site • Blasting activities ***Description:*** Refer to Section 1.9. Infrequent larger noise events will occur when blasting. All surrounding communities will be informed of proposed blasts ahead of time. The project CLO will assist the Contractor in making sure all affected parties, and especially the nearest residents, are kept well informed in this regard.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.1 Soil Compaction and Erosion ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4** **6.7**
2.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3** **6.4** **6.13** **6.14**
2.3 Air Pollution ***Activities:*** • Extraction of material • Loading of trucks • Transportation of material ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**
2.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3** **6.4**
2.5 Spread of invasive alien species ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.13 Change in Landuse ***Activities:*** • General mining activities ***Description:*** The expansion of the borrowpit will result in a temporary change of landuse which will be largely reinstated on closure.	Surface disturbance, change in landform and topography	**Negative Direct**	**H**	**L**	**S**	**D**	**H**	**M**		**LOW NEGATIVE**	**6.10**
1.14 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** The site establishment phase is likely to require the use of generalized and specialized services. Preference will be given to local service providers and suppliers where possible and to the employment of local labour. Employment of local labour, use of existing SMME's based in the area, and the support of local businesses in the supply of goods and services will benefit the regional economy.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16** **6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.10 Public Health and Safety ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery on site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage, will minimize the safety risks posed to nearby residents and other members of the public and livestock.	Emissions to air, Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.12 6.14 6.15**
1.11 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** The site establishment phase will have a visual impact as vegetation and topsoil is stripped. The activities will be visible from some of the surrounding areas. The borrowpit is located adjacent to a gravel road and is therefore highly visible from that road. BP 4 is, however, an existing borrowpit with a high visual impact especially due to the fact that the existing mine area has been left unrehabilitated after previous mining. The proposed mining activities will remove those vertical faces and therefore give the site an appearance more in harmony with the surrounding topography. Considering that the surrounding landuse is largely rural agricultural in nature, the site establishment activities are likely to be noticeable and therefore will have a significant impact on the aesthetic value of the landscape. This will be mitigated somewhat by minimizing cleared areas and by landscaping where possible.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
1.12 Cultural Heritage ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden ***Description:*** During site establishment there is the potential for the destruction of national heritage sites to be destroyed or damaged. However no sites of cultural importance were discovered at the BP 9 site, or within its surrounds, during the Heritage Impact Assessment undertaken by eThembeni Cultural Heritage. Therefore the expansion of the borrowpit will not impact on such resources.	Surface disturbance, change in landform and topography	**Negative Direct**	**L**	**L**	**L**	**D**	**M**	**M**	**NON - SIGNIFICANT**	**NON - SIGNIFICANT**	**6.9**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.7 Public Nuisance – Traffic Disruption ***Activities:*** • Accessing the Site • Fencing of the Site ***Description:*** Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance. Fencing of the site may impact on pedestrian movement across the site. Considering that the site does not form part of an obvious thoroughfare nor is there any evidence of well used paths, this impact is unlikely to be significant.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
1.8 Public Nuisance – Dust Generation ***Activities:*** • Accessing the borrowpit • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Dust will be generated from the use of machinery to construct platforms and during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**S**	**L**	**M**	**M**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.5**
1.9 Public Nuisance – Noise ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** During the site establishment phase, noise will be generated primarily by heavy earthmoving machinery as the mining area is stripped of topsoil and overburden. As such the noise levels are likely to be those commonly experienced on any civils construction site. Activities will be limited to normal working hours. The impact of noise on mine workers' health will be addressed by the Mine Health and Safety Plan and will include the use of protective hearing devices.	Noise Disturbance	**Negative Direct**	**L**	**M**	**S**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creation of stormwater drainage systems • Topsoil and overburden stockpiles ***Description:*** Without proper management, runoff from exposed soil surfaces and stockpiles is likely to become highly sedimented (ie carry a high sediment load). The compaction of surfaces and the creation of hard, impermeable surfaces will increase the amount of runoff generated. Stormwater runoff will ultimately enter the diversion channel downslope of the site and then run off from an energy dissipater. A stormwater management system is therefore proposed, with regular monitoring of downstream impacts. Spillages of hydrocarbons (such as hydraulic oils) may enter into surface water bodies if washed off site even though the closest drainage line is some distance downslope of the borrowpit.	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
1.5 Habitat Degradation and Loss ***Activities:*** • Clearing and grubbing ***Description:*** The preparation of the site will involve the clearing of vegetation. The site currently consists of degraded grasslands. The site preparation will effectively result in the complete transformation of the site in terms of plant and animal habitat. The vegetation assessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in the surrounding areas. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not have a significantly detrimental impact on the vegetation type as a whole. Notwithstanding this, an effort should be made to minimize the area of impact and to reestablish the vegetation as close to the original condition as possible, following completion of the mining operations.	Surface Disturbance	**Negative Direct**	**M/L**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**
1.6 Spread of invasive alien species ***Activities:*** • Clearing and grubbing ***Description:*** The removal of indigenous vegetation and the creation of disturbed surfaces is an open invitation for the invasion of alien plant species. Alien invader species such as Black Wattle have been recorded in the area. Invasive alien plants effectively out compete many of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life of the mine through the implementation of a detailed alien plant eradication programme.	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 9 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.1 Soil Compaction and Erosion ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems ***Description:*** The compaction of soil may occur during the site preparation phase as a result of operating heavy machinery. Compaction of soil may result in the loss of soil viability which will affect the ability of the vegetation to recover. Compacted soil decreases infiltration and therefore increases the amount of surface runoff which will contribute to the rate of erosion. The removal of vegetation cover and exposure of underlying soil will increase the risk of erosion, particularly on steeper slopes as found downslope and to the west of the site. Erosion may result in the loss of viable topsoil and downstream impacts on the receiving water bodies.	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
1.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** The operation of heavy machinery during the stripping and clearing of the borrowpit may result in spillages of hydraulic oils due to breakdowns or spillages of diesel during refuelling in the field. Spillages may result in the pollution of soil which could affect soil viability.	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
1.3 Air Pollution ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site. Dust will be generated from the use of machinery during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions. Excessive exposure to dust will impact on human health. Lower levels may be considered of nuisance value. The impact on Public Health and Safety is discussed under Section 1.10 below.	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.6 Public Nuisance – Dust Generation ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Dust will be generated from the shaping of the borrowpit as well as the spreading of the topsoil.	Emissions to air - particulate	**Negative Direct**	**M**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
3.7 Public Nuisance – Noise ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Refer to Section 1.9.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**
3.8 Public Health and Safety ***Activities:*** • Shaping of the borrowpit • Spreading of topsoil ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**		**LOW NEGATIVE**	**6.12 6.14 6.15**
3.9 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Shaping of the borrowpit • Topsoiling • Hydroseeding ***Description:*** This is an existing borrowpit. The final rehabilitation will result in an improvement to the visual impact of the site as the existing high vertical workface will have been removed.	Surface disturbance, change in landform and topography	**Negative Direct**	**M+**	**P**	**S**	**D**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
3.1 Soil Compaction and Erosion ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
3.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
3.3 Air Pollution ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**
3.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Shaping of the borrowpit • Topsoiling ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
3.5 Spread of invasive alien species ***Activities:*** • Spreading of topsoil • Hydroseeding ***Description:*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.9 Public Health and Safety ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site • Blasting activities ***Description:*** Public health and safety may be at risk as a result of a number of aspects: generation of dust and noise, the operation of heavy earthmoving machinery of site and the creation of excavations and stockpiles. The impacts of noise and dust generation on public health and wellbeing are discussed in the sections above. The erection of the security fence and presence of security staff as well as proper safety signage will minimize the safety risks posed to nearby residents and other members of the public. All surrounding communities will be informed of proposed blasts ahead of time. The project CLO will assist the Contractor in making sure all affected parties, and especially the residents of the closer houses, are kept well informed in this regard.	Emissions to air Noise, surface disturbance, changes in landform, topography	**Negative Direct**	**M**	**M**	**S**	**P**	**M**	**H**		**LOW NEGATIVE**	**6.12 6.14 6.15**
2.10 Degradation of landscape value, aesthetic appeal or sense of place ***Activities:*** • Excavation of the material – expansion of the borrowpit ***Description:*** As the borrowpit is mined, it will grow in size extending as indicated in the development plans. This will have a visual impact, particularly as the borrowpit is all located within close proximity to an existing gravel road.	Surface disturbance, change in landform and topography	**Negative Direct**	**M**	**L**	**L**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM NEGATIVE**	**6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14**
2.11 Economic Development, income generation and social upliftment ***Activities:*** • Procurement of goods and services • Employment and training ***Description:*** Refer to Section 1.14.	Materials Consumption, recruitment and training	**Positive Direct and Indirect**	**M+**	**M**	**R**	**P**	**M**	**N/A**	**MEDIUM POSITIVE**		**6.16 6.17**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.6 Public Nuisance – Traffic Disruption ***Activities:*** • Transporting of material to construction sites ***Description:*** The transportation of material to the various construction sites along the DR08125 may result in traffic disruption. One should bear in mind, however, that there will already be disruption to traffic caused by the road construction activities and the transportation of material to site is unlikely to add significantly to this. There is generally very little traffic along the DR08125 as it is a rural road.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
2.7 Public Nuisance – Dust Generation ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site ***Description:*** Dust will be generated from excavation and loading of material as well as the exposure of bare soil within the borrowpit. Dust will be generated from the use of trucks to transport material to the construction sites.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**L**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
2.8 Public Nuisance – Noise ***Activities:*** • Extraction of material • Loading of material • Transportation of material to site • Blasting activities ***Description:*** Refer to Section 1.9. Infrequent larger noise events will occur when blasting. All surrounding communities will be informed of proposed blasts ahead of time. The project CLO will assist the Contractor in making sure all affected parties, and especially the residents of the closer houses, are kept well informed in this regard.	Noise Disturbance	**Negative Direct**	**M**	**M**	**L**	**D**	**M**	**M**		**MEDIUM – LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – OPERATION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
2.1 Soil Compaction and Erosion ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.1	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
2.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** Refer to Section 1.2	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
2.3 Air Pollution ***Activities:*** • Extraction of material • Loading of trucks • Transportation of material ***Description:*** Refer to Section 1.3	(Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**MEDIUM / LOW NEGATIVE**	**6.5**
2.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.4	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
2.5 Spread of invasive alien species ***Activities:*** • Extraction of material ***Description:*** Refer to Section 1.6	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.7 Public Nuisance – Traffic Disruption ***Activities:*** • Accessing the Site • Fencing of the Site ***Description:*** Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance. Fencing of the site may impact on pedestrian movement across the site. Considering that the site does not form part of an obvious thoroughfare nor is there any evidence of well used paths, this impact is unlikely to be significant.	Creation/disruption of access	**Negative Direct**	**L**	**S**	**S**	**P**	**H**	**L**	**LOW NEGATIVE**	**LOW NEGATIVE**	**6.15**
1.8 Public Nuisance – Dust Generation ***Activities:*** • Accessing the borrowpit • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Dust will be generated from the use of machinery to construct platforms and during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions.	Emissions to air - particulate	**Negative Direct**	**L**	**M**	**S**	**L**	**M**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**
1.9 Public Nuisance – Noise ***Activities:*** • Accessing the site • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creations of stormwater drainage systems ***Description:*** During the site establishment phase, noise will be generated primarily by heavy earthmoving machinery as the mining area is stripped of topsoil and overburden. As such the noise levels are likely to be those commonly experienced on any civils construction site. Activities will be limited to normal working hours. The impact of noise on mine workers' health will be addressed by the Mine Health and Safety Plan and will include the use of protective hearing devices.	Noise Disturbance	**Negative Direct**	**L**	**M**	**S**	**D**	**M**	**M**	**MEDIUM NEGATIVE**	**MEDIUM – LOW NEGATIVE**	**6.6**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Stripping of overburden • Creation of stormwater drainage systems • Topsoil and overburden stockpiles ***Description:*** Without proper management, runoff from exposed soil surfaces and stockpiles is likely to become highly sedimented (ie carry a high sediment load). The compaction of surfaces and the creation of hard, impermeable surfaces will increase the amount of runoff generated. Stormwater runoff will ultimately enter the diversion channel downslope of the site and then run off from an energy dissipater. A stormwater management system is therefore proposed, with regular monitoring of downstream impacts. Spillages of hydrocarbons (such as hydraulic oils) may enter into surface water bodies if washed off site even though the closest drainage line is some distance downslope of the borrowpit.	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
1.5 Habitat Degradation and Loss ***Activities:*** • Clearing and grubbing ***Description:*** The preparation of the site will involve the clearing of vegetation. The site currently consists of degraded grasslands. The site preparation will effectively result in the complete transformation of the site in terms of plant and animal habitat. The vegetation assessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in the surrounding areas. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not have a significantly detrimental impact on the vegetation type as a whole. Notwithstanding this, an effort should be made to minimize the area of impact and to reestablish the vegetation as close to the original condition as possible, following completion of the mining operations.	Surface Disturbance	**Negative Direct**	**M/L**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**
1.6 Spread of invasive alien species ***Activities:*** • Clearing and grubbing ***Description:*** The removal of indigenous vegetation and the creation of disturbed surfaces is an open invitation for the invasion of alien plant species. Alien invader species such as Black Wattle have been recorded in the area. Invasive alien plants effectively out compete many of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life of the mine through the implementation of a detailed alien plant eradication programme.	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 8 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
1.1 Soil Compaction and Erosion ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems ***Description:*** The compaction of soil may occur during the site preparation phase as a result of operating heavy machinery. Compaction of soil may result in the loss of soil viability which will affect the ability of the vegetation to recover. Compacted soil decreases infiltration and therefore increases the amount of surface runoff which will contribute to the rate of erosion. The removal of vegetation cover and exposure of underlying soil will increase the risk of erosion, particularly on steeper slopes as found downslope and to the west of the site. Erosion may result in the loss of viable topsoil and downstream impacts on the receiving water bodies.	Surface Disturbance	**Negative Direct**	**M**	**M**	**S**	**L**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.4 6.7**
1.2 Soil Pollution ***Activities:*** • Operation of machinery ***Description:*** The operation of heavy machinery during the stripping and clearing of the borrowpit may result in spillages of hydraulic oils due to breakdowns or spillages of diesel during refuelling in the field. Spillages may result in the pollution of soil which could affect soil viability.	Hazardous Waste	**Negative Direct**	**M**	**S**	**S**	**P**	**M**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4 6.13 6.14**
1.3 Air Pollution ***Activities:*** • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage systems • Stripping of overburden ***Description:*** Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site. Dust will be generated from the use of machinery during the stripping of vegetation, topsoil and overburden. Exposed surfaces will contribute to atmospheric dust particularly during high wind conditions. Excessive exposure to dust will impact on human health. Lower levels may be considered of nuisance value. The impact on Public Health and Safety is discussed under Section 1.10 below.	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	**Negative Direct**	**M**	**S**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.5**

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; P = Permanent	EXTENT: (Refer to Table 5.3) S = Site; L = Local; R = regional; N = National	PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite
MITIGATION PROTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			