DR 4 DOTENTIAL IMPLOT CONSTRUCTION DUAGE	ASPECT	ure	arity	tion	ent	billity	lence	ATION	SIGNIF	ICANCE	TION
BP 4 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASP	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
Activities:      Accessing the Site     Fencing of the Site  Coessing 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 /b to rac	S	S	Р	н	L	LOW NEGATIVE	LOW NEGATIVE	6.15
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	galuase sineta posto	M	S	Estate de	М	M	LOW NEGATIVE	LOW NEGATIVE	6.5
Activities:  Accessing the site Clearing and grubbing Stripping of topsoil 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	taste of anito in the state of anito in the	M	S	D To continue	М	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			of Manager California California

DD 4 DOTENTIAL IMPACT CONSTRUCTION DUASE	ECT	ure	arity	tion	ent	bility	Jence	VITION	SIGNIF	ICANCE
BP 4 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	Without Mitigation	With Mitigation
4 Surface Water Pollution (Dirty Water Runoff and Pollutants)										
<ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Stripping of overburden</li> <li>Creation of stormwater drainage systems</li> <li>Topsoil and overburden stockpiles</li> </ul> escription: <ul> <li>ithout proper management, runoff from exposed soil surfaces and stockpiles is likely to become highly sedimented (ie carry a gh sediment load). The compaction of surfaces and the creation of hard, impermeable surfaces will increase the amount of noff generated. Stormwater runoff will ultimately enter the diversion channel downslope of the site and then run off from an nergy dissipater. A stormwater management system is therefore proposed, with regular monitoring of downstream impacts.</li> <li>billages of hydrocarbons (such as hydraulic oils) may enter into surface water bodies if washed off site even though the closest ainage line is some distance downslope of the borrowpit.</li> </ul>	se	Negative Direct	L	М	L	Р	Н	н	MEDIUM – LOW NEGATIVE	LOW NEGATIVE
ctivities:  • Clearing and grubbing  escription:  ne preparation of the site will involve the clearing of vegetation. The site currently consists of degraded grasslands. The site eparation will effectively result in the complete transformation of the site in terms of plant and animal habitat. The vegetation seessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in the urrounding areas. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not have a gnificantly detrimental impact on the vegetation type as a whole. Notwithstanding this, an effort should be made to minimize the ea of impact and to reestablish the vegetation as close to the original condition as possible, following completion of the mining perations.	Surface [	Negative Direct	M/L	L	S	D	н	М	MEDIUM NEGATIVE	LOW NEGATIVE
ctivities:  • Clearing and grubbing  escription: he removal of indigenous vegetation and the creation of disturbed surfaces is an open invitation for the invasion of alien plant pecies. Alien invader species such as Black Wattle have been recorded in the area. Invasive alien plants effectively out compete lany 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.		Negative Direct	М	L	S	L	н	н	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: (F S = Site; L = Positive)				National					Refer to Table 5.3 Likely; P = Possil	

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OTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
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.  If the of underlying soil will increase the risk of erosion, particularly on steeper slopes as the contribute. Erosion may result in the loss of viable topsoil and downstream impacts on the	Surface Disturbance	Negative Direct	М	М	s	L	н	М	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	М	s	s	Р	М	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.3 6.4 6.13 6.14
tems  e generated by the operation of plant on site. nery during the stripping of vegetation, topsoil and overburden. Exposed surfaces y during high wind conditions. Excessive exposure to dust will impact on human isance value. The impact on Public Health and Safety is discussed under Section	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	Negative Direct	М	S	S	D	н	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.5

DURATION: (Refer to Table 5.3)
S = Short Term; M = Medium Term; L = Long Term;
P = Permanent

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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

BP 3 - POTENTIAL IMPACT - CLOSURE PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	SIGNIF	CANCE	MITIGATION
	AS	N	Se	na	Ð	Prot	Con	MITIC	Without Mitigation	With Mitigation	MITIM
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	М	М	L	L	М	М	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	М	М	L	D	М	М	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	М	М	s	Р	М	н	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+	Р	s	D	М	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			

	ECT	ure	Severity	tion	ent	billity	Jence	MITIGATION	SIGNIF	ICANCE	ATION
BP 3 - POTENTIAL IMPACT - CLOSURE PHASE	ASPECT	Nature	Seve	Duration	Extent	Probability	Confidence	MITIG/ POTEI	Without Mitigation	With Mitigation	MITIGATION
3.1 Soil Compaction and Erosion  Activities:  Shaping of the borrowpit Topsoiling  Description: Refer to Section 1.1	Surface Disturbance	Negative Direct	М	М	s	L	н	М	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	М	s	S	P	М	н	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	М	s	s	D	н	М	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	М	L	P	н	н	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	М	L	s	L	н	н	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			

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BP 3 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	Without Mitigation	With Mitigation	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	М	М	s	Р	М	Н	MEDIUM – HIGH NEGATIVE	LOW	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	М	L	L	D	М	М	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+	М	R	Р	М	N/A	MEDIUM	I 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			

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BP 3 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	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	Р	н	L	LOW NEGATIVE	LOW NEGATIVE	6.1
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	М	L	L	М	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.
Activities:  Extraction of material Loading of material Transportation of material Transportation of material Blasting activities  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 me. The project CLO will assist the Contractor in making sure all affected parties, and especially the nearest residents, are kept linformed in this regard.	Noise Disturbance	Negative Direct	М	М	L	D	М	М	MEDIUM NEGATIVE	MEDIUM – LOW NEGATIVE	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			

DD 4 DOTENTIAL IMPACT COMPRATION DUAGE		ECT	ıre	rity	tion	ent	billity	Jence	MITAL	SIGNIFI	CANCE	TION
BP 3 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE		ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
2.1 Soil Compaction and Erosion  Activities:  Extraction of material  Description:  Refer to Section 1.1		Surface Disturbance	Negative Direct	М	М	s	L	н	М	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	М	s	s	Р	М	н	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	М	s	s	D	н	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	1 2	Release to water (diffuse & point)	Negative Direct	L	М	L	Р	н	н	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	М	L	s	L	н	Н	MEDIUM NEGATIVE	LOW NEGATIVE	6.8
SEVERITY: (Refer to Table 5.2)  DURATION: (Refer to Table 5.3)	EXTENT: (Refe		11 5 5					PPOS	A DULITY	(Refer to Table 5.3		

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			

DD 2 DOTENTIAL IMPACT CONSTRUCTION BHASE	SPECT	Nature	Severity	Duration	Extent	billity	Confidence	MITIGATION	SIGNIF	ICANCE	MITIGATION
BP 3 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASP	Nat	Sev	Dura	Ext	Probability	Confi	MITIG. POTE	Without Mitigation	With Mitigation	MITIG
<ul> <li>1.13 Change in Landuse</li> <li>Activities: <ul> <li>General mining activities</li> </ul> </li> <li>Description: <ul> <li>The expansion of the borrowpit will result in a temporary change of landuse which will be largely reinstated on closure.</li> </ul> </li> </ul>	Surface disturbance, change in landform and topography	ive	н	L	s	D	н	М	HIGH NEGATIVE	LOW NEGATIVE	6.10
<ul> <li>1.14 Economic Development, income generation and social upliftment</li> <li>Activities: <ul> <li>Procurement of goods and services</li> <li>Employment and training</li> </ul> </li> <li>Description: <ul> <li>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.</li> <li>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.</li> </ul> </li> </ul>	Materials Consumption, recruitment and training	Positive Direct and Indirect	M+	М	R	Р	М	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			

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BP 3 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
<ul> <li>1.10 Public Health and Safety</li> <li>Activities: <ul> <li>Accessing the site</li> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Stripping of overburden</li> <li>Creations of stormwater drainage systems</li> </ul> </li> <li>Description: <ul> <li>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.</li> </ul> </li> </ul>	En e dist	Negative Direct	M	М	s	Р	М	Н	MEDIUM	LOW NEGATIVE	6.12 6.14 6.15
<ul> <li>1.11 Degradation of landscape value, aesthetic appeal or sense of place</li> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Stripping of overburden</li> </ul> </li> <li>Description: <ul> <li>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.</li> </ul></li></ul>	ace dist	Negative Direct	м	L	L	D	м	м		LOW NEGATIVE	6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13 6.14
<ul> <li>1.12 Cultural Heritage</li> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Stripping of overburden</li> </ul> </li> <li>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.</li> </ul>	Surface disturbance, change in landform and topography	Negative Direct	L	L	L	D	М	м	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			

DD & ROTENTIAL IMPACT CONSTRUCTION BUAGE	ECT	ure	arity	tion	ent	billity	lence	ATION	SIGNIF	CANCE	NTION
BP 3 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
<ul> <li>1.7 Public Nuisance – Traffic Disruption</li> <li>Activities: <ul> <li>Accessing the Site</li> <li>Fencing of the Site</li> </ul> </li> <li>Description: <ul> <li>Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance.</li> <li>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.</li> </ul> </li> </ul>	Creation/disruption of access	Negative Direct	L	s	s	P	н	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	м	s	L	М	М	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	М	S	D	М	М	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			

## MITIGATION MITIGATION SIGNIFICANCE Confidence ASPECT Duration Extent **BP 3 - POTENTIAL IMPACT - CONSTRUCTION PHASE** Without With Mitigation Mitigation 1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants) to water (diffuse & point) Activities: Clearing and grubbing Negative Direct Stripping of topsoil Stripping of overburden Creation of stormwater drainage systems MEDIUM LOW 6.3 Topsoil and overburden stockpiles H Н LOW NEGATIVE 6.4 **NEGATIVE** 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. 1.5 Habitat Degradation and Loss Clearing and grubbing Negative Direct Description: MEDIUM LOW The preparation of the site will involve the clearing of vegetation. The site currently consists of degraded grasslands. The site M/L L S D Н M 6.8 NEGATIVE **NEGATIVE** 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. 1.6 Spread of invasive alien species Activities: · Clearing and grubbing Surface Disturbance Description: Negative Direct 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 LOW MEDIUM M S Н L L 6.8 many of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life of NEGATIVE **NEGATIVE** the mine through the implementation of a detailed alien plant eradication programme. SEVERITY: (Refer to Table 5.2) DURATION: (Refer to Table 5.3) EXTENT: (Refer to Table 5.3) PROBABILITY: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long Term; S = Site; L = Local; R = regional; N = National U = Unlikely; L = Likely; P = Possible; D = Definite H = High; M = Medium; L = Low; + = Positive P = Permanent

MITIGATION PROTENTIAL: (Refer to Table 5.4)

H = High; M = Medium; L = Low

DD 2 DOTENTIAL IMPACT CONSTRUCTION BLIASE	ASPECT	ure	Severity	Duration	ent	bility	Jence	MITIGATION	SIGNIF	ICANCE	ATION
BP 3 - POTENTIAL IMPACT - <u>CONSTRUCTION</u> PHASE	ASP	Nature	Sevi	Dura	Extent	Probability	Confidence	MITIG, POTE	Without Mitigation	With Mitigation	MITIGATION
<ul> <li>1.1 Soil Compaction and Erosion</li> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Creation of stormwater drainage systems</li> </ul> </li> <li>Description: <ul> <li>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.</li> <li>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.</li> </ul> </li> </ul>		Negative Direct	М	М	S	L	н	М		LOW NEGATIVE	6.4 6.7
<ul> <li>1.2 Soil Pollution</li> <li>Activities: <ul> <li>Operation of machinery</li> </ul> </li> <li>Description: <ul> <li>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.</li> </ul> </li> </ul>	Hazardous Waste	Negative Direct	М	s	s	P	М	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.3 6.4 6.13 6.14
<ul> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Creation of stormwater drainage systems</li> <li>Stripping of overburden</li> </ul> </li> <li>Description: <ul> <li>Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site.</li> <li>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.</li> </ul> </li> </ul>	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	Negative Direct	M	S	S	D	Н	М	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	SIGNIF	ICANCE	MITIGATION
	ASI	Na	Sev	Dur	Ē	Prob	Conf	MITIG	Without Mitigation	With Mitigation	MITIG
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	М	М	L	Ĺ	М	М	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	М	М	L	D	М	М	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		М	м	S	P	М	н	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+	Р	s	D	М	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			

DD 0 DOTENTIAL IMPACT. CLOSURE BHASE	ASPECT	Nature	Severity	Duration	ent	bility	Jence	MITIGATION	SIGNIF	ICANCE	ATION
BP 9 - POTENTIAL IMPACT - CLOSURE PHASE	ASP	Nat	Sev	Dura	Extent	Probability	Confidence	MITIG/ POTE	Without Mitigation	With Mitigation	MITIGATION
3.1 Soil Compaction and Erosion  Activities:  Shaping of the borrowpit Topsoiling  Description: Refer to Section 1.1	Surface Disturbance	Negative Direct	М	М	s	L	н	М	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	М	s	s	P	М	н	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	М	s	s	D	н	М	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	М	L	P	н	н	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	М	L	s	L	н	н	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			

	CT	re	rity	ion	ıt	oility	ence	TION	SIGNIF	CANCE	NOIT.
BP 9 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE	ASPECT	ASPEC?  Nature  Severity	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	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	М	М	s	P	М	н	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	М	L	L	D	М	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+	М	R	P	М	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			

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BP 9 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	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.	ĕ	Negative Direct	L	s	s	Р	н	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	М	L	L	М	М	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	М	М	L	D	М	М	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			

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BP 9 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE	ASPECT	Nature	Severity		Dura	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION	
2.1 Soil Compaction and Erosion  Activities:  Extraction of material  Description:  Refer to Section 1.1	Surface Disturbance	Negative Direct	N N	л	М	s	Ĺ	н	М	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	N N	л	s	s	Р	М	н	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	18 5	(Particulate – Dust)	No.	И	s	s	D	н	М	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	S Z	Direct	_	м	L	Р	н	н	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		И	L	S	L	н	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.8	
SEVERITY: (Refer to Table 5.2)  DURATION: (Refer to Table 5.3)	EXTENT: (Refer to	a Table	5.2)					DDOD	A DILLITY	(Refer to Table 5.3			

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

U = Unlikely; L = Likely; P = Possible; D = Definite

U = Unlikely; L = Likely; P = Possible; D = Definite

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BP 9 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Severity	Dura	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
<ul> <li>1.13 Change in Landuse</li> <li>Activities: <ul> <li>General mining activities</li> </ul> </li> <li>Description: <ul> <li>The expansion of the borrowpit will result in a temporary change of landuse which will be largely reinstated on closure.</li> </ul> </li> </ul>	Surface disturbance, change in landform and topography	Negative Direct	н	L	S	D	н	М		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+	М	R	Р	М	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			

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BP 9 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
1.10 Public Health and Safety											3
Accessing the site     Clearing and grubbing     Stripping of topsoil     Stripping of overburden     Creations of stormwater drainage systems  Pescription:  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.	urfac 	Negative Direct	М	М	s	Р	М	н	MEDIUM - LOW NEGATIVE	LOW NEGATIVE	6.12 6.14 6.15
<ul> <li>1.11 Degradation of landscape value, aesthetic appeal or sense of place</li> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Stripping of overburden</li> </ul> </li> <li>Description: <ul> <li>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.</li> <li>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.</li> </ul> </li> </ul>	e disturbance top	Negative Direct	М	L	L	D	м	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.3 6.5 6.6 6.8 6.9 6.10 6.11 6.13
<ul> <li>1.12 Cultural Heritage</li> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Stripping of overburden</li> </ul> </li> <li>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.</li> </ul>		Negative Direct	L	L	L	D	М	М	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	bility	Confidence	MITIGATION	SIGNIF	ICANCE	NOITA
BF 9-FOTENTIAL IMPACT = CONSTRUCTION FILASE	ASP	Nat	Sev	Dura	Ext	Probability	Confic	MITIG	Without Mitigation	With Mitigation	MITIGATION
<ul> <li>1.7 Public Nuisance – Traffic Disruption</li> <li>Activities: <ul> <li>Accessing the Site</li> <li>Fencing of the Site</li> </ul> </li> <li>Description: <ul> <li>Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance.</li> <li>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.</li> </ul> </li> </ul>	Creation/disruption of access	Negative Direct	L	s	s	P	н	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	м	s	L	М	м	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	М	S	D	М	М	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			

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BP 9 - POTENTIAL IMPACT	Γ – <u>CONSTRUCTION</u> PHASE		ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
1.4 Surface Water Pollution (Dirty Water Runoff at Activities:  Clearing and grubbing Stripping of topsoil	and Pollutants)		se & point)	Direct									
<ul> <li>Stripping of overburden</li> <li>Creation of stormwater drainage systems</li> <li>Topsoil and overburden stockpiles</li> </ul> Description: Without proper management, runoff from exposed soil surfaces high sediment load). The compaction of surfaces and the crea runoff generated. Stormwater runoff will ultimately enter the divenergy dissipater. A stormwater management system is therefore Spillages of hydrocarbons (such as hydraulic oils) may enter into drainage line is some distance downslope of the borrowpit.	ation of hard, impermeable surfaces will increase the amiversion channel downslope of the site and then run off for proposed, with regular monitoring of downstream impact	from an	Release to water (diffuse	Negative Di	L	М	L	Р	н	н	MEDIUM – LOW NEGATIVE	LOW NEGATIVE	6.3 6.4
<ul> <li>1.5 Habitat Degradation and Loss</li> <li>Activities: <ul> <li>Clearing and grubbing</li> </ul> </li> <li>Description: <ul> <li>The preparation of the site will involve the clearing of vegetation preparation will effectively result in the complete transformation assessment indicated that the vegetation type affected by the resurrounding areas. One may therefore assume that the loss of significantly detrimental impact on the vegetation type as a whole area of impact and to reestablish the vegetation as close to the operations.</li> </ul> </li> </ul>	n of the site in terms of plant and animal habitat. The veg mining areas is not unique and is in fact well represented the vegetation on the footprint of the mining area will not le. Notwithstanding this, an effort should be made to minim	getation d in the t have a mize the	Surface Disturbance	Negative Direct	M/L	L	s	D	н	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.8
<ul> <li>1.6 Spread of invasive alien species</li> <li>Activities: <ul> <li>Clearing and grubbing</li> </ul> </li> <li>Description: <ul> <li>The removal of indigenous vegetation and the creation of disturspecies. Alien invader species such as Black Wattle have been many of the indigenous species and ultimately lead to a loss of the mine through the implementation of a detailed alien plant erail</li> </ul> </li> </ul>	recorded in the area. Invasive alien plants effectively out of biodiversity. This impact must be managed throughout the	compete	Surface Disturbance	Negative Direct	М	L	s	L	н	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.8
H = High; M = Medium; L = Low; + = Positive		XTENT: (Re = Site; L = I				National			PROBA U = Un	ABILITY: likely; L =	(Refer to Table 5.3 - Likely; P = Possib	B) ble; D = Definite	

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BP 9 - POTENTIAL IMPACT - <u>CONSTRUCTION</u> PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	Without Mitigation	With Mitigation	MITIGATION
<ul> <li>1.1 Soil Compaction and Erosion</li> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Creation of stormwater drainage systems</li> </ul> </li> <li>Description: <ul> <li>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.</li> <li>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.</li> </ul> </li> </ul>	Surface Disturbance	Negative Direct	М	М	S	L	н	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.4 6.7
<ul> <li>1.2 Soil Pollution</li> <li>Activities: <ul> <li>Operation of machinery</li> </ul> </li> <li>Description: <ul> <li>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.</li> </ul> </li> </ul>	Hazardous Waste	Negative Direct	М	s	s	P	м	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.3 6.4 6.13 6.14
<ul> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Creation of stormwater drainage systems</li> <li>Stripping of overburden</li> </ul> </li> <li>Description: <ul> <li>Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site.</li> </ul> </li> <li>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.</li> </ul>	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	Negative Direct	М	s	S	D	н	М	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	SIGNIF	ICANCE	MITIGATION
	AS	N	Se	Dui	ū	Prot	Conf	MITIC	Without Mitigation	With Mitigation	MITIM
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	М	М	L	L	М	М	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	М	М	L	D	М	М	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	М	М	s	Р	м	н		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+	Р	s	D	М	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			

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ASP	Nat	Seve	Dura	Ext	Proba	Confic	MITIG/ POTER	Without Mitigation	With Mitigation	MITIGATION
Surface Disturbance	Negative Direct	м	М	s	L	н	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.4 6.7
Hazardous Waste	Negative Direct	М	s	s	P	М	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.3 6.4 6.1 6.1
(Gaseous) Emissions to Air (Particulate – Dust)	Negative Direct	м	s	s	D	н	М	MEDIUM NEGATIVE	MEDIUM / LOW NEGATIVE	6.5
Release to water (diffuse & point)	Negative Direct	L	М	L	P	н	н	MEDIUM – LOW NEGATIVE	LOW NEGATIVE	6.2
Surface Disturbance	Negative Direct	м	L	s	L	н	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.8
	Release to water (Gaseous) Release to water (Gaseous) (diffuse & point) (Particulate – Dust)	Release to water (Gaseous) Disturbance (diffuse & point) Negative Negative Direct  (Gaseous) Hazardous Waste Surface Disturbance (Particulate – Dust) Negative Direct  Negative Direct  Negative Direct	Release to water (Gaseous) Disturbance (diffuse & point) Negative Direct	Release to water (Gaseous) Oisturbance (diffuse & point) Are Direct  Negative Direct	Disturbance veigner       Release to water (diffuse & point)       (Gaseous) (Particulate - Dust)       Hazardous Waste (diffuse Direct Dire	Release to water (Gaseous)  Release to water (Gaseous)  We Direct (diffuse & point)  We Direct Direc	Release to water (Gaseous) Release to water (Release to water (Particulate – Dust) Release to water (Gaseous) Release to water (Release to water (Particulate – Dust) Release to water (Gaseous) Release to water (Barticulate – Dust) Release to water (Gaseous) Release to water (Barticulate – Dust) Release to water (Barticu	Disturbance Release to water (Gaseous)  We Direct Offfuse & point)  We Direct Direct Dust)  We Direct Direct Dust)  We Direct Direct Dust)  We Direct Dust Waste Surface Disturbance Direct Dir	Pisturbance (Gaseous) We Direct Negative Direct Disturbance (diffuse & point) We Direct Direct Disturbance (diffuse & point) We Direct	Caseous   Case

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			

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BP 8 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
2.9 Public Health and Safety											
<ul> <li>Activities: <ul> <li>Extraction of material</li> <li>Loading of material</li> <li>Transportation of material to site</li> <li>Blasting activities</li> </ul> </li> <li>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.</li> <li>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.</li> </ul>	Emissions to air Noise, surface disturbance, changes in landform, topography		М	М	s	P	М	н		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	м	L	L	D	М	М	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+	М	R	Р	М	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			

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BP 8 - POTENTIAL IMPACT - <u>OPERATION</u> PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	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	Р	н	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	М	L	L	М	М	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	М	М	L	D	М	М		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			

		PACT OPERATION BHASE	Jr.e	Nature Severity	tion	ent	bility	lence	TION	SIGNIF	TION		
BP 8 - POIEN	ITIAL IMPACT - <u>OPERATION</u> PHASE		ASPECT	Nati	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
2.1 Soil Compaction and Erosion			Disturbance	rect									ches
Activities:  • Extraction of material  Description: Refer to Section 1.1	H a springs and a springs of the spr	ת כוספונים.	Surface Distur	Negative Direct	M	M	S	L	Н	M	MEDIUM NEGATIVE	LOW NEGATIVE	6.4 6.7
2.2 Soil Pollution	7 50		Waste	Direct		T							6.3
Activities:  • Operation of machinery  Description:  Refer to Section 1.2			Hazardous W	Negative Di	М	S	S	P	M	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.3 6.4 6.13 6.14
2.3 Air Pollution	13 7 7 14 14 15 15 5	-	r.	Direct									Lister
Activities:      Extraction of material     Loading of trucks     Transportation of material  Description:  Refer to Section 1.3			(Gaseous) Emissions to Air (Particulate – Dust)	Negative	М	S	S	D	eg lo i	M	MEDIUM NEGATIVE	MEDIUM / LOW NEGATIVE	6.5
2.4 Surface Water Pollution (Dirty Water Activities:  • Extraction of material Description: Refer to Section 1.4	Runoff and Pollutants)	As a secially discount of the secial of the	Release to water (diffuse & point)	) je	L	M	L	P	Н	н	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	М	L	s	L	Н	н	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: (I	Refer to 1	Table 5.3	3) onal; N =	Nationa			PROBA U = Ur	ABILITY;	(Refer to Table 5.: Likely; P = Possi	3) ble; D = Definite	

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BP 8 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
<ul> <li>1.7 Public Nuisance – Traffic Disruption</li> <li>Activities: <ul> <li>Accessing the Site</li> <li>Fencing of the Site</li> </ul> </li> <li>Description: <ul> <li>Accessing the borrowpit may result in some disruption to traffic along the gravel public road. This will be short-lived and of low significance.</li> <li>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.</li> </ul> </li> </ul>	Creation/disruption of access	Negative Direct	L	s	s	P	н	L	LOW NEGATIVE	LOW NEGATIVE	6.15
<ul> <li>1.8 Public Nuisance – Dust Generation</li> <li>Activities: <ul> <li>Accessing the borrowpit</li> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Creation of stormwater drainage systems</li> <li>Stripping of overburden</li> </ul> </li> <li>Description: <ul> <li>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.</li> </ul> </li> </ul>	Emissions to air - particulate	Negative Direct	L	М	s	L	М	М	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	М	s	D	M	М	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			

DD 6 POTENTIAL MIDNOT COMPTRICTION DATES	BP 8 - POTENTIAL IMPACT – CONSTRUCTION PHASE	ure	arity	tion	ent	bility	lence	VIIIAL	SIGNIFICANCE		
BP 8 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ASPI	Nati	Severity	Duration	Extent	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
1.4 Surface Water Pollution (Dirty Water Runoff and Pollutants)											
<ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Stripping of overburden</li> <li>Creation of stormwater drainage systems</li> <li>Topsoil and overburden stockpiles</li> </ul> Description: Without proper management, runoff from exposed soil surfaces and stockpiles is likely to become highly sedimented (ie carraigh sediment load). The compaction of surfaces and the creation of hard, impermeable surfaces will increase the amount unoff generated. Stormwater runoff will ultimately enter the diversion channel downslope of the site and then run off from exposed glassipater. 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 close drainage line is some distance downslope of the borrowpit.	of selease	Negative Direct	L	М	L	P	н	н	MEDIUM – LOW NEGATIVE	LOW NEGATIVE	6.3 6.4
Activities:  • Clearing and grubbing  Description:  The preparation of the site will involve the clearing of vegetation. The site currently consists of degraded grasslands. The streparation will effectively result in the complete transformation of the site in terms of plant and animal habitat. The vegetations assessment indicated that the vegetation type affected by the mining areas is not unique and is in fact well represented in surrounding areas. One may therefore assume that the loss of the vegetation on the footprint of the mining area will not having inspirit and to reestablish the vegetation as close to the original condition as possible, following completion of the minimizer operations.	Surface au	Negative Direct	M/L	L	s	D	н	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.8
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 places. Alien invader species such as Black Wattle have been recorded in the area. Invasive alien plants effectively out company of the indigenous species and ultimately lead to a loss of biodiversity. This impact must be managed throughout the life the mine through the implementation of a detailed alien plant eradication programme.	te 7	Negative Direct	М	L	s	L	н	н	MEDIUM NEGATIVE	LOW NEGATIVE	6.8
	= High: M = Medium: L = Low: + = Positive   S = Short Term; M = Medium Term; L = Long Term;   S = Site; L = Local; R = regional; N = National				PROBABILITY: (Refer to Table 5.3) U = Unlikely; L = Likely; P = Possible; D = Definite						

BP 8 - POTENTIAL IMPACT - CONSTRUCTION PHASE	ECT	ure	Severity	Duration	Extent	billity	Jence	ATION	SIGNIF	FICANCE	NOITY
BF 8-FOTENTIAL IMPACT - CONSTRUCTION PHASE	ASPECT	Nature	Sev	Dura	Ext	Probability	Confidence	MITIGATION	Without Mitigation	With Mitigation	MITIGATION
1.1 Soil Compaction and Erosion											
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	М	М	s	L	н	М	MEDIUM NEGATIVE	LOW NEGATIVE	6.4 6.7
<ul> <li>1.2 Soil Pollution</li> <li>Activities: <ul> <li>Operation of machinery</li> </ul> </li> <li>Description: <ul> <li>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.</li> </ul> </li> </ul>	Hazardous Waste	Negative Direct	м	s	s	Р	М	Н	MEDIUM NEGATIVE	LOW NEGATIVE	6.3 6.4 6.13 6.14
<ul> <li>Activities: <ul> <li>Clearing and grubbing</li> <li>Stripping of topsoil</li> <li>Creation of stormwater drainage systems</li> <li>Stripping of overburden</li> </ul> </li> <li>Description: <ul> <li>Vehicle emissions (exhaust emissions) will be generated by the operation of plant on site.</li> </ul> </li> <li>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.</li> </ul>	Emissions to Air (Gaseous) Emissions to Air (Particulate – Dust)	Negative Direct	М	S	S	D	Н	M	MEDIUM	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			