BP 6 - 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 6 - 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 6 - 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**	**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 6 - 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 6 - 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 6 - 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 6 - 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 adjacent to a gravel road and is therefore highly visible from that road. BP 6 is, however, an existing borrowpit with a high visual impact especially due to the fact that high vertical faces have been left 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 6 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 6 - 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			

	ASPECT	Nature	Severity	Duration	Extent	Probability	Confidence	MITIGATION POTENTIAL	SIGNIFICANCE		MITIGATION REF
									Without Mitigation	With Mitigation	
ly sedimented (ie carry a l increase the amount of and then run off from an ownstream impacts. even though the closest	Release to water (diffuse & point)	**Negative Direct**	**L**	**M**	**L**	**P**	**H**	**H**	**MEDIUM – LOW NEGATIVE**	**LOW NEGATIVE**	**6.3 6.4**
ded grasslands. The site l habitat. The vegetation t well represented in the ning area will not have a be made to minimize the completion of the mining	Surface Disturbance	**Negative Direct**	**M/L**	**L**	**S**	**D**	**H**	**M**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**
ne invasion of alien plant s effectively out compete ged throughout the life of	Surface Disturbance	**Negative Direct**	**M**	**L**	**S**	**L**	**H**	**H**	**MEDIUM NEGATIVE**	**LOW NEGATIVE**	**6.8**

erm;	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 6	REF	BP 6 - POTENTIAL IMPACT – CONSTRUCTION PHASE
1.1 Soil Compaction and Eros		**…n (Dirty Water Runoff and Pollutants)**
Activities: • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainage	5.4 5.7	…nage systems …ckpiles
Description: The compaction of soil may occur during … may result in the loss of soil viability whi… and therefore increases the amount of s… The removal of vegetation cover and ex… found downslope and to the west of th… receiving water bodies.		…ff from exposed soil surfaces and stockpiles is likely to become high… …tion of surfaces and the creation of hard, impermeable surfaces wi… …off will ultimately enter the diversion channel downslope of the site … …anagement system is therefore proposed, with regular monitoring of d… …s hydraulic oils) may enter into surface water bodies if washed off site … …wnslope of the borrowpit.
1.2 Soil Pollution		**…nd Loss**
Activities: • Operation of machinery	5.3 5.4 .13 .14	
Description: The operation of heavy machinery durin… breakdowns or spillages of diesel durin… viability.		…volve the clearing of vegetation. The site currently consists of degra… …n the complete transformation of the site in terms of plant and anima… …getation type affected by the mining areas is not unique and is in fa… …efore assume that the loss of the vegetation on the footprint of the m… …the vegetation type as a whole. Notwithstanding this, an effort should … …the vegetation as close to the original condition as possible, following
1.3 Air Pollution		**…ien species**
Activities: • Clearing and grubbing • Stripping of topsoil • Creation of stormwater drainag… • Stripping of overburden		
Description: Vehicle emissions (exhaust emissions)… Dust will be generated from the use of … will contribute to atmospheric dust part… health. Lower levels may be considere… 1.10 below.	.5	…ation and the creation of disturbed surfaces is an open invitation for t… …ch as Black Wattle have been recorded in the area. Invasive alien plan… …nd ultimately lead to a loss of biodiversity. This impact must be mana… …tion of a detailed alien plant eradication programme.

SEVERITY: (Refer to Table 5.2) H = High; M = Medium; L = Low; + = P…	…- = Positive	DURATION: (Refer to Table 5.3) S = Short Term; M = Medium Term; L = Long … P = Permanent
MITIGATION PROTENTIAL: (Refer to … H = High; M = Medium; L = Low | …er to Table 5.4)	

BP 10 - 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 10 - 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 POTENTIAL: (Refer to Table 5.4) H = High; M = Medium; L = Low			

BP 10 - 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 10 - 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			

APPENDIX E

REHABILITATION COST SCHEDULES

Rehabilitation Cost Summary Table for Sipetu BP 1

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	150	10	1,500.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.46	2500	3,650.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.88	2750	2,420.00
Seed purchase (18kg/ha)	kg	26.28	100	2,628.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**80,523.00**
Establishment and Management should current mine			@10%	8,052.30
operator become liquidated or incapacitated				
GRAND TOTAL				**88,575.30**

Rehabilitation Cost Summary Table for Sipetu BP 2

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	150	10	1,500.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.17	2500	2,925.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.71	2750	1,952.50
Seed purchase (18kg/ha)	kg	21.1	100	2,110.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**78,812.50**
Establishment and Management should current mine			@10%	7,881.25
operator become liquidated or incapacitated				
GRAND TOTAL				**86,693.75**

Rehabilitation Cost Summary Table for Sipetu BP 3

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	150	10	1,500.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.37	2500	3,425.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.83	2750	2,282.50
Seed purchase (18kg/ha)	kg	24.66	100	2,466.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**79,998.50**
Establishment and Management should current mine			@10%	7,999.85
operator become liquidated or incapacitated				
GRAND TOTAL				**87,998.35**

Rehabilitation Cost Summary Table for Sipetu BP 4

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	150	10	1,500.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	0.94	2500	2,350.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.57	2750	1,567.50
Seed purchase (18kg/ha)	kg	16.92	100	1,692.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**77,434.50**
Establishment and Management should current mine			@10%	7,743.45
operator become liquidated or incapacitated				
GRAND TOTAL				**85,177.95**

Rehabilitation Cost Summary Table for Sipetu BP 5

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	150	10	1,500.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.45	2500	3,625.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.87	2750	2,392.50
Seed purchase (18kg/ha)	kg	26.1	100	2,610.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**80,452.50**
Establishment and Management should current mine			@10%	8,045.25
operator become liquidated or incapacitated				
GRAND TOTAL				**88,497.75**

Rehabilitation Cost Summary Table for Sipetu BP 6

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	100	10	1,000.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.22	2500	3,050.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.74	2750	2,035.00
Seed purchase (18kg/ha)	kg	22	100	2,200.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**78,610.00**
Establishment and Management should current mine			@10%	7,861.00
operator become liquidated or incapacitated				
GRAND TOTAL				**86,471.00**

Rehabilitation Cost Summary Table for Sipetu BP 8

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	100	10	1,000.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.13	2500	2,825.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.68	2750	1,870.00
Seed purchase (18kg/ha)	kg	20.34	100	2,034.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**78,054.00**
Establishment and Management should current mine			@10%	7,805.40
operator become liquidated or incapacitated				
GRAND TOTAL				**85,859.40**

Rehabilitation Cost Summary Table for Sipetu BP 9

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	100	10	1,000.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.49	2500	3,725.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.9	2750	2,475.00
Seed purchase (18kg/ha)	kg	26.82	100	2,682.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**80,207.00**
Establishment and Management should current mine			@10%	8,020.70
operator become liquidated or incapacitated				
GRAND TOTAL				**88,227.70**

Rehabilitation Cost Summary Table for Sipetu BP 10

Description	Unit	Quantity	Rate	Amount
Creation of benches along the top of the quarry				
Excavator	hr	50	400	20,000.00
Tipper Truck	hr	50	400	20,000.00
Lowbed Hire	km	100	10	1,000.00
Disturbed Areas (processing areas , stockpiles etc)				
Profiling (incl plant hire)	ha	1.22	2500	3,050.00
Topsoil (topsoil on site, placing only with TLB)	hr	50	16.5	825.00
Hydroseeding	ha	0	13000	0.00
Fertiliser (0.6t/ha of 2:3:2)	t	0.74	2750	2,035.00
Seed purchase (18kg/ha)	kg	22	100	2,200.00
Stormwater Control	sum	1	10000	10,000.00
Labour	man days	10	60	600.00
Demolishing of Buildings				
All building are private homes				0.00
Provisional sum for breaking concrete structures	sum	0	5000	0.00
Alien vegetation Control				0.00
Labour	days	60	60	3,600.00
Herbicide	ltr	60	150	9,000.00
After Care & Maintenance				
Labour	man days	30	60	1,800.00
Herbicide	ltr	30	150	4,500.00
Sub Total				**78,610.00**
Establishment and Management should current mine			@10%	7,861.00
operator become liquidated or incapacitated				
GRAND TOTAL				**86,471.00**

APPENDIX F

LETTER OF FINANCIAL GUARANTEE

Province of the
EASTERN CAPE
ROADS & TRANSPORT

Management Service
Roads & Transport – Stellenbosch Park – KWT – Eastern Cape - Private Bag X0023 – Bisho 5605 – Republic of South Africa - Tel:+27 (0)43 604 7634 – Fax: -
Website: www.ectransport.gov.za

Date: 24 February 2010
Tell No.: 043 – 6047644

Enquiries: Mr J. Xoko
E-mail: thembela.peter@dot.ecprov.gov.za

UPGRADING OF THE DRO8125 AND DR08447 TO SIPETU HOSPITAL

FINANCIAL GUARANTEE: RETENTION MONEYS

I, C.J. Xoko ..... as the authorized representative of Department of Roads and Transport, do hereby undertake to ensure that a portion of the retention fees (being an amount of R500 000-00.....) equal to the amount stipulated by the Environmental Management Programme for the rehabilitation of the mine sites to be used for the construction/upgrading of the (DR08125 and DR08447) (from its intersection with the N2 National Road to the Sipetu Hospital) and being necessary for the completion of this project, will be retained by this department until such time as I have been informed in writing by your department that you are satisfied that rehabilitation, as stipulated by the Environmental Management Programme, has been undertaken on the specified mining sites. The amount to be retained is R 500 000-00 (the amount approved by Minerals and Energy).

SIGNATURE

S Mti
DESIGNATION

25/02/2010
DATE
Financial guarantee Retention Moneys

Quality Service Delivery Through Transportation Excellence

PGDP EASTERN CAPE 2004 - 2014
Ikamva eliqaqambileyo!

APPENDIX G

LETTER OF UNDERTAKING FROM DoRT

Province of the
EASTERN CAPE
ROADS & TRANSPORT

Management Service
Roads & Transport – Stellenbosch Park – KWT – Eastern Cape - Private Bag X0023 – Bisho 5605 – Republic of South Africa - Tel:+27 (0)43 604 7634 – Fax: -
Website: www.ectransport.gov.za

Date: 24 February 2010
Tell No.: 043 – 6047644

Enquiries: Mr J. Xoko
E-mail: thembela.peter@dot.ecprov.gov.za

UNDERTAKING

I, C. J. XOKO

.....

The undersigned and duly authorised thereto by The Department of Roads and Transport hereby undertake to implement all the aspects contained in the EMP and accept full responsibility therefore.

SIGNED at EAST LONDON this 25 day FEBRUARY 20 10

SIGNATURE

WITNESSES:

1.....

2.....

Official use

APPROVAL

Approved in terms of the provisions of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002).

SIGNED at ..... this ..... day ..... 20.....

APPENDIX H

LETTER CONFIRMING DoRT PROJECT

Province of the
EASTERN CAPE
ROADS & TRANSPORT

Management Service
Roads & Transport – Stellenbosch Park – KWT – Eastern Cape - Private Bag X0023 – Bisho 5605 – Republic of South Africa - Tel:+27 (0)43 604 7634 – Fax: -
Website: www.ectransport.gov.za

Date: 24 February 2010
Tell No.: 043 – 6047644

Enquiries: Mr J. Xoko
E-mail: thembela.peter@dot.ecprov.gov.za

Department of Minerals and Energy
Private Bag X6076
PORT ELIZABETH
6000

ATTENTION: MS D. WATKINS

UPGRADING OF DIVISIONAL ROADS DR08125 AND DRO8447 TO SIPETU HOSPITAL

This letter is submitted in support of the Environmental Management Plan for the proposed mining sites to be used for the upgrading of Divisional Roads DR08125 and DR08447. We would like to confirm that this is a Department of Roads and Transport Project.

Yours faithfully,

.....

Head of Department
Department of Roads and Transport
Eastern Cape Province

Figure 5.1 Aspect and Impact Summary Matrix (cumulative – includes all BP sites)

ACTIVITY			ASPECT (the mechanism by which an activity can interact with the environment and lead to environmental impacts) (See Table 5.1)	Energy Consumption	Water Consumption	Materials consumption	Releases to Water (point)	Releases to Water (diffuse)	Emissions to air (gaseous)	Emissions to air (particulate)	Noise disturbance	Clearing of vegetation	Ground dusturbance	Change in landform	Waste generation and disposal	Access creation / disruption	Changes in landuse/zoning	Employment and training
Construction			Site Clearance - vegetation															
			Site preparation (clearing and grubbing)															
			Erection of Fencing															
			Construct of drainage structures															
			Stockpiling															
Operation			Mining activities															
			Loading material onto trucks															
			Transport of mined material to construction site															
Closure			Earthworks															
			Ripping of compacted soils															
			Topsoiling of disturbed areas															
			Planting of indigenous vegetation															
AFFECTED ENVIRONMENTS - IMPACTS	PHYSICAL		Soil compaction / erosion															
			Soil Pollution															
			Air pollution															
			Surface water pollution															
			Alteration to drainage systems															
			Groundwater pollution															
	BIOLOGICAL		Habitat degradation and loss															
			Species of special concern															
			Spread of invasive alien species															
			Impacts on aquatic flora and fauna															
	HUMAN / SOCIO-ECONOMIC		Public Nuisance - traffic disruption															
			Public Nuisance - dust generation															
			Public Nuisance - noise															
			Public Safety (health and safety risks)															
			Degradation of landscape value, aesthetic appeal or sense of place															
			Cultural heritage															
			Economic development															
			Income generation and social upliftment															

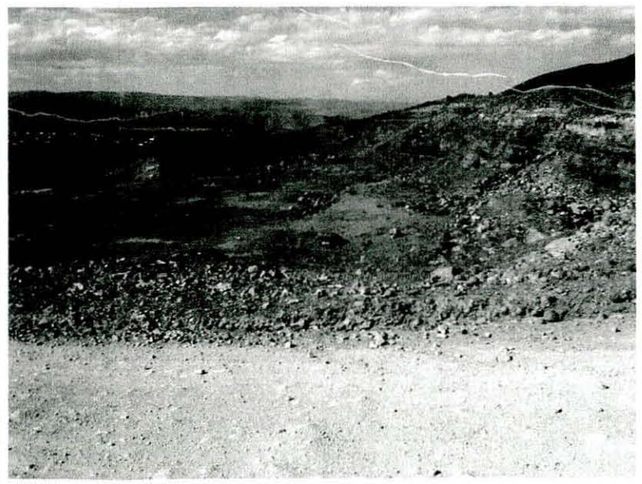
ACTIVITY/ASPECT INTERACTION	
POTENTIAL NEGATIVE IMPACT OF ASPECT ON ENVIRONMENT	
POTENTIAL POSITIVE IMPACT ON ENVIRONMENT	

Table 1.1 Borrowpit Summary Table

INFORMATION	BP 1	BP 2	BP 3 – Greenfields Site	BP 4	BP 5	BP 6	BP 8	BP 9	BP 10
TYPE OF MATERIAL	Predominantly weathered sandstone with small dolerite intrusions.	Weathered sandstone	Weathered sandstone	Weathered sandstone and decomposed dolerite	Decomposed dolerite	Weathered sandstone	Predominantly weathered fine grained sandstone with minor weathered dolerite intrusion	Weathered fine grained sandstone	Weathered fine grained sandstone
QUANTITY AVAILABLE	>40 000m^3	>20 000m^3	>30 000m^3	>30 000m^3	>40 000m^3	>40 000m^3	>20 000m^3	>60 000m^3	>35 000m^3
CO-ORDINATES	S 31° 06' 00.0"	S 31° 06' 42.1"	S 31° 06' 58.4"	S 31° 07' 25.9"	S 31° 06' 55.1"	S 31° 04' 58.5"	S 31° 00' 40.1"	S 31° 00' 09.4"	S 31° 00' 16.8"
	E 29° 11' 16.8"	E 29° 10' 48.2"	E 29° 10' 48.2"	E 29° 08' 16.1"	E 29° 08' 07.2"	E 29° 06' 58.7"	E 29° 02' 36.9"	E 29° 00' 52.9"	E 28° 59' 37.0"
CHAINAGE*	Km 37+450	Km 36+000	Km 35+400	Km 29+300	Km 28+300	Km 23+600	Km 12+270	Km 8+800	Km 5+900
DISTANCE FROM THE ROAD	+/- 10m (LHS)	+/- 25m (LHS)	+/- 30m (LHS)	+/- 20m (LHS)	+/- 25m (LHS)	+/- 20m (LHS)	+/- 15m (LHS)	+/- 20m (LHS)	+/- 20m (RHS)
RIVER CATCHMENT	Sipetu River Catchment	Sipetu River Catchment	Cwaka River Catchment	Sipetu River Catchment	Sipetu River Catchment	Kelenga River Catchment	Nyogque River Catchment	Ramza River Catchment	Mpemba River Catchment
DISTANCE TO HOUSES	Approx 900m to the south-west	Approx 85m to the south-west (closest).	Approx 260m to the north-west	Approx 500m to the south	Approx 120m to the west	Approx 120m to the north-east	Approx 100m to the south	Approx 200m to the east	Approx 1 000m to the south
PRESENCE OF SERVITUDES	None.	None.	None.	Powerlines near to site but no mining will take place under those lines.	Powerlines near to site but no mining will take place under those lines.	Powerlines near to site but no mining will take place under those lines.	Powerlines near to site but no mining will take place under those lines.	None.	None.

* Distance along the project route (along the DR08125 and DR08447) measured from the N2 National Road intersection.

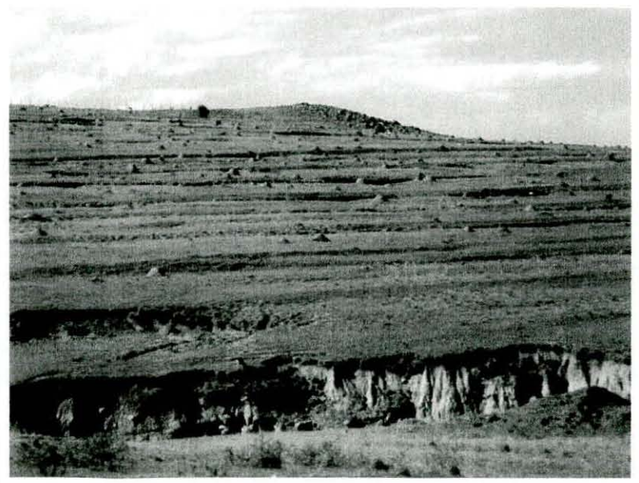
2.4.1 Development and Rehabilitation Procedures for Borrowpit 1

MINING AND REHABILITATION PROCEDURES	BORROWPIT 1
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 06' 00.0" E 29° 11' 16.8" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP001/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

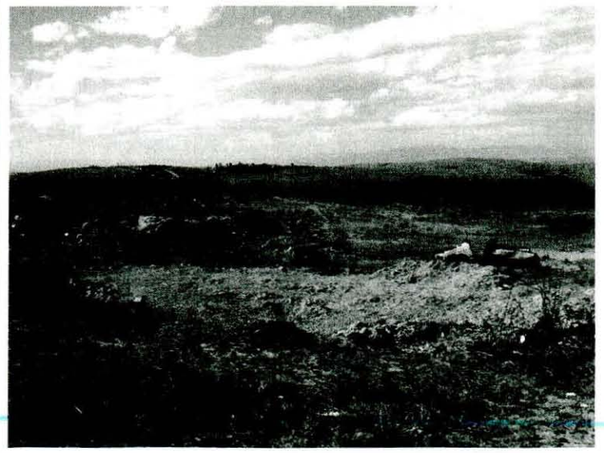
2.4.2 Development and Rehabilitation Procedures for Borrowpit 2

MINING AND REHABILITATION PROCEDURES	BORROWPIT 2
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 06' 42.1" E 29° 10' 48.2" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP002/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

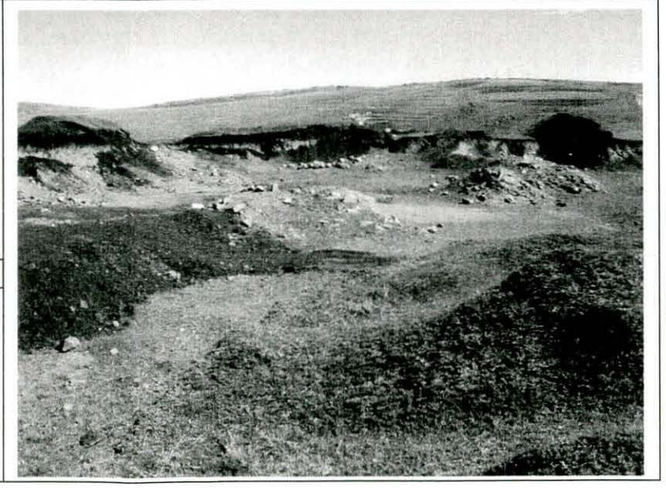
2.4.3 Development and Rehabilitation Procedures for Borrowpit 3

MINING AND REHABILITATION PROCEDURES	BORROWPIT 3
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 06' 58.4" E 29° 10' 48.2" **CURRENT LANDUSE:** Grazing (ie. greenfields site) **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP003/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

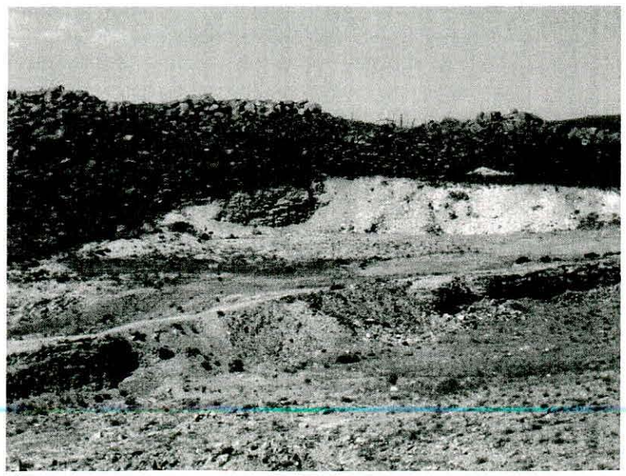
2.4.4 Development and Rehabilitation Procedures for Borrowpit 4

MINING AND REHABILITATION PROCEDURES	BORROWPIT 4
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 07' 25.9" E 29° 08' 16.1" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans. • No operating within 10m of the nearby ESKOM powerlines.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP004/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

2.4.5 Development and Rehabilitation Procedures for Borrowpit 5

MINING AND REHABILITATION PROCEDURES	BORROWPIT 5
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 06' 55.1" E 29° 08' 07.2" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans. • No operating within 10m of the nearby ESKOM powerlines.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP005/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road will be ripped and removed. • The aloes plants are to be transplanted from the nursery to the rehabilitated area. • The diversion berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hand seeded with an indigenous seed mix. Alternatively the site may be hydroseeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

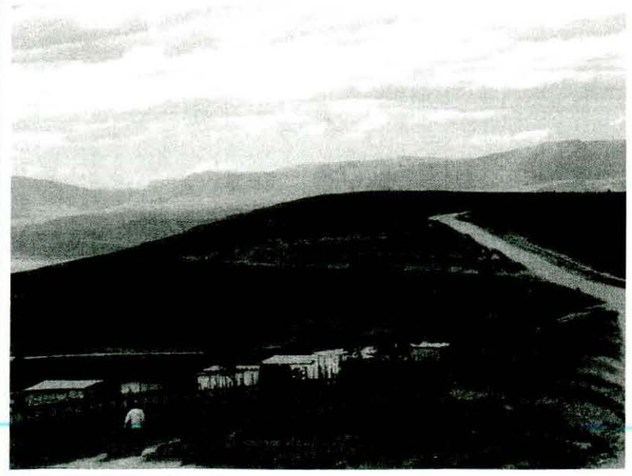
2.4.6 Development and Rehabilitation Procedures for Borrowpit 6

MINING AND REHABILITATION PROCEDURES	BORROWPIT 6
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 04' 58.5" E 29° 06' 58.7" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans. • No operating within 10m of the nearby ESKOM powerlines.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP006/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

2.4.7 Development and Rehabilitation Procedures for Borrowpit 8

MINING AND REHABILITATION PROCEDURES	BORROWPIT 8
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 00' 40.1" E 29° 02' 36.9" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans. • No operating within 10m of the nearby ESKOM powerlines.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP008/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

2.4.8 Development and Rehabilitation Procedures for Borrowpit 9

MINING AND REHABILITATION PROCEDURES	BORROWPIT 9
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 00' 09.4" E 29° 00' 52.9" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP009/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	

2.4.9 Development and Rehabilitation Procedures for Borrowpit 10

MINING AND REHABILITATION PROCEDURES	BORROWPIT 10
PRECONSTRUCTION PHASE:	***BORROWPIT INFORMATION***
• Obtain DME permission to use Borrowpit. • Obtain land owners permission to use Borrowpit (done). The DLA has been informed of the proposed use of the site.	**LANDOWNER**: State-owned land **CO-ORDINATES:** S 31° 00' 16.8" E 28° 59' 37.0" **CURRENT LANDUSE:** Old Borrowpit, Grazing **PROPOSED ENDUSE:** Grazing
CONSTRUCTION PHASE	***REFERENCES***
• Strip off vegetation. Remove any alien plant species to an appropriate waste site. • Strip off topsoil and overburden and place in stockpiles as indicated. • Stockpile overburden material as indicated. • Create stormwater diversion berms and diversion channels (with energy dissipaters) as indicated on the development plan. • Fence borrowpit area as indicated on the plans.	**DEVELOPMENT PLAN:** Drawing No: J29014A/BP010/P (APPENDIX B) **LANDOWNER QUESTIONNAIRE/PERMISSION:** APPENDIX D
OPERATION PHASE	
• Excavate material using a bulldozer as indicated in the development plan. The material will be removed in series of benches. • Mobile crusher to start at the lowest point and excavate upward, creating a low point behind it for the accumulation of water which may be used for dust suppression. Mobile crusher will create stockpiles in the direct vicinity where mining takes place. • The material will be removed to resemble the mining profile provided in the mining development plan. • Mined material will in most cases be removed immediately from the borrowpit for stockpiling along the route. It may be necessary to maintain a small temporary stockpile within the demarcated borrowpit area. • All cut off berms, diversion channels and energy dissipaters will be maintained. • All mobile plant will be serviced at the central project workshop located off the borrowpit site. • On site sanitation is to be provided.	
CLOSURE AND REHABILITATION	***PHOTOGRAPH***
• The portable toilet will be dismantled and removed from site. • All excess material will be pushed up against the base of the borrowpit and covered with overburden. • Topsoil will be placed over the overburden and on the benches. • The access road and stockpile area will be ripped and removed. • The cut off berms and channels will be maintained and the fence will be repaired. • The soil will be analysed for fertility and the required fertilizer mix will be applied. • The entire mining area will be hydroseeded with an indigenous seed mix. Alternatively the site may be hand seeded with an indigenous seed mix.	
AFTERCARE	
• The borrowpit will be inspected 6 months after rehabilitation, and again after 12 months for signs of erosion and to assess the success of re-vegetation. • In the event of any erosion, the necessary repairs will be undertaken by the contractor. • Reseeding will be undertaken should the vegetation not have recovered sufficiently (to a level of 80% cover).	