

The maximum value that can be achieved is 100 Significance Points (SP).  
Environmental effects were rated as follows:

<b>Status of Impact</b>	
+: Positive (A benefit to the receiving environment)	
N: Neutral (No cost or benefit to the receiving environment)	
-: Negative (A cost to the receiving environment)	
<b>Magnitude:=M</b>	<b>Duration:=D</b>
10: Very high/don't know	5: Permanent
8: High	4: Long-term (ceases with the operational life)
6: Moderate	3: Medium-term (5-15 years)
4: Low	2: Short-term (0-5 years)
2: Minor	1: Immediate
0: Not applicable/none/negligible	0: Not applicable/none/negligible
<b>Scale:=S</b>	<b>Probability:=P</b>
5: International	5: Definite/don't know
4: National	4: Highly probable
3: Regional	3: Medium probability
2: Local	2: Low probability
1: Site only	1: Improbable
0: Not applicable/none/negligible	0: Not applicable/none/negligible

<b>Significance</b>	<b>Environmental Significance Points</b>	<b>Colour Code</b>
High (positive)	>60	H
Medium (positive)	30 to 60	M
Low (positive)	<30	L
Neutral	0	N
Low (negative)	>-30	L
Medium (negative)	-30 to -60	M
High (negative)	<-60	H

ACTIVITY	POTENTIAL IMPACT(S)	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION						
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP
<b>Construction</b>																
<b>Surface Water</b>																
Site establishment	•Increase in surface runoff and velocity, leading to erosion	4	2	1	4	28	-	L	•Restrict vegetation clearing to specific footprints. •Undertake continual monitoring to identify erosion as early as possible to remedy. •Implement the necessary stormwater control measures to ensure no uncontrolled discharge of stormwater takes place.	2	2	1	2	10	-	L
<b>Fauna</b>																
Site establishment	•Disturbance or possible mortality incidents of terrestrial fauna.	4	2	1	4	28	-	L	•Restrict all movement of vehicles and heavy machinery to permissible, designated areas. No off-road driving beyond designated areas may be allowed. •Strict speed limits must be set and adhered to. •Driving between dusk and dawn should be permissible to emergency situations only.	4	2	1	2	14	-	L
<b>Flora</b>																
Site establishment	•Loss of minimal indigenous vegetation present on site	8	2	1	4	44	-	M	•Restrict all movement of vehicles and heavy machinery to permissible areas. No off-road driving beyond designated areas may be allowed. •Provision must be made for concurrent rehabilitation of the mining operations which will ensure that the permit area is mined in designated sections. •The mined out sections will be rehabilitated and planted with an indigenous grass seed mix in the first growing season after it has been mined out. This will limit the operational area to the current operational area.	6	2	1	2	18	-	L
Site establishment	•Loss of alien invasive vegetation	8	2	1	4	44	+	M	The removal of alien invasive vegetation and the associated seedbed in the soil is a positive impact. No mitigation measures are required.	8	2	1	4	44	+	M
Site establishment	•Spreading of alien invasive plant species	6	3	2	3	33	-	M	•A seedbed of alien plants will be present within the cleared soils. This seedbed and the plants that originate from it must be managed as follows: oThe Mining Permit footprint must be clearly surveyed and demarcated before any construction or operations are set to commence, to ensure that the area to be cleared is limited to only the areas that are necessary for the mining activities. oThe cleared areas must be regularly monitored for the establishment of alien plant species. These must be cleared when they appear. oIf alien invasive plant species become a problem on the mining area site, a formal Alien Invasive Management Plan must be set up and implemented. This plan must make provision for the identification and eradication of these species.	3	2	1	3	18	-	L
Site establishment	•Contamination of the area by domestic waste	4	2	1	3	21	-	L	•Even though the impacts of contamination of the area by domestic waste are considered to be low pre-mitigation, the following mitigation measures must be included to further reduce the significance of the impact: oA designated eating area must be established within the mining area. oCovered domestic waste bins must be present at the eating area to receive all the domestic waste generated by the labour. oThe capacity of these domestic bins must be monitored on a daily basis to ensure they are emptied timeously. oThe domestic waste from these waste bins must be removed off site and disposed of at a municipal landfill site on a weekly basis or more regularly if the bins fill up quicker.	2	1	1	2	8	-	L
<b>Rivers and Wetlands</b>																

Site establishment	•Increase in runoff and erosion.	2	2	1	2	10	-	L	<ul style="list-style-type: none"> <li>•A seedbed of alien plants will be present within the cleared soils. This seedbed and the plants that originate from it must be managed as follows: <ul style="list-style-type: none"> <li>oThe Mining Permit footprint must be clearly surveyed and demarcated before any construction or operations are set to commence, to ensure that the area to be cleared is limited to only the areas that are necessary for the mining activities.</li> <li>oThe cleared areas must be regularly monitored for the establishment of alien plant species. These must be cleared when they appear.</li> </ul> </li> <li>oIf alien invasive plant species become a problem on the mining area site, a formal Alien Invasive Management Plan must be set up and implemented. This plan must make provision for the identification and eradication of these species.</li> <li>•Undertake continual monitoring to identify erosion as early as possible to remedy.</li> <li>•Implement the necessary stormwater control measures to ensure no uncontrolled discharge of stormwater takes place.</li> </ul>	2	2	1	1	5	-	L
<b>Geology and Topography</b>																
Site establishment	•Change in baseline topography	4	2	1	4	28	-	L	<ul style="list-style-type: none"> <li>•Restrict disturbance to designated footprint.</li> <li>•Strict adherence to the EMP.</li> <li>•Ensure proper access control to the development area</li> <li>oFencing.</li> <li>oSecurity.</li> <li>oBarriers.</li> <li>•Ensure warning signs are erected on the perimeter of these areas.</li> <li>•Structural safety to be ensured according to engineering standards.</li> </ul>	2	2	1	4	20	-	L
<b>Soil</b>																
Vehicle Movements	•Contamination of the area by petrochemical spillages	4	1	1	3	18	-	L	<ul style="list-style-type: none"> <li>•Even though the impacts of contamination of the area by petrochemical spillages are considered to be low pre-mitigation, the following mitigation measures must be included to further reduce the significance of the impact: <ul style="list-style-type: none"> <li>oAll plant and equipment that make use of petrochemical substances must be checked for leakages on a daily basis.</li> <li>oAll plant and equipment that are found to be leaking must be removed from the property and only returned once the leakages have been addressed.</li> <li>oIf any petrochemical substances are stored on the property, this storage must be done on an impermeable surface in a bunded area that makes provision for 110% of volume of the substances that are stored.</li> <li>oAll refuelling of plant and equipment must be conducted over a drip tray.</li> <li>oIf any plant or equipment is to be parked on site, these must be parked within the demarcated construction footprint that has been cleared.</li> <li>oIf any spillages from plant or equipment occur, the spill must be immediately contained, the contaminated soils must be collected and bagged in impermeable bags and stored on site to be removed and disposed of by a registered service provider.</li> </ul> </li> </ul>	4	1	1	1	6	-	L
Site establishment	•Contamination of the area as a result of leaking portable toilet facilities	6	1	1	4	32	-	M	<ul style="list-style-type: none"> <li>•Regarding portable chemical toilets, the following must be implemented: <ul style="list-style-type: none"> <li>oOnly portable chemical toilets with a sealed reservoir will be allowed on site.</li> <li>oThe capacity of the reservoirs in the portable chemical toilets must be monitored on a daily basis to ensure that they can be serviced timeously.</li> <li>oAll removal of the collected sewage waste from the portable chemical toilets must be conducted by a registered service provider for disposal at a municipal waste water treatment facility.</li> </ul> </li> </ul>	2	1	1	2	8	-	L
<b>Land Use</b>																
Site establishment	•Change in land use from disturbed area to mining	4	1	1	2	12	-	L	<ul style="list-style-type: none"> <li>•Restrict disturbance to designated footprint.</li> <li>•Restrict vehicle movement to designated access roads.</li> <li>•Strict adherence to the EMP.</li> <li>•All areas disturbed by activities must be subject to rehabilitation.</li> </ul>	2	2	1	1	5	-	L
<b>Traffic</b>																
Site establishment	•Minimal, intermittent increase in number of trucks on the road	4	1	1	2	12	-	L	<ul style="list-style-type: none"> <li>•The road is designed according to the specifications of a provincial road. The applicant will assist where feasibly possible to repair and maintain the road.</li> </ul>	2	2	2	1	6	-	L
<b>Cultural and Heritage</b>																

Site establishment	•Disturbance of palaeontological material	4	2	1	1	7	-	L	<ul style="list-style-type: none"> <li>•Adhere to footprint areas.</li> <li>•A Chance find procedure should be implemented for the duration of the project with inputs from stakeholders and the local community, should there be a heritage resource identified.</li> <li>•For any chance finds of heritage resources, such as graves, all work must cease in the affected area and the Contractor must immediately inform the Project Manager/Developer. A heritage specialist must be called to site for inspection. The relevant heritage resource agency (SAHRA) must also be informed about the finding.</li> <li>•Should any recent remains be found on site that could potentially be human remains, the South African Police Service (SAPS) as well as SAHRA and AMAFA must be informed. No SAPS official may remove remains until the correct permit/s have been obtained.</li> </ul>	2	2	1	1	5	-	L
<b>Socio-Economic</b>																
Site establishment	•Potential employment opportunities for a limited number of local residents	4	2	2	2	16	+	L	•Positive impact, so no mitigation measures required.	4	2	2	2	16	+	L
<b>Noise</b>																
Site establishment	•Increase in ambient noise levels.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•The Contractor must keep noise level within acceptable limits.</li> <li>•Comply with the Noise Control Regulations in terms of Section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) (GN R154 of 10 January 1992) and all local noise bylaws.</li> <li>•Restrict the use of sound amplification equipment for communication and emergency only.</li> <li>•Any complaints received by the Contractor regarding noise must be recorded and communicated to the Site Supervisor (SS) and Project Manager (PM).</li> <li>•Develop a Code of Conduct for the site establishment phase in terms of the behaviour of construction staff.</li> </ul>	4	2	2	1	8	-	L
<b>Visual</b>																
Site establishment	•Visual intrusion.	6	1	2	3	27	-	L	<ul style="list-style-type: none"> <li>•Limit the site footprint to the designated works area.</li> <li>•Limit the site establishment duration.</li> <li>•Reinstating and rehabilitating disturbed areas as soon as possible.</li> <li>•Limiting site establishment activities to working hours.</li> <li>•Ensure that the site is in a visually acceptable state at all times.</li> <li>•Ensure a complaints register is in place to record and address complaints.</li> <li>•Undertake rehabilitation efforts as soon as feasibly possible</li> </ul>	4	2	1	2	14	-	L
<b>Air</b>																
Clearing of vegetation	•Generation of dust.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•Implement dust suppression measures.</li> <li>•Ensure a complaints register is in place to record and address complaints.</li> <li>•Fuel-saving through optimal vehicle and equipment use scheduling.</li> <li>•Servicing and maintenance of vehicles, and machinery.</li> </ul>	4	2	1	1	7	-	L
Vehicle movements	•Air pollution from equipment.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•Use of fuel-saving technology.</li> <li>•Use of low carbon and sulphur fuels.</li> <li>•Restricting vehicle speeds on access routes and other unsurfaced areas of the work site.</li> <li>•Restrict vehicle access to defined areas to avoid unnecessary off-road vehicle movements outside of the active work sites.</li> </ul>	4	2	1	1	7	-	L

ACTIVITY	POTENTIAL IMPACT(S)	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION						
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP
<b>Operation</b>																
<b>Surface Water</b>																
Mining activities	•Compaction of bare earth leading to increased surface runoff velocity and erosion	4	2	1	4	28	-	L	•Restrict operational activities to specific footprints. •Undertake continual monitoring to identify erosion as early as possible to remedy. •Implement the necessary stormwater control measures to ensure no uncontrolled discharge of stormwater takes place.	2	2	1	2	10	-	L
<b>Fauna</b>																
Mining activities	•Disturbance or possible mortality incidents of terrestrial fauna	4	2	1	4	28	-	L	•Restrict all movement of vehicles and heavy machinery to permissible, designated areas. No off-road driving beyond designated areas may be allowed. •Strict speed limits must be set and adhered to. •Driving between dusk and dawn should be permissible to emergency situations only.	2	2	1	2	10	-	L
<b>Flora</b>																
Mining activities	•Loss of minimal indigenous vegetation present on site	8	2	1	4	44	-	M	•Provision must be made for concurrent rehabilitation of the mining operations which will ensure that the permit area is mined in designated sections. •The mined out sections will be rehabilitated and planted with an indigenous grass seed mix in the first growing season after it has been mined out. This will limit the operational area to the current operational area. •Restrict all movement of vehicles and heavy machinery to permissible areas. No off-road driving beyond designated areas may be allowed.	6	2	1	2	18	-	L
	•Loss of alien invasive vegetation	8	2	1	4	44	+	M	The removal of alien invasive vegetation and the associated seedbed in the soil is a positive impact. No mitigation measures are required.	8	2	1	4	44	+	M
	•Spreading of alien invasive plant species	6	3	2	3	33	-	M	•A seedbed of alien plants will be present within the cleared soils. This seedbed and the plants that originate from it must be managed as follows: oThe Mining Permit footprint must be clearly surveyed and demarcated before any construction or operations are set to commence, to ensure that the area to be cleared is limited to only the areas that are necessary for the mining activities. oThe cleared areas must be regularly monitored for the establishment of alien plant species. These must be cleared when they appear. oIf alien invasive plant species become a problem on the mining area site, a formal Alien Invasive Management Plan must be set up and implemented. This plan must make provision for the identification and eradication of these species.	3	1	2	3	18	-	L
	•Contamination of the area by domestic waste	4	2	1	3	21	-	L	•Even though the impacts of contamination of the area by domestic waste are considered to be low pre-mitigation, the following mitigation measures must be included to further reduce the significance of the impact: oA designated eating area must be established within the mining area. oCovered domestic waste bins must be present at the eating area to receive all the domestic waste generated by the labour. oThe capacity of these domestic bins must be monitored on a daily basis to ensure they are emptied timeously. oThe domestic waste from these waste bins must be removed off site and disposed of at a municipal landfill site on a weekly basis or more regularly if the bins fill up quicker.	2	1	1	2	8	-	L
<b>Rivers and Wetlands</b>																

Mining activities	•Increase in runoff and erosion.	2	2	1	2	10	-	L	<ul style="list-style-type: none"> <li>•A seedbed of alien plants will be present within the cleared soils. This seedbed and the plants that originate from it must be managed as follows: <ul style="list-style-type: none"> <li>oThe Mining Permit footprint must be clearly surveyed and demarcated before any construction or operations are set to commence, to ensure that the area to be cleared is limited to only the areas that are necessary for the mining activities.</li> <li>oThe cleared areas must be regularly monitored for the establishment of alien plant species. These must be cleared when they appear.</li> </ul> </li> <li>•If alien invasive plant species become a problem on the mining area site, a formal Alien Invasive Management Plan must be set up and implemented. This plan must make provision for the identification and eradication of these species.</li> <li>•Undertake continual monitoring to identify erosion as early as possible to remedy.</li> <li>•Implement the necessary stormwater control measures to ensure no uncontrolled discharge of stormwater takes place.</li> </ul>	2	2	1	1	5	-	L
<b>Geology and Topography</b>																
Mining activities	•Alteration of catchment drainage due to change in baseline topography	4	2	1	5	35	-	M	<ul style="list-style-type: none"> <li>•Restrict disturbance to designated footprint.</li> <li>•Strict adherence to the EMP.</li> <li>•Ensure proper access control to the development area <ul style="list-style-type: none"> <li>oFencing.</li> <li>oSecurity.</li> <li>oBarriers.</li> </ul> </li> <li>•Ensure warning signs are erected on the perimeter of these areas.</li> <li>•Structural safety to be ensured according to engineering standards.</li> <li>•Provision must be made during concurrent rehabilitation that the topography is free draining in the natural drainage direction of the surrounding area.</li> </ul>	0	1	1	5	10	-	L
<b>Soil</b>																
Vehicle Movements from mining activities	•Contamination of the area by petrochemical spillages	4	1	1	3	18	-	L	<ul style="list-style-type: none"> <li>•Even though the impacts of contamination of the area by petrochemical spillages are considered to be low pre-mitigation, the following mitigation measures must be included to further reduce the significance of the impact: <ul style="list-style-type: none"> <li>oAll plant and equipment that make use of petrochemical substances must be checked for leakages on a daily basis.</li> <li>oAll plant and equipment that are found to be leaking must be removed from the property and only returned once the leakages have been addressed.</li> <li>oIf any petrochemical substances are stored on the property, this storage must be done on an impermeable surface in a bunded area that makes provision for 110% of volume of the substances that are stored.</li> <li>oAll refuelling of plant and equipment must be conducted over a drip tray.</li> <li>oIf any plant or equipment is to be parked on site, these must be parked within the demarcated construction footprint that has been cleared.</li> <li>oIf any spillages from plant or equipment occur, the spill must be immediately contained, the contaminated soils must be collected and bagged in impermeable bags and stored on site to be removed and disposed of by a registered service provider.</li> </ul> </li> </ul>	4	1	1	1	6	-	L
Site operation	•Contamination of the area as a result of leaking portable toilet facilities	6	1	1	4	32	-	M	<ul style="list-style-type: none"> <li>•Regarding portable chemical toilets, the following must be implemented: <ul style="list-style-type: none"> <li>oOnly portable chemical toilets with a sealed reservoir will be allowed on site.</li> <li>oThe capacity of the reservoirs in the portable chemical toilets must be monitored on a daily basis to ensure that they can be serviced timeously.</li> <li>oAll removal of the collected sewage waste from the portable chemical toilets must be conducted by a registered service provider for disposal at a municipal waste water treatment facility.</li> </ul> </li> </ul>	2	1	1	2	8	-	L
<b>Land Use</b>																
Mining activities	•Temporary change in land use.	4	1	1	2	12	-	L	<ul style="list-style-type: none"> <li>•Restrict disturbance to designated footprint.</li> <li>•Restrict vehicle movement to designated access roads.</li> <li>•Strict adherence to the EMP.</li> <li>•All areas disturbed by activities must be subject to rehabilitation.</li> </ul>	2	2	1	1	5	-	L

Traffic																
Mining activities	•Minimal, intermittent Increase in traffic.	4	1	1	2	12	-	L	•The road is designed according to the specifications of a provincial road. The applicant will assist where feasibly possible to repair and maintain the road.	2	1	2	1	5	-	L
Cultural and Heritage																
Vehicle Movements	•Disturbance of palaeontological material	4	2	1	1	7	-	L	<ul style="list-style-type: none"> <li>•Adhere to footprint areas.</li> <li>•A Chance find procedure should be implemented for the duration of the project with inputs from stakeholders and the local community, should there be a heritage resource identified.</li> <li>•For any chance finds of heritage resources, such as graves, all work must cease in the affected area and the Contractor must immediately inform the Project Manager/Developer. A heritage specialist must be called to site for inspection. The relevant heritage resource agency (SAHRA) must also be informed about the finding.</li> <li>•Should any recent remains be found on site that could potentially be human remains, the South African Police Service (SAPS) as well as SAHRA and AMAFA must be informed. No SAPS official may remove remains until the correct permit/s have been obtained.</li> </ul>	2	2	1	1	5	-	L
Socio-Economic																
Mining activities	•Potential employment opportunities for a limited number of local residents	4	2	2	2	16	+	L	•Positive impact, so no mitigation measures required.	4	2	2	2	16	+	L
Mining activities	•Potential economic benefit for the area from the sale of the product	4	2	2	2	16	+	L		4	2	2	2	16	+	L
Noise																
Mining activities	•Increase in ambient noise levels.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•The Contractor must keep noise level within acceptable limits.</li> <li>•Comply with the Noise Control Regulations in terms of Section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) (GN R154 of 10 January 1992) and all local noise bylaws.</li> <li>•Restrict the use of sound amplification equipment for communication and emergency only.</li> <li>•Any complaints received by the Contractor regarding noise must be recorded and communicated to the Site Supervisor (SS) and Project Manager (PM).</li> <li>•Develop a Code of Conduct for the site establishment phase in terms of the behaviour of construction staff.</li> </ul>	4	2	2	1	8	-	L
Visual																
Vehicle Movements	•Visual intrusion.	6	1	2	3	27	-	L	<ul style="list-style-type: none"> <li>•Limit the site footprint to the designated works area.</li> <li>•Limit the site establishment duration.</li> <li>•Reinstating and rehabilitating disturbed areas as soon as possible.</li> <li>•Limiting operational activities to working hours.</li> <li>•Ensure that the site is in a visually acceptable state at all times.</li> <li>•Ensure a complaints register is in place to record and address complaints.</li> <li>•Undertake rehabilitation efforts as soon as feasibly possible</li> </ul>	4	2	1	2	14	-	L
Air																
Mining activities	•Generation of dust.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•Implement dust suppression measures.</li> <li>•Ensure a complaints register is in place to record and address complaints.</li> <li>•Fuel-saving through optimal vehicle and equipment use scheduling.</li> <li>•Servicing and maintenance of vehicles, and machinery.</li> <li>•Use of fuel-saving technology.</li> </ul>	4	2	1	1	7	-	L
Vehicle Movements	•Air pollution from equipment.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•Use of low carbon and sulphur fuels.</li> <li>•Restricting vehicle speeds on access routes and other unsurfaced areas of the work site.</li> <li>•Restrict vehicle access to defined areas to avoid unnecessary off-road vehicle movements outside of the active work sites.</li> </ul>	4	2	1	1	7	-	L

ACTIVITY	POTENTIAL IMPACT(S)	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION							RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION						
		M	D	S	P	TOTAL	STATUS	SP		M	D	S	P	TOTAL	STATUS	SP
<b>Decommissioning</b>																
<b>Surface Water</b>																
Rehabilitation	•Compaction of soil during rehabilitation activities leading to increased runoff velocity and erosion.	4	2	1	4	28	-	L	<ul style="list-style-type: none"> <li>Restrict operational activities to specific footprints.</li> <li>Undertake continual monitoring to identify erosion as early as possible to remedy.</li> <li>Implement the necessary stormwater control measures to ensure no uncontrolled discharge of stormwater takes place.</li> <li>Rehabilitation activities must ensure the area reflects the natural drainage direction of the surrounding areas.</li> </ul>	2	2	1	2	10	-	L
<b>Fauna</b>																
Rehabilitation	•Restoration of habitats will lead to fauna returning to the area.	4	2	1	4	28	+	L	•None required - positive impact.	4	2	1	4	28	+	L
<b>Flora</b>																
Rehabilitation	•Spreading of alien invasive vegetation	8	2	1	4	44	-	M	<ul style="list-style-type: none"> <li>A seedbed of alien plants will be present within the cleared soils. This seedbed and the plants that originate from it must be managed as follows: <ul style="list-style-type: none"> <li>The Mining Permit footprint must be clearly surveyed and demarcated before any construction or operations are set to commence, to ensure that the area to be cleared is limited to only the areas that are necessary for the mining activities.</li> <li>The cleared areas must be regularly monitored for the establishment of alien plant species. These must be cleared when they appear.</li> <li>If alien invasive plant species become a problem on the mining area aite, a formal Alien Invasive Management Plan must be set up and implemented. This plan must make provision for the identification and eradication of these species</li> </ul> </li> </ul>	6	2	1	2	18	-	L
<b>Rivers and Wetlands</b>																
Rehabilitation	•Increase in runoff and erosion.	2	2	1	2	10	-	L	<ul style="list-style-type: none"> <li>A seedbed of alien plants will be present within the cleared soils. This seedbed and the plants that originate from it must be managed as follows: <ul style="list-style-type: none"> <li>The Mining Permit footprint must be clearly surveyed and demarcated before any construction or operations are set to commence, to ensure that the area to be cleared is limited to only the areas that are necessary for the mining activities.</li> <li>The cleared areas must be regularly monitored for the establishment of alien plant species. These must be cleared when they appear.</li> <li>If alien invasive plant species become a problem on the mining area aite, a formal Alien Invasive Management Plan must be set up and implemented. This plan must make provision for the identification and eradication of these species.</li> </ul> </li> <li>Undertake continual monitoring to identify erosion as early as possible to remedy.</li> <li>Implement the necessary stormwater control measures to ensure no uncontrolled discharge of stormwater takes place.</li> </ul>	2	2	1	1	5	-	L
<b>Geology and Topography</b>																
Rehabilitation	•Alteration of catchment drainage due to change in baseline topography	4	2	1	5	35	-	M	<ul style="list-style-type: none"> <li>Restrict disturbance to designated footprint.</li> <li>Strict adherence to the EMPr.</li> <li>Ensure proper access control to the development area <ul style="list-style-type: none"> <li>Fencing.</li> <li>Security.</li> <li>Barriers.</li> </ul> </li> <li>Ensure warning signs are erected on the perimeter of these areas.</li> <li>Structural safety to be ensured according to engineering standards.</li> <li>Provision must be made during concurrent rehabilitation that the topography is free draining in the natural drainage direction of the surrounding area.</li> </ul>	0	1	1	5	10	-	L



Soil																	
Vehicle Movements from mining activities	•Contamination of the area by petrochemical spillages	4	1	1	3	18	-	L	<ul style="list-style-type: none"> <li>•Even though the impacts of contamination of the area by petrochemical spillages are considered to be low pre-mitigation, the following mitigation measures must be included to further reduce the significance of the impact: <ul style="list-style-type: none"> <li>oAll plant and equipment that make use of petrochemical substances must be checked for leakages on a daily basis.</li> <li>oAll plant and equipment that are found to be leaking must be removed from the property and only returned once the leakages have been addressed.</li> <li>oIf any petrochemical substances are stored on the property, this storage must be done on an impermeable surface in a bunded area that makes provision for 110% of volume of the substances that are stored.</li> <li>oAll refuelling of plant and equipment must be conducted over a drip tray.</li> <li>oIf any plant or equipment is to be parked on site, these must be parked within the demarcated construction footprint that has been cleared.</li> <li>oIf any spillages from plant or equipment occur, the spill must be immediately contained, the contaminated soils must be collected and bagged in impermeable bags and stored on site to be removed and disposed of by a registered service provider.</li> </ul> </li> </ul>	4	1	1	1	6	-	L	
Site operation	•Contamination of the area as a result of leaking portable toilet facilities	6	1	1	4	32	-	M	<ul style="list-style-type: none"> <li>•Regarding portable chemical toilets, the following must be implemented: <ul style="list-style-type: none"> <li>oOnly portable chemical toilets with a sealed reservoir will be allowed on site.</li> <li>oThe capacity of the reservoirs in the portable chemical toilets must be monitored on a daily basis to ensure that they can be serviced timeously.</li> <li>oAll removal of the collected sewage waste from the portable chemical toilets must be conducted by a registered service provider for disposal at a municipal waste water treatment facility.</li> </ul> </li> </ul>	2	1	1	2	8	-	L	
<b>Land Use</b>																	
Rehabilitation	•Restoration of disturbed areas as closely as possible to the previous land use.	4	1	1	2	12	+	L	•None required - positive impact.	4	1	1	2	12	+	L	
<b>Traffic</b>																	
Rehabilitation	•Minimal, intermittent Increase in traffic.	4	1	1	2	12	-	L	•The road is designed according to the specifications of a provincial road. The applicant will assist where feasibly possible to repair and maintain the road.	2	1	2	1	5	-	L	
<b>Cultural and Heritage</b>																	
Rehabilitation	<ul style="list-style-type: none"> <li>•Damage to and/or destruction of non-renewable archaeological resources.</li> <li>•Damage to and/or destruction of burial grounds.</li> <li>•Unmarked graves can be accidentally exposed.</li> </ul>	4	1	1	3	18	-	L	<ul style="list-style-type: none"> <li>•Adhere to footprint areas.</li> <li>•A Chance find procedure should be implemented for the duration of the project with inputs from stakeholders and the local community, should there be a heritage resource identified.</li> <li>•For any chance finds of heritage resources, such as graves, all work must cease in the affected area and the Contractor must immediately inform the Project Manager/Developer. A heritage specialist must be called to site for inspection. The relevant heritage resource agency (SAHRA) must also be informed about the finding.</li> <li>•Should any recent remains be found on site that could potentially be human remains, the South African Police Service (SAPS) as well as SAHRA and AMAFA must be informed. No SAPS official may remove remains until the correct permit/s have been obtained.</li> </ul>	2	1	1	1	4	-	L	
<b>Socio-Economic</b>																	
Rehabilitation	•Potential employment opportunities for a limited number of local residents	4	2	2	2	16	+	L	•Positive impact, so no mitigation measures required.	4	2	2	2	16	+	L	
<b>Noise</b>																	
Mining activities	•Increase in ambient noise levels.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•The Contractor must keep noise level within acceptable limits.</li> <li>•Comply with the Noise Control Regulations in terms of Section 25 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) (GN R154 of 10 January 1992) and all local noise bylaws.</li> <li>•Restrict the use of sound amplification equipment for communication and emergency only.</li> <li>•Any complaints received by the Contractor regarding noise must be recorded and communicated to the Site Supervisor (SS) and Project Manager (PM).</li> <li>•Develop a Code of Conduct for the site establishment phase in terms of the behaviour of construction staff.</li> </ul>	4	2	2	1	8	-	L	

Visual																	
Rehabilitation	•Visual intrusion.	6	1	2	3	27	-	L	<ul style="list-style-type: none"> <li>•Limit the site footprint to the designated works area.</li> <li>•Reinstating and rehabilitating disturbed areas as soon as possible.</li> <li>•Limiting rehabilitation activities to working hours.</li> <li>•Ensure that the site is in a visually acceptable state at all times.</li> <li>•Ensure a complaints register is in place to record and address complaints.</li> <li>•Undertake rehabilitation efforts as soon as feasibly possible.</li> </ul>	4	2	1	2	14	-	L	
Air																	
Rehabilitation	•Air pollution from equipment.	6	2	2	2	20	-	L	<ul style="list-style-type: none"> <li>•Implement dust suppression measures if dust becomes a problem.</li> <li>•Ensure a complaints register is in place to record and address complaints.</li> <li>•Fuel-saving through optimal vehicle and equipment use scheduling.</li> <li>•Servicing and maintenance of vehicles, and machinery.</li> <li>•Use of fuel-saving technology.</li> <li>•Use of low carbon and sulphur fuels.</li> <li>•Restricting vehicle speeds on access routes and other unsurfaced areas of the work site.</li> <li>•Restrict vehicle access to defined areas to avoid unnecessary off-road vehicle movements outside of the active work sites.</li> </ul>	4	1	1	1	6	-	L	