

No.	ENVIRONMENTAL IMPACT	IMPACT SOURCE/DESCRIPTION	Impact Significance			Comments
			Existing Impacts	Incremental (additional) Impacts	Cumulative Impacts	
1.1. CONSTRUCTION PHASE						
1.1.3. CUMULATIVE CONSTRUCTION IMPACTS						
PHYSICAL NATURAL ENVIRONMENT						
1.1.3.1	Climate change and Greenhouse Gas Emissions	<p>A great deal of greenhouse gasses are emitted in the larger project area, contributing to climate change. Kolomela Mine is a main contributor with large numbers of haul trucks and other large machinery operating on the mine. Mine employees commuting to and from the mine, whether by taxi, private motor or aeroplane, also contribute to these emissions. Beeshoek and surrounding mines also contribute to these emissions.</p> <p>Construction activities will result in a slight increase in the number of heavy motor vehicles in the area which consume fuel, produce greenhouse gas emissions and ultimately contribute to climate change to some extent</p>	Low Negative (Long term)	Low Negative (Short term)	Low Negative (Long term)	<ul style="list-style-type: none"> The increase in the number of construction vehicles will not result in noticeable increases in greenhouse gas emissions
1.1.3.2	Soils and land capability	<p>Soils in the area have been heavily impacted upon. Topsoil stripping has been carried out in preparation of a great deal of the operations currently underway in the area. This includes preparation for mining, excavation of borrow pits, laydown areas etc. All these activities have the potential to result in impacts on soils due to earthworks and poses erosion risks, especially in areas close to drainage lines. Agricultural land capability in the area is low and generally suitable for light grazing, with small pockets of land, on steeper slopes that are not suitable for agriculture and only suitable for conservation. The area is generally not conducive to cultivation due to the low rainfall, semi-arid climate and shallow soil depths. The current projects and operations do not affect agricultural practices on private farms as all the directly affected and adjacent properties are owned by the company operating on that specific area.</p> <p>The proposed project occurs within the property boundary and mining rights area of the Kolomela Mine.</p>	Moderate Negative (Long term)	Low Negative (Short term)	Moderate Negative (Long term)	<ul style="list-style-type: none"> The soil and land capability in the larger project area has been disturbed beyond repair. The proposed project will take place within close proximity to the current operations. Additional impacts resulting from this project is expected to be limited. No further impacts on the area's soil and land capability are expected to result from this project.

No.	ENVIRONMENTAL IMPACT	IMPACT SOURCE/DESCRIPTION	Impact Significance			Comments
			Existing Impacts	Incremental (additional) Impacts	Cumulative Impacts	
1.1.3.3	Watercourses	<p>Surface water: The surface watercourses in the larger area are not under a great deal of pressure from existing projects and operations. Impacts include sedimentation from loose particles blown into watercourses/pans, especially in close proximity to Kolomela Mine. Runoff due to heavy rains may also result in materials being deposited in surface watercourses.</p> <p>Groundwater: Water shortages are experienced due to burst water pipes and shortages of groundwater due to de-watering (necessary to maintain dry and safe working conditions in the mine pit) at the mine. This resulting in visible sign as vegetation growth is affected by lowering of the groundwater table. Groundwater is also used for dust suppression on and in the vicinity of Kolomela Mine.</p> <p>No additional impacts on the water sources are expected from the proposed project. Project could potential have a direct positive effect.</p>	Low Negative (Long term)	Low Negative (Short term)	Low Negative (Long term)	• No further impacts on the area's water are expected to result from this project.
1.1.3.4	Air Quality	<p>Most of the current projects and operations in the area generate dust in one or the other way. Dust generation at the mines is caused by activities such as topsoil stripping, blasting; dozing and excavation, shovelling and loading of material, haulage of run of mine ore from the mine pit to the crushing plants, and haulage of waste material to the mining waste deposits, deposition of waste materials, travelling on gravel roads etc. High winds across loose surfaces can also result in fine particles becoming airborne. On the roads the dust can affect visibility and traffic safety. When dispersed the dust could be a nuisance to adjacent receptors (Postmasburg, Farmers etc.) and can settle on plants thereby negatively impacting their vigour and palatability and reducing the grazing capacity in the area.</p> <p>The proposed construction activities will add to the existing dust generation (pollution) in the area through the movement of construction vehicles and machinery as well as from the material handling activities.</p>	Moderate Negative (Long term)	Low Negative (Short term)	Moderate Negative (Long term)	• No further impacts on the area's air quality are expected to result from this project.
1.1.3.5	Noise/Vibrations	<p>The main sources of noise/vibrations generated in the area are from blasting, machinery movement, reverse horns, trains etc. The larger area already experiences relatively high ambient noise levels.</p> <p>The proposed project will generate noise through the movement of construction vehicles and machinery during the construction as well as from the material handling activities and this is likely to result in a minor increase in the ambient noise levels in the area.</p>	Moderate Negative (Long term)	Low Negative (Short term)	Moderate Negative (Long term)	• A very limited, short term increase in the level of noise will be caused by the proposed project.

No.	ENVIRONMENTAL IMPACT	IMPACT SOURCE/DESCRIPTION	Impact Significance			Comments
			Existing Impacts	Incremental (additional) Impacts	Cumulative Impacts	
BIOLOGICAL NATURAL ENVIRONMENT						
1.1.3.6	Ecology and Biodiversity	The current projects and operations have already greatly impacted on the prevailing ecology and biodiversity in the area. The establishment of the mines in the area have led to a loss of large areas of natural habitats. Habitats in the area have been affected in terms of ecological processes, fragmentation and reduced connectivity for animal movement.	High Negative (Long term)	Low Negative (Short term)	High Negative (Long term)	•The proposed project will add minimal to the destruction of the ecology and biodiversity in relation to the areas affected by the current operations in the area..
1.1.3.7	Alien and Invasive Plants	The establishment of alien and invasive species on disturbed areas is evident throughout the larger project area. The disturbance of the soil surface on the proposed project could provide further opportunity for alien and invasive plant species to establish and proliferate in the area.	Moderate Negative (Long term)	Low Negative (Short term)	Moderate Negative (Long term)	<ul style="list-style-type: none"> • In terms of the amendments to the regulations under the Conservation of Agricultural Resources Act, 1983 and Section 28 of the National Environmental Management Act, 1998, landowners are legally responsible for the control of invasive alien plants on their properties and it is therefore recommended that declared weed and invader species be removed from the subject property; • This action must be followed up regularly to prevent regrowth or seedling growth. • It must be continuously monitored.

No.	ENVIRONMENTAL IMPACT	IMPACT SOURCE/DESCRIPTION	Impact Significance			Comments
			Existing Impacts	Incremental (additional) Impacts	Cumulative Impacts	
SOCIAL AND ECONOMIC ENVIRONMENT						
1.1.3.8	Aesthetics	<p>Kolomela Mine and the other operations within the project area have permanently intruded on the aesthetic value of the area. The sense of place is permanently disrupted and will never return to the same state as prior to mining.</p> <p>The construction activities will involve the removal of natural vegetation and the erection of a pipelines. This will contribute to the negatively impact on the aesthetic value of the area.</p>	High Negative (Long term)	Low Negative (Short term)	High Negative (Long term)	<ul style="list-style-type: none"> The area's sense of place has been disturbed beyond repair. The addition of a aquifer recharging will not contribute significantly, if at all.
1.1.3.9	Roads, Traffic and Infrastructure	<p>The majority of the roads and other transportation infrastructure in the area are present due to the establishment of Mines within the area. Traffic volumes are constantly increasing due to an influx of people to the area, which is mostly mining related. Numerous construction vehicles (including large trucks) are permanently visible on the roads in the area. This results in degradation of the roads and also impact on road safety.</p> <p>The proposed construction activities will results in an increase in movement of heavy motor vehicles and construction vehicles which will increase traffic and place additional pressure on the road infrastructure.</p>	Moderate Negative (Long term)	Low Negative (Short term)	Moderate Negative (Long term)	<ul style="list-style-type: none"> The project will result in a very limited and short lived increase in the total number of vehicles in the area.
1.1.3.10	Visual Impact	<p>Mining activities in the area has to a degree altered the surrounding landscape. The domination of mining and other related activities (vehicle movement, topsoil stripping etc.) and infrastructure (power lines, railway lines, haul roads, offices etc.) in the vicinity of the site, contribute greatest to the visual impacts in the larger area. The generation of dust due to mining related activities (blasting, driving on gravel roads etc.) is the most pressing concern for the adjacent receptors (farmers and Postmasburg residents).</p> <p>The construction activities will involve the removal of natural vegetation and the erection of pipelines.</p>	Moderate Negative (Long term)	Low Negative (Short term)	Moderate Negative (Long term)	<ul style="list-style-type: none"> The visual impact in the area is already very high. The addition of infrastructure and required pipelines will not significantly contribute to this.