

APPENDIX J

SUPPORTING IMPACT ASSESSMENT



ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, herewith please receive an environmental impact statement that summarises the impact that the proposed activity may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

ENVIRONMENTAL IMPACT STATEMENT			
SITE ESTABLISHMENT & INFRASTRUCTURE DEVELOPMENT			
<u>TYPE OF IMPACT</u>	<u>DURATION</u>	<u>LIKELIHOOD</u>	<u>SIGNIFICANCE</u>
<ul style="list-style-type: none"> ❖ Loss of agricultural land for duration of mining. ❖ Alteration of natural environment and habitat loss. ❖ Visual intrusion because of site establishment. ❖ Impact on vegetation structure and plant species composition. ❖ Impact on populations of species of special concern. ❖ Impact on targets for threatened ecosystems. ❖ Impact on ecological processes and functionality of ecosystems (terrestrial) ❖ Impact on overall species and ecosystem diversity (terrestrial). ❖ Impact on ecological connectivity (terrestrial). ❖ Potential change of natural runoff and drainage patterns. ❖ Removal of mean annual precipitation from the catchment due to the control of runoff water. ❖ Alteration of hydrological and geomorphological process. ❖ Impacts to ecological connectivity and/or ecological disturbance impacts (aquatic). ❖ New job opportunities because of the mining operation (Positive Impact) 	<p>Duration of site establishment phase</p> <p>(±1 month)</p>	<p>Definite</p> <p>Definite</p> <p>Definite</p> <p>Definite</p> <p>Low Possibility</p> <p>Low Possibility</p> <p>Low Possibility</p> <p>Low Possibility</p> <p>Low Possibility</p> <p>Low Possibility</p> <p>Low Possibility</p> <p>Low Possibility</p> <p>Definite (+)</p>	<p>Medium Concern</p> <p>Low Concern</p> <p>Medium-High Concern</p> <p>Low-Medium Concern</p> <p>Low-Medium Concern</p> <p>Low-Medium Concern</p> <p>Low-Medium Concern</p> <p>Low Concern</p> <p>Low Concern</p> <p>Low Concern</p> <p>Low Concern</p> <p>Low-Medium Concern</p> <p>Low Concern</p> <p>High (+)</p>
STRIPPING AND STOCKPILING OF TOPSOIL AND/OR OVERBURDEN			

ENVIRONMENTAL IMPACT STATEMENT

SITE ESTABLISHMENT & INFRASTRUCTURE DEVELOPMENT

<ul style="list-style-type: none"> ❖ Visual intrusion caused by mining activities. ❖ Loss of stockpiled topsoil during mining and stockpiling. ❖ Dust nuisance because of the disturbance of soil. ❖ Noise nuisance generated by earthmoving machinery. ❖ Infestation of the topsoil heaps and mining area with weeds or invader plant species. ❖ Potential increase in runoff from bare areas and associated accelerated erosion. ❖ Potential contamination of footprint area and surface runoff because of hydrocarbon spillages. ❖ Direct physical loss or modification of freshwater habitat. ❖ Impacts to water quality. 	<p align="center">Duration of site establishment phase (±1 month)</p>	<p align="center"><u>LIKELIHOOD</u></p> <p align="center">Definite</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p>	<p align="center"><u>SIGNIFICANCE</u></p> <p align="center">Medium-High Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Medium Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p>
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DRILLING AND BLASTING

<ul style="list-style-type: none"> ❖ Health and safety risk posed by blasting activities. ❖ Potential damage to Eskom power lines. ❖ Potential structural damage to adjacent residence. ❖ Dust nuisance caused by blasting activities. ❖ Noise nuisance because of blasting. 	<p align="center">Duration of operational phase (5 years maximum)</p>	<p align="center"><u>LIKELIHOOD</u></p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Possible</p> <p align="center">Definite</p>	<p align="center"><u>SIGNIFICANCE</u></p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low-Medium Concern</p> <p align="center">Low-Medium Concern</p>
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EXCAVATION, LOADING AND HAULING TO THE PROCESSING AREA

<ul style="list-style-type: none"> ❖ Visual intrusion associated with the excavation activities. 	<p align="center">Duration of operational phase</p>	<p align="center"><u>LIKELIHOOD</u></p> <p align="center">Definite</p> <p align="center">Low Possibility</p>	<p align="center"><u>SIGNIFICANCE</u></p> <p align="center">High Concern</p> <p align="center">Low-Medium Concern</p>
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ENVIRONMENTAL IMPACT STATEMENT

SITE ESTABLISHMENT & INFRASTRUCTURE DEVELOPMENT

<ul style="list-style-type: none"> ❖ Dust nuisance due to excavation and from loading and vehicles transporting the material. ❖ Noise nuisance because of the mining activities. ❖ Unsafe working environment for employees. ❖ Soil contamination from hydrocarbon spills and/or littering. ❖ Facilitation of erosion due to mining activities. 	(5 years maximum)	Low Possibility	Low-Medium Concern
		Low Possibility	Low Concern
		Low Possibility	Low Concern
		Low Possibility	Low Concern

PROCESSING, STOCKPILING AND TRANSPORTING OF MATERIAL

		<u>LIKELIHOOD</u>	<u>SIGNIFICANCE</u>
<ul style="list-style-type: none"> ❖ Dust nuisance generated at the processing plant. ❖ Noise nuisance stemming from operation of the processing plant. ❖ Potential contamination of environment due to improper waste management. ❖ Infestation of the area with invader plant species. ❖ Potential increase in runoff from bare areas and associated accelerated erosion. ❖ Potential change of natural runoff and drainage patterns. ❖ Overloading of trucks impacting road infrastructure. ❖ Degradation of the access road. 	Duration of operational phase (5 years maximum)	Possible	Low-Medium Concern
		Low Possibility	Low-Medium Concern
		Low Possibility	Low Concern
		Low Possibility	Low Concern
		Low Possibility	Low-Medium Concern
		Low Possibility	Low-Medium Concern
		Low Possibility	Low Concern
		Low Possibility	Low Concern

CUMULATIVE IMPACTS

		<u>LIKELIHOOD</u>	<u>SIGNIFICANCE</u>
<p><u>Cumulative Impacts:</u></p> <ul style="list-style-type: none"> ❖ Direct physical loss or modification of freshwater habitat. ❖ Alteration of hydrological and geomorphological processes. ❖ Impacts to water quality. ❖ Impacts to ecological connectivity and/or ecological disturbance impacts (aquatic) 	Duration of operational phase (5 years maximum)	Low Possibility	Low Concern
		Low Possibility	Low-Medium Concern
		Low Possibility	Low-Medium Concern
		Low Possibility	Low Concern

ENVIRONMENTAL IMPACT STATEMENT

SITE ESTABLISHMENT & INFRASTRUCTURE DEVELOPMENT

<ul style="list-style-type: none"> ❖ Cumulative dust nuisance when quarry and stockpile area operate. ❖ Cumulative noise nuisance when quarry and stockpile area operate. ❖ Cumulative visual impact when quarry and stockpile area are developed. ❖ Impact on vegetation structure and plant species composition. ❖ Impact on populations of species of special concern. ❖ Impact on targets for threatened ecosystems. ❖ Impact on ecological processes and functionality of ecosystems (terrestrial) ❖ Impact on overall species and ecosystem diversity. ❖ Impact on ecological connectivity (terrestrial) ❖ Cumulative impact of invader plants in both the quarry and stockpile footprints. ❖ Cumulative impact on job opportunities when quarry and stockpile area operate (+). 		<p align="center">Possible</p> <p align="center">Possible</p> <p align="center">Definite</p> <p align="center">Possible</p> <p align="center">Low Possibility</p> <p align="center">Definite</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Definite (+)</p>	<p align="center">Low-Medium Concern</p> <p align="center">Medium Concern</p> <p align="center">Medium Concern</p> <p align="center">Low-Medium Concern</p> <p align="center">Medium Concern</p> <p align="center">Medium Concern</p> <p align="center">Low-Medium Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low-Medium Concern</p> <p align="center">High (+)</p>
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SLOPING AND LANDSCAPING DURING REHABILITATION

<ul style="list-style-type: none"> ❖ Safety risk posed by un-sloped areas. ❖ Erosion of returned topsoil after rehabilitation. ❖ Infestation of the reinstated areas by weeds and invader plant species. ❖ Exposed disturbed area with no indigenous vegetation upon closure. ❖ Potential impact associated with litter/waste left at the mining area. ❖ Return of the mining area to agricultural use upon closure (Positive Impact) 	<p align="center">Duration of decommissioning phase (±1 month)</p>	<p align="center"><u>LIKELIHOOD</u></p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Low Possibility</p> <p align="center">Definite (+)</p>	<p align="center"><u>SIGNIFICANCE</u></p> <p align="center">Low-Medium Concern</p> <p align="center">Low-Medium Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Low Concern</p> <p align="center">Medium-High (+)</p>
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