

**FUNCTIONAL REQUIREMENTS FOR MONITORING**

<b>MONITORING ASPECTS</b>	<b>POSSIBLE IMPACTS</b>	<b>MONITORING</b>	<b>DEADLINES</b>
a) Vegetation stripping	Terrestrial ecology	SECO will check: <ul style="list-style-type: none"> <li>• That only area earmarked for mining is cleared.</li> </ul>	Before vegetation stripping and excavation commences in construction phase.
b) Stripping and stockpiling of topsoil by heavy vehicles	Dust Nuisance	SECO will check: <ul style="list-style-type: none"> <li>• Visual dust inspection during the mining operation and wetting when required.</li> <li>• Control of domestic fires.</li> <li>• Heavy vehicle emission control.</li> <li>• Vegetation should not be unnecessary stripped.</li> </ul>	Daily during operational phase
c) Excavations			
d) Crushing			
e) Stockpiling and Transporting of gravel material			
f) Sloping and landscaping during rehabilitation	Soil Erosion	SECO will check: <ul style="list-style-type: none"> <li>• That minimal amounts of topsoil are lost due to erosion, either by wind or water. This can be facilitated through the grassing of topsoil stockpiles.</li> <li>• Condition of soil in walk or drive areas.</li> <li>• Access road condition.</li> </ul>	Weekly during operational phase
g) Replacing the topsoil and re-vegetating the disturbed area	Soil stockpiles	SECO will check: <ul style="list-style-type: none"> <li>• All topsoil shall be removed from the designated site, and stockpiled in berms (piles) no greater than 3 m in height before mining commences.</li> </ul>	Stockpiles to be created before excavations commences. Daily checked during operational phase

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		<ul style="list-style-type: none"> <li>• That stockpiles shall be vegetated with an indigenous grass seed to maintain fertility.</li> <li>• That stockpiles shall not be compacted in any way.</li> <li>• The stockpiles are to be maintained in a weed free condition.</li> <li>• Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns.</li> <li>• If construction activities take place during the summer wet season, extra precautions should be taken to prevent storm water from eroding stockpiles and earthworks.</li> <li>• That no refuelling and maintenance of vehicles will be allowed at the quarry site.</li> </ul>	
	Noise Nuisance	SECO will check: <ul style="list-style-type: none"> <li>• The working hours shall be limited to between 07:00 hrs and 18:00 hrs on weekdays, and 07:00 hrs and 17:00 hrs on Saturdays, or as per</li> </ul>	Daily during operational phase

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		<p>contract documentation.</p> <ul style="list-style-type: none"> <li>• Vehicles must be driven at a moderate speed (&lt;50 kph) on private roads.</li> <li>• Should noise generating activities have to occur at night, landowners in the vicinity of the drilling should be warned about the noise well in advance and the activities should be kept to a minimum. Compliance with the appropriate legislation with respect to noise will be mandatory.</li> <li>• The vehicles used at the mining area shall be in a good working condition;</li> <li>• Ensure that all personnel on site apply occupational health and safety requirements with respect to hearing protection.</li> </ul>	
	Visual impact	<p>SECO will check:</p> <ul style="list-style-type: none"> <li>• Concurrent rehabilitation of the mining area.</li> <li>• Vegetation establishment.</li> <li>• The stockpiles shall be vegetated with an indigenous grass seed to maintain fertility.</li> </ul>	Weekly during operational and decommissioning phases

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		<ul style="list-style-type: none"> <li>• Stockpiles should be placed to the side of the road to obscure the mining activities from the travelling public, if possible.</li> <li>• All unused material would be levelled to ensure that the mining area blends back into the existing landscape fabric.</li> <li>• No stockpiled material is to be retained on site.</li> <li>• The mining area will be shaped to ensure no stockpiled heaps and that the area blends in with the existing landscape.</li> <li>• All stockpiled topsoil and vegetative material will be spread over the bottom of the mining area to ensure proper seed bed for the re-establishment of vegetative growth.</li> <li>• An appropriate seed mix should be spread over the bottom of the mining area to ensure a lush vegetative cover over the entire area.</li> <li>• Ripping of access road after mining has ceased.</li> </ul>	
	Impact on uncovered heritage aspects	SECO will check: <ul style="list-style-type: none"> <li>• If an artefact or grave on-site</li> </ul>	Daily during operational phase

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		<p>is uncovered, work in the immediate vicinity shall be stopped immediately. The SANRAL shall take reasonable precautions to prevent any person from removing or damaging any such article.</p> <ul style="list-style-type: none"> <li>• The South African Heritage Resources Agency (SAHRA) shall be contacted such that an archaeological/heritage resources consultant can be appointed to record the site and excavate if necessary.</li> <li>• Work may only resume once clearance is given in writing by the archaeologist.</li> </ul>	
	Contamination of site due to hydrocarbon spillage	<p>SECO will check:</p> <ul style="list-style-type: none"> <li>• Soil contamination with diesel and oils;</li> <li>• Proper functioning of heavy vehicles.</li> </ul>	Weekly during operational phase
	Infestation of weeds and alien vegetation	<p>SECO will check:</p> <ul style="list-style-type: none"> <li>• All alien vegetation on site and on the topsoil stockpiles shall be removed before seeding.</li> <li>• Employment of casual labour to circumnavigate the site to hand pull out known alien</li> </ul>	Monthly during operational and decommissioning phases

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		<p>vegetation that may have established in the disturbed area. Special attention will be given to the perimeter topsoil berm.</p> <ul style="list-style-type: none"> <li>Casual labour will be provided with photographs of the alien vegetation that could establish.</li> </ul>	
		<p>SECO will check:</p> <ul style="list-style-type: none"> <li>That no steep slopes are left that could pose a safety risk. The walls of the mining area will be sloped to a slope of at least 1:2 in order to prevent dangerous vertical walls but the quarry will not be free draining.</li> <li>That reinstated topsoil if not lost due to absence of vegetation.</li> <li>Banks of disturbed drainage areas must be reprofiled.</li> <li>Any areas where earthworks have taken place, should be reseeded with indigenous vegetation to prevent erosion.</li> </ul>	Weekly during operational and decommissioning phases
	Proper functioning of sanitation systems	<p>SECO shall check:</p> <ul style="list-style-type: none"> <li>That temporary toilets are serviced every 2 weeks</li> </ul>	Weekly during operational phase

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		during the mining operations.	