

Activity	Impact	Scheduled Activities	Applicable Mine Phase	STATUS	Magnitude	Extent	Duration	Reversibility	CONSEQUENCE	PROBABILITY	SIGNIFICANCE (pre-mitigation)	Mitigation	Degree of loss of resource	Mitigation	Standard to be achieved	Magnitude	Extent	Duration	Reversibility	CONSEQUENCE	PROBABILITY	SIGNIFICANCE (post-mitigation)	Compliance with standards	Time periods for implementation	Functional requirements for monitoring	Roles & responsibilities	Frequency for monitoring and reporting
Aspect: Topography																											
Drilling & borehole casings	Localised dips in topography if boreholes collapse after material is replaced.	GNR983 – Activity 20	Decommissioning, Closure	Neg	1	1	5	3	10	3	30	Y	-	REMEDY Drilling areas should be inspected and if dips are observed the areas should be levelled and graded to prevent pooling.	Restore natural catchment drainage patterns as far as possible.	1	1	2	3	7	1	7	NEMA & MPRDA principals and regulations regarding environmental protection and rehabilitation requirements.	1. Drilled sites will be inspected once after substantial rainfall has occurred in the area.	1. Inspect drilled sites for localised dipping in topography or pooling of water.	1. Environmental manager	1. Once-off inspection of drilled boreholes after substantial rainfall.
Rehabilitation of boreholes	Topographical nature of the area restored.		Operation, Decommissioning	Pos	2	1	5	1	9	4	36	N	-	REMEDY Rehabilitation must be on-going as soon as drilling results are completed.	Restore natural catchment drainage patterns as far as possible. Restore land to arable land use.	2	1	5	1	9	4	36	NEMA & MPRDA principals and regulations regarding environmental protection and rehabilitation requirements.	1. Drilled sites will be inspected once after substantial rainfall has occurred in the area.	1. Inspect drilled sites for localised dipping in topography or pooling of water.	1. Environmental manager	1. Once-off inspection of drilled borehole sites after substantial rainfall.
Aspect: Geology																											
Drilling	Cracks and disruption to geological layers.	GNR983 – Activity 20	Operation, Decommissioning	Neg	3	2	5	1	11	4	44	N	Moderate	Nature of prospecting activities. CONTROL Invasive prospecting must only be undertaken once data from non-invasive techniques has been assessed. Then, it should proceed as per standard industry practice with initially fewer boreholes to verify non-invasive prospecting data, and then only completing more extensive drilling in areas indicating	Necessary to obtain resource data required for a MRA.	1	1	2	1	5	5	25	Prospecting will be carried out in line with MPRDA regulations. General duty of care in terms of NEMA.	1. Sign-off of drilling plans or amendments to these plans must be obtained from the environmental manager before any activities or changes to activities takes place for the duration of prospecting operations.	1. Ensure sensitive sites are avoided or that necessary authorisations / permits are obtained where these cannot be avoided through sign-off of all onsite activity plans.	1. Environmental manager and site manager	1. Once-off sign-off of drilling plans or amendments to these plans before any activities take place for the duration of prospecting operations.

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															adequate resources.												
Aspect: Soil & Land Capability																											
Access routes & Drilling	Potential for compaction of soils.		Operation, Decommissioning	Neg	1	1	2	3	7	4	28	Y	Moderate to low	REMEDY Rip any compacted soils. CONTROL Vehicles, machinery & equipment must remain on roads and farm tracks as far as possible. Where not possible, routes must be properly planned to reduce disruption to soil as far as possible.	Reduce compaction of soil and retain existing arable land capability.	1	1	1	1	4	3	12	CARA, NEMA and MPRDA regulations regarding soil amelioration. General duty of care in terms of NEMA.	1. Sign-off of off-road route plans or amendments to these plans must be obtained from the environmental manager before off-road activities take place for the duration of prospecting operations. 2. Once off inspection will be completed of routes and prospecting sites immediately after activity in the area has ceased and area is rehabilitated for the duration of prospecting operations.	1. Ensure sensitive sites are avoided or that necessary authorisations / permits are obtained where these cannot be avoided through sign-off of all onsite activity plans. 2. Inspect all routes and prospecting sites for compacted soils.	1. Environmental manager and site manager 2. Environmental manager	1. Once-off sign-off of route plans or amendments to these plans before any activities take place for the duration of prospecting operations. 2. Once off inspection of routes and prospecting sites after activity in the area has ceased.
Access routes	Potential hydrocarbon contamination.		Operation, Decommissioning	Neg	4	2	2	3	11	3	33	Y	Moderate to low	REMEDY Spill kits must be available on site and personnel trained to utilise these to clear spills immediately. CONTROL All vehicles on site will be up-to-date with their service and maintenance plans. The use of persistently leaky vehicles will be discontinued until repairs	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	1	2	1	3	7	2	14	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time. 2. Daily inspection of the active routes and drilling areas will be conducted as long as	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks. 2. Ensure area is clear of hydrocarbon spills.	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations. 2. Daily inspection of active routes and drilling areas.

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Drilling	Potential hydrocarbon contamination.	GNR983 – Activity 20	Operation Decommissioning	Neg	3	2	2	3	10	3	30	Y	Moderate to low	<p><b>REMEDY</b> Spill kits must be available on site and personnel trained to utilise these to clear spills immediately.</p> <p><b>CONTROL</b> All vehicles on site will be up-to-date with their service and maintenance plans. The use of persistently leaky vehicles will be discontinued until repairs are made. Vehicles will not be parked over bare ground; where unavoidable, drip trays will be placed under the equipment to collect potential leaks.</p>	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	2	2	2	3	9	2	18	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time. 2. Daily inspection of the active routes and drilling areas will be conducted as long as vehicles and machinery are active in these areas.	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks. 2. Ensure area is clear of hydrocarbon spills.	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations. 2. Daily inspection of active routes and drilling areas.

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Ablution facility (portable toilets)	Potential contamination of soil with sewage		Operation	Neg	4	3	2	3	12	4	48	Y	Moderate	<b>REMEDY</b> Inspect and repair / replace damaged toilets as needed, and ensure no leaks are occurring. <b>CONTROL</b> The portable toilets will be managed by a reputable contractor, emptied on a regular basis as needed. Toilets will be maintained in hygienic state.	Reduced bacterial contamination on neighbouring areas.	2	2	1	2	7	2	14	General duty of care in terms of NEMA & NWA.	1. Weekly inspections of portable toilet facilities for the duration of prospecting activities.	1. Ensure portable toilet facilities are in proper working condition, not overflowing or leaking and hygienic.	1. Prospecting manager	1. Weekly inspections of portable toilet facilities for the duration of prospecting activities.
Rehabilitation of boreholes	Soil replacement and revegetation.		Operation, Decommissioning, Closure	Pos	2	1	5	1	9	4	36	N	-	<b>REMEDY</b> Rehabilitation must be on-going as soon as drilling results are completed.	Restore natural catchment drainage patterns as far as possible. Restore land to arable land use.	2	1	5	1	9	4	36	NEMA & MPRDA principals and regulations regarding environmental protection and rehabilitation requirements.	Soil will be preserved in its natural state as far as possible or treated where necessary. Drilled sites will be inspected once after substantial rainfall has occurred in the area.	1. Ensure responsible material and soil handling and replacement. 2. Inspect drilled sites for localised dipping in topography or pooling of water.	1. Environmental manager along with the contracting prospecting manager 2. Environmental manager	1. Monthly once invasive prospecting commences for the duration of prospecting. 2. Once-off for drilled borehole sites after substantial rainfall.
General prospecting activities	Potential contamination of soil with indiscriminately dumped waste or littering.	GNR983 – Activity 20	Operation	Neg	3	1	2	3	9	2	18	Y	Low	<b>REMEDY</b> Inspect and clear all litter and waste. <b>CONTROL</b> Waste should be collected and report to the relevant waste stream at the PA.	Attain "cradle to grave" management of waste on site.	1	1	2	1	5	2	10	General duty of care in terms of NEMA. Littering and dumping is prohibited in terms of NEM: WA and CARA.	1. Monthly visual inspection of the active prospecting areas for illegal dumping of waste and littering will commence as soon as any prospecting contractors comes to site and continue for the life of prospecting operations.	1. Ensure no illegal littering and dumping of waste.	1. Environmental manager	1. Monthly visual inspection of the active prospecting areas for littering for the duration of prospecting operations.

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Temporary core/equipment store and site office; comprising of shade and seating for meals may be established. Staff will be accommodated in town.	Potential for compaction of soil		Operation and Decommissioning	Neg	2	1	2	1	6	2	12	y	low	REMEDY Ripping up compaction of soil	Reduce compaction of soil and retain existing grazing land capability.	1	1	2	1	5	2	10	CARA, NEMA and MPRDA regulations regarding soil amelioration. General duty of care in terms of NEMA.	1. Once off inspection will be completed after activity in the area has ceased and area is rehabilitated for the duration of prospecting operations.	1. Ensure sensitive sites are avoided or that necessary authorisations / permits are obtained where these cannot be avoided through sign-off of all onsite activity plans. 2. Inspect all sites for compacted soils.	1. Environmental manager and site manager 2. Environmental manager	1. Once off inspection will be completed after activity in the area has ceased and area is rehabilitated for the duration of prospecting operations.
Hydrocarbon Storage	Potential hydrocarbon contamination of soil.	GNR983 – Activity 20	Operation, Decommissioning	Neg	3	1	2	2	8	2	16	Y	low	REMEDY Spill kits must be available on site and personnel trained to utilise these to clear spills immediately. CONTROL All vehicles on site will be up-to-date with their service and maintenance plans. The use of persistently leaky vehicles will be discontinued until repairs are made. Vehicles will not be parked over bare ground; where unavoidable, drip trays will be placed under the equipment to collect potential leaks.	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	2	1	1	1	5	2	10	General duty of care in terms of NEMA	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time. 2. Daily inspection of the storage area	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time. 2. Daily inspection of the storage area

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Aspect: Surface Water & Associated Wetlands & Aquatic Ecosystems																											
Access routes	Potential hydrocarbon contamination through contaminated runoff.		Operation, Decommissioning	Neg	5	2	2	3	12	3	36	Y	Moderate - Low	<p><b>REMEDY</b> Spill kits must be available on site and personnel trained to utilise these to clear spills immediately.</p> <p><b>CONTROL</b> All vehicles on site will be up-to-date with their service and maintenance plans. The use of persistently leaky vehicles will be discontinued until repairs are made. Vehicles will not be parked over bare ground; where unavoidable, drip trays will be placed under the equipment to collect potential leaks. Every person in control of a mine or activity must take reasonable measures to take effective measures to minimise the flow of any surface water or floodwater into mine workings, opencast workings, other workings or</p>	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	2	2	2	3	9	1	9	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time. 2. Daily inspection of the active routes and drilling areas will be conducted as long as vehicles and machinery are active in these areas.	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks. 2. Ensure area is clear of hydrocarbon spills.	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations. 2. Daily inspection of active routes and drilling areas.

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Drilling	Potential hydrocarbon contamination through contaminated runoff.	GNR983 – Activity 20	Operation Decommissioning	Neg	3	2	3	3	11	4	44	Y	Moderate	REMEDY Spill kits must be available on site and personnel trained to utilise these to clear spills immediately. CONTROL All vehicles on site will be up-to-date with their service and maintenance plans. The use of persistently leaky vehicles will be discontinued until repairs are made. Vehicles will not be parked over bare ground; where unavoidable, drip trays will be placed under the equipment to collect potential leaks. Every person in control of a mine or activity must take reasonable	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	3	2	3	3	11	2	22	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time. 2. Daily inspection of the active routes and drilling areas will be conducted as long as vehicles and machinery are active in these areas.	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks. 2. Ensure area is clear of hydrocarbon spills.	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations. 2. Daily inspection of active routes and drilling areas.



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Drilling	Irresponsible use of water and water wastage.	GNR983 – Activity 9	Operation	Neg	4	3	3	3	13	4	52	Y	Moderate	measures to take effective measures to minimise the flow of any surface water or floodwater into mine workings, opencast workings, other workings or subterranean caverns, through cracked or fissured formations, subsided ground, sinkholes, outcrop excavations, adits, entrances or any other openings.	Utilise water responsibly.	2	1	2	1	6	1	6	NWA General duty of care in terms of NEMA.	1. Include water conservation in all environmental awareness training / induction.	1. Reduce water wastage.	1. Environmental manager	1. Include water conservation in all environmental awareness training / induction.
Ablution facility (portable toilets)	Potential contamination of surface water bodies with sewage.		Operation	Neg	2	2	1	1	6	2	12	Y	Low	<b>REMEDY</b> Inspect and repair / replace damaged toilets as needed, and ensure no leaks are occurring. <b>CONTROL</b> The portable toilets will be managed by a reputable contractor, emptied on a regular basis as needed. Toilets will	Reduced bacterial contamination on neighbouring areas.	1	1	1	1	4	1	4	General duty of care in terms of NEMA & NWA.	1. Weekly inspections of portable toilet facilities.	1. Ensure portable toilet facilities are in proper working condition, not overflowing or leaking and hygienic.	1. Prospecting manager	1. Weekly inspections of portable toilet facilities for the duration of prospecting activities.



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Rehabilitation of boreholes	Soil replacement and revegetation will reduce potential silt loading.		Operation, Decommissioning, Closure	Pos	2	2	2	3	9	2	18	N	-	REMEDY Rehabilitation must be on-going as soon as drilling results are completed.	Restore natural catchment drainage patterns as far as possible. Restore land to arable land use.	2	2	2	3	9	2	18	NEMA & MPRDA principals and regulations regarding environmental protection and rehabilitation requirements.	1. Soil will be preserved in its natural state as far as possible or treated where necessary. 2. Drilled sites will be inspected once after substantial rainfall has occurred in the area.	1. Ensure responsible material and soil handling and replacement. 2. Inspect drilled sites for localised dipping in topography or pooling of water.	1. Environmental manager along with the contracting prospecting manager 2. Environmental manager	1. Monthly once invasive prospecting commences for the duration of prospecting. 2. Once-off for drilled borehole sites after substantial rainfall.
General prospecting activities	Potential contamination of surface water features with indiscriminately dumped waste or littering.	GNR983 – Activity 20	Operation	Neg	3	1	2	3	9	2	18	Y	Low	REMEDY Inspect and clear all litter and waste. CONTROL Waste should be collected and report to the relevant waste stream at the PA.	Attain "cradle to grave" management of waste on site.	1	1	2	1	5	2	10	General duty of care in terms of NEMA. Littering and dumping is prohibited in terms of NEM: WA and CARA.	1. Monthly visual inspection of the active prospecting areas for illegal dumping of waste and littering will commence as soon as any prospecting contractors comes to site and continue for the life of prospecting operations.	1. Ensure no illegal littering and dumping of waste.	1. Environmental manager	1. Monthly visual inspection of the active prospecting areas for littering for the duration of prospecting operations.
Hydrocarbon Storage	Potential hydrocarbon contamination through contaminated runoff.	GNR983 – Activity 20	Operation, Decommissioning		3	1	2	2	8	3	24	Y	low	REMEDY Clearing any spills. Ceasing and rehabilitating any illegal activity. Rehabilitating and repairing any damage. Inspection and immediate action.	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	2	1	1	1	5	2	10	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks. 2. Ensure area is clear of hydrocarbon spills.	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations.

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														Allowance must be made to manage storm water during construction . Every person in control of a mine or activity must take reasonable measures to take effective measures to minimise the flow of any surface water or floodwater into mine workings, opencast workings, other workings or subterranean caverns, through cracked or fissured formations, subsided ground, sinkholes, outcrop excavations, adits, entrances or any other openings.									is scheduled in time. 2. Daily inspection of the storage area.			2. Daily inspection of storage area	
Aspect: Groundwater																											
Drilling	Cracks and disruption to aquifers.	GNR983 – Activity 20	Operation, Decommissioning	Neg	3	2	2	3	10	1	10	N	Low	Nature of prospecting activities. <b>CONTROL</b> Invasive prospecting must only be undertaken once data from non-invasive techniques has been assessed. Then, it should proceed as per standard industry	Necessary to obtain resource data necessary for a MRA.	2	2	2	3	9	1	9	Prospecting will be carried out in line with MPRDA regulations. General duty of care in terms of NEMA.	-	No monitoring required	-	-

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Access routes & Drilling	Potential hydrocarbon contamination seeping to the groundwater environment.	GNR983 – Activity 20	Operation, Decommissioning	Neg	3	3	2	3	11	2	22	Y	Moderate to Low	<b>REMEDY</b> Spill kits must be available on site and personnel trained to utilise these to clear spills immediately. <b>CONTROL</b> All vehicles on site will be up-to-date with their service and maintenance plans. The use of persistently leaky vehicles will be discontinued until repairs are made. Vehicles will not be parked over bare ground; where unavoidable, drip trays will be placed under the equipment to collect potential leaks.	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	1	1	1	1	4	1	4	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time. 2. Daily inspection of the active routes and drilling areas will be conducted as long as vehicles and machinery are active in these areas.	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks. 2. Ensure area is clear of hydrocarbon spills.	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations. 2. Daily inspection of active routes and drilling areas.

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General prospecting activities	Potential contamination of groundwater through seepage from indiscriminately dumped waste or litter.	GNR983 – Activity 20	Operation	Neg	3	1	2	1	7	2	14	Y	Low	<b>REMEDY</b> Inspect and clear all litter and waste. <b>CONTROL</b> Waste should be collected and report to the relevant waste stream at the PA.	Attain "cradle to grave" management of waste on site.	1	1	2	1	5	2	10	General duty of care in terms of NEMA. Littering and dumping is prohibited in terms of NEM: WA and CARA.	1. Monthly visual inspection of the active prospecting areas for illegal dumping of waste and littering will commence as soon as any prospecting contractors comes to site and continue for the life of prospecting operations.	1. Ensure no illegal littering and dumping of waste.	1. Environmental manager	1. Monthly visual inspection of the active prospecting areas for littering for the duration of prospecting operations.
Hydrocarbon Storage	Potential hydrocarbon contamination to groundwater	GNR983 – Activity 20	Operation, Decommissioning		3	2	3	3	11	2	22	Y	Moderate to Low	<b>REMEDY</b> Spill kits must be available on site and personnel trained to utilise these to clear spills immediately. <b>CONTROL</b> All vehicles on site will be up-to-date with their service and maintenance plans. The use of persistently leaky vehicles will be	Vehicles, machinery and equipment maintained within operational specification and legislative requirements.	2	1	2	1	6	2	12	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all vehicles as soon as prospecting operations commence for the duration of prospecting operations to ensure maintenance is scheduled in time.	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks. 2. Ensure area is clear of hydrocarbon spills.	1. Site manager in conjunction with prospecting manager 2. Site manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations. 2. Daily inspection of hydrocarbon storage area
Aspect: Flora & Fauna																											
General prospecting activities	Alien invasive encroachment.	GNR983 – Activity 20	Operation, Decommissioning, Closure	Neg	4	2	5	3	14	3	42	Y	Moderate	<b>REMEDY</b> Remove alien and invasive species that may establish around prospecting sites, using mechanical methods in preference to chemical methods where viable. <b>CONTROL</b> Clear all vehicles	Alien and invasive species managed with the view to eradicate species.	3	1	5	3	12	2	24	Alien and invasive species managed in terms of CARA and NEM: BA.	1. Removal of alien and invasive species should commence during operation and be on-going for the life of prospecting. Area must be generally inspected every 6 months and areas where plants were removed	1. Control alien and invasive species listed under CARA, NEM: BA, NFA and NCNCA.	1. Environmental manager	1. Alien and invasive management to commence during operation for the duration of prospecting. Area must be generally inspected every 6 months but will depend on

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General prospecting activities	Alienation of, and disturbance to, animals.		Operation, Decommissioning	Neg	2	2	2	3	9	3	27	Y	Moderate to Low	CONTROL By maintaining wetlands and buffer zones, ecological corridors are maintained for animals to take refuge. Do not hinder, harm, or trap animals. Noise control measures will be considered.	Reduce impact to neighbouring areas, which will provide refuge for animals.	2	2	3	2	9	2	18	General duty of care in terms of NEMA.	1. Monthly inspections will be made of nearby wetlands, rivers and associated buffer zones to ensure these are not degraded or impacted by prospecting activities.	1. Ensure surrounding flora and fauna are undisturbed.	1. Environmental manager	1. Monthly inspections of wetlands, rivers and associated buffer zones for the duration of prospecting.

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General prospecting activities	Destruction of natural vegetation and protected species.		Operation	Neg	3	2	3	3	11	4	44	Y	Moderate	<p><b>REMEDY</b> Report any incidences regarding damage to protected species to the relevant authority.</p> <p><b>CONTROL</b> Maintain wetlands, rivers and associated buffer zones where such species are most likely to occur. Survey prospecting sites in areas with natural vegetation (area is largely under agricultural and no need for such surveys in old agricultural lands) for any protected species known in the region and either keep species in situ with 50m buffer zone to prevent inadvertent damage to these species or obtain permits to remove / destroy protected species.</p> <p><b>STOP</b> Protected species must not be removed or destroyed without the necessary permits</p>	Preservation of protected species.	3	2	2	3	10	2	20	Protected species will be managed in accordance with NEM:BA and associated regulations. General duty of care in terms of NEMA, NFA and NCNCA.	1. Permits and relocation of species will occur once-off before any invasive prospecting activity commences in the area where needed. 2. Monthly inspections of wetland and riverine buffer zones and demarcations of these zones where they are near to prospecting sites for the life of prospecting activities. 3. Flora surveys will be completed once off in prospecting sites in areas with natural vegetation prior to any invasive prospecting in these areas.	1. Ensure permits are in place before destroying or relocating protected species if needed where needed. 2. Maintain wetland and riverine no-go areas to maintain ecological corridors. 3. Survey prospecting sites in areas with natural vegetation for protected species.	1. Environmental manager 2. Environmental manager 3. Environmental manager	1. Once-off relocation of protected species before any invasive prospecting once the permits are obtained. 2. Monthly inspections of wetlands, rivers and associated buffer zones for the duration of prospecting. 3. Once-off survey for protected species prior to any invasive prospecting activities.

[illegible]



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Access routes	Generation of dust on gravel roads.		Operation, Decommissioning	Neg	4	2	2	1	9	5	45	Y	Moderate	CONTROL Manage dust through water carts and wetting of gravel roads if and when required. Establish speed limits that will effectively reduce dust generation on roads.	Dust fallout will be managed to not exceed 600mg/m2/day.	2	1	2	1	6	3	18	Dust fallout will be managed to not exceed 600mg/m2/day. Dust regulations as per NEM:AQA.	1. Sporadic visual inspection of billowing dust clouds from prospecting areas throughout prospecting operations.	1. Visual inspection for billowing dust clouds.	1. Environmental manager	1. Sporadic visual inspection of billowing dust clouds from prospecting areas throughout prospecting operations.
Access routes & Drilling	Emissions into the atmosphere through use of diesel-powered equipment, machinery and vehicles.		Operation, Decommissioning	Neg	2	2	2	1	7	5	35	Y	Moderate to Low	CONTROL Machinery and equipment will be regularly serviced to ensure they are in proper working condition and to reduce risk of excessive emissions.	Keep equipment, machinery and vehicles operating within their manufacturing specifications.	1	1	2	1	5	5	25	SANS / SABS / SA legislative requirements regarding vehicle and equipment maintenance and operating requirements. General duty of care in terms of NEMA.	1. Weekly inspection of all service and maintenance plans for all equipment and machinery as soon as equipment is brought to site for the duration of prospecting operations to ensure maintenance is scheduled in time.	1. Ensure vehicles are within operation specifications to prevent excessive noise, emission and reduce risks of leaks.	1. Site manager in conjunction with prospecting manager	1. Weekly inspection of all vehicle and equipment service and maintenance log books for the duration of prospecting operations.
Aspect: Noise																											
Access routes & Drilling	Increased noise levels.		Operation, Decommissioning	Neg	4	2	2	1	9	4	36	Y	-	CONTROL Machinery and equipment will be regularly serviced. Noise control measures will be considered such as soundproofing of point sources, use of silencers, using strobe lights rather than beepers where feasible and where this won't compromise safety of people on	Prevent nuisance noise to nearby land owners / users	2	2	2	1	7	4	28	Environmental noise managed to SANS 10103:2004 levels.	-	-	-	-

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														site. Ensure regular communication with nearby I&APs to ensure work schedules are communicated to them and that they are aware that noise will be generated and over what period this may affect them.													
Aspect: Archaeological Heritage																											
Drilling	Localised minor disturbance of archaeological material		Prospecting only	Neg	1	1	5	4	11	1	11	Y	-	REMEDY Keep drilling areas away from granite boulder outcrops. 50m buffer is suggested	No disturbance of archaeological material	1	1	2	3	7	1	7	AMAFA will be complied with regarding permits for destruction and relocation or management of sites in situ. Conditions in permits will be adhered to.	Duration of drilling	Inspect drill sites to ensure that they are clear of granite outcrops	Environmental Manager	n/a
Aspect: Visual Aesthetic																											
No visual impact expected				Neutral																							
Aspect: Land Use																											
Existing land uses may continue				Neutral																							
Aspect: Traffic & Safety																											
Access routes	Increased potential for road incidences. Road degradation.		Operation, Decommissioning	Neg	3	2	1	5	11	3	33	Y	-	REMEDY Grade farm roads that have been extensively damaged due to use by prospecting team. CONTROL Speed limits will be established on the dirt road. Drivers, contractors	High safety standards on site with reduced safety risks.	2	2	1	5	10	2	20	Operations will comply with MHSA and Regulations. Vehicles will be serviced and maintained in road worthy condition.	1. Monthly inspections will be undertaken of all farm roads and intersections with public roads from the onset of operations throughout the prospecting operations. 2. Speed inspections will be	1. Maintain roads and intersections with public roads to reduce road incidences. 2. Ensure that on-site speed limits are enforced to reduce dust generation and road incidences.	1. Site manager 2. Site manager	1. Monthly inspections of all farm roads and intersections from the onset of operations for the duration of prospecting operations 2. Sporadic

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														and visitors will enforce speed limits. Intersections with main tarred roads will be clearly sign-posted. Vehicles. Machinery will be in road-worthy condition with reflective strips and clean and visible to other road users.										undertaken sporadically on site throughout prospecting operations.			speed inspections for the duration of prospecting operations.
Aspect: Socio-economic, Health & Safety																											
General prospecting activities	Potential for more employment & multiplier effect.		Operation	Pos	3	2	2	1	8	5	40	N	-	<b>CONTROL</b> Contractors, service providers should initially be sought locally and only regionally if skills are not available.	Fair and equitable employment.	3	2	2	1	8	5	40	Operations will comply with MHSA and Regulations.	-	No monitoring required	-	-
Influx of people into the area	Increase in crime		Prospecting and Operation	Neg	2	3	1	1	7	2	14			<b>CONTROL</b> No employees will be allowed to sleep on farms forming part of the prospecting right application.		2	2	1	1	6	2	12		Duration of drilling	No monitoring required	1. Site manager in conjunction with prospecting manager	1. Weekly visual inspection of the active prospecting areas will commence as soon as any prospecting contractors comes to site and continue for the life of prospecting operations
Influx of people into the area	Veld fires		Prospecting and Operation	Neg	3	2	2	3	10	3	30			<b>CONTROL</b> No employees will be allowed to make any open fires on the farms	Compliance with the National Veld & Forest Fire Act (NVFFA, ACT 101 OF 1998)	3	2	2	3	10	2	20	Operations will comply with NVFFA standard procedures and regulations	Duration of drilling	1. Weekly visual inspection of the active prospecting areas will commence as soon as any	1. Site manager in conjunction with prospecting manager	1. Weekly visual inspection of the active prospecting areas will commence

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												or adjacent land.  Fire breaks must be established and maintained.  Cigarette butts may not be thrown in the veld, but must be disposed of correctly.  Contractors must ensure that basic fire-fighting equipment and suitably qualified/experienced personal are available on site at all times, as per the specifications defined by the health and safety representative/consultant.  Fire extinguishers shall be placed at working areas and all areas where hazardous substances are kept.																			prospecting contractors comes to site and continue for the life of prospecting operations.		as soon as any prospecting contractor comes to site and continue for the life of prospecting operations