



**mineral resources**

Department:  
Mineral Resources  
**REPUBLIC OF SOUTH AFRICA**

**BASIC ASSESSMENT REPORT**  
**And**  
**ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT**

SUBMITTED FOR ENVIRONMENTAL AUTHORIZATIONS IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 AND THE NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008 IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (MPRDA) (AS AMENDED).

**NAME OF APPLICANT:** Uitkomst Colliery (Pty) Ltd

**TEL NO:** 034 312 3703

**FAX NO:** 034 312 3719

**POSTAL ADDRESS:** Postnet Suite 97, Private Bag X6603, Newcastle, 2940

**PHYSICAL ADDRESS:** 36 Gemsbok Avenue, Hutten Heights, Newcastle, KwaZulu-Natal

**FILE REFERENCE NUMBER SAMRAD:** KZN 30/5/1/1/2/10663 PR

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## 1. IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

**It is therefore an instruction that** the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or a permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

**It is furthermore an instruction that** the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with uninterpreted information and that it unambiguously represents the interpretation of the applicant.

## 2. Objective of the basic assessment process

The objective of the basic assessment process is to, through a consultative process—

- (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
- (b) identify the alternatives considered, including the activity, location, and technology alternatives;
- (c) describe the need and desirability of the proposed alternatives,
- (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage , and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine:
  - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
  - (ii) the degree to which these impacts—
    - (aa) can be reversed;
    - (bb) may cause irreplaceable loss of resources; and
    - (cc) can be managed, avoided or mitigated;
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
  - (i) identify and motivate a preferred site, activity and technology alternative;
  - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
  - (iii) identify residual risks that need to be managed and monitored.

**PART A**  
**SCOPE OF ASSESSMENT AND BASIC ASSESSMENT REPORT**

**3. Contact Person and correspondence address**

**a) Details of**

**i) Details of the EAP**

Name of The Practitioner: Afzelia Environmental Consultants (Pty) Ltd

Tel No.: 031-303 2835

Fax No. : 086 6922547

e-mail address: Andrew@afzelia.co.za

**ii) Expertise of the EAP.**

**(1) The qualifications of the EAP**

(with evidence). Masters in Social Science (Geography and Environmental Management)

**(2) Summary of the EAP's past experience.**

(In carrying out the Environmental Impact Assessment Procedure)

Proposed Makhabeleni regional water supply scheme, bulk rising mains  
Basic Assessment EIA

Ambleside Pig Abattoir, Winterton  
Basic Assessment EIA and Public Participation

Amber Ridge Residential Development  
Basic Assessment EIA and Public Participation

N2 Mnini Interchange Upgrade, eThekweni Metropolitan Municipality  
Basic Assessment EIA, Public Participation Process and Environmental Control Officer Duties

Station Road Bridge, Pietermaritzburg  
Basic Assessment EIA, Public Participation and Environmental Control Officer Duties

N2/R56 Interchange Upgrade, UMzimkhulu / Ugu Local municipalities  
Basic Assessment EIA, Public Participation Process and Environmental Control Officer Duties

Jozini Filling Station, Jozini Local Municipality  
Basic Assessment EIA and Public Participation

N2 Kwabhoboza Upgrade, Mtubatuba Local Municipality  
Basic Assessment EIA and Public Participation

Umzimkhulu Community Health Centre, Umzimkhulu Local Municipality  
Basic Assessment EIA and Public Participation

Nottingham Mixed Use Development, Umgeni Local Municipality

Basic Assessment EIA and Public Participation

Domaine de Provence, Umgeni Local Municipality  
Basic Assessment EIA and Public Participation

Lythwood Lodge Expansion, Umgeni Local Municipality  
Basic Assessment EIA and Public Participation

Nelaway, Nottingham Road, Umgeni Local Municipality  
Environmental Screening Report and associated documentation

Extension and upgrade of Burger Street, Msunduzi Local Municipality  
Environmental Management Plan

Swartburg Service Station, Greater Kokstad Municipality  
Environmental Management Plan

Swayimane Service Station, Msunduzi Local Municipality  
Environmental Management Plan

D1130 Road Upgrade Phase 2, Msunduzi Local Municipality  
Environmental Control Officer Duties

D1130 Road Upgrade Phase 3, Msunduzi Local Municipality  
Environmental Control Officer Duties

Midway Mixed Use Development, Msunduzi Local Municipality  
Environmental Control Officer Duties

Cradle of Humankind Pre-feasibility and Feasibility Assessment, Gauteng Province  
Detailed Environmental Screening and tendering assessment

Pongolapoort Public-Private Partnership Feasibility Assessment, Jozini Local Municipality  
Detailed Environmental Screening and tendering assessment

Mpenjati Nature Reserve, Ugu District Municipality  
Detailed Environmental Screening

Fuleni Coal Mine Public Participation Process, Mtubatuba Local Municipality  
Public Participation Process for Scoping and Full EIA

Ladysmith Crushed Stone Products cc, uThekela District Municipality  
Detailed Environmental Screening, Public Participation and DMR Mining Applications

Corndene Lakeside Development RoD Amendment Application 1, 2 and 3  
Amendment of Environmental Authorisation, Public Participation Process, Liaising with DAEA

Emberton Estate RoD Amendment Application, eThekweni Metropolitan Municipality  
Amendment of Environmental Authorisation, Public Participation Process, Liaising with DAEA

Richards Harbour Entrance Upgrade, Umhlathuzi Local Municipality  
Public Participation Process and Water Use License Process

Darvill WWTW Upgrade, Msunduzi Local Municipality  
Basic Assessment EIA and Public Participation

**b) Location of the overall Activity.**

<b>Farm Name:</b>	Remainder of Portion 3 (of 2) of Waterval No. 157HT; Remainder of Portion 4 (of 1) of Waterval No. 157HT; Portion 5 (of 1) of Waterval No. 157HT; Remainder of Portion 6 (of 1) of Waterval No. 157HT; Portion 7 (of 1) of Waterval No. 157HT; Portion 14 (of 6) of Waterval No. 157HT; Portion 19 (of 6) of Waterval No. 157HT; Portion 20 (of 2) of Waterval No. 157HT; Portion 22 of Waterval No. 157HT
<b>Application area (Ha)</b>	1491.3693
<b>Magisterial district:</b>	Utrecht, KwaZulu Natal
<b>Distance and direction from nearest town</b>	Approximately 23 km to the South East of Volksrust and 30 km to the North West of Utrecht
<b>21 digit Surveyor General Code for each farm portion</b>	

**c) Locality map**

(show nearest town, scale not smaller than 1:250000). Refer to Appendix A 1 - Locality Map

**d) Description of the scope of the proposed overall activity.**

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site

Refer to Appendix A 2 - Map indicating the location of all portions of areas to be drilled.

**(i) Listed and specified activities**

<b>NAME OF ACTIVITY</b>  (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc	<b>Aerial extent of the Activity</b>  <b>Ha or m<sup>2</sup></b>	<b>LISTED ACTIVITY</b>  <b>Mark with an X where</b>	<b>APPLICABLE LISTING NOTICE</b>

E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)		applicable or affected.	(GNR 544, GNR 545 or GNR 546)
Prospecting Right Application	1491.3693 ha	X	GNR 327 , Activity 20
Desktop studies, Further feasibility study investigations and coal resource estimation	1491.3693 ha	-	Not Listed
Drilling Programme - including Core Drilling	0.64 Ha/site-	X	GNR 327 , Activity 20
Water required for drilling **	n/a-	-	Not Listed
Sanitation requirements (Chemical toilets)	n/a	-	Not Listed
Geological mapping and Geophysical surveying	0.64 Ha/site	-	Not Listed
NB** it is important to note that drilling ater requirements fall within the 'small industrial user' where the use is less than twenty cubic metres per day for prospecting. Therefore the water will be used for the prospecting activities will be sourced on agreement from an existing water user which either could be the land owner or local municipality. No water will be abstracted in terms of section 21(a) of the National Water Act, 1998 (Act No. 36 of 1998).			

**(ii) Description of the activities to be undertaken**

(Describe Methodology or technology to be employed, including the type of commodity to be prospected/mined and for a linear activity, a description of the route of the activity)

**DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:**

(These activities result in land disturbances e.g. sampling, drilling, bulk sampling, etc)

**DIAMOND DRILLING**

Diamond drilling will be undertaken by a reputable and experienced drill contractor. The latter will abide by a strict code of practice to ensure minimal impact on the day-to-day activities of surface owners.

HQ3 or NQ/TNW size drill equipment will be employed. This results in a core size of approximately 60mm and a borehole internal diameter of about 80cm. All boreholes on completion will be



cemented, sealed and capped. The drill sites will be fully rehabilitated to the surface owner's satisfaction.

It is important to note that coal exploration is an iterative process with progression to each successive stage dependent upon the results received from previous investigations. For this reason, all estimates of the amount and types of work required beyond Phase 2 must be regarded as indicative only.

Stage 1 initial exploration drilling (during Phase 2) will be conducted on an approximate 1 kilometre borehole spacing which should allow any identified resources to be classed as inferred. A total of 9 boreholes are planned for Stage 1.

Secondary stage drill testing (during Phase 3) will involve infill boreholes located at approximately 500 metre intervals in order to elevate inferred resources to the indicated category. It is not possible at this time to reliably estimate the amount of boreholes which will be required during Stage 2 however a total of 12 has been envisaged and budgeted for.

The tertiary stage of exploration (during Phase 4) will involve reducing the borehole spacing to approximately 350 metres in targeted areas. This third stage borehole density should allow resources to be classed as measured and provide sufficient detailed information to support scoping and/or feasibility studies. Again, it is impossible at the present time to reliably estimate the amount of boreholes required to complete this exercise however a total of 10 has been envisaged and budgeted for.

#### DOWNHOLE GEOPHYSICAL SURVEY

Every borehole will be geophysically logged with the suite of tools including caliper, gamma, short and long-spaced densities

#### BOREHOLE SURVEY

All borehole collars will be surveyed by a PLATO-registered surveyor.

#### COAL SAMPLING AND ANALYSIS

Whole core coal samples will be taken on site and dispatched to a SANAS-accredited laboratory for analytical testwork. The following routine analyses will be performed:

- Raw relative density
- Wash analysis on nine float fractions and sink
- Determination of proximate, calorific value and total sulphur on all floats and sink

Specialised testwork may be undertaken. This could involve one or more of the following:

- Phosphorus
- Chlorine
- HGI
- AFT
- Ash Analysis
- Ultimate Analysis
- Trace Elements

#### GEOTECHNICAL AND ENVIRONMENTAL TESTWORK

Selected samples from the roof and floor of targeted seams will be collected and subjected to detailed geotechnical and environmental testwork (i.e. AMD).

#### PITTING, TRENCHING AND BULK SAMPLING

No excavations involving pitting, trenching or bulk sampling will be undertaken.



**e) Policy and Legislative Context**

<p><b>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</b></p> <p>(a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process)</p>	<p><b>REFERENCE WHERE APPLIED</b></p>	<p><b>HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.</b></p> <p>(E.g. In terms of the National Water Act a Water Use License has/ has not been applied for)</p>
<p>Constitution of South Africa, specifically everyone has a right:</p> <ul style="list-style-type: none"> <li>a. to an environment that is not harmful to their health or wellbeing; and</li> <li>b. to have the environment protected for the benefit of present and future generations, through reasonable legislative and other measures that:               <ul style="list-style-type: none"> <li>i. prevent pollution and ecological degradation ;</li> <li>ii. promote conservation; and</li> <li>iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</li> </ul> </li> </ul>	<p>Prospecting activities</p>	<p>The prospecting activities shall be conducted in such a manner that significant environmental impacts are avoided, where significant impacts cannot all together be avoided, be minimised and mitigated in order to protect the environmental right of South Africans.</p>
<p>Mineral and Petroleum Resources Development Act (MPRDA) 2002 (MPRDA) section 16 as amended</p>	<p>Prospecting activities</p>	<p>The conditions and requirements attached to the granting of the prospecting right will apply to the prospecting activities</p>
<p>National Environmental Management Act, No 107 of 1998 (as amended) Listing Notice 20 of Listing Notice 1 in terms of Regulation 327 of 2017</p>	<p>Prospecting activities</p>	<p>The appropriate environmental authorisation will be obtained before proceeding with any prospecting activities. Measures will be implemented to prevent any pollution occurring during the drilling activities. The disturbed area shall be rehabilitated in such a way that is stable, non-polluting, non-eroding, free from alien invasive species and suitable for agreed post closure land use.</p>

National Water Act (Act 36 of 1998)	N/A	No water use license is required for this application. Any water required for drilling activities will be obtained from a legal source within the area or brought in via a mobile water tanker.
National Environmental Management: Air Quality Act, Act39 of 2004, National Dust Control Regulations (GN 827)	N/A	Appropriate dust extractions / suppression equipment will be a condition imposed on the drill contractor for their drill rigs.
National Environmental Management: Waste Act, Act 59 of 2008 (NEMWA) NEM: WA (as amended)	Management measures - environmental awareness plan	The generation of potential waste will be minimised through ensuring that employees of the drilling contractor are subjected to the appropriate environmental awareness campaign, before commencement of drilling. All waste generated during the drilling activities will be disposed of in a reasonable legal manner. Proof of legal disposal will be maintained on site.
National Heritage Resources Act, 25 of 1999 ("NHRA")	Management measures	Phase 1 Heritage Impact Assessment shall be conducted prior to drilling to ensure that significant impacts on heriitage aretefacts, heritage sites and graves. No drilling activities will take place within 50m of any identified heritage resource such as a grave.

**f) Need and desirability of the proposed activities.**

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

The aim of the prospecting activities is to locate and evaluate coal quality.

The area applied for falls within a contiguous known coal occurrence and an exploration programme will determine the exact resource extent and qualities. Thus, allowing a determination to be made to take the project to the next phase where a Mining Right application would be submitted, if the resource proves to be mineable.

Prospecting activities are therefore needed to:

1. Confirm and obtain additional information concerning potential targets through non-invasive activities (eg. desktop studies and ground geophysical surveys) and invasive (e.g. drilling) activities.
2. Assess if the resource is of good quality and can be extracted through future mining in an environmental socially and economically viable manner.

Should prospecting activities prove that there are feasible minerals to allow for mining, a new mine may be developed, which would generate new employment opportunities in an area where employment is needed.

**g) Motivation for the overall preferred site, activities and technology alternative.**

Because of the geological structure and depositional feature of the coal resource in the area, no other sites, activities or methods of exploration are deemed to be applicable

**h) Full description of the process followed to reach the proposed preferred alternatives within the site.**

NB!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

**i) Details of the development footprint alternatives considered.**

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:

- (a) the property on which or location where it is proposed to undertake the activity;
- (b) the type of activity to be undertaken;
- (c) the design or layout of the activity;
- (d) the technology to be used in the activity;
- (e) the operational aspects of the activity; and
- (f) the option of not implementing the activity.

(a) Until such time that the non-invasive activities have been completed the exact location of the drill sites cannot be confirmed. However, the following buffers will be applied to the final site selection:

- No drill site will be positioned within 50m of a structure
- No drill site will be positioned within 100m of a water course or wetland
- Where possible existing access roads will be utilised to access the drill sites.

(b) In terms of technologies proposed, these have been chosen based on the success of the company in terms of their prospecting activities. The prospecting activities proposed in the Prospecting Works Programme is dependent on the preceding phase as previously discussed. Therefore, no alternatives are indicated, but rather a phased approach of trusted prospecting techniques.

(c) Alternative site layout is considered to ensure that resting place and ablution facilities are located away from the drilling activities to minimise the noise impacts. Site establishments are done with closure in mind to ensure that only the required size is disturbed.

Due to the location of the proposed drilling, no camp sites will be required. The drilling contractor can make use of the existing accommodation within the area.

Each borehole will be located at suitable sites to ensure the resource report shows the potential feasibility of the resource; the areas under contemplation will measure approximately 100m<sup>2</sup> per borehole and will be cleared of all rubble and loose flammable material (grass, etc) by means of a TLB or similar unit; each area will be fenced off suitably to prevent ingress by animals and unauthorized people; sumps will be dug to a depth which will allow the rescue of anyone/thing falling into them inadvertently; cores will be stored in suitably constructed coretrays; accommodation will be on each site in a caravan with septic toilet facilities and showers for washing purposes.

(d) The method and techniques employed for the investigation of potential targets and deposits are suitable for the proposed prospecting activities.

GIS software for geological maps and satellite imagery during desktop research. HQ3 or NQ/TNW size drill equipment will be employed for diamond drilling and down the hole geophysical logging will also be done.

(e) Ideally, prospecting activities will occur continuously until such time that drilling at individual sites is completed. However, when reaching an access agreement with the impacted landowners, Uitkomst will ensure that drilling activities commence and operate at times that minimise disruption and exposure risks (i.e. post-harvest period, daylight hours, school holidays, etc). This will be discussed and agreed upon in consultation with stakeholders prior to the implementation of prospecting activities.

Diamond drilling will be undertaken by a reputable and experienced drill contractor. The latter will abide by a strict code of practice to ensure minimal impact on the day-to-day activities of surface owners.

HQ3 or NQ/TNW size drill equipment will be employed. This results in a core size of approximately 60mm and a borehole internal diameter of about 80cm. All boreholes on completion will be cemented, sealed and capped. The drill sites will be fully rehabilitated to the surface owner's satisfaction.

It is important to note that coal exploration is an iterative process with progression to each successive stage dependent upon the results received from previous investigations. For this reason, all estimates of the amount and types of work required beyond Phase 2 must be regarded as indicative only.

Stage 1 initial exploration drilling (during Phase 2) will be conducted on an approximate 1 kilometre borehole spacing which should allow any identified resources to be classed as inferred. A total of 9 boreholes are planned for Stage 1.

Secondary stage drill testing (during Phase 3) will involve infill boreholes located at approximately 500 metre intervals in order to elevate inferred resources to the indicated category. It is not possible at this time to reliably estimate the amount of boreholes which will be required during Stage 2 however a total of 12 has been envisaged and budgeted for.

#### Downhole Geophysical Survey

Every borehole will be geophysically logged with the suite of tools including caliper, gamma, short and long-spaced densities.

#### Borehole Survey

All borehole collars will be surveyed by a PLATO-registered surveyor.

#### Coal Sampling and Analysis

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Specialised testwork may be undertaken. This could involve one or more of the following:

- Phosphorus
- Chlorine
- HGI
- AFT
- Ash Analysis
- Ultimate Analysis
- Trace Elements

#### Geotechnical and Environmental Testwork

Selected samples from the roof and floor of targeted seams will be collected and subjected to detailed geotechnical and environmental testwork (i.e. AMD).

## Pitting, Trenching and Bulk Sampling

No excavations involving pitting, trenching or bulk sampling will be undertaken.

- (f) Prospecting activities are essential to investigate and confirm the presence and quality of coal deposits and also required to generate a SAMREC compliant mineral resource statement. Further investment in mining activities will not transpire without this and if the prospecting right is denied, valuable economic and socio-economic opportunities may be squandered.

## ii) Details of the Public Participation Process Followed

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

The following steps have been undertaken as part of the public participation process in order to notify interested and affected parties:

- Compilation of comprehensive Interested and Affected Party database (I&AP Register). The database was reviewed and updated with the latest contact details of the relevant farm owners, farm occupiers, Inkosi, Induna, government departments as well as any stakeholders who register in response to Site Notices that were placed, Flyers and Background Information Document (BIDs) that were handed out.
- Compilation and erection of site notices around the boundary of the proposed site where done in English, Zulu and Afrikaans.
- Compilation and circulation of draft scoping report to all Key Stakeholders, Government Departments and directly affected residences and businesses to facilitate preliminary comments on the proposed sand mining site, allowing the EAP to address the issues (with the assistance of specialist input), during the EIA process for a 30 day period;
- A meeting with the Induna, Inkosi, Elders, Farm occupier representatives, Client and Afzelia Environmental Consultants was held in June 2017 at the Inkosi's residence;
- Site Notices will be placed at relevant positions for proposed prospecting area to Notify all relevant landowners of the Comment and Review Period of the Draft BAR and the availability at the Newcastle and Osizweni libraries ;
- Flyers will be handed out within the community to notify them of the Comment and Review Period of the Draft BAR and the availability at the Newcastle and Osizweni libraries;
- Newspaper adverts in English, Afrikaans and isiZulu will be advertised in the Newcastle Herald (English and Afrikaans advert) and Bayede Local Newspaper (isiZulu advert) on the 31st August 2017 to notify the public and all stakeholders of the availability of the Draft Basic Assessment Report for review and comment at the Newcastle Public Library and the Osizweni Library. Copies of the Report will be given to the Induna and Inkosi.

\*\*\*The Draft Basic Assessment is available for comment and review for a period of 30 days (25th August 2017 until the 26th September 2017).\*\*\*





iii) **Summary of issues raised by I&As**  
 (Complete the table summarising comments and issues raised, and reaction to those responses)

<p><b>Interested and Affected Parties</b></p> <p>List the names of persons consulted in this column, and            Mark with an <b>X</b> where those who must be consulted were in fact consulted.</p>	<p><b>Date</b> <b>Comments</b> <b>Received</b></p>	<p><b>Issues raised</b></p>	<p><b>EAPs response to issues as mandated by the applicant</b></p>	<p><b>Section and paragraph reference in this report where the issues and or response were incorporated.</b></p>	
<b><u>AFFECTED PARTIES</u></b>					
<p><b>Landowner/s</b></p>	<p><b>X</b></p>	<p>05/06/2017</p>	<p>BID comments received:</p> <p>Access to portion 4, 5, 6, 7, 19, 21 &amp; 19 is through private roads through portion 15 &amp; 21.</p> <ol style="list-style-type: none"> <li>1. Concerns: potable and drilling water.</li> <li>2. Water consumption,</li> <li>3. Bush clearing</li> <li>4. Livestock protection</li> <li>5. Crop damage</li> <li>6. Fire hazards</li> <li>7. Firewood</li> <li>8. Theft</li> <li>9. Interference with farm operations.</li> <li>10. Fence and gates</li> <li>11. Access security.</li> </ol> <p>Requesting the following:</p>	<p>It can be confirmed that the management of Uitkomst Colliery will meet with the landowner prior to any invasive prospecting.</p> <p>The purpose of the abovementioned meeting will be to discuss with the landowner the areas to be occupied by drilling operations, borehole locations, access roads, and any other matters of concern.</p> <p>Furthermore, it is common that prior to any invasive prospecting, the applicant or holder of a prospecting right will enter into a surface lease agreement with the landowner.</p>	<p>Addressed in Appendix G of the Consultation Report</p>

			<ul style="list-style-type: none"> <li>The name and contact details of the drilling projects manager.</li> <li>Layout and co-ordinates of the drilling points.</li> <li>Schedule/timing of the drilling program.</li> <li>Meeting on farm with the principal of drilling company.</li> </ul>	It is also important to note that the landowner will be supplied with a detailed map of proposed drilling sites. It is important to note that such a plan and the identification of proposed drilling sites can only be done once phase 1 of the proposed prospecting operations as set out in the pwp, has been completed.	
<b>Lawful occupier/s of the land</b>	X				
<b>Landowners or lawful occupiers on adjacent properties</b>	X				
<b>Municipal councillor</b>	X				
<b>Municipality</b>	X				
<b>Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA e</b>					
<b>Communities</b>	X	07/07/2017 Gumbi Dumazile	Please employ local people if the application for mining right is successful and when the mine is operation.	Noted:	Addressed in Appendix G of the Consultation Report

		07/07/2017 Ntethelelo Nkosi	<p>We appreciate the application and we which it can be successful so we can be employed.</p> <p>We want this application to be successful so that the community will benefit from the mine. We looking forward to the operation of the mine so that we can get jobs.</p>	Noted:	Addressed in Appendix G of the Consultation Report
		07/07/2017 Jerico Gumbi	<p>We are looking forward to this development, water and light, job creation and we are happy for the mine to come to us</p>	Noted:	Addressed in Appendix G of the Consultation Report
		07/07/2017 Nikcky Blose	<p>We want local community members to be employed first.</p>	Noted	Addressed in Appendix G of the Consultation Report
<b>Dept. Land Affairs</b>	X	07/07/2017 Thokozani Sokhele	<p>I would advise the community to discuss and identify all their needs for now, so that if this application is successful by then they will have all the needs to submit to the developer.</p>	Noted	Addressed in Appendix G of the Consultation Report
<b>Traditional Leaders</b>	X	07/07/2017 Inkosi P.S.S Khumalo( Chief of Amantung wa Tribal Authority)	<p>We would also request that all agreements between the communities must be written down on a paper, signed by both parties and kept for future reference, so to avoid any disappoints.</p> <p>We also request that the people of Othobothi (host community) must be</p>	Further consultation will be done before the prospecting activities take place.	Addressed in Appendix G of the Consultation Report







**iv) The Environmental attributes associated with the alternatives.(The environmental attributed described must include socio-economic, social, heritage, cultural, geographical, physical and biological aspects)**

**(1) Baseline Environment**

**(a) Type of environment affected by the proposed activity.**

(its current geographical, physical, biological, socio- economic, and cultural character).

**CLIMATE**

The site falls within the Central KwaZulu-Natal climate region and receives predominantly summer rainfall. Most rains fall between October and March. Temperatures are mostly moderate in summer, but can reach up to 34 degrees Celsius. Winter is typically dry. Frosts in winter are common, with minimum temperatures from May to August around 0 degrees Celsius.

**RAINFALL**

The area has an average rainfall of 700.1mm. Most rainfall occurs during mid-summer, primarily as thunderstorms.

**REGIONAL GEOLOGY**

The area under consideration is located in the west sector of the Utrecht Coalfield.

**LOCAL GEOLOGY**

In the local area, only Gus and Alfred Seams are of economic interest with all other seams being thin and/or sporadically developed. The Gus seam, which is the main economic target is expected to range in thickness between about 0.8m and 1.6m and occur at depths of 80 to over 300 metres below surface. The Alfred Seam is usually about 1.0m in thickness and lies between 5m and 17m above the Gus seam. The quality of the Alfred seam is usually inferior to the Gus seam and it is considered unlikely to represent a viable mining target at the present time.

**(b) Description of the current land uses.**

The area is largely dominated by grassland and thicket which is associated with livestock farming. Areas are also under cultivation and these are usually located near water sources such as rivers or boreholes.

**(c) Description of specific environmental features and infrastructure on the site.**

Water courses have been identified to occur within the boundaries of the proposed prospecting right areas. These should be avoided and where avoidance is not possible, impacts must be appropriately managed and remedied. Based on the outcomes of the initial prospecting phases (non-invasive activities), the location of any invasive activities such as drilling will be determined and the impacts on the identified water courses will subsequently be determined. The area also contains a number of alien trees and thicket stands, which should also be avoided as far as possible. It is expected that for the invasive activities (drilling), that only localised clearing of grass and shrubs are required in order to prepare a drill pad.

A number of farmstead dwellings, outbuildings and other farm infrastructure occur in the area and these will be avoided as far as possible. The invasive activities will seek to use existing roads in order to access properties where needed and it is not expected that any new access roads will be opened up.

**(d) Environmental and current land use map.**

(Show all environmental, and current land use features)

See Maps attached as Appendix B

**v) Impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts**

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability, and duration of the impacts. Please indicate the extent to which they can be reversed, the extent to which they may cause irreplaceable loss of resources, and can be avoided, managed or mitigated).

The potential environmental and social impacts included:

- Noise caused by the drilling rig travelling to and being established on each site, the diesel engine driving the drill, vehicles going to and from the drilling site and the voices of the drilling crew;
- Visibility of the drilling rig;
- Dust generated by the drilling operation and vehicles travelling over unpaved areas;
- Disturbance of soil from drill pad preparation and compaction;
- Disturbance of flora and fauna;
- Disturbance or damage to cultural and heritage resources such as graves or historic ruins;
- Potential contamination of soil, surface water and groundwater with hydrocarbons;
- Friction between local residents/landowners and prospecting personnel;
- If drilling is undertaken close to any residence, lodge, guest house or game farm, receptors may experience the noise, the visual appearance, the associated traffic and the presence of the drilling crew on the property as intrusive;
- It is not anticipated that the prospecting activities will have any lasting material effects on existing land uses on the prospecting areas or any other areas in the vicinity

**vi) Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;**

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout needs revision).

Please refer to Impact Assessment Methodology described below in Section i

**vii) The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.**

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

The majority of the prospecting activities are non-invasive and hence will have no environmental or social impact. The invasive activities that entail the drilling of a maximum of 8 exploration boreholes per target area will have a minimal environmental and social impact as each drill site will be confined to an area.



All of the identified impacts will occur for a limited time and the extent of the impacts will be localised. All of the identified impacts can be suitably mitigated with residual impact ratings of low. After drilling activities have been completed and the drill pads rehabilitated to pre-drilling status, the impacts will cease to exist.

**viii) The possible mitigation measures that could be applied and the level of risk.**

(With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered).

Please refer to Impact Assessment Methodology described in Section i

**ix) Motivation where no alternative sites were considered.**

The proposed prospecting right area is targeted as it is known for coal deposits. The proposed prospecting license area is therefore regarded as the preferred site and alternative site have not been considered

**x) Statement motivating the alternative development location within the overall site. (Provide a statement motivating the final site layout that is proposed)**

The prospecting phase is dependent on the results of the preceding phase. The location and layout of drill sites will be determined based on information derived from the non-invasive desktop and geophysical surveys. Proposed drill sites will be selected so as to avoid known heritage sites, water courses, dwellings and infrastructure where possible.

**i) Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity. (Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)**

Significance scoring will be used to assess and predict the significance of environmental impacts through evaluation of the following factors; probability of the impact; duration of the impact; extent of the impact; and magnitude of the impact. The significance of environmental impacts will be then assessed taking into account any proposed mitigations. The significance of the impact “without mitigation” is the prime determinant of the nature and degree of mitigation required . Each of the above impact factors will be used to assess each potential impact using ranking scales.

Unknown parameters will be given the highest score (5) as significance scoring follows the Precautionary Principle. The Precautionary Principle is based on the following statement: "When the information available to an evaluator is uncertain as to whether or not the impact of a proposed development on the environment will be adverse, the evaluator must accept as a matter of precaution, that the impact will be detrimental". It

is a test to determine the acceptability of a proposed project. It enables the evaluator to determine whether enough information is available to ensure that a reliable decision can be made.

This section provides an indication of potential positive and negative environmental impacts associated with the proposed prospecting right for coal.

Methodology used for the Risk Assessment is: Significant Scoring = (Magnitude + Duration + Scale) X Probability

#### Magnitude

- 2 – minor
- 4 – low
- 6 – moderate
- 8 – high
- 10 – very high

#### Probability

- 1 - very improbable
- 2 - improbable
- 3 - probable
- 4 - highly probable
- 5 – definite

#### Extent

- 1 - limited to the site
- 2 - limited to the local area
- 3 - limited to the region
- 4 - national
- 5 – international

#### Duration

- 1 - very short duration (0-1 years)
- 2- short duration (2-5 years)
- 3 - medium term (5-15 years)
- 4 - long term (>15 years)
- 5 - permanent/unknown

#### \*\* Significance Scoring \*\*(Negative Impact Results)

- Low significance(<30 significance points) -Low environmental significance (Impacts with little effect and which should not have an influence on or require modification of the project design.
- Medium significance(31-59 significance points) - Moderate environmental significance (An impact which is sufficiently important to require management and which could have an influence on the decision unless mitigated.
- High significance (>60 significance points) - High environmental significance( An impact which could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.

#### \*\*Significance Scoring (Positive Impact Results)

- Low significance (<30 significance points)- Low environmental significance (Impacts with little positive effect and which should not have an influence on or require modification of the project design.
- Medium significance (31-59 significance points) - Moderate environmental significance (A positive impact or benefit which is sufficiently important and which could have an influence on the decision taking into consideration set mitigation measures.
- High significance (>60 significance points) - High environmental significance (A positive impact which could influence the decision in a positive way about whether to proceed with the project regardless

Impact scores given “with mitigation” are based on the assumption that the mitigation measures recommended in this assessment are implemented correctly and at all times and that rehabilitation of the site is fully and correctly undertaken. Failure to implement mitigation measures during construction and rehabilitation will keep the impacts at an unacceptably high level.



**j) Assessment of each identified potentially significant impact and risk**

(This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties).

<b>NAME OF ACTIVITY</b> (E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc  E.g. For mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	<b>POTENTIAL IMPACT</b> (Including the potential impacts for cumulative impacts)  (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)	<b>ASPECTS AFFECTED</b>	<b>PHASE</b> In which impact is anticipated  (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	<b>SIGNIFICANCE</b> if not mitigated	<b>MITIGATION TYPE</b>  (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)  E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation..	<b>SIGNIFICANCE</b> if mitigated
Site establishment activities: -Vegetation clearance -Topsoil stripping and stockpiling -Drill pad compaction -Erection of office, toilets, fuel storage, water tanker, core storage. -Vehicle movements -Waste Management	<b>CULTURAL AND HERITAGE</b>	Destruction or loss of Cultural and Heritage Resources	Construction set up	High (8)	All Uitkomst and contractor personnel must be made aware of the locations of all identified heritage resources and the necessity of avoiding them.  Personnel must be informed about the consequences of unlawful removal of cultural and historical remains and artefacts associated with heritage sites.	Low (6)

					<p>A safe distance of at least 50 metres will be maintained between the identified heritage resources and prospecting activities.</p> <p>Where necessary, directional drilling will be practised to assess coal reserves situated below identified heritage resources.</p> <p>A heritage survey by qualified archaeologist is required prior to any site activities on undisturbed land or access routes. If any heritage resources are discovered as a result of prospecting activities, such activities will cease with immediate effect and a qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures.</p>	
	NOISE	Noise Generation	Construction / Set-up	Moderate (6)	Construction/setup, operational and decommissioning activities must be limited to daylight hours on Monday to Saturday and	Low(4)

	VISUAL	Visual Intrusion	Construction/Set-up	High(8)	<p>no activities on Sunday and Public Holidays.  Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings.  Noise abatement equipment, such as mufflers on diesel engines, must be maintained in good condition.  If intrusive noise levels are experienced by any persons at any point, the source of the noise must be moved if practical, or it must be placed in an acoustic enclosure, or an acoustic barrier must be erected between the source and the recipient.</p> <p>The drilling rig and other visually prominent items on the site must be located in consultation with the landowners.  Make use of existing vegetation as far as possible to screen the</p>	Low(4)
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	DUST FALL	Dust fall and nuisance activities	Construction/Set-up	High (8)	<p>projecting operations from view, and If necessary, the operation can be screened from view by erecting a shade cloth barrier.</p> <p>Wet suppression must be applied to ensure that no visible dust is raised by any of the projecting operations; Separation of distance of minimum 500m, but preferable 1000m to be maintained between drill sites and dwellings, and Low vehicle speeds must be enforced on unpaved surfaces.</p>	Low(4)
	SOIL AND VEGETATION	Soil and vegetation disturbance from drill pad preparation	Construction/Set-up	High (8)	<p>Soil disturbance and clearance of vegetation at drill pad areas must be limited to the absolute minimum requirement, An ecology screening survey will be required on undisturbed land and access routes in order to identify any red data / species of concern prior</p>	Low(4)



					<p>to any site activities being undertaken.</p> <p>No clear scraping to be carried out unless absolutely necessary to establish a level drill pad. Rather that surface vegetation be cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and regrow, and Disturbed areas must be re-vegetated with locally indigenous species as soon as possible.</p>	
	SOIL, SURFACE WATER AND GROUNDWATER	Soil, surface water and groundwater contamination from hydrocarbons	Construction/ Set-up	High (8)	<p>Proper vehicle maintenance. Refuelling to be done with care to minimise the chance of spillages; a spill kit will be made available on each site where prospecting activities are in progress. Any spillages to be cleaned up immediately.</p>	Low(4)

	SOCIAL	Friction between local residents / landowners and construction personnel	Construction / Set-up	High(8)	<p>Drilling muds must be contained in lined drill sumps and this material must be removed from site and disposed in a licensed disposal facility.</p> <p>All operation must be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution. All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the local residents may not welcome the prospecting activities in the area. There will be strict requirement to treat local residents with the utmost respect and courtesy at all times.</p>	Low(2)
Exploration drilling: - Drilling; -Drill maintenance and refuelling;	CULTURAL AND HERITAGE	Destruction or loss of Cultural Heritage Resources	Operations	High(8)	All Uitkomst and contractor personnel will be made aware of the locations of all identified heritage resources, the	Low(2)

<p>-core sample collection and storage;  - Vehicle movements  -Waste generation and management</p>					<p>necessity of avoiding them.  Personnel must be informed about the consequences of unlawful removal of cultural and historical remains and artefacts associated with heritage sites.  A safe distance of at least 50 metres will be maintained between the identified heritage resources and prospecting activities.  Where necessary, directional drilling will be practised to assess coal reserves situated below identified heritage resources.  A heritage survey by qualified archaeologist is required prior to any site activities on undisturbed land or access routes. If any heritage resources are discovered as a result of prospecting activities, such activities will cease with immediate effect and a qualified archaeologist will be commissioned to assess their significance</p>	
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	NOISE GENERATION	Noise Generation	Operations	High(8)	<p>and determine appropriate mitigation measures.</p> <p>Construction/setup, operational and decommissioning activities must be limited to daylight hours on Monday to Saturday and no activities on Sunday and Public Holidays. Separation of distance of minimum 500m, but preferably 1000m to be maintained between drill sites and dwellings. Noise abatement equipment, such as mufflers on diesel engines, must be maintained in good condition, and</p> <p>If intrusive noise levels are experienced by any persons at any point, the source of the noise must be moved if practical, or it must be placed in an acoustic enclosure, or an acoustic barrier must be erected between the source and the recipient.</p>	Low(4)
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	VISUAL	Visual Intrusions	Operations	High(8)	<p>The drilling rig and other visually prominent items on the site will be located in consultation with the landowners.</p> <p>Make use of existing vegetation as far as possible to screen the projecting operations from view.</p> <p>If necessary, the operation can be screened from view by erecting a shade cloth barrier.</p>	Low(2)
	DUST FALL	Dust fall and nuisance activities	Operations	High(8)	<p>Wet suppression must be applied to ensure that no visible dust is raised by any of the projecting operations;</p> <p>Separation of distance of minimum 500m, but preferable 1000m to be maintained between drill sites and dwellings, and</p> <p>Low vehicle speeds will be enforced on unpaved surfaces.</p>	Low(2)

	SOIL AND VEGETATION	Soil and vegetation disturbance from drill pad preparation	Operations	High(8)	<p>Soil disturbance and clearance of vegetation at drill pad areas must be limited to the absolute minimum requirement, An ecology screening survey will be required on undisturbed land and access routes in order to identify any red data / species of concern prior to any site activities being undertaken.</p> <p>No clear scraping to be carried out unless absolutely necessary to establish a level drill pad. Rather that surface vegetation be cleared to make way for the drilling rig leaving the roots intact so that vegetation can coppice and regrow. Disturbed areas must be re-vegetated with locally indigenous species as soon as possible.</p>	Low(4)
		Soil, surface water and groundwater	Operations	High(8)		Minor (2)

	<p>SOIL, SURFACE WATER AND GROUNDWATER</p>	<p>contamination from hydrocarbons</p>			<p>Proper vehicle maintenance.          Refuelling to be done with care to minimise the chance of spillages; a spill kit will be made available on each site where prospecting activities are in progress; any spillages to be cleaned up immediately; Drilling muds must be contained in lined drill sumps and this material must be removed from site and disposed in a licensed disposal facility</p>	
	<p>SOCIAL</p>	<p>Friction between local residents/ land owners and construction personnel</p>	<p>Operations</p>	<p>High(8)</p>	<p>All operation must be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution.          All prospecting personnel must be made aware of the local conditions and sensitivities in the prospecting area and the fact that some of the local residents may not</p>	<p>Minor (2)</p>

					welcome the prospecting activities in the area. There must be strict requirement to treat local residents with the utmost respect and courtesy at all times.	

The supporting impact assessment conducted by the EAP must be attached as an appendix, marked **Appendix**



**k) Summary of specialist reports.**

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):-

LIST OF STUDIES UNDERTAKEN	RECOMMENDATIONS OF SPECIALIST REPORTS	SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable)	REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED.
No specialists studies have been undertaken. A desktop analysis has been followed that informs the compilation of this assessment.			

Attach copies of Specialist Reports as appendices



## **l) Environmental impact statement**

### **(i) Summary of the key findings of the environmental impact assessment;**

The majority of the prospecting activities are non-invasive and hence will have no environmental or social impact. Invasive activities entail the drilling of a maximum of 31 exploration boreholes which will have a minimal environmental and social impact as each drill site will be confined to an area.

The assessed impacts ratings after implementation of the mitigation measures described above are as follows:

- Cultural and Heritage - Low environmental significance (14)
- Noise - Low environmental significance (10)
- Visual - Low environmental significance (10)
- Dust Fall- Low environmental significance (12)
- Disturbance of soil vegetation - Low environmental significance (12)
- Contamination of soil, surface water and groundwater - Low environmental significance (12)
- Friction between local residents and prospecting personnel - Low environmental significance (10)

All of the identified impacts will occur for a limited time and the extent of the impacts will be localised. All of the identified impacts can be suitably mitigated with the residual impact ratings being low. After drilling activities have been completed and the drill pads rehabilitated to pre-drilling status, the impacts will cease to exist.

### **(ii) Final Site Map**

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers. **Attach as Appendix**

Attached as Appendix C

Please refer to Appendix C for the Environmental Sensitivities Map including the area of interest (AOI) for proposed prospecting activities.

### **(iii) Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;**

Destruction or loss of Cultural and Heritage Resources during the construction/set-up phase as well as during the operational phase as drilling commences;  
Noise generation from construction / set-up and operational activities of drilling;  
Visual intrusion caused by the drilling activities in the largely rural setting;  
Dust fall & nuisance from construction / set-up and drilling activities;  
Soil and vegetation disturbance from drill pad preparation during the construction / set-up and operational phase as contractors rehabilitate one site and move to the next site and prepare it;  
Soil, surface water and groundwater contamination from hydrocarbons during the construction / set-up and operational activities which include drill rig operation and use of vehicles on site; and  
.Friction between local residents/landowners and construction personnel during the course of the construction / set-up and operational drilling activities.

### **m) Proposed impact management objectives and the impact management outcomes for inclusion in the EMPr;**

**Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation.**

The objectives of the EMPr will be to:

- Provide sufficient information to strategically plan the prospecting activities as to avoid unnecessary social and environmental impacts.
- Provide sufficient information and guidance to plan prospecting activities in a manner that would reduce impacts (both social and environmental) as far as practically possible.
- Ensure an approach that will provide the necessary confidence in terms of environmental compliance.
- Provide a management plan that is effective and practical for implementation.

Through the implementation of the proposed mitigation measures it is anticipated that the identified social & environmental impacts can be managed and mitigated effectively. Through the implementation of the mitigation and management measures it is expected that:

- Heritage/cultural resources can be managed by avoidance of known resources and through consultation with landowners/stakeholders. Contractor personnel will also be briefed of these sensitivities and consequences of any damage/removal of such features;
- Noise generation can be managed through consultation and restriction of operating hours and by maintaining equipment and applying noise abatement equipment if necessary;
- Visual intrusion can be managed through consultation with landowners/stakeholders and by suitable siting of drill pads and use of screens (natural vegetation or shade cloth etc);
- Dust fall can be managed by application of wet suppression on exposed surfaces and use of water during drilling;
- Soil disturbance and clearance of vegetation at drill pad areas will be limited to the absolute minimum required and disturbed areas will be re-vegetated with locally indigenous species as soon as possible;
- Soil, surface water and groundwater contamination by hydrocarbons can be managed by conducting proper vehicle maintenance, refuelling with care to minimise the chance of spillages and by having a spill kit available on each site where prospecting activities are in progress;
- Social friction with landowners can be managed by employing strong, experienced personnel with proven skills in public consultation and conflict resolution during stakeholder consultation phases. All prospecting personnel will be made aware of the local conditions and sensitivities in the prospecting area and that they treat local residents with respect and courtesy at all times.

### **n) Aspects for inclusion as conditions of Authorisation.**

Any aspects which must be made conditions of the Environmental Authorisation

It is the opinion of the EAP that the following conditions should form part of the authorisation:

- Maintain a buffer of 100m from a water course;
- Maintain a minimum 500m (preferably 1000m) buffer from any infrastructure or dwelling;
- Conduct a heritage survey of the identified drill sites and access routes once these are known and prior to any activities being undertaken at these sites;
- Conduct an ecology survey of any identified drill sites and access routes that may fall within any critical endangered ecosystems; and
- Landowners and land occupiers should be engaged (re-consulted) at least 1 month prior to any site activities being undertaken once drill sites are known.

### **o) Description of any assumptions, uncertainties and gaps in knowledge.**

(Which relate to the assessment and mitigation measures proposed)

The location of drill sites is not yet known and will be identified through the phased approach of the prospecting programme. This assessment is therefore based on a desktop approach at a

broad scale and assuming that drilling could occur anywhere within the proposed prospecting license area. Once drill sites have been identified, then it is recommended that focus should be given to these sites in order to identify any cultural or heritage resources of significance, any ecologically significant areas that may occur as well as re-engaging land owners regarding the intention to access and conduct drilling activities on their property.

**p) Reasoned opinion as to whether the proposed activity should or should not be authorised**

**i) Reasons why the activity should be authorized or not.**

It is of the opinion that the EAP that the proposed prospecting activities should be authorised due to the following: The environmental impacts associated with the limited drilling activities are minimal provided that the proposed mitigation is implemented. The spatial extent of the physical impact is less than 1 hectare per drill site over a prospecting right license area of more than 22,000 hectares; a maximum of 8 drill sites will be established in total throughout the duration of the drilling programme. With appropriate care and consideration the impacts resulting from drilling can be suitably avoided, minimised or mitigated. With implementing the appropriate rehabilitation activities, the impacts associated with the drilling activities can be reversed. Without implementation of prospecting activities the knowledge concerning the potential mineral resource within the prospecting right area will not be confirmed.

**ii) Conditions that must be included in the authorisation**

It is the opinion of the EAP that the following conditions should form part of the authorisation:

- Maintain a buffer of 100m from a water course;
- Maintain a 500m (preferably 1000m) buffer from any infrastructure or dwelling;
- Conduct a heritage survey of the identified drill sites and access routes across undisturbed land once these are known and prior to any activities being undertaken at these sites;
- Conduct an ecology survey of any identified drill sites and access routes across undisturbed land that may fall within any critical endangered ecosystems as reflected in the map contained in Appendix D; and
- Landowners and land occupiers should be engaged (re-consulted) at least 1 month prior to any site activities being undertaken once drill sites are known.

**q) Period for which the Environmental Authorisation is required.**

For a period of 3 years

**r) Undertaking**

**Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report.**

An undertaking is being provided as requested above

**s) Financial Provision**

**State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.**

**i) Explain how the aforesaid amount was derived.**

A financial provision of approximately R5 415 730-00 has been budgeted for the prospecting programme over the 3 year period and is apportioned as follows;

Year 1 - Phase 1 and 2 is calculated at approximately R1 431 492.00

Year 2 - Phase 3 is calculated at approximately R1 756 238.00

Year 3 - Phase 4 and 5 is calculated at approximately R2 228 000.00

A breakdown of the cost is stipulated in the Prospecting Work Programme that is attached.

**ii) Confirm that this amount can be provided for from operating expenditure.**

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

In terms of sections 10.2 and 10.3 of the Prospecting Work Programme; it is confirmed that Uitkomst Colliery (Pty) Ltd will bare the entire cost of the proposed exploration process

**t) Specific Information required by the competent Authority**

**i) Compliance with the provisions of sections 24(4)(a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998). the EIA report must include the:-**

**(1) Impact on the socio-economic conditions of any directly affected person.**

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as an **Appendix** .

A full consultation process is being implemented during the environmental authorisation process. The purpose of the consultation is to provide affected persons the opportunity to raise any potential concerns. As part of the consultation process the land claims commissioner will be contacted to identify if there are any claims on land covered by this application.

Concerns raised will be captured and addressed within the public participation section of this report once finalised and submitted to the authorities. As the final positioning of the drill sites cannot be confirmed without completion of phase 1 of the prospecting programme, a recommendation has been made to ensure that the directly affected landowners are re-consulted a minimum of 1 month prior to implementing invasive activities (drilling). The purpose of the reconsultation is to ensure that socio-economic impacts on directly affected persons can be raised and where possible addressed.

**(2) Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.**

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(j)(vi) and (vii) of that Act, attach the investigation report as **Appendix 2.19.2** and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

Due to the fact that the positioning of the drill sites will only be determined after phase 1 of the prospecting works programme, and in order to ensure that there is no impact on unknown heritage sites, a recommendation has been made to undertake a heritage survey of the drill sites once these are known in order to identify any cultural or heritage resources of significance. Mitigation measures proposed in this report include that no drill site will be located within 50m of any identified heritage site (which may occur during the prospecting programme). During a site inspection, graves were identified on one farm Portion. These graves and any other heritage sites that may be found must be avoided and no drill site may be located within 50m of any identified heritage site.

**u) Other matters required in terms of sections 24(4)(a) and (b) of the Act.**

(the EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24(4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as **Appendix 4**).

The proposed prospecting activities (including the drilling) requested as part of this authorisation is the only current viable manner in which a mineral resource can be identified and used to generate a SAMREC compliant resource which is a minimum requirement to determine whether it is economically viable to invest in mining activities in the area.





# PART B

## ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

### 1) Draft environmental management programme.

- a) **Details of the EAP**, (Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 1(a) herein as required).

This has already been covered . Refer to Part A, Section 1(a) of this document.

- b) **Description of the Aspects of the Activity** (Confirm that the requirement to describe the aspects of the activity that are covered by the draft environmental management programme is already included in PART A, section (1)(h) herein as required).

This has already been covered. Refer to Part A, Section 1(h) of this document.

### c) **Composite Map**

(Provide a map (**Attached as an Appendix**) at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers)

This has already been covered. Refer to Part A as well as Appendix D of this document.

- d) **Description of Impact management objectives including management statements**

- i) **Determination of closure objectives.** (ensure that the closure objectives are informed by the type of environment described)

After prospecting is complete at each drill site, the sites will be rehabilitated to be safe, stable, re-vegetated, non-polluting, non-eroded and in a state that is suitable for agreed post-closure land use.

- ii) **Volumes and rate of water use required for the operation.**

The drilling activities will use between 5 000L to 10 000L per day which falls within “small industrial user” where the use is less than twenty cubic metres per day for prospecting. Therefore the water that will be used for the prospecting activities will be sourced on agreement from an existing authorized water user which could be either the land owner or local municipality. No water will be abstracted in terms of section 21(a) of National Water Act, 1998 (Act no. 36 of 1998).

- iii) **Has a water use licence has been applied for?**



**iv) Impacts to be mitigated in their respective phases**

**Measures to rehabilitate the environment affected by the undertaking of any listed activity**

ACTIVITIES	PHASE	SIZE AND SCALE of disturbance	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION
<p>(E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc</p> <p>E.g. For mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p> <p>Site Establishment activities:                      -Vegetation clearance                      -Topsoil stripping and stockpiling                      -Drill pad compaction                      -Erection of site office, toilets, fuel storage, water tanker, core storage                      -Vehicle movements;                      -Waste management</p>	<p>(of operation in which activity will take place.</p> <p>State; Planning and design, Pre-Construction' Construction, Operational, Rehabilitation, Closure, Post closure).</p> <p>Constructi on/ set-up phase and Operation al Phase</p>	<p>(volumes, tonnages and hectares or m<sup>2</sup>)</p> <p>Max. 0.64 Ha per drill</p>	<p>(describe how each of the recommendations in herein will remedy the cause of pollution or degradation and migration of pollutants)</p> <p>-Undertake heritage survey prior to site activities in order to identify cultural/heritage features and cordon off with chevron tape;                      -Avoid cultural/heritage impacts by maintaining 50m buffer from any identified heritage feature;                      -Any buried artefacts that may be uncovered during site activities to stop and a qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures</p>	<p>(A description of how each of the recommendations herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p> <p>Heritage Act</p>	<p>Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-.. Upon cessation of the individual activity or. Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p> <p>Before and during drilling activities</p>

<p>Exploration Drilling:  - Drilling  -Drilling maintenance and refuelling  -Core sample collection and storage  -Vehicle movements  -Waste generation and management</p>	<p>Constructi on/ set-up phase and Operation phase</p>	<p>Max. 0.64 Ha per drill</p>	<p>-Control noise generation by maintaining equipment;  -Limited to daylight hours on Mondays to Saturdays and no activities on Sundays and Public holidays.  -Maintain a buffer of 500m-1000m between drill sites ad dwelling'  -If intrusive noise levels are experienced by anyone at any point, the source of the noise must be moved if practical, or it must be placed in an acoustic enclosure, or an acoustic barrier must be erected between the source and the recipient.</p>	<p>SANS 10103 guideline</p>	<p>Before and during drilling activities</p>
	<p>Constructi on/ set-up phase and Operation phase</p>	<p>0.64 Ha per drill site</p>	<p>-The drilling rig and other visually prominent items on the site must be located in consultation with the landowner;  -Make sure of existing vegetation as far as possible to screen the prospecting operations from view; and  -If necessary, the operations can be screened from view by erecting a shade cloth barrier.</p>	<p>N/A</p>	<p>Before and during drilling activities</p>
	<p>Constructi on/ set-up phase and</p>	<p>0.64 Ha per drill site</p>	<p>-Control dust emission by ensuring drill rig employs dust suppression system;</p>	<p>GN R.827 (NEM: AQA)</p>	<p>Before and during drilling activities</p>

	Operational phase		<ul style="list-style-type: none"> <li>-Low vehicle speeds must be enforced on unpaved surfaces;</li> <li>-Maintain a buffer of 500m-1000m between drill sites and dwellings.</li> </ul>		
	Construction / set-up phase and Operational phase	0.64 Ha per drill site	<ul style="list-style-type: none"> <li>-The soil disturbance and clearance of vegetation at drill pad areas must be limited to absolute minimum required and must not be dozed or scraped with vegetation roots left intact for later re-growth; and</li> <li>-Disturbed areas must be re-vegetated with locally indigenous species as soon as possible.</li> </ul>	N/A	Before and during drilling activities
	Construction / set-up phase and Operational phase	0.64 Ha per drill site	<ul style="list-style-type: none"> <li>-Avoid hydrocarbon spills by employing proper vehicle maintenance;</li> <li>-Refuelling must be done with care to minimise the chances of spillages;</li> <li>-A spillkit must be available on each site when prospecting activities are in progress;</li> <li>- Any spillages must be cleaned up immediately;</li> <li>-Drill muds to be contained in lined sump and disposed of off-site at a licensed disposal facility.</li> </ul>	GN R. 704 (NWA)	Before and during drilling activities

	Construction / set-up phase and Operational phase	0.64 Ha per drill	<ul style="list-style-type: none"> <li>-All operations must be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution;</li> <li>- All prospecting personnel must be made aware of the local conditions and sensitivities in the prospecting area and the fact some of the local residents may not welcome the prospecting activities in the area;</li> <li>-There must be strict requirements with respect and courtesy at all times.</li> </ul>	NEMA	Before and during drilling activities

### e) Impact Management Outcomes

(A description of impact management outcomes, identifying the standard of impact management required for the aspects contemplated in paragraph ());

<b>ACTIVITY</b> (whether listed or not listed).  (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.).	<b>POTENTIAL IMPACT</b>  (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)	<b>ASPECTS AFFECTED</b>	<b>PHASE</b> In which impact is anticipated  (e.g. Construction, commissioning, operational Decommissioning, closure, post-closure)	<b>MITIGATION TYPE</b>  (modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)  E.g. <ul style="list-style-type: none"> <li>• Modify through alternative method.</li> <li>• Control through noise control</li> <li>• Control through management and monitoring</li> <li>• Remedy through rehabilitation..</li> </ul>	<b>STANDARD TO BE ACHIEVED</b>  (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives) etc.
Site Establishment activities: -Vegetation clearance -Topsoil stripping and stockpiling -Drill pad compaction -Erection of site office, toilets, fuel storage, water tanker, core storage -Vehicle movements; -Waste management	Cultural and Heritage	Destruction or loss of Cultural and Heritage Resources	Construction / Set-up phase and Operational phase	-Undertake heritage survey prior to site activities in order to identify cultural/heritage features and cordon off with chevron tape; -Avoid cultural/heritage impacts by maintaining 50m buffer from any identified heritage feature; -Any buried artefacts that may be uncovered during site activities to stop and a qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures	Heritage Act
Exploration Drilling: - Drilling -Drilling maintenance and refuelling	Noise	Noise Generation	Construction/ Set-up phase and Operational phase	-Control noise generation by maintaining equipment; -Limited to daylight hours on Mondays to Saturdays and no	SANS 10103

<p>-Core sample collection and storage          -Vehicle movements          -Waste generation and management</p>				<p>activities on Sundays and Public holidays.          -Maintain a buffer of 500m-1000m between drill sites and dwellings          -If intrusive noise levels are experienced by anyone at any point, the source of the noise must be moved if practical, or it must be placed in an acoustic enclosure, or an acoustic barrier must be erected between the source and the recipient.</p>	
	<p>Visual</p> <p>Dust Fall</p>	<p>Visual Intrusion</p> <p>Dust fall &amp; nuisance from activities</p>	<p>Construction / set-up phase and Operational phase</p> <p>Construction / set-up phase and Operational phase</p>	<p>-The drilling rig and other visually prominent items on the site must be located in consultation with the landowner;          Make use of existing vegetation as far as possible to screen the prospecting operations from view; and          -If necessary, the operations can be screened from view by erecting a shade cloth barrier.</p> <p>-Control dust emission by ensuring drill rig employs dust suppression system;          -Low vehicle speeds must be enforced on unpaved surfaces;          Maintain a buffer of 500m-1000m between drill sites and dwellings.</p>	<p>N/A</p> <p>GN R. 827 (NEM:AQA)</p>



	Soil and vegetation	Soil vegetation disturbance from drill and preparation	Construction/ set-up phase and Operational phase	<ul style="list-style-type: none"> <li>-The soil disturbance and clearance if vegetation at drillpad areas will be limited to absolute minimum required and will not be dozed or scraped with vegetation roots left intact for later re-growth; and</li> <li>-Disturbed areas must be re-vegetated with locally indigenous species as soon as possible.</li> </ul>	N/A
	Soil, surface water and groundwater	Soil, surface water and groundwater contamination from hydrocarbons	Construction/ set-up phase and Operational phase	<ul style="list-style-type: none"> <li>-Avoid hydrocarbon spills by employing proper vehicle maintenance;</li> <li>-Refuelling must be done with care to minimise the chances of spillages;</li> <li>-A spillkit must be available on each site when prospecting activities are in progress;</li> <li>- Any spillages must be cleaned up immediately;</li> <li>-Drill muds to be contained in lined sump and disposed of off-site at a licensed disposal facility.</li> </ul>	GN R.704 (NWA)
	Social	Friction between local residents/land owners and construction personnel	Construction/ set-up phase and Operational phase	<ul style="list-style-type: none"> <li>-All operations will be carried out under the guidance of a strong, experienced manager with proven skills in public consultation and conflict resolution;</li> <li>- All prospecting personnel must be made aware of the local</li> </ul>	NEMA

				conditons and sensitivities in the prospecting area and the fact some of the local rersidents may not welcome the prospecting activities in the area; -There will be strict requirements with respect and courtesy at all times.	

## f) Impact Management Actions

(A description of impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraphs (c) and (d) will be achieved).

<p><b>ACTIVITY</b> whether listed or not listed.</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)</p>	<p><b>POTENTIAL IMPACT</b></p> <p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc....etc...)</p>	<p><b>MITIGATION TYPE</b></p> <p>(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc. etc)</p> <p>E.g.</p> <ul style="list-style-type: none"> <li>• <b>Modify through alternative method.</b></li> <li>• <b>Control through noise control</b></li> <li>• <b>Control through management and monitoring</b></li> </ul> <p><b>Remedy through rehabilitation..</b></p>	<p><b>TIME PERIOD FOR IMPLEMENTATION</b></p> <p>Describe the time period when the measures in the environmental management programme must be implemented Measures must be implemented when required.</p> <p>With regard to Rehabilitation specifically this must take place at the earliest opportunity. .With regard to Rehabilitation, therefore state either:-..</p> <p>Upon cessation of the individual activity</p> <p>or.</p> <p>Upon the cessation of mining, bulk sampling or alluvial diamond prospecting as the case may be.</p>	<p><b>COMPLIANCE WITH STANDARDS</b></p> <p>(A description of how each of the recommendations in 2.11.6 read with 2.12 and 2.15.2 herein will comply with any prescribed environmental management standards or practices that have been identified by Competent Authorities)</p>
<p>Site Establishment activities:</p> <ul style="list-style-type: none"> <li>_ Vegetation clearance</li> <li>-Topsoil stripping and stockpiling</li> <li>-Drill pad compaction</li> <li>-Erection of site office, toilets, fuel storage, water tanker, core storage</li> <li>-Vehicle movements;</li> <li>-Waste management</li> </ul>	<p>Cultural and Heritage</p>	<ul style="list-style-type: none"> <li>-Undertake heritage survey prior to site activities in order to identify cultural/heritage features and cordon off with chevron tape;</li> <li>-Avoid cultural/heritage impacts by maintaining 50m buffer from any identified heritage feature;</li> <li>-Any buried artefacts that may be uncovered during site activities to stop and a</li> </ul>	<p>Before and during drilling activities</p>	<p>Heritage Act</p>

		qualified archaeologist will be commissioned to assess their significance and determine appropriate mitigation measures		
<p>Exploration Drilling:</p> <ul style="list-style-type: none"> <li>- Drilling</li> <li>-Drilling maintenance and refuelling</li> <li>-Core sample collection and storage</li> <li>-Vehicle movements</li> <li>-Waste generation and management</li> </ul>	Noise	<ul style="list-style-type: none"> <li>-Control noise generation by maintaining equipment;</li> <li>-Limited to daylight hours on Mondays to Saturdays and no activities on Sundays and Public holidays.</li> <li>-Maintain a buffer of 500m-1000m between drill sites and dwelling'</li> <li>-If intrusive noise levels are experienced by anyone at any point, the source of the noise must be moved if practical, or it must be placed in an acoustic enclosure, or an acoustic barrier must be erected between the source and the recipient.</li> </ul>	Before and during drilling activities	SANS 10103
	Visual	<ul style="list-style-type: none"> <li>-The drilling rig and other visually prominent items on the site must be located in consultation with the landowner;</li> <li>Make use of existing vegetation as far as possible to screen the prospecting operations from view; and</li> <li>-If necessary, the operations can be screened from view</li> </ul>	Before and during drilling activities	N/A

	Dust Fall	<p>by erecting a shade cloth barrier.</p> <p>-Control dust emission by ensuring drill rig employs dust suppression system;          -Low vehicle speeds must be enforced on unpaved surfaces;          Manitain a buffer of 500m-1000m between drill sites and dwellings.</p>	Before and during drilling activities	GN R. 827 (NEM: AQA)
	Soil and vegetation	<p>-The soil disturbance and clearance if vegetation at drill pad areas must be limited to absolute minimum required and must not be dozed or scraped with vegetation roots left intact for later re-growth; and          -Disturbed areas will be re-vegetated with locally indigenous species as soon as possible.</p>	<p>Before and during drilling activities.          Disturbed areas to be re-vegetated as soon as possible.</p>	N/A
	Soil, surface water and groundwater	<p>-Avoid hydrocarbon spills by employing proper vehicle maintenance;          -Refuelling must be done with care to minimise the chances of spillages;          -A spillkit must be available on each site when</p>	Before and during drilling activities	GN R. 704 (NWA)

	Social	<p>prospecting activities are in progress;</p> <ul style="list-style-type: none"> <li>- Any spillages must be cleaned up immediately;</li> <li>-Drill muds to be contained in lined sump and disposed of off-site at a licensed disposal facility.</li> </ul> <p>-All operations must be carried out under the guidance of a strong, experienced manager with proven skills in public consultatio and conflict resolution;</p> <ul style="list-style-type: none"> <li>- All prospecting personnel will be made aware of the local conditons and sensitivities in the prospecting area and the fact some of the local residents may not welcome the prospecting activities in the area;</li> <li>-There must be strict requirements with respect and courtesy at all times.</li> </ul>	Before and during drilling activities	NEMA

**i) Financial Provision**

**(1) Determination of the amount of Financial Provision.**

**(a) Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation.**

The closure objective is to return the affected sites as close as possible to their original state, with the only visible impact being either the concrete plinths and capped and locked boreholes earmarked for future use, and/or droppers identifying the locations of sealed boreholes which protrude about 0.5m above the surface for future reference and location.

**(b) Confirm specifically that the environmental objectives in relation to closure have been consulted with landowner and interested and affected parties.**

The closure objectives has been captured within the draft BAR which has been made available to all registered interested and affected parties,

**(c) Provide a rehabilitation plan that describes and shows the scale and aerial extent of the main mining activities, including the anticipated mining area at the time of closure.**

After drilling has been completed in one area, the drilling team will ensure the site is reverted back to its original state by carrying out the following:

- Removing all infrastructures, including the drill rig, the temporary office, the mobile diesel tank, the mobile water tank and the chemical toilet.
- Capping the boreholes as per legal requirements.
- Ensure that no foreign matter is left behind on the drill site.
- Refilling the sump required for the drilling activities. Initially the plastic lining will be removed and disposed of in a registered landfill site and the soil returned to in order to rehabilitate the area.
- The whole drill site will be inspected for any signs of hydrocarbon pollution. Any identified soil which has been polluted as a result of the drilling activities will be removed and disposed of in a registered landfill site.
- Any area compacted as a result of the drill rig will be ripped and any ruts created by accessing or leaving the site for the drilling activity will be filled in to ensure that no future erosion shall occur on site.
- Applicable landowner will be requested to inspect the rehabilitated area.

**(d) Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.**

The closer objectives are to return the land disturbed by drilling activities back to its original condition. The rehabilitation plan above provides the detail on how this will be achieved. Through experience, we can confirm that effective rehabilitation of drill sites is possible and achievable with the rehabilitation plan set out above.

**(e) Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.**

The cost of rehabilitating each borehole site specific is determined at about R580.00

- In the case of re-using the borehole for future data gathering (i.e. water sampling) a concrete plinth is to be installed around each casing and a steel cap with a lock will be installed at a cost of R490.00 per borehole
- In the case of a borehole that will not be reused, concrete will be poured down the borehole to seal its entire length, and a 1m dropper with borehole ID will be installed for future reference and location, at a cost of R1 800.00 per borehole. The total cost of rehabilitation will be in the region of R20 000.00 depending on which combination of re-usable and sealed boreholes are selected.

**(f) Confirm that the financial provision will be provided as determined.**

Confirmation is hereby given in terms of Item 12 in the Prospecting Work Programme as identified in Regulation 7(1)(k)



**Mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon, including**

- g) Monitoring of Impact Management Actions
- h) Monitoring and reporting frequency
- i) Responsible persons
- j) Time period for implementing impact management actions
- k) Mechanism for monitoring compliance

SOURCE ACTIVITY	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES (FOR THE EXECUTION OF THE MONITORING PROGRAMMES)	MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
All Prospecting Activities	N/A  All commitments contained in the BA report and the accompanying EMPr	Ensure that the prospecting programme is being implemented in line with the approved prospecting works programme  Ensure that commitments made within the approved BAR and EMPr are being adhered to.	Site Manager and Uitkomst Geologist  Internal environmental control officer and independent EAP	Submit an annual prospecting progress report to DMR  Undertake and submit an environmental performance audit every two years to DMR
Drilling Activities	Cultural Heritage Resources: -Noise Dustfall -Visual; -Soil and Vegetation; -Soil, surface water and groundwater; -Social;	Monitor Ground water quality and level within 500m from a drill site. Weekly inspections will cover the following: -Implementation of effective waste management; -Establish and implement a stakeholder complaints register on site and ensure that all complaints are responded to immediately;	Appointed drilling contractor	Weekly inspection and reporting.



**l) Indicate the frequency of the submission of the performance assessment/ environmental audit report.**

An environmental performance audit report will be undertaken by an independent environmental assessment practitioner (EAP) every 2 years after the granting of the prospecting right and authorisation.

**m) Environmental Awareness Plan**

**(1) Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.**

Before commencement of the prospecting activities all employees and contractors who are involved with such activities should attend relevant induction and training. It is standard practice for employees and the employees of contractors that will be working on a new project or at a new site to attend an induction course where the nature and characteristics of the project and the site are explained. The training course should include key information abstracted from the EMP pertaining to the potential environmental impacts, the mitigation measures that will be applied, the monitoring activities that will be undertaken and the roles and responsibilities of contractors' and De Beers personnel. The full EMP document is also made available to attendees.

**(2) Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.**

Environmental risks and how to manage them are dealt with in the induction course referred to in section (m) (i) above. If an incident of environmental pollution or damage does occur it is analysed and appropriate prevention and/or mitigation measures are developed. These measures are added to the EMP and conveyed to the relevant personnel. All unplanned incidents with the potential to cause pollution or environmental degradation or conflict with local residents will be reported to The Mineral Resources Manager within 24 hours.

**Hydrocarbon Spills**

Hydrocarbon spills that are considered to be emergency incidents are largescale spills (cover a surface area >1m<sup>2</sup>), resulting from situations such as; a leaking diesel bowser, an oil drum that is knocked over, large spillages from equipment, etc. Activities that are involved in the clean-up of such instances include:

- The containment of the spill,
- The removal of all contaminated material, and
- The disposal (at a licenced hazardous disposal facility) or bioremediation (at a licenced facility) of this material.

**Fire**

There is the potential for fire to occur in the following locations of the drill site:

- Veld fires across vegetated areas; and
- Vehicles and equipment.

Veld fires: Any person who observes the fire must report it to the fire brigade immediately and then to their supervisor. If possible, additional personnel may be sent to contain the fire, but only if the lives of the personnel will not be endangered.

Vehicles and Equipment: Fire extinguishers will be available at the site where drilling activities will take place and in the vehicles. All staff members will be trained in the use of fire-fighting equipment.

**n) Specific information required by the Competent Authority**  
(Among others, confirm that the financial provision will be reviewed annually).  
Not applicable at this stage

## 2) UNDERTAKING

The EAP herewith confirms

- a) the correctness of the information provided in the reports
- b) the inclusion of comments and inputs from stakeholders and I&APs ;
- c) the inclusion of inputs and recommendations from the specialist reports where relevant; and
- d) that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. parties are correctly reflected herein.

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Signature of the environmental assessment practitioner:

Afzelia Environmental Consultants (Pty) Ltd

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Name of company:

24 August 2017

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Date:

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