

**PROPOSED DEVELOPMENT OF MAXWILL OPENCAST  
ALLUVIAL DIAMOND MINE AND ASSOCIATED  
INFRASTRUCTURE , NORTHERN CAPE PROVINCE  
FINAL SCOPING REPORT**

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

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**FILE REFERENCE NUMBER SAMRAD: NC30/5/1/2/2/10148 MR**

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## **IMPORTANT NOTICE**

*In terms of the Mineral and Petroleum Resource 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 environment”*

*Unless an Environmental Authorisation can be granted following the evaluation of Environmental Impact Assessment and Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it can 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 to the submission of applications.*

*It is therefore an instruction that the prescribed reports required in respect of application for an environmental authorisation for listed activities triggered by an application for 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 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 un-interpreted information and that it unambiguously represents the interpretation of the applicant.***

## **OBJECTIVES OF THE SCOPING REPORT**

*The objective of the scoping process is to, through a consultative process-*

- (a) Identify the relevant policies and legislation relevant to the activity;*
- (b) Motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;*
- (c) Identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;*
- (d) Identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and ranking process of all identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;*
- (e) Identify key issues to be addressed in the assessment phase;*
- (f) Agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequences, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and*
- (g) Identify suitable measures to avoid, manage or mitigate identified impacts and to determine the extent of the residual risks that needs to be managed and monitored.*

## **EXECUTIVE SUMMARY**

### **Background**

This is the application for the Environmental Impact Assessment (EIA) for the proposed mining of alluvial diamonds on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167 located within the Herbert Magisterial District in the Northern Cape Province. The lodged application was submitted to the Department of Mineral Resources (DMR) on 5th of October 2018 and the following reference number NC30/5/1/2/2/10148 MR was issued by the DMR.

The application includes various activities that are listed in terms of GNR listing number 983 and GNR listing 984 as promulgated in terms of the National Environmental Management Act 107 of 1998 (NEMA), as amended, requiring environmental authorisation. These listed activities cover the necessary infrastructure that would make the proposed mining activities to be feasible.

The process that was followed is a regulated process in terms of the NEMA for all EIAs. While the process is at scoping phase, it is important to note that the entire process will include an integrated public participation process, scoping report, environmental impact report and an environmental management plan before any decision can be taken or made on whether to permit the development or not.

### **Scoping and Environmental Impact Assessment (S&EIA) process**

A S&EIA is conducted in two phases. The first phase is scoping and the second phase is the EIA/EMPr report compilation. The scoping phase will

commence once the application has been submitted with the competent authority and the following tasks will be undertaken: identify interested and affected parties (I&APs) and stakeholders, identify relevant policies and legislation; consider the need and desirability of the project; consider alternative technologies and sites; identify the potential environmental issues; determine the level of assessment and public participation process required for the EIA phase; and identify preliminary measures to avoid, mitigate or manage potential impacts. The objectives of the EIA phase will be to assess the potential impacts associated with the preferred project alternatives as per the terms of reference for the assessment that are set out in the scoping report. The EIA/EMPr report will document the assessment findings and will detail the measures required to avoid, mitigate and/or manage the potential impacts. The requirements for the S&EIA process are specifically contained in Chapter 4 Part 3 of the NEMA Reg No 326 (amended on 7 April 2017). The EIA process can take up to 300 days to complete (87 days for scoping phase, 106 days for EIA phase, and 107 days for competent authority to review).

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## ACRONYMS AND ABBREVIATIONS

### LIST OF ABBREVIATIONS

**BID:** Background Information Document

**DEA:** Department of Environmental Affairs

**DMR:** Department of Mineral Resources

**DWS:** Department of Water and Sanitation

**EA:** Environmental Authorisation

**EIA:** Environmental Impact Assessment

**EIAR:** Environmental Impact Assessment Report

**EMPr:** Environmental Management Programme

**GN:** Government Notice

**HIA:** Heritage Impact Assessment

**I&AP:** Interested & Affected Party

**MPRDA:** Minerals and Petroleum Resources Development Act, 2002

**NEM: WA:** National Environmental Management: Waste Amendment Act, 2008

**NEMA:** National Environmental Management Act, 1998 (Act No. 107 of 1998)

**NHRA:** National Heritage Resources Act, 1999 (Act No. 25 of 1999)

**NWA:** National Water Act, 1998 (Act No. 36 of 1998)

**PPP:** Public Participation Process

## 1. INTRODUCTION

### Background and Introduction

This is the application for the Environmental Impact Assessment (EIA) for the proposed mining of alluvial diamonds on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167 located within the Herbert Magisterial District in the Northern Cape Province. The lodged application was submitted to the Department of Mineral Resources (DMR) on 5th of October 2018 and the following reference number NC30/5/1/2/2/10148 MR was issued by the DMR.

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The process that was followed is a regulated process in terms of the NEMA for all EIAs. While the process is at scoping phase, it is important to note that the entire process will include an integrated public participation process, scoping report, environmental impact report and an environmental management plan before any decision can be taken or made on whether to permit the development or not.

### 1.1 Scoping Phase

The scoping phase is conducted as the precursor to the Environmental Impact Assessment (EIA) process during which:

Project and baseline environmental information is collated. Baseline information for the scoping report is gathered through visual inspections during

field visits of the proposed project area and surroundings, desktop studies which include GIS mapping, and review of existing reports, guidelines and legislation.

- Landowners, adjacent landowners, local authorities, environmental authorities, as well as other stakeholders which may be affected by the project, or that may have an interest in the environmental impacts of the project are identified.
- Interested and affected parties (I&APs) are informed about the proposed project.
- Environmental authorities are consulted to confirm legal and administrative requirements.
- Environmental issues and impacts are identified and described.
- Development alternatives are identified and evaluated, and non-feasible development alternatives are eliminated.
- The nature and extent for further investigations and specialist input required in the EIA phase is identified.
- The draft and final scoping reports are submitted for review by authorities, relevant organs of state and I&APs.
- Key I&AP issues and concerns are collated into an issues and response report for consideration in the EIA phase.

## 1.2 EIA Phase process

After the initial scoping phase, the EIA phase of the application includes:

- Specialist investigations are undertaken in accordance with the terms of reference established in the scoping assessment (plan of study for EIA appended to the scoping report). The scope for specialist work is determined
- accordingly to the nature and scale of the project impacts.

- An evaluation of development alternatives and identification of a proposed option.
- An assessment of existing impacts (no-go development option), environmental impacts that may be associated with the proposed project option, and cumulative impacts using the impact assessment methodology.
- Identification of mitigation measures to address the environmental impacts and development of actions required to achieve the mitigation required.
- Consultation with I&APs.
- Incorporation of public comment received during scoping and the draft EIA into the final EIA report.

## **2 ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)**

### **2.1 Details of the EAP**

Maxwill 146 CC( Maxwill) has appointed Ndi Geological Consulting Services (Pty) Ltd (Ndi Geological Consulting) as an independent Environmental Assessment Practitioner (EAP) to undertake a Scoping and Environmental Impact Assessment (S&EIA) process relevant the application for a mining right.

Ndi Geological Consulting has experience in providing comprehensive Environmental and Mining services. Details of the EAP are detailed in Table 1

Table 1: Details of the EAP

| ITEM   | CONSULTANT CONTACT DETAILS (If applicable)  |
|--|---|
| Name   | Ndi Geological Consulting Services (Pty) Ltd  |
| Tel no   | 053-8420687   |
| Fax no:  | 086-5381069   |
| Cellular no  | 0827608420  |
| E-mail address   | E: ndi@ndigeoservices.co.za<br>E: atshidzaho@gmail.com                                    |
| Postal address   | P O Box 10489<br>Beaconsfield<br>Kimberley<br>8315  |
| <b>Expertise of the EAP</b>  |   |
| <b>The qualifications of the EAP</b>   | BSc (Hons) Earth Sciences in Mining and Environmental Geology.<br><br>University of Venda |
| <b>Summary of the EAP's past experience.</b>   |   |
| <p>Ndivhudzanyi graduated with an Honours degree in Earth Science majoring in Mining and Environmental Geology. She is a self-motivated and hardworking geologist with 8 years' experience in the environmental, mining exploration, open cast work and consulting in the mining industry. She has proven leadership skills from supervising exploration rigs (Reverse Circulation and Percussion Drilling). Proven field experience in exploration i.e. mapping, borehole logging, borehole sampling, sample preparation for laboratory analysis and supervisory duties in the field. Ndivhudza also has experience in writing geological reports including Prospecting Work Programmes, Mining Work Programmes, Scoping Reports and Environmental Impact Assessment Reports, and handling of DMR documents in general. She has conducted environmental audits for mines. Ndivhudza's expertise also extends across annual reporting assessment, environmental authorizations and conducting public participation processes.</p> <p>Please refer to Appendix B for a copy of the EAP's Curriculum Vitae</p> |   |

## 2.2 Description of the property

The location of the property with reference to the nearest towns, the details of the farms and the extent of the application area are described in Table 2 below:

Table 2: Description of the property

|   |   |                      |                       |
|---|---|----------------------|-----------------------|
| <b>Farm name:</b>                               | The remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167. |                      |                       |
| <b>Application area Ha</b>                      | 4499.8323 ha  |                      |                       |
| <b>Magisterial district</b>                     | Herbert Magisterial District  |                      |                       |
| <b>Distance and direction from nearest town</b> | ±11km west of Plooyburg and 42 km east of Douglas town  |                      |                       |
| <b>21 digit surveyor General Code</b>           | <b>Farm name</b>  | <b>Portion</b>       | <b>SG Code</b>        |
|   | Spaar Hoek 90   | Remaining Extent (0) | C0320000000009000000  |
|   | Spaar Hoek 90   | 2                    | C0320000000009000002  |
|   | Blaauwbosch Fontein 91  | Remaining Extent (0) | C0320000000009100000  |
|   | Blaauwbosch Fontein 91  | 2                    | C0320000000009100002  |
|   | Zulani 167  | Remaining Extent (0) | C03700000000016700000 |

The proposed Mining Right application is located in an area west of Plooyburg in the Herbert District covering a combined area of 4499.8323 hectares to mine alluvial diamonds. The application runs on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167.



The property is accessed via R357 Main Road which also forms part of its north boundary (Figure 1 and Figure 2 in Appendix 1).

### **3 POLICY AND LEGISLATIVE CONTEXT**

Applicable legislative and guidelines used to complete this report.

#### **3.1 The constitution of the Republic of South Africa, 1996 (Act No.108 of 1996)**

Under section 24 of the Constitution of the Republic of South Africa, it is clearly stated that:

Everyone has the right to (a) an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that -

- (i) Prevent pollution and ecological degradation;
- (ii) Promote conservation; and
- (iii) Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

#### **3.2 National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA)**

The main aim of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) is to provide for co-operative governance by establishing decision-making principles on matters affecting the environment. In terms of the NEMA EIA regulations, the applicant is required to appoint an environmental assessment practitioner (EAP) to undertake the EIA, as well as conduct the public participation process. In South Africa, EIA became a legal requirement in 1997 with the promulgation of regulations under the Environment Conservation Act (ECA). Subsequently, NEMA was passed in

1998. Section 24(2) of NEMA empowers the Minister and any MEC, with the concurrence of the Minister, to identify activities which must be considered, investigated, assessed and reported on to the competent authority responsible for granting the relevant environmental authorisation. It was further amended in April 2017

### **3.3 Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA)**

In terms of the MPRDA, an application for a mining right must be supported by various documents, including a Scoping Report, EIA and EMP. A scoping report and EIA report will thus be compiled to meet the requirements of the MPRDA. This process will however run in parallel to this EIA process undertaken to meet the requirements of NEMA, NEM:WA and the NWA. In support of the application to obtain the mining right, Maxwill is required to conduct a Scoping Report, EIA /EMPr and I&AP consultation process that need to be submitted to the DMR for assessment.

### **3.4 National Environmental Management: Waste Act (No. 59 of 2008)**

Waste management activities in respect of which a Waste Management Licence (WML) is required are to be undertaken in accordance with section 20 (b) of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA). The Act lists activities triggered for the Maxwill mining project and for the management of waste that will be generated thereof in order to prevent environmental pollution and littering. On 2 June 2014 the National Environmental Management: Waste Amendment Act came into effect.

Waste is now subject to all the provisions of the National Environmental Management. It is now important to consider Section 16 of the NEMWA which states as follows:

A holder of waste must, within the holder's power, take all reasonable measures to-

- "Avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and

amounts of waste that are generated;

- Reduce, re-use, recycle and recover waste;

- Where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally

sound manner;

- Manage the waste in such a manner that it does not endanger health or the environment or cause a

nuisance through noise, odour, or visual impacts;

- Prevent any employee or any person under his or her supervision from contravening the Act; and

- Prevent the waste from being used for unauthorised purposes."

These general principles of responsible waste management will be incorporated into the requirements in the EMP to be implemented for the proposed mining project. The NEM: WA provides for specific waste management measures to be implemented; as well as providing for the licensing and control of waste management activities. Waste management activities will be applicable to Category A, B and C.

- ◆ Category A describes waste management activities requiring a Basic Assessment process to be carried out in accordance with the EIA regulations supporting an application for a waste management licence.
- ◇ Activity 13
- ◆ Category B describes waste management activities requiring an Environmental Impact Assessment process to be conducted in accordance with the EIA regulations supporting a waste management licence application.
- ◇ Activity 7:
- ◇ Activity 11
- ◆ Category C describes waste management activities that do not require a WML but these activities will have to comply with the prescribed requirements and standards as prescribed by the Minister, which includes the Norms and Standards for Storage of Waste, 2013. These activities include the storage of general waste at a facility with a capacity to store in excess of 100 m<sup>3</sup>; and storage of hazardous waste in excess of 80 m<sup>3</sup>.

### **3.5 National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (NEM: AQA)**

The National Environmental Management: Air Quality Act (NEM:AQA) (Act No. 39 of 2004 as amended) provides for the identification of priority pollutants and the setting of ambient standards with respect to these pollutants.

Where applicable, the project will have to conform to the rules of this law.

### **3.6 National Environmental Management: Biodiversity Act (No. 10 of 2004)**

The National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) (NEM: BA) regulates the protection of species and ecosystems that require national protection and also takes into account the management of alien and invasive species that may be removed or threatened by the proposed mining activities.

### **3.7 National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA)**

The National Heritage Resources Act (NHRA) (Act 25 of 1999) clearly specifies that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34(1) of the NHRA states that, “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority” A Heritage Impact Assessment Permit will need to be obtained before any heritage resource can be disturbed.

### **3.8 National Water Act (No. 36 of 1998)**

The National Water Act (Act No. 36 of 1998) (NWA) administered by the Department of Water and Sanitation (DWS) regulates the sustainable and equitable use and protection of water resources.

Regulations for the use of water for mining and related activities aimed at protected water resources (GNR. 704, June 1999) were promulgated in terms of Section 26 of the NWA. These provide for:

Restrictions on the locality with respect to residue deposits, dam or reservoirs as well as mining activities within the proximity of a watercourse.

Restriction on the use of material that can pollute a water resource for the purposes of construction.

Capacity requirements of clean and dirty water systems.

Protection of water resources from pollution sources at the mine in particular the separation of clean and dirty water and the prevention of spillages from dirty water containment facilities.

## **4 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY**

### **4.1 Mining operations**

The proposed project involves the development of an opencast diamond mine and supporting infrastructure. The diamond material will be excavated from the pit using a bucket excavator and transported by an ADT to the overburden stockpile area. The proposed mine will require support infrastructure such as water access roads, storage, fuel storage, waste dump, topsoil storage etc. in Figure 3 in Appendix 1) shows the initial site plan for the mine infrastructure.

#### **4.1.1 Mining methodology**

The project involves the development of an opencast diamond mine and supporting infrastructure. Due to the proximity of the diamond resources to the surface, an open cut method was the best option to extract the resources

hence the diamonds will be mined through opencast using conventional truck and excavator mining methods. The mining blocks will be 50m by 20m and the benches 10m high. The area to be mined is approximately 4499.8323 ha.

#### **4.1.2 Supporting infrastructure**

##### **Ablution facility**

A small area of less than 16m<sup>2</sup> will be used for the ablution facilities.

##### **Access roads**

The property is accessed via the 357 Main Road from Douglas to Plooyburg. The road forms the southern boundary of the properties. A haul road is proposed which will run from the pit to the plant area.

##### **Chemical storage**

A storage area of about 0.03ha will be necessary to store chemicals that will be used during the mining process. This facility will be adequately monitored in order to manage the potential risks of spillages, fire and /or explosion.

##### **Diesel storage**

A diesel storage area of about 0.02ha will be required. This facility will be adequately monitored in order to manage the potential risks of fire and /or explosion.

##### **Domestic waste facility**

General waste will have a demarcated area where the waste will be separated according to type. The rubbish bin containers will be labelled accordingly.



When full, the waste will be disposed off in the right disposal area for such waste.

### **Electricity**

The primary source of power will be generators supplying power to the mining operations and plant facilities. Should there be a need for electricity, permission will have to be obtained from Eskom as there are existing power lines in the area.

### **Fences**

A fence will be erected around the mining area for safety reasons. This will prevent animals from falling into the pits. This will also prevent unauthorised access within the mining area.

### **Office site**

Office area of approximate 0.007 ha for storage of some stationary and for the field staff to work from will be erected on site.

### **Settling dam**

A settling dam will be constructed adjacent to the processing plant.

### **Plant site**

A plant will be required for processing the gravel mined from the pits.

### **Vehicle parking area**

Vehicles and the other machinery used during mining will need a parking space of approximately 1 hectare.

## **Waste dump**

All hazardous wastes will be stored and handled appropriately prior to being disposed of by a licensed hazardous waste disposal contractor.

## **Water pipelines**

The main water source will be the Riet River. Pipes and pumps will be constructed to pump water from the river directly to the process plant. Process water will be managed and re-used throughout the operations of the project via clean and dirty water separation system, which shall include separate drains.

## **Water reservoir.**

A water reservoir will be required for the processing of diamonds and for other uses in the mine. A space of about 0.4ha will be sufficient to accommodate it.

## 4.2 Listed and specified activities

Table 3: Listed and specified activities

| <b>NAME OF ACTIVITY</b><br>E.g. For prospecting - drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route etc...etc...etc<br>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>Aerial extent of the activity in Ha or m<sup>2</sup></b> | <b>Listed activity mark with an x where applicable or affected</b> | <b>Applicable listing notice (GNR 983, GNR 984 or GNR 985 or NOT LISTED)</b> | <b>WASTE MANAGEMENT AUTHORIZATION</b><br>(Indicate whether an authorisation is required in terms of the Waste Management Act).<br>(Mark with an X) |
|--|---|--|--|--|
| Mining Area  | 4499.8323 ha  | X  | GNR 984 (15, 17)   |  |
| Ablution facility  | >16m <sup>2</sup>   | X  | GNR 983 (25)   |  |
| Topsoil Stockpile  | 1ha   | X  | GNR 983 (27)   |  |
| Access roads   | 4ha   | X  | GNR 983 (24, 27)   |  |
| Chemical storage   | 0.03ha  | X  | GNR 983 (14)<br>GNR 984 (4)  |  |
| Diesel storage   | 0.02ha  | X  | GNR 983 (14)   |  |

|                         |        |   |                                      |                            |
|-------------------------|--------|---|--------------------------------------|----------------------------|
|                         |        |   | GNR 984<br>(4)                       |                            |
| Domestic Waste Facility | 1ha    | X | GNR 983<br>(27)                      | X Category<br>A (1, 3, 12) |
| Electricity             | 1ha    | X | GNR 983<br>(2, 12)<br>GNR 984<br>(2) |                            |
| Fencing                 | 1ha    | X | GNR 983<br>(27)                      |                            |
| Office site             | 0.07ha | X | GNR 983<br>(27)                      |                            |
| Settling dam            | 1ha    | X | GNR 983<br>(13)<br>GNR 984<br>(16)   | X Category<br>A (1, 3, 12) |
| Vehicle parking area    | 1ha    | X | GNR 983<br>(27)                      |                            |
| Waste dump              | 1ha    | X | GNR 983<br>(27)                      | X Category<br>A (1, 3, 12) |
| Water pipelines         | 1ha    | X | GNR 983<br>(9, 10, 12,<br>19,)       |                            |
| Water reservoir         | 0.4ha  | X | GNR 983<br>(13)                      |                            |
| Contractor's camp       | 0.1ha  | X | GNR 983<br>(27)                      |                            |

### 4.3 Staff requirements

The planned labour complement for Maxwill is expected to be 13 employees. Judging by the amount of resources calculated, Maxwill considered the labour complement adequate for the mining operation envisaged. Contractors will

be required to honour commitments made in the SLP and also to comply with the Mining Charters requirement in terms of Black Economic Empowerment (BEE).

## **5 NEED AND DESIRABILITY OF THE PROPOSED PROJECT**

Although the mining industry has not been performing well for the past few years, it still remains the cornerstone of the economy. It is still one of the biggest employers in the world. The Northern Cape economy is anchored by the primary sector specifically the mining industry with the primary sector contributing 32.6%, secondary 6.2% and the tertiary sector 49.8% (Statistics SA: GDP p0441: 2010). Although the tertiary sector contributes almost 50%, the mining industry alone contributes 24, 6% to the provincial value addition. Northern Cape recorded an average real annual economic growth rate of 2, 5% between 1996 and 2007. Average real annual economic growth rate of South Africa for the same period (1996 to 2007) was 3, 6%. Despite production challenges, diamond consumer demand has increased since a 2015 drop in global demand.

An analysis of the geological information for the study area has determined that the area has potential for diamond reserves. In order to ascertain the above and determine the nature, location and extent of the diamond reserves within the proposed mining area, it will be necessary that mining be undertaken.

The information obtained through prospecting has proved that there are diamond resources on the properties. The quantity of the reserves available within the proposed mining area has been determined hence Maxwill has entered into the Mining Right application process.

Should the application for a mining right be successful, Maxwill will be able to mine the available reserves. This will result in job creation and boost to Herbert District Municipality economy and subsequently boost the province and the country's economy as well.

Maxwill has made a commitment to develop the community through a Social and Labour Plan (SLP) which outlines the Local Economic Development (LED) programmes set for the Siyancuma and Herbert communities. The main priority of the LED programmes is to improve the education, provide mentorship to the surrounding communities with the main focus being on Historically Disadvantaged South African (HDSA) employees.

## **6 PERIOD FOR WHICH ENVIRONMENTAL AUTHORISATION IS REQUIRED**

The Mining Right will be required for a period of 10 years.

## **7 PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED SITE**

Project alternatives must be considered in terms of Section 28 of the EIA Regulations (2010), With reference to the site plan provided as Figure 4 in Appendix 1) 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 or no-go alternative

### **7.1 Location alternatives**

Maxwill has applied for a mining right on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167. These properties have potential for diamond mineralisation due to the nature of the geology that covers it. The succession on the applied area, varies from about, oxidized surface of loose lag gravel dominated by banded ironstone clasts, underlain by a hard layer (0.5-3m thick) of calcrete, which is in turn underlain by a sandy, fine grained silcrete cemented, gravel horizon. The latter horizon is in turn generally underlain by an extensive, coarse and loosely cemented boulder bed hosting intercalated gravels and sandy lenses. The site is therefore regarded as the preferred site and no alternatives have been considered. Prospecting work conducted on the proposed study area has verified the availability of diamond mineralisation.

### **7.2 The type of activity to be undertaken**

Opencast mining of diamonds will take place on the proposed site using conventional truck and excavator mining methods. The mining blocks will be 50m by 20m and the benches 10m high.

### **7.3 The design or layout of the activity**

Supporting structures plan provided is not necessarily final, this may change after specialist studies have been conducted and the results suggest that sensitive areas may be affected.

### **7.4 The technology to be used in the activity**

Overburden stripping and resource mining will be done using excavators, creating and maintaining mine using bulldozer and grader, managing material around the stockpiles using front end loader a front-end loader, as well as transportation of material from the mine to the plant and vice versa using dump trucks. Water trucks will be used to transport water and to spray on the ramps and roads to reduce dust emission. Generators for will be required to supply power in the mine and plant areas.

### **7.5 The operational aspects of the activity**

The main source of water that will be used in the mining and processing plant areas will be the river. Pipelines will be installed in order to supply water from the river to the processing plant. A water reservoir will also be put in place for collection of water. Generators will be the main source of power both in the mining and processing plant facilities. Access roads will also be constructed in areas where there are no existing access routes and for the haul trucks to be able to transport mined out material to the stockpile and plant areas.

### **7.6 The No-Go alternative**

By not implementing mining, it means that the current land use of the proposed study area will remain the same. This means that no disturbance to the environment will be caused by this particular project. It has been proven that there are diamond resources on the property. If mining does not take place,



this will result in financial loss to Maxwill and a lost opportunity to contribute to the economy. More people in the Herbert area will stay jobless as a chance to create more jobs will have been lost.

## **8 PUBLIC PARTICIPATION PROCESS (PPP)**

Public Participation is an integral part of the EIA process and is regarded as a way of empowerment and as a vital part of our democratic governance. Ndi Geological Consulting Services (Pty) Ltd has been appointed by Maxwill as a main independent consultant to undertake the EIA process as required in terms of the NEMA.

Public participation is defined as a process that leads to a joint effort by stakeholders, technical specialist, the authorities and the proponent to work together to produce better decisions than if they had acted independently.

### **8.1 PPP Objectives**

Some of the key EIA requirements with regards to public participation include the following:

- Mining Application and EIA must be publicly advertised (e.g. on site and or in newspaper);
- Public consultation during scoping phase to identify issues of concern which needs to be considered during the EIA phase of the project;
- Public to review the Scoping Report and EIA Report;
- Public may appeal within 21 days after the Environmental Authorization has been issued by the authority.

## 8.1 Public participation in EIA

NEMA supports the engagement of all stakeholders in environmental governance. Consultation in the EIA process achieves the following aspects:

- Inform and raise awareness of the proposal;
- Increase understanding amongst stakeholders;
- Identify and learn from local sources of information;
- Inform and improve decision-making.

## 8.2 Consultation methods

### Announcement Phase

I&APs were notified using relevant guidelines applicable to public participation process as contemplated in section 24J of the Act. Notifications which relate to this mining right application were done after the acceptance of the mining right application and Environmental Authorisation application. I&APs parties were consulted in one of the following forms:

### **Newspaper advertisement**

A newspaper advertisement was placed in the Diamond Fields Advertiser newspaper on the 24<sup>th</sup> of October 2018 in English. A second advertisement was placed in the Noordkaap newspaper in Afrikaans on the 4<sup>th</sup> of October 2018. Both of the advertisements were notifying the public of the EIA process and requesting I&APs to register with, and submit their comments to Ndi Geological Consulting. I&APs were given 30 calendar days to submit their comments on the proposed mining project.

## **Site notices**

Permission was obtained from the school principal to distribute 250 site notices to the primary school kids to give to their parents. The reason being that Plooyburg is a small town and not everyone can get hold of a newspaper. The letters (notices) were distributed on the 1st of October 2018 to further inform the stakeholders and the public in general about the proposed mining activities.

## Scoping Phase

### **Direct notification and circulation of the Draft Scoping Report to identified stakeholders**

Key stakeholders were sent letters by registered post from. Background Information Document (BID) were also sent to the stakeholders. The BID had a comments sheet attached to it for registered I&APs to submit their comments on the project. The key stake holders were also informed about the availability of the Draft Scoping Report which could be sent via email.

Comments and concerns from the stakeholders will be documented and addressed. Stakeholders requested to be registered as I&APs as well as requested documents relating to the project.

## EIA Phase

This phase begins once the Scoping Report has been submitted and accepted by DMR within 43 days. The stakeholders will be given 30 days to review and comment on the EIA/EMPr documentation. The EIA/EMPr must be submitted

to the DMR within 106 days for review. The DMR will then review the documents within 107 days and make a decision on the application.

### Appeal Phase

The stakeholders will be notified of the DMR decision. Information on how to appeal the decision made by the DMR will be made available to the stakeholders.

### 8.3 Summary of issues raised by I&APs

All the issues raised by I&APs (Table 40) will be documented, addressed and attached as part of the Final Scoping Report.

Table 4: Issues raised by I&APs

| Interested and affected parties.<br>List the names of person consulted in this column, and mark with an X where those who must be consulted were in fact consulted | Date comments received | Issues raised | EAPs response to issues as mandated by the applicant. | Section and paragraphs reference in this report where the issues and or response were incorporated |
|--|------------------------|---------------|---|--|
| INTERESTED AND AFFECTED PARTIES  |                        |               |   |  |

| Land owners |   |                  |  |  |   |
|-------------|---|------------------|--|--|---|
| Resident 1  | X | 03 November 2018 | As you can see that the community of Plooyburg is very disadvantaged, are there going to be any opportunities for us?  | Mrs Mofokeng explained that there will be opportunities that will be created because the legislation requires that any mining company, must be responsible for the social and economic developments in the communities they operate in.  | No specific section or paragraph of the Scoping report. |
| Resident 2  | X | 03 November 2018 | From the farms you have mentioned on your presentation, how is that operation going to affect us as the people of Plooyburg because those farms are far from us? | Your question is correct, any one would want to know why we chose to have a meeting at Plooyburg, and not at these farms or in Douglas.<br><br>I am sure that you are aware of the farms that we are referring to in this application. Plooyburg is about 20 or 30 km closer to these farms which means you are a direct community to this mining operation. According to the legislation, interested and affected parties need to be informed and | No specific section or paragraph of the Scoping report. |

|            |   |                  |  |  |                                  |
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|            |   |                  |  | <p>comments or concerns be gathered from them in terms of how they feel about the mining operation. We are here to inform you, the community about this application for mining right by Maxwill, and not only to inform you on how you will benefit, but also to inform you of the negative impacts that this mining activities might cause in the communities.</p> <p>In the past, communities only saw operation taking place without their knowledge and also without their concerns being heard but know things have changed. Mining companies are required by law to consult with the communities. That is why we are having this meeting with you.</p> |                                  |
| Resident 3 | X | 03 November 2018 | Because I heard you saying that the mine operation might bring developments to our community, we need flushing toilets, proper road and schools. | Thank you very much for your comment and it has been note. As part of the consultation process for application for mining right, we also consult with the district municipalities in order to  | No specific section or paragraph |

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|  |  |  |  | <p>know the needs in areas that we will be operating in. There is a document called the municipal integrated development plan which is compiled by every municipality, where in they identify the needs of each town in order of priority.</p> <p>In this case, Maxwill identified projects that they knew they will fit into their budget for a period of five years. Should there be projects that the communities think that are of importance, the community can go to the municipality and inform them of what their needs are. It will be a challenge for a mining company to install flushable toilets if the municipality is not assisting with water and sewerage dams. So the developments can be done in the community, but they have to be realistic and all stakeholders will need to get involved.</p> | <p>of the<br/>Scoping<br/>report.</p> |
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| Resident 4                                   | X | 03 November 2018 | Most of the youth in our community are not working, are there going to be employment opportunities?  | Definitely there will be employment opportunities. Plooyburg is a labour sending area and the community will be given a chance to apply for position at the mine. | No specific section or paragraph of the Scoping report. |
| Resident 5                                   | X | 03 November 2018 | We are grateful to you ladies for coming to us with this information. We as the community of Plooyburg, most of us including our children we work at the farms. So, we happy to hear that those not working will also benefit from this operation. | Noted   | No specific section or paragraph of the Scoping report. |
| KM Makale (For Land and Development Manager: | X | 05 December      | This notice affects the existing Eskom Distribution's power lines, Herbert/St Clair  | Noted   | No specific section or                                  |

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| Eskom) |  | 2018 | <p>1 22kV Overhead Line which traverses the proposed mining area. The approximate positions of these services are indicated on the attached locality Map. Eskom Distribution will raise no objection to the proposed Mining operations on the above mentioned properties provided Eskom's rights and services are acknowledged and respected at all times. Eskom's rights are protected by Wayleave Agreements and Servitudes. The approximate positions of these services are indicated on the attached sketches. Further to the above the following conditions must be adhered to and accepted in writing before any development and or construction:</p> |  | <p>paragraph of the Scoping report.</p> |
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|  |  | <p>A.1 Access and egress Eskom shall at all times retain unobstructed access to and egress from its servitudes and services.</p> <p>A.2 Approvals</p> <p>A.2.1 Eskom's consent doesn't relieve the applicant from obtaining the necessary statutory, land owner or municipal approvals.</p> <p>A.2.2 The applicant will adhere to all relevant environmental legislation. Any cost incurred by Eskom as a result of non-compliance will be charged to the applicant.</p> <p>A.3 Eskom Cables Eskom's underground</p> |  |  |
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|  |  |  | <p>cables affected must be placed in sleeves encased in concrete across the width of the servitude, at the applicant's expense. Materials to be used and relevant dimensions shall be determined as required.</p> <p>A.4 Dimensions No construction or excavation work shall be executed within 11 metres from any Eskom power line structure, and/or within 11 metres from any stay wire.</p> <p>A.5 Earthing All work within Eskom's servitude areas shall comply with the relevant Eskom standards in force at the time.</p> |  |  |
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|  |  | <p>A.6 Expenditure If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the applicant's activities or because of the presence of his equipment or installation within the servitude or wayleave area, the applicant shall pay such costs to Eskom on demand.</p> <p>A.7 Ground level variations Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall</p> |  |  |
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|  |  |  | <p>be to Eskom's requirements.</p> <p>A.8 Indemnity Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the applicant, his/her agent, contractors, employees, successors in title, and assigns. The applicant indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the</p> |  |  |
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|  |  | <p>applicant's equipment. The applicant's attention is drawn to the Electricity Act, 1987, (Act 41 of 1987, as amended in 1994), Section 27(3), which stipulates that the applicant can be fined and/or imprisoned as a result of damage to Eskom's apparatus.</p> <p>A.9 Machinery No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the applicant must give at least seven working days prior notice of the commencement of work The</p> |  |  |
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|  |  | <p>Eskom's authorised area representative for the Barkley West CNC: Sylvester Mandabane 053 531 6604/082 376 8308, email address: <a href="mailto:MandabSL@eskom.co.za">MandabSL@eskom.co.za</a>. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued.</p> <p>A.10 Permission to do work A.10.1 No work shall commence unless Eskom has received the applicant's written acceptance of the conditions specified in the letter of consent and/or permit.</p> <p>A.10.2 Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be</p> |  |  |
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|  |  |  | <p>obstructed or interfered with.</p> <p>Note: Where an electrical outage is required, at least fourteen work days is required to arrange same.</p> <p>A.11 Remedial action Under no circumstances shall rubble, earth or other material be dumped within the servitude or Way Leave restriction area. The applicant shall maintain the area concerned to Eskom's satisfaction. The applicant shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.</p> <p>A.12 Safety A.12.1 The clearances between Eskom's live electrical equipment</p> |  |  |
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|  |  | <p>and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</p> <p>A.12.2 Equipment shall be regarded electrically live and therefore dangerous at all times.</p> <p>A. 12.3 In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as additional safety precaution, Eskom will not approve the erection of Houses, or structures occupied or</p> |  |  |
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|  |  |  | <p>frequented by human beings under the power lines and only after consideration of all alternatives, within the servitude area.</p> <p>A. 12.4 Eskom may stipulate any additional requirements to illuminate any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</p> <p>A. 12.5 It is required of the applicant to familiarize him/herself with all safety hazards related to Electrical plant.</p> <p>B.1 Blasting, opencast mining and undermining B.1.1 A specific document of permission in respect of the blasting or mining activity as issued by the Inspector</p> |  |  |
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|  |  |  | <p>of Mines must be submitted to Eskom before commencement of operations. [refer to the Minerals Act, 1991 (Act 50 of 1991) Regulation 9.33.5 – Permission to fire more than one shot hole at a time within 500m from surface structures] B.1.2 Blasting in close proximity to Eskom’s overhead power lines or substations is prohibited unless the following precautions are met [refer to the Mine Health and Safety Act, 1996 (Act 29 of 1996) Regulation 17.6(a) - 100m and above</p> <p>a blasting plan submitted with the document of permission referred to in B.1.1 above,</p> |  |  |
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|  |  | <p>a Peak Particle Velocity (PPV) to be kept below 75 mm/s, for lines and 50 mm/s for buildings,</p> <p>a seismic control device is set up to record the readings, ensure fly rock and air blast control by means of adequate matting, in the interest of air blast control, only single shot blasting shall be allowed.</p> <p>Permission for blasting will be strictly as stipulated in the Blasting Design by the Blasting Consultants and blasting should be done away from the power lines.</p> <p>B.1.3 The applicant will be held liable for damage to Eskom's towers or substation</p> |  |  |
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|  |  | <p>equipment, as a result of blasting activities.</p> <p>B.1.4 Costs incurred by Eskom to comply with statutory requirements in terms of an applicant's (or his contractors) works, equipment or plant in the servitude area, shall be paid to Eskom on demand.</p> <p>B.1.5 Eskom may charge the applicant appropriately for time on site during blasting operations.</p> <p>B.1.6 Eskom reserves the right to withdraw its consent if the blasting process becomes hazardous and likely to result in power interruptions.</p> <p>B.1.7 If and whenever the applicant apply</p> |  |  |
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|  |  | <p>and if permission for the blasting process is granted the applicant must give at least fourteen work days prior notice of the commencement of blasting to The Eskom's authorised area representative for Barkley West CNC: Sylvester Mandabane 053 531 6604/082 376 8308, email address: <a href="mailto:MandabSL@eskom.co.za">MandabSL@eskom.co.za</a>. This allows time for arrangements to be made for supervision of and/or precautionary instructions to be issued in terms of the blasting operation.</p> <p>B.1.8 General Conditions</p> <p>B.1.8.1 Firing near the power lines should be along a free face, facing away from the</p> |  |  |
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|  |  | <p>power lines, as the Mine has suggested.</p> <p>B.1.8.2 The Mine should prepare a proper analysis of the rock structure and any geological anomalies prior to blasting.</p> <p>B.1.8.3 The “safe distance of 25m” from Eskom pylons should be indicated on the blasting plan. Existing geological faults, decomposed zones and fractured rock structures could have destabilising effects on founding material as a result of the firing, especially when developing an open face next foundations and below founding level. These conditions should be taken into account when deciding on the method and plan of blasting near the Eskom power</p> |  |  |
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|  |  |  | <p>line pylons.</p> <p>B.1.8.4 Eskom retains the right to appoint any specialist at any time on behalf of the Mine, to inspect Eskom structures for deformation.</p> <p>B.1.8.5 The mining depth near Eskom pylons should carefully be controlled for stability and adjustments being made when so instructed by Eskom.</p> <p>B.1.8.6 Upon receiving the letter of consent from the inspector of the mine to blast below 100m, the applicant must present to Eskom Technical Evaluation Forum L3 the blasting philosophy for final approval.</p> |  |  |
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|  |  |  | <p>Should the applicant or his contractor damage any of Eskom services during commencement of any work whatsoever, then Eskom's 24 hour Contact Centre Tel: 08600 37566 must be dialled immediately to report the incident.</p> <p>Any relocation of Eskom's services, due to this undermining, will be for the account of the Applicant. The Applicant will also be responsible for granting Eskom an alternative route for the power line. The Eskom Customer Contact Centre at 08600 37566 must be contacted in connection with any line deviation and costs.</p> |  |  |
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|---|----------|-------------------------|--|---|--|
| <p>Sean Gavin Ralph ( Arcy Eindomme 180 CC: Farm owner)</p> | <p>X</p> | <p>06 December 2018</p> | <p><b>Re: APPLICATION FOR A MINING RIGHT BY MAXWILL 146 CC ON PORTION 2 OF THE FARM SPAARHOEK 90, AS WELL AS THE REMAINDER AND PORTION 2 OF THE FARM BLAAUWBOSCH FONTEIN 91 AND THE REMAINING PORTION OF ZULANI 167.</b></p> <p>This letter is serves as proof that confirm that I have been consulted by Ndi Geological Consulting Services with regard to a Mining Right application by a company named Maxwill 146Cc on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167. I have understood the project details and the</p> | <p>Mining will be carried out according to the approved proposed methods. The EAP will conduct site visits to ensure that the applicant does not deviate from the approved methods, if deviations happen to be found, they will be reported DMR for action to be taken against the applicant.</p> | <p>No specific section or paragraph of the Scoping report.</p> |
|---|----------|-------------------------|--|---|--|

|  |  |  |   |  |  |
|--|--|--|---|--|--|
|  |  |  | <p>activities that will form part of it.</p> <p>After listening to Ndi Geological Consultation presentation I am left convinced that the project can go ahead. I have no objections to the project for as long as the applicant does not derail from operating in a manner that is detailed in the Scoping report which ensures that impacts that will be caused on the farm are kept minimal and that proper mitigation measures are taken to make sure of that.</p> |  |  |
|--|--|--|---|--|--|

|                               |   |                  |   |  |   |
|-------------------------------|---|------------------|---|--|---|
| Mr Christo Kotze (Farm owner) | X | 06 December 2018 | <p><b>Re: APPLICATION FOR A MINING RIGHT BY MAXWILL 146 CC ON PORTION 2 OF THE FARM SPAARHOEK 90, AS WELL AS THE REMAINDER AND PORTION 2 OF THE FARM BLAAUWBOSCH FONTEIN 91 AND THE REMAINING PORTION OF ZULANI 167.</b></p> <p>I hereby confirm that I have been consulted by Ndi Geological Consulting Services with regard to a Mining Right application by Maxwill 146Cc on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167. I</p> | Mining will be carried out according to the approved proposed methods. The EAP will conduct site visits to ensure that the applicant does not deviate from the approved methods, if deviations happen to be found, they will be reported DMR for action to be taken against the applicant. | No specific section or paragraph of the Scoping report. |
|-------------------------------|---|------------------|---|--|---|

|                         |   |                  |  |   |                        |
|-------------------------|---|------------------|--|---|------------------------|
|                         |   |                  | <p>have understood the project details and the activities that will form part of it.</p> <p>I therefore do not have any objections to the project for as long as the applicant does not derail from operating in a manner that is detailed in the Scoping report which ensures that impacts that will be caused on the farm are kept minimal and that proper mitigation measures are taken to make sure of that.</p> |   |                        |
| Lobo Trust (Farm owner) | X | 06 December 2018 | <b>Re: APPLICATION FOR A MINING RIGHT BY MAXWILL 146 CC ON PORTION 2 OF THE FARM SPAARHOEK</b>   | Mining will be carried out according to the approved proposed methods. The EAP will conduct | No specific section or |

|  |  |   |   |   |
|--|--|---|---|---|
|  |  | <p><b>90, AS WELL AS THE REMAINDER AND PORTION 2 OF THE FARM BLAAUWBOSCH FONTEIN 91 AND THE REMAINING PORTION OF ZULANI 167.</b></p> <p>This letter serves as confirmation that Ndi Geological Consulting Services has consulted with me regarding the Mining Right application on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167 by Maxwill 146Cc. The consultation included the details with regard to the project background and activities that will be</p> | <p>site visits to ensure that the applicant does not deviate from the approved methods, if deviations happen to be found, they will be reported DMR for action to be taken against the applicant.</p> | <p>paragraph of the Scoping report.</p> |
|--|--|---|---|---|

|   |   |                     |   |  |   |
|---|---|---------------------|---|--|---|
|   |   |                     | <p>carried out.</p> <p>I have no objection to the project, this is as long as the applicant operates after they have been authorised to do so by DMR. The applicant should be held liable in terms of financial guarantees and failure to operate according to the approved document.</p> |  |   |
| Fred Lahoud Family Trust<br>( Farm owner) | X | 06 December<br>2018 | <b>Re: APPLICATION FOR A MINING RIGHT BY MAXWILL 146 CC ON PORTION 2 OF THE FARM SPAARHOEK 90, AS WELL AS THE REMAINDER AND PORTION 2 OF THE FARM BLAAUWBOSCH FONTEIN 91 AND THE</b>  | Mining will be carried out according to the approved proposed methods. The EAP will conduct site visits to ensure that the applicant does not deviate from the approved methods, if deviations | No specific section or paragraph of the |



|  |  |   |  |                        |
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|  |  | <p><b>REMAINING PORTION OF ZULANI 167.</b></p> <p>This is with regard to the Mining Right application on the remainder and portion 2 of the farm Spaar Hoek 90 as well as the remainder and portion 2 of the farm Blaauwbosch Fontein 91 and the remaining portion of farm Zulani 167. After the presentation about the abovementioned application, I have come to a decision that I have no objection to the project at this stage. This is if the applicant operates legally and have relevant authorisation to mine from the relevant department. Failure to operate according to the approved document may lead impacts</p> | <p>happen to be found, they will be reported DMR for action to be taken against the applicant.</p> | <p>Scoping report.</p> |
|--|--|---|--|------------------------|



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|  |  |  | on the land use of the farm and this lead to me changing my decision. |  |  |
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## 9 ENVIRONMENTAL ATTRIBUTES AND DESCRIPTION OF THE BASELINE RECEIVING ENVIRONMENT

### 9.1 Geology

In general, the terraces on the application area comprise a sedimentary package of:

- Rooikoppie (0.5-3m)
- Calcrete capping (1-3m)
- Fine gravel and sandy gravel Coarse basal gravel (1-5m)
- Fine to coarse sandy gravel (2-8m)
- Coarse basal gravels (1-5m)

The succession on the applied area, varies from about, oxidized surface of loose lag gravel dominated by banded ironstone clasts, underlain by a hard layer (0.5-3m thick) of calcrete, which is in turn underlain by a sandy, fine grained silcrete cemented, gravel horizon. The latter horizon is in turn generally underlain by an extensive, coarse and loosely cemented boulder bed hosting intercalated gravels and sandy lenses. The coarseness of the boulder beds indicate that they were deposited during periods of high-energy river flow. Basal gravel sequences consist of rapidly aggraded or dumped material, ranging in size from large boulders

(over 1.5m in places) to sand. The gravels are compacted and frequently cemented with secondary lime to form calcretised cobble and boulder deposits.

Younger (lower) terrace gravels represent re- working of earlier deposits by late stage erosion and redeposition as sheet wash flood gravels in low level terraces often associated with river damming situation and splays.

Rooikoppie deposits represent a 'lag' or deflation deposit, and consist mainly of well- rounded and polished siliceous pebbles and reddish coloured sand. The clastic material originates primarily from the basal gravels and consists of most resistant thereof, in particular chert, agate, jasper, quartzite and vein quartz. Due to the decomposition and winnowing of the less resistant clastic and matrix material,

there has been a substantial concentration of more durable components in the original gravel, including diamonds. Iron has stained the entire assemblage, giving it a reddish colour and hence the name 'Rooikoppie'. As noted above the Rooikoppie was mined throughout the region by small- scale prospectors using unsophisticated mining and diamond recovery techniques. The Rooikoppie deposits typically rests on sand, gravel or in places a hard, semi-continuous layer of calcrete and silcrete. Geology map is shown in Figure 4, Appendix 1.

## 9.2 Climate

The climate in Siyancuma Local Municipality is considered to be a local steppe climate. There is little rainfall throughout the year. This location is classified as BSk by Köppen and Geiger. In a year, the average rainfall is 321 mm. The area lies within a summer/autumn rainfall area, with predominantly dry winters. The mean annual precipitation (MAP) is 371 mm. The region receives the lowest rainfall in June and July, and the highest in February and March. The

average maximum temperatures for the region ranges from 16.7°C in June to 32°C in January, and the average minimum temperatures range from 0°C in June to 18°C in January. The temperature averages 16.5 °C.

### 9.3 Biodiversity

According to Mucina & Rutherford (2006), the entire site is located within Kimberley Thornveld (SVk4) in Figure 5 in Appendix 1, which is part of the Eastern Kalahari Bushveld Bioregion. Kimberley Thornveld vegetation unit is distributed in the North-West, Free State and Northern Cape Provinces: Most of the Kimberley, Hartswater, Bloemhof and Hoopstad Districts as well as substantial parts of the Warrenton, Christiana, Taung, Boshof and to some extent the Barkly West Districts. Also includes pediment areas in the Herbert and Jacobsdal Districts. Altitude on this vegetation normally ranges from 1 050 to 1 400 m. It occurs on the plains often slightly irregular with well-developed tree layer with *Acacia erioloba*, *A. tortilis*, *A. karoo* and *Boscia albitrunca* and well-developed shrub layer with occasional dense stands of *Tarchonanthus camphoratus* and *A. mellifera*. Grass layer open with much uncovered soil.

The Kimberley Thornveld is regarded as Least threatened with a conservation target of 16%. Only 2% statutorily conserved in Vaalbos National Park as well as in Sandveld, Bloemhof Dam and S.A. Lombard Nature Reserves. Some 18% already transformed, mostly by cultivation. Erosion is very low. Area is mostly used for cattle farming or game ranching. Overgrazing leads to encroachment of *Acacia mellifera* subsp. *detinens*.

## **9.4 Water resources**

The local hydrogeology within the study area is underlain by lithological units that are classified as intergranular and fractured. Ground water occurrence is that of fractured 0.1 to 0.5ls. Most of the communities in the area rely on groundwater.

## **9.5 Soil**

Soil type refers to red and yellow well drained sandy soils with high base status soils that are more than 300 mm deep with no dunes. The combined agricultural sensitivity of the area is medium to low with some. See Figure 6 in Appendix 1.

## **9.6 Air quality**

The movement of construction vehicles and earth moving machinery as well as the stripping of vegetation will likely result in an increase in nuisance dust. There is also potential for increase in carbon emissions and ambient air pollution due to the movement of vehicles and construction machinery. Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones is shown in Figure 7, Appendix 1.

## **9.7 Topography and drainage**

The study area drains from the south toward the RietRiver on the north . Groundwater flow direction is expected to be towards the Riet River on the north. Groundwater gradient usually mimic the topography and in this case, the topographic elevation lowers towards the north as indicated by the river course.

## 9.8 Socio-economic environment

The Siyancuma Local Municipality is situated within the Pixley Ka Seme DM of the Northern Cape Province. It is bordered by the ZF Mgcawu DM in the north and west, Frances Baard DM in the north, Siyathemba LM and Thembelihle LM in the south, and the Free State Province in the east. The municipality is incorporating three urban settlements (Douglas, Griekwastad and Campbell), three restitution areas (Schmidtsdrift, Bucklands and Kahlani/Maselsfontein), rural areas (Plooyburg, Salt Lake, Witput, Belmont, Graspan, Heuningskloof, Volop), commercial farming areas as well as small farming areas.

## 9.9 Population overview

Pixley ka Seme District Municipality has the third largest population in the Northern Cape and shows a slight increase of 9244 from 2011 to 2016. It represents 28,41 % of the Northern Cape population (Figure 8, Appendix 1). From 2001 to 2011, the total population for Siyancuma Local Municipality showed a negative growth rate of -5.6% with the population decreasing from 39 275 to 37 076 (StatsSA 2011). A further negative growth rate of -3.1% was experienced from 2011 to 2016 when the population decreased from 37 076 to 35 938 (Community Survey 2016).

Possible reasons for the decline in population might be:

- Mortality (deaths that occur within a population).

While death is inevitable, the probability of dying is linked to many factors, such as age, sex, race, occupation, social class and diseases like HIV and TB. The incidence of death can reveal much about a population's standard of living and health care.

- Migration (the movement of people)

The movement of a people across a specified boundary, for the purpose of establishing a new residence or to seek new job opportunities.

The Siyancuma Municipality's total population of 35 938 (2016) as shown in Figure 9, Appendix 1 can be broken down as follows:

Coloured – 67,80 %

African – 25,30 %

White – 6,69 %

Asian – 0,21 %

The overall sex ratio (male : female) is more or less 50:50, although it is 48:52 for Coloureds meaning that there are slightly more Coloured females than males.

### **9.9.1 Population by age and sex**

Demographic information from the 2016 Community Survey structured the Siyancuma total population as follow (Figure 10, Appendix 1):

Population under 15: 26,2 %

Population 15 to 64: 67,8 %

Population over 64: 6,0 %

It is further evident from the information in the graph that:

age group 15 – 19 is the highest. This group represents education grades 9 – 12, and



forms 12,4 % of the total population. Age group 20 – 34 represents the youth component and forms 27,7 % of the total population. This group characterises the economically active group and will have an impact on the employment and income levels within the municipality.

### 9.10 Level of education

Level of education in Siyancuma Local Municipality is shown in Table 5.

Table 5: Level of education in Siyancuma Local Municipality (StatsSA Community survey 2016)

|                  | 2016   | 2011   |
|------------------|--------|--------|
| No schooling     | 9,7 %  | 16,7 % |
| Matric           | 20,4 % | 16,8 % |
| Higher education | 8,9 %  | 5,4 %  |

The statistics above represent the level of education of the population above the age of 20. It is of significance, because it shows an increase in matric and higher education qualifications of 3,6% and 3,5% respectively from 2011 to 2016, while the figure for people with no schooling decreases with 7,0%. This represents a positive improvement in terms of increasing the levels of literacy within the municipality.

### 9.11 Service delivery

#### Energy Supply

Siyancuma Local Municipality is currently facing a big challenge in terms of electricity bulk supply due to the expansion of informal areas. Another challenge

is the fact that electrical infrastructure, eg. transformers, are dilapidated and need to be repaired or replaced at very high costs.

According to the Community Survey of 2016, most households (7381) are using in-house prepaid meters, followed by in-house conventional meters (1334). A new trend is taking root where people are installing solar home systems, and 357 such systems were already installed in 2016.

#### Water supply

Most households in the Siyancuma Local Municipality area have access to water inside the house followed by taps inside the yard. However, many households are still dependant on communal taps.

## **10 DESCRIPTION OF CURRENT LAND USE**

The entire subject property and its immediate surrounds can be broadly define Nama Karoo. The land use on the study area can be defined as crop farming production and a smaller part as part for stock farming. Some 44% of the Nama Karoo in which the study area falls is transformed primarily by mines, urban settlement, road infrastructure. cattle, sheep and goat farming will be a viable post mining land use of the site as long as the field quality is maintained by never exceeding the grazing capacity.

### **Description of specific environmental features and infrastructure on the site**

The proposed mining area is characterised by few non-perennial rivers on the farm . The Riet River traverses through the study area. The R357 Main Road

from Douglas to Kimberley passes adjacent to the property. Environmental features and infrastructure is shown on the layout map in Figure 3, Appendix 1.

## **12 IMPACTS ASSESSMENT**

### **12.1 Methodology**

This process describes how the significance, probability, and duration of the identified impacts that were identified through the consultation process was determined in order to decide the extent to which the initial site layout need revision.

#### **Criteria of assigning significance to potential impacts**

The assessment of the impacts has been conducted according to a synthesis of criteria required by the integrated environmental management procedure (Table 6) .

#### **Nature of impact**

This is an appraisal of the type of effect the activity would have on the affected environmental component. Its description should include what is being affected, and how. The impact may be positive or negative.

#### **Extent**

The physical and spatial size of the impact. This is classified as follows:

##### **Local**

The impacted area extends only as far as the activity, e.g. a footprint.

##### **Site**

The impact could affect the whole, or a measurable portion of the property.

##### **Regional**

The impact could affect the area including the neighbouring farms, transport routes and the adjoining towns.

### **Cumulative**

The impact could have a cumulative effect with the surrounding land uses.

### **Duration**

The lifetime of the impact which is measured in the context of the lifetime of the proposed phase (i.e. construction or operation)?

### **Short term**

The impact will either disappear with mitigation or will be mitigated through natural process in a short time period.

### **Medium term**

The impact will last up to the end of the mining period, where after it will be entirely negated.

### **Long term**

The impact will continue or last for the entire operational life of the mine, but will be mitigated by direct human action or by natural processes thereafter.

### **Permanent**

Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

## **Intensity**

This describes how destructive, or benign, the impact is. Does it destroy the impacted environment, alter its functioning, or slightly alter it. These are rated as:

### **Low**

This alters the affected environment in such a way that the natural processes or functions are not affected.

### **Medium**

The affected environment is altered, but function and process continue, although in a modified way.

### **High**

Function or process of the affected environment is disturbed to the extent where it temporarily or permanently ceases. This will be a relative evaluation within the context of all the activities and the other impacts within the framework of the project.

## **Probability**

This describes the likelihood of the impacts actually occurring. The impact may occur for any length of time during the life cycle of the activity, and not at any given time. The classes are rated as follows:

### **Improbable**

The possibility of the impact occurring is very low, due either to the circumstances, design or experience.

### **Probable**

There is a possibility that the impact will occur to the extent that provisions must be made therefore.

### **Highly probable**

It is most likely that the impacts will occur at some or other stage of the development.

### **Definite**

The impact will take place regardless of any preventative plans, and mitigation measures or contingency plans will have to be implemented to contain the impact.

### **Determination of significance**

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The classes are rated as follows:

#### **No significance**

The impact is not likely to be substantial and does not require any mitigatory action.

#### **Low**

The impact is of little importance, but may require limited mitigation.

#### **Medium**

The impact is of importance and therefore considered to have a negative impact. Mitigation is required to reduce the negative impacts to acceptable levels.

## High

The impact is of great importance. Failure to mitigate, with the objective to reduce the impact to acceptable levels, could render the entire development option or entire project proposal unacceptable. Mitigation is therefore essential.

Table 6: Criteria of assigning significance to potential impacts

| INTENSITY OF IMPACT                              | RATING |
|--|--------|
| Insignificant: impact is of a very low magnitude | 1      |
| Low: impact is of low magnitude                  | 2      |
| Medium: impact is of medium magnitude            | 3      |
| High: impact is of high magnitude                | 4      |
| Very high: impact is of highest order possible   | 5      |

| EXTENT OF THE IMPACT   | RATING |
|--|--------|
| Limited: impact affects the project site                           | 1      |
| Small: impact extends to the boundaries of the mining area         | 2      |
| Medium: impact extends to neighbouring properties                  | 3      |
| Large: impact affects the surrounding communities                  | 4      |
| Very Large: The impact extends beyond the neighbouring communities | 5      |

| DURATION OF THE IMPACT   | RATING |
|--|--------|
| Very short-term: impact lasts for a very short time (less than a month)                    | 1      |
| Short-term: impact lasts for a short time (months but less than a year)                    | 2      |
| Medium-term: impact lasts for the for more than a year but less than the life of operation | 3      |
| Long-term: impact occurs over the operational life of the proposed extension.              | 4      |
| Residual: impact is permanent (remains after mine closure)                                 | 5      |

| PROBABILITY   | RATING |
|---|--------|
| Highly Improbable: Likelihood of the impact arising is estimated to be negligible; <5%. 1 | 1      |
| Improbable: Likelihood of the impact arising is estimated to be 5-35%. 2                  | 2      |
| Possible: Likelihood of the impact arising is estimated to be 35-65% 3                    | 3      |
| Probable: Likelihood of the impact arising is estimated to be 65-95%. 4                   | 4      |
| Highly Probable: Likelihood of the impact arising is estimated to be > 95%. 5             | 5      |

| PROBABILITY | SEVERITY |     |     |     |     |
|-------------|----------|-----|-----|-----|-----|
|             | 1        | 2   | 3   | 4   | 5   |
| 1           | L        | L   | L   | L-M | L-M |
| 2           | L        | L-M | M   | M   | M-H |
| 3           | L        | M   | M   | M-H | H   |
| 4           | L-M      | M   | M-H | H   | H   |
| 5           | L-M      | M-H | H   | H   | H   |



## 12.2 Identified impacts

During this phase (Scoping) the following environmental aspects have been considered and potential impacts identified. Some of these will require further investigation during the EIA Phase:

### Air pollution:

Dust emissions from vehicle movement during mining will affect the quality of the air. Mitigation measures such as spraying the haul roads will be practised in order to reduce dust emission.

### Biodiversity loss:

Vegetation clearance will result on some animals fleeing to other areas. As soon as the mining is done the fauna will move back to the area. Chances of biodiversity loss are high as a result of noise and vegetation clearance. The current state of aquatic biodiversity is low as shown in Figure 11, Appendix 1.

### Noise:

Earthmoving machinery and vehicles produce considerable amounts of noise which will affect the farm owners, nearby communities and natural habitat. This impact will be felt during the day working hours.

### Heritage site disturbances

Mining activities such as vegetation clearance moving vehicles and influx of people around the heritage resources can lead to accidental disturbance of these resources. The final layout plan will be in such a way that the mining

activities and infrastructure will not affect the heritage resources. The archaeological and cultural heritage combined sensitivity of the study area is generally low, except for the area along the river (Figure 12, Appendix 1)

#### Traffic impact assessment

Traffic in the study area will increase as a result of construction vehicles that will be moving in and out of the mining area. The possibility of this happening is high and the impact will be felt during the day working hours.

#### Socio-economic impacts.

Increased level of crime due to an influx of people entering the private property.  
Disturbance of day to day lives of the farmers due to mining activities.  
Damages to the farm owners' properties due to mining activities are likely to happen.

#### Land use conflict

Hydrocarbon spillages from earthmoving machineries and vehicles can lead to soil contamination. Increased movements by vehicles and humans can lead to compaction of the soil. Vegetation clearance also increases the chances of soil erosion.

#### Topographic change

Removal of top soil during bulk sampling can lead to a change in the topography of the area. After sampling, rehabilitation to the initial state of the surface should be done.

### Soil pollution

Improper storage of hydrocarbon fuels lead to contamination of the soil. Leaking of these fuels from vehicles and machineries into the ground also lead to soil pollution.

### Surface water contamination

Mining close to the watercourses will contaminate surface water thereby affecting its quality. The effects of water contamination can last for a long time.

### Ground water contamination

Spillages of hydrocarbons due to the use of machineries and vehicles that make use of hydrocarbon fuels can result in contamination of groundwater.

The potential impacts to the above listed environments as identified by the stakeholders will be recorded and discussed in order to come up with feasible mitigation measures. The Specialist studies will also aid in identifying the impacts as well as propose the recommended mitigation measures.

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

Potential negative and positive impacts associated with the proposed project will be identified, ranked and mitigation measures prescribed as part of the EIA phase of the project.

#### **12.4 The possible mitigation measures that could be applied and the level of risk**

Mitigation measures must be implemented in order to minimise the impacts caused by the proposed project activities. The mitigation measures ensure that the project considers the environment and the predicted impacts in order to minimise impacts and achieve sustainable development. This will be assessed and discussed in more detail during the EIA phase.

#### **12.5 The outcome of the site selection Matrix. Final layout plan**

The site layouts as presented in Figure 3 is not necessarily final, this will still be assessed to make sure that it does not coincide with the sensitive environmental features that will have been identified by the specialist studies such as the surface and ground water resources, heritage, biodiversity as well as infrastructure such as roads.

An alternative layout plan developed aimed at minimising such impacts will be developed as an outcome to the EIA for implementation.

#### **12.6 Motivation where no alternative sites were considered**

Alternative infrastructure layout will be considered as part of the EIA Phase based on the outcomes of specialist studies and in consultation with the I&APs.

#### **12.7 Statement motivating the preferred site**

The preferred site has been chosen because of its potential to host diamond reserves. Mineral resource estimation of the proposed property has shown that there is sufficient resources that can be mined. A final layout plan will be created once the specialist studies have been conducted. The studies will point out which areas are to be avoided if any. These are areas with sensitive environments.

The stakeholder consultation process has not been finalised at this stage, and therefore the comments raised by the I&APs have not been incorporated in this section. This will be updated as part of the final report.

## **13 PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS**

### **13.1 Description of Alternatives to be Considered including the Option of Not Going Ahead with the Activity.**

#### **13.1.1 Mining site alternatives**

The site has been selected because of its potential to host diamonds. A desktop study has shown that the proposed site is the best option due to the fact that there is diamond mineralisation. Mining work conducted on the property so far has also supported the desktop study. The site is therefore regarded as the preferred site and alternatives are not considered.

#### **13.1.2 Mining method alternatives**

The diamond resources will be mined through opencast using conventional truck and excavator mining methods. The mining blocks will be 50m by 20m and the benches 10m high. The method has been chosen based on the success rate. Should better methods be discovered before mining starts, they will be considered.

### **13.1.3 Site layout plan alternative**

The final location of the infrastructure will be determined based on the results of the specialist studies and the comments from the I&APs where the presence, location and the sensitivity of environmental attributes such as wetlands, watercourses, protected flora and graves will be determined..

### **13.1.4 No-go Alternatives**

The no-go alternative will mean the current land use such as wetlands and important grassland biome will not be disturbed, that is, there will not be disturbance of the flora and fauna. All the potential negative impacts that would have been caused by mining activities will not be take place.

An opportunity to create jobs and contributing to the economy through mining will be lost. Poverty in the site area and its surrounds will stay the same if not get worse .

## **13.2 Description of the aspects to be assessed as part of the environmental impact assessment process**

In order to assess the environmental, social and cultural impacts associated with the proposed project, inputs will be required from a number of specialists. The findings from these specialist studies will be reflected in the Final Scoping Report and the EIA Report.

The following aspects will be assessed as part of the EIA Phase of the project:

- Mining;
- Vegetation clearance of less than ,

- Residue deposit,
- Storage area of hazardous substances (Diesel storage tanks, chemical storage containers),
- Storage of general waste (e.g. Domestic waste facility),
- Fencing,
- Access roads,
- Topsoil stock piles,
- Rehabilitation of overburden dumps,
- Water storage,
- Power supply,
- Loading and hauling,
- Ablution facility and
- Movement of vehicles.

**13.3 Descriptions of aspects to be assessed by specialists include but not limited to:**

The following aspects of the biophysical environment will be considered:

Surface water:

- Conduct a desktop study for the proposed site to identify surface water bodies including rivers and wetlands within the study area by examining existing national and provincial wetland databases;
- Identify all surface water bodies within the study area;

- Identify sensitive riparian areas where they occur;
- Where wetlands occur on or near site alternatives identified on site only, delineation is to be performed (according to the DWAF proposed methodology for the delineation of wetlands) and classification of the wetlands into wetland hydro geomorphic types using the hydrogeomorphic method must be undertaken;
- Identify very sensitive surface water areas, undertaking an analysis of whether surface waterbodies would contain endangered species, or would have high ecological or hydrological functionality;
- Identify potential impacts associated with the proposed development on nearby surface water resources.
- Undertake a site visit to 'ground-truth' the findings of the desktop assessment and delineate surface water resources where relevant; and
- Compile a comprehensive surface water specialist report and stipulating the mitigation measures.

#### Geohydrology:

- Conduct a desktop study of the geology and geohydrology of the study area with specific reference to the water production potential of the aquifers related to the catchment;
- A site visit to the proposed site and adjacent farms which could be impacted by the activities in order to observe the geology, specific features and rivers in the catchment. Identify features which have particular significance;



- Describe potential impact of mining activities on the receiving environment particularly as related to water production of the property and the catchment and also any pollution to the water in other properties;
- Include comment as to whether compaction related to mining activities and access routes could impact subsurface drainage significantly;
- List and rate any potential impact to indicate significance; and
- Indicate any mitigation measures and recommendations that would alleviate potential impact of the proposed mining activities on geohydrology of the study area and the catchment.

#### Biodiversity;

- A list of the specific legislation and permit requirements that are relevant to these projects;
- A description of the vegetation occurring in, or in the area surrounding the study areas
- An assessment of the conservation importance of the vegetation in local and regional terms;
- Species checklists of flora occurring on these sites, indicating protected and endemic species as well as declared weeds and invaders;
- Lists of coordinates for all specimens of endangered and/or protected species found in the study areas;
- Maps indicating all listed coordinates;
- Description of the mammalifauna, herpetofauna and avifauna occurring or expected to occur in, or in the area surrounding the study areas;
- Checklists of species known or expected to occur within the study area, indicating protected, rare and endemic species as well as alien species,

together with the probability of each species being found in the vicinity of the development sites, environmental sensitivity maps, indicating areas and habitats significant to the conservation of species within or in the area surrounding the development sites;

- All possible direct, indirect and cumulative ecological impacts that could result from the proposed projects indicating whether these impacts are related to the design, construction or operational phases of the proposed mining project, and recommending measures aimed at avoiding and/or mitigating each potential impact;
- A table, identifying all possible direct, indirect and cumulative ecological impacts that could result from the proposed project, indicating whether these impacts are related to the proposed mining activities;
- To determine whether there are likely to be any important archaeological remains that may be impacted by the proposed mining activities;
- To indicate any constraints that would need to be taken into account in considering the mining activities;
- To identify potentially sensitive archaeological areas, and
- To recommend any further mitigation or management action

#### Soil, land use and land capability;

- Undertake a desktop study and site walkover visit to establish broad baseline soil
- conditions, land capability and areas of environmental sensitivity at all the proposed alternative sites in order to rate their sensitivity to the proposed development;

- Undertake a soil survey of the proposed subject property area focusing on all
- landscape features including potentially wet areas;
- Describe soils in terms of soil texture, depth, structure, moisture content, organic matter content, slope and land capability of the area;
- Describe and categorize soils using the South African Soil Classification Taxonomic System;
- Identify and assess potential soil, land use and land capability impacts resulting from the proposed mining project;
- Identify and describe potential cumulative soil, land use and land capability impacts resulting from the proposed development in relation to proposed and existing developments in the surrounding area; and
- Recommend mitigation and management measures to minimise impacts and/or
- optimise benefits associated with the proposed mining project.

#### Wetland study

- The wetland areas will be delineated in accordance with the DWAF (2005) guidelines. The outer edges of the wetland areas are identified by considering the following four specific indicators:
- The Terrain Unit Indicator helps to identify those parts of the landscape where wetlands are more likely to occur.

- The Soil Form Indicator identifies the soil forms, as defined by the Soil Classification Working Group (1991), which are associated with prolonged and frequent saturation.
- The Soil Wetness Indicator identifies the morphological "signatures" developed in the soil profile as a result of prolonged and frequent saturation.
- The Vegetation Indicator identifies hydrophilic vegetation associated with frequently saturated soils.
- Vegetation is used as the primary wetland indicator, which must be present under normal
- circumstances. However, in practise the soil wetness indicator tends to be the most important, and the other three indicators are used in a confirmatory role.

#### Heritage and palaeontology study

- Identification and mapping of all heritage resources in the area.
- An assessment of the significance of such resources in terms of the standards of the heritage resources criteria
- An assessment of the impact on the heritage resources
- Evaluation of the impact of the development on the resources relative to sustainable social and economic benefits to derive from the development

- Conduct consultation with local structures regarding areas of social and cultural significance within the study area.
- Results of the consultation with the communities affected by the proposed development and other affected parties regarding the impacts.

If the resource will be affected by the development, considered alternative plans for the mitigation of any adverse affected during and after the completion of the proposed development.

The need for other specialist studies will be determined by the comments and concerns raised by I&APs and the discussions with them thereof.

### **13.3 Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives**

The main methods that will be used to assess the environmental aspect will be through site visit, appointment of specialists to conduct specialised studies and through consultation process. Criteria that will be used in assessing the environmental aspects will include, but not limited to: Nature of impact, extent, duration, probability, severity, intensity and significance.

### **13.4 The proposed method of assessing duration significance**

Duration significance will be assessed using the following method or criteria:

#### **Duration**

The lifetime of the impact which is measured in the context of the lifetime of the proposed phase (i.e. construction or operation?)

#### **Short term**

The impact will either disappear with mitigation or will be mitigated through natural process in a short time period.

#### **Medium term**

The impact will last up to the end of the mining period, where after it will be entirely negated.

#### **Long term**

The impact will continue or last for the entire operational life of the mine, but will be mitigated by direct human action or by natural processes thereafter.

#### **Permanent**

Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.

Duration significance will be assessed before and after implementation of mitigating measures.

### **13.5 The stage at which the competent authority will be consulted**

Competent authorities will be consulted during all the stages, that is the notification period, the scoping phase, and during the EIA phase.

Application Consultation

Consultation on approval of Scoping Report

Consultation after submission of the EIA

Authority Site Visit

### **13.6 Particulars of the public participation process with regard to the impact assessment process that will be conducted**

#### **Steps to be taken to notify interested and affected parties.**

The following steps were taken to notify I&APs:

- Letters with project location and description including Background Information Document (BID) were sent by email and registered post to the following parties:
  - Land owner of the site where the activity to which the application relates to;
  - The current occupier of the land;
  - Farmers farming within the application area;
  - Municipality which has jurisdiction in the area; and
- An advertisement in a local newspaper, Diamond Fields Advertiser was placed in English on the 24<sup>th</sup> of October 2018 and as well as in Afrikaans in the Noorkaap newspaper on the 4<sup>th</sup> of October 2018. The advertisements described the project; its location, as well as inviting the public to register as I&APs.
- A notice with project description to notify the I&APs about the proposed project was placed on the notice boards in visible areas around the proposed mining site and high population areas around the site;

Contact details were provided in all forms of notifications. BID document describes the location and the activities of the project. The legislative processes are also explained. The document also describes the process of registering as an I&AP. A comment sheet for I&APs to raise their comments and concerns was attached.

### **13.7 Details of the engagement process to be followed**

#### Scoping Phase

The Draft Scoping Report (DSR) will be made available to registered I&APs for review and comment. A public meeting was held the 3<sup>rd</sup> of November 2018 in

Plooyburg at the VGK (Emmanuel) Kerksaal from 9am. The comments raised by I&APs will be recorded, addressed and incorporated into the Final Scoping Report.

### EIA Phase

This phase begins once the Scoping Report has been submitted and accepted by DMR within 43 days. The stakeholders will be given 30 days to review and comment on the EIA/EMPr documentation. The EIA/EMPr must be submitted to the DMR within 106 days for review. The DMR will then review the documents within 107 days and make a decision on the application.

### Appeal Phase

The stakeholders will be notified of the DMR decision. Information on how to appeal the decision made by the DMR will be made available to the stakeholders.

## **13.8 Description of the information to be provided to interested and affected parties**

The following information will be presented to stakeholders in hard and soft copies

- The site plan.
- List of activities to be authorised.
- Scale and extent of activities to be authorised.
- Typical impacts of activities to be authorised ( e.g. surface disturbance, dust, noise, drainage, fly rock etc.).



- The duration of the activity.
- 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).

A meeting between the consultant from Ndi Geological Consulting (Mrs Mofokeng) and the farm owners was held on 6 November 2018. The meeting was to inform the farmers about the proposed project and to give them more details regarding the project.

**During the EIR Phase, the following information will be disclosed in the EIAr:**

- Impact assessment undertaken and results thereof;
- Management measures;
- Monitoring plans; and
- Closure objectives.

### **13.9 Description of the tasks that will be undertaken during the environmental impact assessment process**

Once the Department accept the Draft Scoping Report, the proposed mining activities will proceed into the detailed EIA phase, which involves detailed specialist investigations (as described in earlier sections of this report). The EAP will produce a Draft EIA Report after the completion of the required specialist studies. The Draft EIA Report will provide a detailed assessment of all the identified key issues and associated impacts from the Scoping phase. Requirements as contemplated in the 2014 EIA Regulations will be included in the Draft EIA Report.

### 13.10 Measures to avoid, reverse, mitigate, or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

Table 7: Potential impact, mitigation type and potential residual risk

| <b>Activity</b><br>Whether listed or not listed.<br>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, water supply dams and boreholes, accommodations, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc....etc...etc..) | <b>Potential impact</b><br>(e.g dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc...) | <b>Mitigation type</b><br>(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)<br><br>E.g. Modify through alternatives method, Control through noise control. Control through management and monitoring through rehabilitation. | <b>Potential for residual risk</b> |
|--|--|--|------------------------------------|
| 1. Site establishment<br><br>-Vegetation clearance<br><br>-Demarcation of the mining area such as topsoil storage area, temporal office site, storage of dumps and ablution area   | -Vegetation loss<br><br>-Soil compaction<br><br>-Dust<br><br>-Loss of Fauna species<br><br>-Negative visual impact   | Rehabilitation of the disturbed areas<br><br>Noise pollution control<br><br>Air quality monitoring<br><br>Reseeding<br><br>Dust control measured<br><br>erosion control  | low                                |

|   |  |  |            |
|---|--|--|------------|
| <p>Temporary Camp Site</p> <p>-Moving of equipment and mobile infrastructure to site</p> <p>-Removal of topsoil</p> <p>-Construction of access roads.</p> | <p>-Loss of authentic values</p> <p>-Soil erosion</p> <p>Noise pollution</p> <p>Air pollution</p> <p>-Topographical disturbances</p> | <p>measure</p>   |            |
| <p>Trenching</p>  | <p>Vegetation loss</p>   | <p>Rehabilitation of the disturbed areas</p>           | <p>Low</p> |
|   | <p>-Soil compaction</p>  | <p>Avoidance</p>                                       | <p>Low</p> |
|   | <p>-Dust</p>   | <p>Dust control measures</p>                           | <p>Low</p> |
|   | <p>-Loss of Fauna species</p>  | <p>Avoidance</p>                                       | <p>Low</p> |
|   | <p>Loss of authentic values</p>  | <p>Control through management and monitoring</p>       | <p>Low</p> |
|   | <p>-Soil erosion</p>   | <p>Rehabilitation</p>                                  | <p>Low</p> |
|   | <p>Noise pollution</p>   | <p>Noise Control through management and monitoring</p> | <p>Low</p> |
|   | <p>-Air pollution</p>  | <p>Air quality monitoring</p>                          | <p>Low</p> |

|   |                                |   |        |
|---|--------------------------------|---|--------|
|   | Surface disturbances           | Rehabilitation<br>Reseeding                                   | Medium |
|   | Soil pollution                 | Prevention of setting<br>traps and hunting                    | Low    |
|   | Water pollution                | Water pollution control<br>measures                           | Low    |
|   | Impact on heritage<br>site     | avoidance   | Low    |
|   | Land use impact or<br>conflict | relocation  | Low    |
|   | Land degradation               | Rehabilitation by<br>backfilling of the<br>trenches. Seeding. | Medium |
| Construction of<br>Residue deposit<br>area/slimes dam | Vegetation loss                | Residue planning and<br>pollution management<br>control       | Medium |
|   | Water pollution                | Pollution Control   | Medium |
|   | Impact on heritage<br>site     | Avoidance   | Medium |
|   | Land use impact or<br>conflict | Rehabilitation  | Medium |
|   | Invader species                | Removal of Invader<br>Species                                 | Medium |
|   | Animal loss or injury          | Avoidance   | Medium |
|   | Loss of authentic<br>values    |   | Medium |
| Storage of hazardous<br>substances (Diesel            | Soil pollution                 | Soil pollution control<br>and management                      | Medium |

|   |                            |   |        |
|---|----------------------------|---|--------|
| storage tanks,<br>chemical storage<br>containers)             |                            | measures  |        |
|   | Water pollution            | Water pollution control<br>measures             | Medium |
|   | Land pollution             | avoidance                                       | Medium |
| Storage of general<br>waste (e.g. Domestic<br>Waste Facility) | Bad odour                  | Separation of waste<br>according to hierarchy   | Medium |
|   | littering                  | Provision of waste<br>bins                      | Medium |
|   | Land pollution             | Environmental<br>awareness campaigns            | Medium |
|   | Soil contamination         | Waste to be stored on<br>closed containers      | Medium |
|   |                            |   | Medium |
| Removal Of Sensitive<br>Species                               | Vegetation loss            | Rehabilitation of the<br>disturbed areas        | Medium |
|   | Loss of authentic<br>value | Control through<br>management and<br>monitoring | Medium |
|   | Invader species            | Management Control<br>of aliens species         | Medium |
| Fencing   | Vegetation loss            | Rehabilitation of the<br>disturbed areas        | Medium |
| Construction of<br>Access and Mine<br>Roads                   | dust                       | Spraying of dusty<br>areas with water           | low    |
|   | Loss of vegetation         | Rehabilitation of the<br>disturbed areas        | low    |
|   | loss of Fauna              | avoid   | low    |

|                                     |                      |  |        |
|-------------------------------------|----------------------|--|--------|
|                                     | Noise pollution      | Installation of proper silencers on exhaust  | Medium |
|                                     | Surface disturbances | Rehabilitation and re-seeding                | Medium |
| Topsoil and ore Stock piles         | Vegetation loss      | Rehabilitation of the disturbed areas        | low    |
|                                     | Topographic change   | Rehabilitation                               | low    |
|                                     | Soil pollution       | Regular inspection, immediate rehabilitation | low    |
|                                     | Invader plants       | Regular removal                              | low    |
|                                     | Air quality loss     | Dust suppression                             | low    |
|                                     | Visual impact        | Control through management and monitoring    | low    |
| Overburden and rehabilitation Dumps | Vegetation loss      | Vegetation clearing control                  |        |
|                                     | Visual impact        | Rehabilitation                               | low    |
|                                     | Air quality          | Regular dust suppression                     | low    |
| Vehicle parking                     | Soil contamination   | Regular inspection, immediate rehabilitation | low    |
|                                     | Visual impact        | Control through management and monitoring    | low    |
|                                     | Loss of vegetation   | Vegetation control                           | low    |
|                                     | Noise level          | Noise level control                          | low    |

## **13.11 Other information required by the competent authority**

### **13.11.1 Impact on the socio economic conditions of any directly affected persons**

After receiving all the comments from the stakeholders and the specialist studies have been conducted, there will be enough information to identify all the impacts that will be produced by the proposed mining activities as well as determining the mitigation measures that will be applied to manage the impacts. Impacts on socio economic conditions will be both negative and positive. Potential socio economic impacts will include:

- skills development through training that will be provided by Maxwill
- Alleviate poverty through employment opportunities,
- social development through improvement of social aspects of the community
- programmes, community upliftment and economic injection to the area.

Impacts such as noise, visual, security, safety, traffic, service delivery, and land use will be caused by this mining activity and the extent together with mitigation measures will be assessed and discussed during the EIA phase.

#### **Impact on any national estate referred to in section 3 (2) of the National heritage resource act.**

A Heritage Impact Assessment (HIA) specialist will be appointed and the report will be attached on the Final EIA report. The HIA report will form part of the EIA phase.

### **13.12 Other matters required in terms of section 24(4)(a) and (b) of the act.**

The motivation for not considering site alternatives, technology alternatives have been presented as part of this report and therefore no separate stand-alone report compiled.



## 14 UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I, N. Mudau/Mofokeng herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and interested and affected parties has been correctly recorded in the report.



Signature of the environmental assessment practitioner:

NDI Geological Consulting Services (Pty) Ltd 

Name of company:

2018/11/05

Date:

-END-

## 15 REFERENCES

1. Dracoulides D. and Xu A., 2013. Environmental and Social Impact Assessment (ESIA) for the Proposed Gamsberg Zinc Mine, <https://www.erm.com/contentassets/.../final-esia/.../annex-g6-general-ecology.pdf>.
2. Hatingh J., 2016. Specialist surface Water Study on the Catchment Area and Discharge at a proposed Dan Site South of Piketberg, [admin.studio137.co.za/.../13418422App%20G%20Surface%20water%20Report.pdf](http://admin.studio137.co.za/.../13418422App%20G%20Surface%20water%20Report.pdf)
3. Mucina et al, 2014. Vegetation Field Atlas of Continental South Africa, Lesotho and Swaziland. <https://www.sanbi.org › Biodiversity › Foundations>, accessed in June 2018.
4. Nyamoki Consulting, 2018. Geohydrological Assessment Associated with Prospecting Right and Bulk Sampling Activities including Trenching portion 1 and 8 of ST Claire 148, Douglas in Northern Cape.
5. Nyamoki Consulting, 2018. Soil, Landuse, Land Capability and Agricultural Potential Survey: Proposed ST Claire, Douglas, Northern Cape.
6. Palaeorock Geological Consultants, 2018. Independent Geologist's Compilation of a Resource Statement on the Mineral Assets of Maxwill 146 Cc.
7. Power Construction, 2015. Archeological Impact Assessment: Proposed borrow pit (Karusa East) on the Farm Rheebokke Fontein

209/2 & 209/3 near Sutherland, Northern Cape,  
[https://www.srk.co.za/sites/default/files/File/South.../Kloofsig\\_2\\_archaeology.pdf](https://www.srk.co.za/sites/default/files/File/South.../Kloofsig_2_archaeology.pdf)

8. Province, [www.sahra.org.za/.../Appendix%20D1%20Soil%20Agriculture%20%202017%20Spe](http://www.sahra.org.za/.../Appendix%20D1%20Soil%20Agriculture%20%202017%20Spe), accessed in June 2018.
9. Unknown Author, Siyancuma IDP 2018/19 Final , [khaima.gov.za/wp.../Khai-Ma-Municipality-IDP-2012-2017-March-2015-16-FIN.pdf](http://khaima.gov.za/wp.../Khai-Ma-Municipality-IDP-2012-2017-March-2015-16-FIN.pdf), accessed in October 2018.