

**INVEST IN PROPERTY 99 (PTY) LTD MINING OPERATION  
LEJWELEPUTSWA MUNICIPAL DISTRICT  
FREE STATE PROVINCE**

**DRAFT SCOPING REPORT**



***REFERENCE NUMBER: FS 30/5/1/2/2/10066 MR***

**JULY 2021**

**PREPARED FOR:**

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## **EXECUTIVE SUMMARY**

Invest in Property 99 (Pty) Ltd applied for environmental authorisation to mine alluvial diamonds and gold from a 20 207.3968 ha area that extends over thirty-six properties in the Lejweleputswa magisterial district of the Free State Province. Even though the project application extends over a vast area, the Applicant proposes to divide the mining right footprint (hereinafter referred to as the “major area”) into smaller mining areas of  $\pm 2$  ha each (hereinafter referred to as the “minor areas”) that will be positioned in between areas of agricultural importance. In other words, the total footprint to be disturbed by mining activities at any given time calculates to  $\pm 12$  ha of the 20 207.3968 ha mining right area, upon which a mined-out minor area has to be rehabilitated prior to the opening of a subsequent minor area. The current project proposal will entail the disturbance of  $\pm 0.06\%$  of the mining right area (major area) at any given time, as concurrent rehabilitation (strip-mining) is proposed.

Upon commencement, the proposed project will trigger listed activities (see Table below) in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended 2017) and therefore requires an environmental impact assessment (EIA) that assess project specific environmental impacts and alternatives, consider public input, and propose mitigation measures, to ultimately culminate in an environmental management programme that informs the competent authority (Department of Mineral Resources and Energy) when considering the environmental authorisation.

Should the MR be issued and the mining of alluvial diamonds and gold be allowed, the proposed project will comprise of activities that can be divided into three key phases (discussed in more detail in the report) namely the:

- (1) *Site establishment/construction phase* which will involve the demarcation of each minor area’s boundaries and required buffer no-go zones pertaining to existing infrastructure and areas of significant importance identified during the environmental impact assessment. Site establishment will further necessitate the clearing of vegetation, stripping and stockpiling of topsoil, and establishing site infrastructure.
- (2) *Operational phase* that is presently expected to entail the simultaneous mining of six (6) minor mining areas within the footprint of the major mining right area. Upon the prospecting and exploration of allowable (agreed to by the landowner) farm portions, the opencast and strip-mining method will be used to recover diamond bearing gravel that will be processed, upon which the concentrated product is transported to an off-site recovery plant.
- (3) *Decommissioning phase* which will include activities that can be divided into medium- and long term categories. In the medium term, rehabilitation will entail the continuous reinstatement of mined-out minor areas through the use of overburden and spoil material to backfill excavation pits, reinstatement of decommissioned processing areas, rehabilitation of settling ponds as well restoring eroded areas and the



management of weeds and invasive plant species. In the long term, rehabilitation will comprise the reinstatement of all remaining disturbed areas (mining related) prior to the submission of a closure application to the Department of Mineral Resources and Energy (DMRE).

**Alternatives:**

Site Alternative 1 was identified during the planning phase by the Applicant and project team, as the preferred and only viable site alternative. Should viable site alternatives be identified during the EIA process, the project team will heed the suggestions, and investigate the possible implementation thereof. Such site alternatives (if identified) will be discussed in detail in the draft EIAR to be distributed for public comments.

Project Alternative 1 entails the winning of alluvial diamonds and gold from minor areas ( $\pm 2$  ha) to be operated within the footprint of the major footprint area (20 207.3968a). The current project alternative proposes the simultaneous operation of six (6) minor areas through opencast and strip-mining methods, with the concentrate, recovered at the processing plant, transported to an off-site recovery plant. The operation of all minor areas will be in accordance with the conditions of the surface use agreement to be signed by the Applicant and landowner prior to the commencement of mining. PA1 entails the disturbance of  $\pm 0.06\%$  of the proposed footprint area at any given time as concurrent rehabilitation is proposed. Additional project alternatives can be considered during the EIA process as supplementary information is obtained, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.

Technology/Design Alternatives: As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR. The following technology/design principles will be considered by the Applicant and project team:

- The use of permanent infrastructure as opposed to temporary infrastructure;
- The processing of the concentrate at a remote recovery plant opposed to the use of a locally established plant.

No-go Alternative: The no-go alternative entails no change to the status quo and is therefore a real alternative that needs to be considered. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, crop production, and game/livestock farming with the diamond and gold resources unmined. Amongst others, the socio-economic impact of mining on current, and future land uses of the study area will be compared to the status quo and will be considered as part of the EIA process, and discussed in the DEIAR.

**Public Participation Process:**

During the initial public participation process the stakeholders and I&AP's were informed of the project by means of background information documents that were sent or hand delivered directly to the contact persons, on-site notices that were placed at conspicuous places and an advertisement that was placed in the



Bloemnuus. A 30 days commenting period was allowed which expired on 03 December 2018. A public meeting was also held on 20 November 2018.

Upon submission of the mining right application, and in accordance with the timeframes stipulated in the EIA Regulations, 2014 (as amended by GNR 326 effective 7 April 2017) the Draft Scoping Report (DSR) was compiled to allow perusal of the report by the I&AP's and stakeholders listed above. A 30-day commenting period, ending 23 Augustus 2021, will be allowed for perusal of the documentation and submission of comments. Comments or response received on the DSR will be incorporated into the Final Scoping Report to be submitted to DMRE for decision making.

### **Scoping Report:**

The scoping report identifies the potential positive and negative impacts that the proposed mining project may have on the environment and the community as well as the aspects that may impact on the socio-economic conditions of directly affected persons, and proposes possible mitigation measure that could be applied to modify / remedy / control / stop the identified impacts. The impacts and mitigation measures noted in the scoping report must be assessed and elaborated on as part of the EIA process, and the findings discussed in the Environmental Impact Assessment Report.

### **Plan of Study for the Environmental Impact Assessment Process:**

The aspects to be assessed as part of the environmental impact assessment process will include, but not be limited to, the following:

1. Various alternatives that will in turn dictate the design and layout of the proposed project.
2. Upon deciding on the preferred alternatives, the applicability of the listed activities in terms of the NEMA EIA Regulations, 2014 (as amended) will be confirmed and aligned with the most recent proposal.
3. The need and desirability of the proposed activity will be discussed in detail and weighed against the no-go option of upholding the *status quo* at the study area.
4. The inputs received during the public participation process (first- and second phase) will be assessed and considered by the project team during the EIA process.
5. The findings, recommendations and management measure proposed in the desktop Heritage Impact Assessment (inclusive of a palaeontological opinion) will be assessed during the EIA process and incorporated into the DEIAR.
6. The impact of the proposed project on the physical-, biological-, and human environments will be assessed.
7. Mitigation measures will be proposed to control, modify, remedy or stop the impacts associated with the proposed activity on the surrounding environment.
8. Any additional requirements submitted by the DMRE will be incorporated into the DEIAR and treated accordingly.



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**LIST OF ACRONYMS**

ABET Adult Basic Education and Training

ASAPA Association for Southern African Professional Archaeologist

ASTM American Society for Testing and Materials

BID Background Information Document

CBA Critical Biodiversity Areas

CRR Comments and Response Report

DEIAR Draft Environmental Impact Assessment Report

DMRE Department of Mineral Resources and Energy

DSR Draft Scoping Report



DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPR	Environmental Management Programme
ESA	Ecological Support Areas
FEIAR	Final Environmental Impact Assessment Report
FEPA	Freshwater Ecosystem Priority Area
FSR	Final Scoping Report
GDP	Gross Domestic Product
HIA	Heritage Impact Assessment
I&AP	Interested and Affected Party
LED	Local Economic Development
MHSA	Mine Health and Safety Act, 1996 (Act No 29 of 1996)
MPRDA	Minerals and Petroleum Resources Development Act, 2002 (Act No 28 of 2002)
MR	Mining Right
NEM:AQA	National Environmental Management: Air Quality Control Act, 2004 (Act No 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No 10 of 2004)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No 59 of 2008)
NEMA	National Environmental Management Act, 1998 (Act No 107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No 25 of 1999)
NRTA	National Road Traffic Act, 1996 (Act No 25 of 1999)
NWA	National Water Act, 1998 (Act No 36 of 1998)
OHSA	Occupational Health and Safety Act, 1993 (Act No 85 of 1993)
PA1	Project Alternative 1
PCB's	Polychlorinated Biphenyls
PCO	Pest Control Officer
PPE	Personal Protection Equipment
PR	Prospecting Right
ROM	Run of Mine
SA1	Site Alternative 1
SAMBF	South African Mining and Biodiversity Forum
SAMRAD	South African Mining Mineral Resources Administration System
SANBI	South African National Biodiversity Institute
SANS	South African National Standards
SLP	Social and Labour Plan





WMA Water Management Area  
WULA Water Use Licence Application  
ZAR Zuid-Afrikaanse Republic

**DEFINITIONS**

Agricultural active land Land that is actively used as farmland (cropland) or pasture (rangeland) by the landowner or lawfully authorised entity.

Major area The mining right area comprising of 20 207.3968 ha.

Minor area An area of  $\pm 2$  ha that falls within the boundary of the mining right footprint (20 207.3968 ha). To be operated as a single unit that will be rehabilitated prior to commencement of a subsequent  $\pm 2$  ha area. The current project proposal is for a maximum of six (6) minor areas to be operated simultaneously.



**mineral resources**

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

## **SCOPING REPORT**

### **FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT AND/OR BULK SAMPLING ACTIVITIES INCLUDING TRENCHING IN CASES OF ALLUVIAL DIAMOND PROSPECTING**

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

**NAME OF APPLICANT:** Invest in Property 99 (Pty) Ltd

**TEL NO:** 076 335 5332

**FAX NO:** -

**POSTAL ADDRESS:** 14 River Street, Christiana, 2680

**PHYSICAL ADDRESS:** 14 River Street, Christiana, 2680

**FILE REFERENCE NUMBER SAMRAD:** FS 30/5/1/2/2/10066 MR



## IMPORTANT NOTICE

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

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

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

**It is therefore an instruction that** the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or 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 requirements of the Regulation and will lead to the Environmental Authorisation being refused.

**It is furthermore an instruction that** the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in 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.



## OBJECTIVE OF THE SCOPING PROCESS

- 1) 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 a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
    - (e) identify the 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, consequence, 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 need to be managed and monitored.
-



## SCOPING REPORT

### 2. CONTACT PERSON AND CORRESPONDENCE ADDRESS

#### a) Details of: Greenmined Environmental

In terms of the National Environmental Management Act, 1998 (Act No 107 of 1998) (NEMA) the proponent must appoint an independent Environmental Assessment Practitioner (EAP) to undertake the environmental impact assessment (EIA) of any activities regulated in terms of the aforementioned Act. Invest in Property 99 (Pty) Ltd (hereinafter the “Applicant”) appointed Greenmined Environmental (Pty) Ltd (hereinafter “Greenmined”) to undertake the study needed. Greenmined has no vested interest in Invest in Property 99 (Pty) Ltd or the proposed project and hereby declares its independence as required by the EIA Regulations, 2014 (as amended 2017).

#### i) The EAP who prepared the report

Name of the Practitioner: Ms Christine Fouche (Senior Environmental Specialist)

Tel No: 021 851 2673 / 082 811 8514

Fax No: 086 546 0579

E-mail address: [christine.f@greenmined.co.za](mailto:christine.f@greenmined.co.za)

#### ii) Expertise of the EAP

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

(With evidence attached as **Appendix 1**)

Ms Fouche has a Diploma in Nature Conservation and a B.Sc. in Botany and Zoology. Full CV with proof of expertise is attached as Appendix 1.

##### (2) Summary of the EAP’s past experience

(Attach the EAP’s curriculum vitae as **Appendix 2**)

Ms Fouche has sixteen years’ experience in doing Environmental Impact Assessments and Mining Applications in South Africa. See a list of past project attached as Appendix 2.

#### b) Description of the property

<b>Farm Name:</b>	<ol style="list-style-type: none"> <li>1. Whole farm of Abramsyskraal 175 RD                         <ul style="list-style-type: none"> <li> Portion 0 (Remaining Extent) of the farm Abramsyskraal 175</li> <li> Portion 1 of the farm Abramsyskraal 175</li> <li> Portion 2 (Remaining Extent) of the farm Abramsyskraal 175</li> <li> Portion 3 of the farm Abramsyskraal 175</li> <li> Portion 6 of the farm Abramsyskraal 175</li> <li> Portion 8 of the farm Abramsyskraal 175</li> </ul> </li> </ol>
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	<p>2. Whole farm of Annex-Naudesfontein 259 RD</p> <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Annex-Naudesfontein 259</li> <li>■ Portion 2 of the farm Annex-Naudesfontein 259</li> <li>■ Portion 3 of the farm Annex-Naudesfontein 259</li> <li>■ Portion 4 of the farm Annex-Naudesfontein 259</li> </ul> <p>3. Whole farm of Beth-EI-Pella 623 RD</p> <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Beth-EI-Pella 623</li> <li>■ Portion 1 (Remaining Extent) of the farm Beth-EI-Pella 623</li> <li>■ Portion 2 (Remaining Extent) of the farm Beth-EI-Pella 623</li> <li>■ Portion 4 of the farm Beth-EI-Pella 623</li> <li>■ Portion 6 of the farm Beth-EI-Pella 623</li> <li>■ Portion 7 of the farm Beth-EI-Pella 623</li> </ul> <p>4. Whole farm of Ebenezer 127 RD</p> <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Ebenezer 127</li> <li>■ Portion 1 of the farm Ebenezer 127</li> <li>■ Portion 2 of the farm Ebenezer 127</li> </ul> <p>5. Whole farm of Leeuwheuvel 262 RD</p> <ul style="list-style-type: none"> <li>■ Portion 1 (Remaining Extent) of the farm Leeuwheuvel 262</li> <li>■ Portion 2 (Remaining Extent) of the farm Leeuwheuvel 262</li> <li>■ Portion 4 of the farm Leeuwheuvel 262</li> <li>■ Portion 5 of the farm Leeuwheuvel 262</li> <li>■ Portion 7 (Remaining Extent) of the farm Leeuwheuvel 262</li> <li>■ Portion 8 of the farm Leeuwheuvel 262</li> </ul> <p>6. Whole farm of Smithskraal 1519 RD</p> <ul style="list-style-type: none"> <li>■ Portion 2 (Remaining Extent) of the farm Smithskraal 1519</li> <li>■ Portion 4 of the farm Smithskraal 1519</li> <li>■ Portion 5 of the farm Smithskraal 1519</li> <li>■ Portion 7 of the farm Smithskraal 1519</li> <li>■ Portion 9 of the farm Smithskraal 1519</li> <li>■ Portion 12 (Remaining Extent) of the farm Smithskraal 1519</li> <li>■ Portion 13 (Remaining Extent) of the farm Smithskraal 1519</li> <li>■ Portion 15 of the farm Smithskraal 1519</li> <li>■ Portion 17 of the farm Smithskraal 1519</li> <li>■ Portion 18 of the farm Smithskraal 1519</li> </ul> <p>7. Whole farm of Thorburnton 106 RD</p> <ul style="list-style-type: none"> <li>■ Portion 0 of the farm Thorburnton 106 RD</li> </ul>
<b>Application area (Ha)</b>	20 207.3968 ha
<b>Magisterial district</b>	Boshof (Lejweleputswa)
<b>Distance and direction from nearest town</b>	The application area is situated approximately 56 km north of Boshof, and ±53 km west of Hertzogville.



21 digit Surveyor General Code for each farm portion	
	1. Abramsyskraal 175 RD:
	F0040000000001750000
	F0040000000001750001
	F0040000000001750002
	F0040000000001750003
	F0040000000001750006
	F0040000000001750008
	2. Annex-Naudesfontein 259 RD:
	F0040000000002590000
	F0040000000002590002
	F0040000000002590003
	F0040000000002590004
	3. Beth-El-Pella 623 RD:
	F0040000000006230000
	F0040000000006230001
	F0040000000006230002
	F0040000000006230004
	F0040000000006230006
	F0040000000006230007
	4. Ebenezer 127 RD:
	F0040000000001270000
	F0040000000001270001
	F0040000000001270002
	5. Leeuwheuvel 262 RD:
	F0040000000002620001
	F0040000000002620002
	F0040000000002620004
	F0040000000002620005
	F0040000000002620007
	F0040000000002620008
	6. Smithskraal 1519 RD:
	F0040000000015190002
	F0040000000015190004
	F0040000000015190005
	F0040000000015190007
	F0040000000015190009
	F0040000000015190012
	F0040000000015190013
	F0040000000015190015
	F0040000000015190017
	F0040000000015190018



	7. Thorburnton 106 RD: F00400000000010600000
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**c) Locality map**

(show nearest town, scale not smaller than 1:250000 as **Appendix 3**)

The requested map is attached as Appendix 3.

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

**i) Listed and specified activities**

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1:10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site and attach as **Appendix 4**

The Applicant, Invest in Property 99 (Pty) Ltd, applied for environmental authorisation to mine alluvial diamonds and gold from a 20 207.3968 ha area that extends over the properties as listed above within the Lejweleputswa municipal district of the Free State Province.

Even though the project application extends over a vast area, the Applicant proposes to divide the mining right footprint (hereinafter referred to as the “major area”) into smaller mining areas of ±2 ha each (hereinafter referred to as the “minor areas”) that will be positioned in between areas of agricultural importance. It is proposed that a maximum of six (6) minor areas will be mined at any given time. In other words, the total footprint to be disturbed by mining activities at any given time calculates to ±12 ha of the 20 207.3968 ha mining right area, upon which a mined-out minor area has to be rehabilitated prior to the opening of a subsequent minor area. The current project proposal will entail the disturbance of only 0.06% of the mining right area (major area) at any given time, as concurrent rehabilitation (strip-mining) is proposed.

Should the Applicant be issued with a mining right (MR) and the project commence, the principal mining activities is expected to include the following at each operational site (minor area):

- Site establishment;
- Stripping and stockpiling of topsoil of the mining area;
- Excavation and loading;
- Processing of gravel;
- Transport of concentrate to recovery plant;
- Backfilling of excavation;
- Rehabilitation of processing area;
- Sloping and landscaping upon closure of the site; and
- Replacing the topsoil and vegetating the disturbed areas.





Presently the preliminary layout of each operational site (minor area) is expected to include the following:

- Opencast excavation;
- Overburden stockpiles;
- Excavation and earthmoving equipment;
- Screens, conveyors and pans of the processing plant;
- Containers for administration, storage and workshop purposes;
- Mobile ablution facilities;
- Generators;
- Diesel depot (<80 m<sup>3</sup>);
- Water winning and storage equipment;
- Settling pond; and
- Internal roads.

Upon commencement, the proposed project will trigger listed activities (see Table below) in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended 2017) and therefore requires an environmental impact assessment (EIA) that assess project specific environmental impacts and alternatives, consider public input, and propose mitigation measures, to ultimately culminate in an environmental management programme that informs the competent authority (Department of Mineral Resources and Energy) when considering the environmental authorisation.

See attached as Appendix 4 a copy of the preliminary site layout plan of the proposed mining activities.

Table 1: Listed and specified activities triggered by the associated mining activities

<b>NAME OF ACTIVITY</b> (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	<b>AERIAL EXTENT OF THE ACTIVITY</b> Ha or m <sup>2</sup>	<b>LISTED ACTIVITY</b> Mark with an X where applicable or affected.	<b>APPLICABLE LISTING NOTICE</b> (GNR 544, GNR 545 OR GNR 546)/NOT LISTED
Application for a mining right.	20 207.3968 ha (major area)	X	GNR 327 LN 1 Activity 22, 24, 28, 56 GNR 325 LN 2 Activity 15, 17
Listing Notice 1 Activity 22: <i>The decommissioning of any activity requiring –</i> (i) a closure certificate in terms of section 43 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002); or (ii) a prospecting right, mining right, mining permit, production right or exploration right, where the throughput of the activity has reduced by 90% or more over a			



<b>NAME OF ACTIVITY</b> (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	<b>AERIAL EXTENT OF THE ACTIVITY</b> Ha or m <sup>2</sup>	<b>LISTED ACTIVITY</b> Mark with an X where applicable or affected.	<b>APPLICABLE LISTING NOTICE</b> (GNR 544, GNR 545 OR GNR 546)/NOT LISTED
Listing Notice 1 Activity 24: <i>The development of a road—</i> (i) for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or (ii) with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;			
Listing Notice 1 Activity 28: <i>Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:</i> (i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.			
Listing Notice 1 Activity 56: <i>The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre—</i> (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres;			
Listing Notice 2 Activity 15: The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for— (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.			
Listing Notice 2 Activity 17: <i>Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including—</i> (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.			
Demarcation of the site with visible beacons.	±2 ha/minor area (12 ha maximum)	N/A	N/A
Site establishment.	±2 ha/minor area (12 ha maximum)	N/A	N/A
Stripping and stockpiling of topsoil of the mining area.	±2 ha/minor area (12 ha maximum)	X	GNR 327 LN 1 Activity 28 GNR 325 LN 2 Activity 15, 17
Excavation and loading	±900 m <sup>2</sup> /minor area (±5.4 ha)	X	GNR 327 LN 1 Activity 28 GNR 325 LN 2 Activity 17



<b>NAME OF ACTIVITY</b> (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc.)	<b>AERIAL EXTENT OF THE ACTIVITY</b> Ha or m <sup>2</sup>	<b>LISTED ACTIVITY</b> Mark with an X where applicable or affected.	<b>APPLICABLE LISTING NOTICE</b> (GNR 544, GNR 545 OR GNR 546)/NOT LISTED
Processing of gravel	±1 ha/minor area (±6 ha)	X	GNR 327 LN 1 Activity 28 GNR 325 LN 2 Activity 17
Transport of concentrate to recovery plant	Use of existing access roads, upgraded where necessary.	X	GNR 327 LN 1 Activity 24, 56 GNR 325 LN 2 Activity 17
Backfilling of excavation	±900 m <sup>2</sup> /minor area (±5.4 ha)	X	GNR 327 LN 1 Activity 22
Rehabilitation of processing area	±1 ha/minor area (±6 ha)	X	GNR 327 LN 1 Activity 22
Sloping and landscaping upon closure of the site	±2 ha/minor (12 ha maximum)	X	GNR 327 LN 1 Activity 22
Replacing the topsoil and vegetating the disturbed area	±2 ha/minor area (12 ha maximum)	X	GNR 327 LN 1 Activity 22

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

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity)

The Applicant, Invest in Property 99 (Pty) Ltd, currently holds a prospecting right (FS 30/5/1/1/2/474 PR) over the proposed mining right application area, where the prospecting for alluvial diamonds is in progress. Owing to the prospecting outcome up until now, the Applicant applied for a mining right for the winning of alluvial diamonds and gold.

Should the MR be issued and the mining of alluvial diamonds and gold be allowed, the proposed project will comprise of activities that can be divided into three key phases (discussed in more detail below) namely the:

- (4) *Site establishment/construction phase* which will involve the demarcation of each minor area’s boundaries and required buffer no-go zones pertaining to existing infrastructure and areas of significant importance (such as but not limited to watercourse, wetlands, Ecological Support Areas (ESA)) identified during the environmental impact assessment. Site establishment will further necessitate the clearing of vegetation, stripping and stockpiling of topsoil, and establishing site infrastructure.



- (5) *Operational phase* that is presently expected to entail the simultaneous mining of six (6) minor areas within the footprint of the major mining right area. The estimated footprint of a single minor area is proposed to be  $\pm 2$  ha, meaning that the footprint of the operational areas will calculate to a maximum of  $\pm 12$  ha at any given time (should all six minor areas be operational). The mining method to be implemented at each minor area will resemble the current prospecting invasive activities. Upon the prospecting and exploration of allowable (agreed to by the landowner) farm portions, the opencast and strip-mining method will be used to recover diamond bearing gravel that will be processed, upon which the concentrated product is transported to an off-site recovery plant.
- (6) *Decommissioning phase* which will include activities that can be divided into medium- and long term categories. In the medium term, rehabilitation will entail the continuous reinstatement of mined-out minor areas through the use of overburden and spoil material to backfill excavation pits, reinstatement of decommissioned processing areas, rehabilitation of settling ponds as well restoring eroded areas and the management of weeds and invasive plant species. In the long term, rehabilitation will comprise the reinstatement of all remaining disturbed areas (mining related) prior to the submission of a closure application to the Department of Mineral Resources and Energy (DMRE). The right holder will further be responsible for the seeding of all rehabilitated areas. Once the full mining area is rehabilitated, the mining right holder will be required to submit a closure application to the DMRE in accordance with section 43(4) of the MPRDA, 2002. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998.

As mentioned earlier, should the project be authorised the layout of the mining area (minor area) is expected to consist of the following:

- Opencast excavation;
- Overburden stockpiles;
- Excavation and earthmoving equipment;
- Screens, conveyors and pans of the processing plant;
- Containers for administration, storage and workshop purposes;
- Mobile ablution facilities;
- Generators;
- Diesel depot (<80 m<sup>3</sup>);
- Water winning and storage equipment;
- Settling pond; and
- Internal roads.



## **PHASES OF THE PROJECT**

### *(1) Site Establishment / Construction phase:*

Upon the identification of allowable mining areas (in accordance with the surface use agreement), site establishment entails the demarcation of mining boundaries, clearance of vegetation (where necessary), and stripping and stockpiling of topsoil to establish mining related infrastructure, stockpile areas and the excavation zone as detailed below:

#### **■ Demarcation of Mining Boundaries:**

Pursuant to receipt of an Environmental Authorisation (EA) and Mining Right (MR), and prior to site establishment, the boundary of the mining area has to be demarcated. However, because of the vast size of the mining right footprint (20 207.3968 ha), the installation of beacons along the outer mining boundaries is deemed impractical. The Applicant therefore proposes to demarcate each operational minor area ( $\pm 2$  ha) as well as all specific areas of concern within, or within close proximity (100 m) to an operational minor area. Areas to be demarcated will include, but not be limited to, all “no-go” buffer zones identified during the EIA process, stockpile areas, excavations, processing areas, water storage and settling ponds.

#### **■ Clearing of Vegetation:**

Kimberley Thornveld (SVk4), Schmidtsdrif Thornveld (SVk6), and Highveld Alluvial Vegetation (AZa5) are potential vegetation types which are present alternatively may be present on site. The footprint area of the proposed mining right extends over an area extensively altered for agricultural purposes and although the natural vegetation was removed from the foremost portion of the earmarked footprint, areas with natural occurring vegetation are still present. In the circumstance the removal of vegetation (altered/natural) will be necessary to access the resource.

The draft environmental impact assessment report (DEIAR) will assess the terrestrial fauna and flora of the study area as part of the EIA process. The flora-part of the assessment will consider the various plant communities, inform on the occurrence of endangered plant communities and red data plant species, identify areas of concern to be excluded from the mining footprint, instruct on the management of red data species, identify the presence and distribution of threatened plants present in the study area, determine the impact that the proposed mining activity will have on the conservation status of natural vegetation in the mining area, and propose management and mitigation



measures for identified impacts. The intention is to minimize the removal of natural vegetation, and to in the end restore the footprint area to land suitable for agricultural purposes upon closure of each minor mining area, and ultimately the lapse of the mining right.

#### **Topsoil Stripping:**

It is proposed that topsoil removal will be restricted to the exact footprint of each minor area to be mined during the operational phase of the activity. The topsoil will be stockpiled at a designated signposted area within the boundary of each minor area to be replaced during the rehabilitation of the area. It will be part of the obligations of site management to prevent the mixing of topsoil heaps with overburden/other soil heaps. The complete A-horizon (the top 100 – 200 mm of soil which is generally darker coloured due to high organic matter content) will be removed. If it is unclear where the topsoil layer ends the top 300 mm of soil will be stripped. The topsoil berm will measure a maximum of 1.5 m in height in order to preserve micro-organisms within the topsoil, which can be lost due to compaction and lack of oxygen.

#### **Access Roads:**

Presently it is proposed that access to the properties will be from the existing R708 and associated public roads branching from it. Within the mining boundary (major area), the Applicant will strive to make use of the existing farm roads as far as possible, however some new roads, or upgrading of existing roads will be required. Haul roads will be extended between the excavations and processing area within each minor area, and will be rehabilitated as part of the reinstatement of the footprint area (minor area). Road and traffic related detail will be discussed in the DEIAR.

#### **Establishment of Site Infrastructure:**

The detail with regard to site infrastructure and the supporting services will be discussed in the DEIAR. Currently, the proposed site infrastructure to be established within the footprint of each minor area is expected to consist of:

- Screens, conveyors and pans of the processing plant;
- Containers for administration, storage and workshop purposes;
- Mobile ablution facilities;
- Generators;
- Diesel depot (<80 m<sup>3</sup>);
- Water winning and storage equipment;



- Settling pond; and
- Internal roads.

## *(2) Operational Phase*

The mining method to be used, will resemble the current prospecting invasive activities implemented by the Applicant, as part of the approved prospecting right. Upon the prospecting and exploration of allowable (as agreed to in terms of the surface use agreement) farm portions to determine the precise location and direction of the channels to be mined, the opencast and strip-mining method will be implemented to recover the alluvial diamond bearing gravel of the footprint area (minor area). After the removal of topsoil, excavators will open pits of  $\pm 350 \text{ m}^2$  that will vary in depth from 300 mm – 1.2 m depending on the presence of the diamondiferous gravel. The diamondiferous gravel will then be excavated and transported to the processing area where it will be fed into a scrubber and sizing screen. Excess sand will be removed, and the product will continue from the material conveyor to a stockpile, from where it will be fed into the washing pans. The concentrated product from the pans will be extracted into steel containers that will be loaded onto a truck and transported to an off-site recovery plant. The paddle from the washing pans will be pumped into the settling pond where excess water is allowed to evaporate. Oversized rock, sand and tailings will be used to refill the excavation and landscape the disturbed area (minor area) prior to the replacement of the previously stockpiled topsoil.

Should gold fines (placer deposits) be found at the recovery plant during the sorting process of the diamond concentrated, the Applicant will sell the mineral in accordance with relevant legislation. No additional activities/process will be required to win/extract gold from the proposed mining right area.

As mentioned earlier, it is proposed that six (6) minor areas will be operated simultaneously within the footprint of the mining right area (major area). The estimated footprint of a minor area will be  $\pm 2 \text{ ha}$ , meaning that the unrehabilitated mining areas will calculate to  $\pm 12 \text{ ha}$  (0.06% of the mining right area) at any given time.

The Applicant requested the mining right to be valid for a period of 30 years based on the vast size of the application area and the nature of the proposed activity being dependant on the presence and detection of diamondiferous gravel. The variability of alluvial diamond deposits in turn necessitate prospecting to precede mining activities, adding to the timeframe required to successfully exploit the resource present within the study area. In light of these technicalities, and the fact that diamondiferous gravel requires constant pursuing, the



Applicant expects the proposed project to extend over a 30 year period.

As mentioned earlier, currently the mining activities at each minor area are expected to entail the following:

- Site establishment;
- Stripping and stockpiling of topsoil of the mining area;
- Excavation and loading;
- Processing of gravel;
- Transport of concentrate to recovery plant;
- Backfilling of excavation;
- Rehabilitation of processing area;
- Sloping and landscaping upon closure of the site; and  
Replacing the topsoil and vegetating the disturbed areas.

*(3) Decommissioning phase:*

The closure objectives will be detailed in the Environmental Impact Assessment Report and Environmental Management Programme (EMPR), to be submitted as part of the application process for approval by the Department of Mineral Resources and Energy. As mentioned earlier rehabilitation will include activities to be divided into medium- and long term categories. In the medium term, rehabilitation will entail the continuous reinstatement of mined-out minor areas through the use of overburden and spoil material to backfill excavation pits, reinstatement of decommissioned processing areas, rehabilitation of settling ponds as well restoring eroded areas and the management of weeds and invasive plant species. In the long term, rehabilitation will comprise the reinstatement of all remaining disturbed areas (mining related) prior to the submission of a closure application to the Department of Mineral Resources and Energy (DMRE).

At this stage the following baseline rehabilitation actions are proposed from which a detailed Closure Plan will be developed (to be approved as part of the EIA process):

- Rehabilitation of all the disturbed surface areas shall entail landscaping, levelling, sloping, top dressing, land preparation, seeding (if required), and weed / alien clearing.
- All unwanted infrastructures, equipment, and other items used during the mining period will be removed from the site in accordance with section 44 of the MPRDA, 2002.





- Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognized landfill facility. It will not be permitted to be buried or burned on the site.
- The rehabilitation area will be cleared of weeds and invader plant species. Priority will be given to species regarded as Category 1a and 1b invasive species in terms of NEM:BA (National Environmental Management: Biodiversity Act 10 of 2004 and regulations applicable thereto).
- Final rehabilitation shall be completed within a period specified by the Regional Manager.

Once the full mining area was rehabilitated the mining right holder is required to submit a closure application to the Department of Mineral Resources and Energy in accordance with section 43(4) of the MPRDA, 2002 that states: *“An application for a closure certificate must be made to the Regional Manager in whose region the land in question is situated within 180 days of the occurrence of the lapsing, abandonment, cancellation, cessation, relinquishment or completion contemplated in subsection (3) and must be accompanied by the prescribed environmental risk report”*. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998.

**e) Policy and Legislative Context**

*Table 2: Applicable legislation and guidelines used to compile the report.*

<b>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</b> (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process).	<b>REFERENCE WHERE APPLIED</b>
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). Subdivision of Agricultural Land Act, 1970 (Act No. 70 of 1970).	Assessment of biophysical environment and current land use.
Diamonds Act, 1986 (Act No 56 of 1986) read together with applicable amendments thereto.	Selling of diamonds will be in accordance with this act.
Hazardous Substances Act, 1973 (Act 15 of 1973)	The mitigation measures proposed for the project



<p><b>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</b> (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process).</p>	<p><b>REFERENCE WHERE APPLIED</b></p>
	<p>take into account the HAS, 1973.</p>
<p>Land Use Planning Act, 2014 (Act No. 13 of 2014)</p>	<p>A town and regional planner has been appointed to investigate the relevance of this act to the proposed application.</p>
<p>Mine Health and Safety Act, 1996 (Act No. 29 of 1996) read together with applicable amendments and regulations thereto including relevant OHSA regulations.</p>	<p>The mitigation measures proposed for the site take into account the MHSA, 1996.</p>
<p>Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) read together with applicable amendments and regulations thereto.</p>	<p>Application for a mining right. Reference number: FS 30/5/1/2/2/1066 MR</p>
<p>National Environmental Management Act,1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 (as amended by GNR 326 effective 7 April 2017):</p> <ul style="list-style-type: none"> <li>■ GNR 325 Listing Notice 2 Activity 15</li> <li>■ GNR 325 Listing Notice 2 Activity 17</li> <li>■ GNR 327 Listing Notice 1 Activity 22</li> <li>■ GNR 327 Listing Notice 1 Activity 24</li> <li>■ GNR 327 Listing Notice 1 Activity 28</li> <li>■ GNR 327 Listing Notice 1 Activity 56</li> </ul>	<p>Application for environmental authorisation. Reference number: FS30/5/1/2/2/10066MR</p>
<p>National Environmental Management: Air Quality Control Act, 2004 (Act No. 39 of 2004) read together with applicable amendments and regulations thereto specifically the National Dust Control Regulations, GN No R827.</p>	<p>The mitigation measures proposed for the project take into account the NEM:AQA, 2004 and the National Dust Control Regulations.</p>



<p><b>APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT</b> (a description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process).</p>	<p><b>REFERENCE WHERE APPLIED</b></p>
<p>National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) read together with applicable amendments and regulations thereto.</p>	<p>Assessment of biophysical environment.</p>
<p>National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) read together with applicable amendments and regulations thereto.</p> <p>NEM:WA, 2008: National norms and standards for the storage of waste (GN 9260).</p>	<p>The mitigation measures proposed for the site take into account the NEM:WA, 2008.</p>
<p>National Heritage Resources Act, 1999 (Act No. 25 of 1999)</p>	<p>Assessment of the cultural and heritage environment.</p>
<p>National Road Traffic Act, 1996 (Act No. 93 of 1996)</p>	<p>The mitigation measures proposed for the project take into account the NRTA, 1996.</p>
<p>National Water Act, 1998 (Act No. 36 of 1998) read together with applicable amendments and regulations thereto.</p> <p>Department of Water Affairs and Forestry Best Practice Guideline Series (2007).</p>	<p>A water use licence application will be submitted to the Department of Water and Sanitation in terms the National Water Act, 1998 (Act No. 36 of 1998).</p>
<p>Precious Metals Act, 2005 (Act No. 37 of 2005) read together with applicable amendments and regulations thereto.</p>	<p>Selling of gold will be in accordance with this act.</p>
<p>Public Participation Guideline in terms of the NEMA EIA Regulations.</p>	<p>The guidelines were used during the public participation process.</p>
<p>The South African Constitution.</p>	<p>To be upheld throughout the EIA assessment, planning-, construction-, operational- and decommissioning phases.</p>



## f) Need and desirability of the proposed activities

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

Agriculture and mining are the leading form of income and employment along the south, south-western and western reaches of the Free State Province, extending into the Northern Cape Province. Moreover, the prospecting/mining of alluvial diamonds along the banks of the Vaal River has shown renewed fervour since 1997. The Applicant, Invest in Property 99 (Pty) Ltd, holds a prospecting right (FS30/5/1/1/2/474PR) over thirty-six properties along the south-eastern bank of the Vaal River within the Lejweleputswa municipal district, and applied for a mining right for the winning of diamonds (alluvial) and gold (placer deposits) over a matching footprint.

The prospecting results (to date) have shown that the prospecting area has a high potential to yield diamondiferous gravel. Prospecting has however also shown that the presence of diamondiferous gravel is highly variable and cannot be projected based on the amount of prospecting done to date. The Applicant therefore desires the proposed mining right to incorporate the entire prospecting right area as this will allow additional time for prospecting and mining of the resource within the remaining footprint. The primary goal of the proposed mining operation will be the winning of alluvial diamonds. However, since the presence of gold fines, within the diamondiferous gravel, was established the Applicant included gold as a commodity to the mining right application. Should the recovery plant procure gold fines (placer deposits) while sorting the diamond concentrated, the Applicant will sell the mineral in accordance with relevant legislation. No additional activities/process will be required to win/extract gold from the proposed mining right area. Gold finds will be exclusively reliant on the presence of diamondiferous gravel, is expected to be capricious, and will therefore be treated as a derivative with the presence/absence thereof not affecting the feasibility of the proposed project.

The proposed labour component of the operation is approximately 30 employees per minor area including management. This calculates to approximately 180 employees to be employed should six minor areas operate simultaneously. In terms of the Social and Labour Plan to be approved as part of the proposed mining right application, the Applicant has an obligation to contribute to Human Resource Development and Local Economic Development (LED).

The primary objective of the Human Resource Development and Social Programme is to focus on strategic development initiatives, within pockets of the workforce, rather than a blanket training initiative for all employees. The objectives of the skills development plans are as follows:

- Ensure that selected employees have the ongoing skills required for successful continuation of the mining operations (workplace skills).
- To implement plans to ensure succession of management and career development is achieved through the identification of talent and development of the identified talent.



- Develop plans to provide all employees with both life skills and portable skills that they may need either upon closure of the mine or should they choose to leave the employment of the mine.
- Provide ABET training to ensure all employees have the opportunity to obtain an education level of at least ABET 4.

It is proposed that the 180 employees will support approximately 576 dependents, taking into account that each household contains an average of 3.2 persons. Due to the fact that most of the employees reside within the Tokologo Local Municipality, it is fair to presume that the majority of monthly earned salaries will be spent in the local area. Indirectly, through the payment for services and suppliers the mine will also support employment of the procurement partners. In addition thereto, the operation will contribute to the local economy of the area through the implementation of a Local Economic Development project identified by and agreed with the Tokologo Local Municipality.

As mentioned earlier, the Applicant entered into a surface use agreement with the property owners when the prospecting right (FS30/5/1/1/2/474PR) was issued. In terms of the said agreement, the Applicant must (amongst others) take the farming activities into account and prospecting operations is not allowed to affect the rights of the landowner to conduct its farming and business activities on the property. The Applicant also agreed to use the access roads as agreed with the landowner from time to time. The agreement furthermore restricts the prospecting of any part of the property used for cultivation, by the irrigation pivots and/or orchards unless the landowner has granted written permission to the right holder.

Should the mining right be issued, the Applicant committed to renew the said surface use agreement with every property owner, honouring the commitment to mine only in areas as agreed with the landowner that does not extend over pivots or orchards or impede farming/business activities. In light of this arrangement, the project proposal allows for the combined land use (agriculture and mining) of the earmarked properties as mining will take place in between the agricultural active areas (pivots, orchards etc.) even though this reduces the available mining area to  $\pm 35\%$  of the 20 207.3968 ha application area. Should the MR application be approved it will allow property owners the opportunity of supplementing and diversifying their property's income through compensation paid to them by the Applicant.

### **g) Period for which the environmental authorization is required**

The Applicant requested that the Environmental Authorisation (EA) be valid for the duration of the mining right (at least 30 years).



**h) Description of the process followed to reach the proposed preferred site.**

NB!! This section is not about the impact assessment itself, It is about the determination of the specific site layout having taken into consideration (1) the comparison of the originally proposed site plan, the comparison of that plan with the plan of environmental features and current land uses, the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout as a result.

**i) Details of all alternatives considered**

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

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

**Site Alternative 1 (S1) (Preferred Alternative):** Site Alternative 1 entails the mining of an area that corresponds with the approved prospecting right (FS30/5/1/1/2/474PR), currently held by the Applicant, within the boundaries of the following GPS coordinates:

*Table 3: GPS coordinates of the proposed mining footprint area.*

SITE ALTERNATIVE 1 (PREFERRED AND ONLY SITE ALTERNATIVE)		
NO	DEGREES MINUTES SECONDS (DMS)	DECIMAL DEGREES (DD)
A	28°00'04.324"S; 25°06'13.939"E	-28.001201°S; 25.103872°E
B	28°00'46.228"S; 25°09'38.239"E	-28.012841°S; 25.160622°E
C	28°02'13.978"S; 25°11'40.394"E	-28.037216°S; 25.194554°E
D	28°03'31.928"S; 25°11'52.220"E	-28.058869°S; 25.197839°E
E	28°05'47.191"S; 25°11'11.922"E	-28.096442°S; 25.186645°E
F	28°07'05.725"S; 25°10'43.504"E	-28.118257°S; 25.178751°E
G	28°06'04.964"S; 25°09.53.917"E	-28.101379°S; 25.164977°E
H	28°06'44.208"S; 25°09'10.087"E	-28.112280°S; 25.152802°E
J	28°05'13.070"S; 25°07'44.828"E	-28.086964°S; 25.129119°E
K	28°08'12.775"S; 25°08'33.133"E	-28.136882°S; 25.142537°E
L	28°08'59.982"S; 25°04'34.144"E	-28.149995°S; 25.076151°E
M	28°10'20.611"S; 25°01'38.111"E	-28.172392°S; 25.027253°E

SITE ALTERNATIVE 1 (PREFERRED AND ONLY SITE ALTERNATIVE)		
NO	DEGREES MINUTES SECONDS (DMS)	DECIMAL DEGREES (DD)
N	28°10'20.064"S; 25°00'15.642"E	-28.172240°S; 25.004345°E
P	28°08'53.707"S; 25°00'06.379"E	-28.148252°S; 25.001772°E
Q	28°04'36.534"S; 25°01'37.913"E	-28.076815°S; 25.027198°E
R	28°00'58.770"S; 25°06'21.056"E	-28.016325°S; 25.105849°E
S	28°01'02.226"S; 25°06'27.119"E	-28.017285°S; 25.107533°E
T	28°00'53.546"S; 25°06'24.264"E	-28.014874°S; 25.106740°E



Figure 1: Satellite view indicating the position of Site Alternative 1 within the surrounding landscape (image obtained from Google Earth)

Site Alternative 1 was identified during the planning phase by the Applicant and project team, as the preferred and only viable site alternative based on the evaluation of the prospecting results and due to the following:



- The prospecting results (to date) have shown that the prospecting footprint area has a high potential to yield diamondiferous gravel. Prospecting has however also shown that the presence of diamondiferous gravel is highly variable and cannot be projected based on the amount of prospecting done to date. The Applicant therefore desires the proposed mining right to incorporate the entire prospecting right area as this will allow additional time for prospecting and mining of the resource within the remaining footprint.
- The property owners of the earmarked area, and the Applicant has existing surface use agreements that can be renewed and honoured should the mining right be issued.
- Although a site alternative for the major mining area (20 207.3968 ha) is not deemed viable, site alternatives are possible within the boundary of the major mining area, as the minor areas ( $\pm 2$  ha) will be moved in between areas of agricultural importance, buffer zones and no-go areas, and any other sensitive areas identified during the EIA process. Exclusion areas will be defined in the environmental impact assessment report.

Should viable site alternatives be identified during the EIA process, the project team will heed the suggestions, and investigate the possible implementation thereof. Such site alternatives (if identified) will be discussed in detail in the draft EIAR to be distributed for public comments.

**Project Alternative 1 (PA1) (Preferred Project Alternative):** Project Alternative 1 entails the winning of alluvial diamonds and gold from minor areas ( $\pm 2$  ha) to be operated within the footprint of the major footprint area (20 207.3968a). The current project alternative proposes the simultaneous operation of six (6) minor areas through opencast and strip-mining methods, with the concentrate, recovered at the processing plant, transported to an off-site recovery plant. The operation of all minor areas will be in accordance with the conditions of the surface use agreement to be signed by the Applicant and landowner prior to the commencement of mining. PA1 entails the disturbance of  $\pm 0.06\%$  of the proposed footprint area at any given time as concurrent rehabilitation is proposed.

Additional project alternatives can be considered during the EIA process as supplementary information is obtained, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.

**Technology/Design Alternatives:** As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR. The following technology/design principles will be considered by the Applicant and project team:

- The use of permanent infrastructure as opposed to temporary infrastructure;
- The processing of the concentrate at a remote recovery plant opposed to the use of a locally established plant.





**No-go Alternative:** The no-go alternative entails no change to the *status quo* and is therefore a real alternative that needs to be considered. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, crop production, and game/livestock farming with the diamond and gold resources unmined. Amongst others, the socio-economic impact of mining on current, and future land uses of the study area will be compared to the *status quo* and will be considered as part of the EIA process, and discussed in the DEIAR.

**ii) Details of the Public Participation Process Followed**

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

During the initial public participation process the stakeholders and I&AP's were informed of the project by means of background information documents that were sent or hand delivered directly to the contact persons. A 30 days commenting period was allowed which expired on 03 December 2018. The following table provides a list of the I&AP's and stakeholders that were informed of the project:

*Table 4: List of the landowners, I&AP's and stakeholders that were supplied with a copy of the background information document.*

LANDOWNERS	
Mr JN Fourie	<ul style="list-style-type: none"> <li> Portion 0 (Remaining Extent) of the farm Abramsyskraal 175</li> </ul>
Wesruim Boerdery (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 1 of the farm Abramsyskraal 175</li> <li> Portion 3 of the farm Abramsyskraal 175</li> <li> Portion 12 (Remaining Extent) of the farm Smithskraal 1519</li> <li> Portion 0 of the farm Thorburnton 106</li> </ul>
Yorkagric (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 2 (Remaining Extent) of the farm Abramsyskraal 175</li> <li> Portion 6 of the farm Abramsyskraal 175</li> </ul>
Seriso 654 (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 8 of the farm Abramsyskraal 175</li> </ul>
VTV Boerdery (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 0 (Remaining Extent) of the farm Annex-Naudesfontein 259</li> <li> Portion 2 of the farm Annex-Naudesfontein 259</li> <li> Portion 3 of the farm Annex-Naudesfontein 259</li> <li> Portion 4 of the farm Annex-Naudesfontein 259</li> </ul>
Republic of South Africa	<ul style="list-style-type: none"> <li> Portion 0 (Remaining Extent) of the farm Beth-EI-Pella 623</li> </ul>



LANDOWNERS	
Laucob Boerdery CC	<ul style="list-style-type: none"> <li> Portion 1 (Remaining Extent) of the farm Beth-EI-Pella 623</li> <li> Portion 2 (Remaining Extent) of the farm Beth-EI-Pella 623</li> <li> Portion 4 of the farm Beth-EI-Pella 623</li> <li> Portion 7 of the farm Beth-EI-Pella 623</li> <li> Portion 2 (Remaining Extent) of the farm Leeuwheuvel 262</li> </ul>
Mr. & Mrs WA Fourie	<ul style="list-style-type: none"> <li> Portion 6 of the farm Beth-EI-Pella 623</li> </ul>
Agrivan Farming (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 0 (Remaining Extent) of the farm Ebenezer 127</li> </ul>
Falkirk Estates (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 1 of the farm Ebenezer 127</li> </ul>
Callender-Easby Trust	<ul style="list-style-type: none"> <li> Portion 2 of the farm Ebenezer 127</li> </ul>
Leeuwheuvel Boerdery (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 1 (Remaining Extent) of the farm Leeuwheuvel 262</li> <li> Portion 4 of the farm Leeuwheuvel 262</li> <li> Portion 5 of the farm Leeuwheuvel 262</li> </ul>
Peace Haven Trust	<ul style="list-style-type: none"> <li> Portion 7 (Remaining Extent) of the farm Leeuwheuvel 262</li> </ul>
Mr CP Laubscher	<ul style="list-style-type: none"> <li> Portion 8 of the farm Leeuwheuvel 262</li> </ul>
Tilba Estate (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 2 (Remaining Extent) of the farm Smithskraal 1519</li> <li> Portion 7 of the farm Smithskraal 1519</li> </ul>
Aqua Boerdery (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 4 of the farm Smithskraal 1519</li> <li> Portion 9 of the farm Smithskraal 1519</li> </ul>
Ivanco Invest (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 5 of the farm Smithskraal 1519</li> <li> Portion 17 of the farm Smithskraal 1519</li> </ul>
Adriaan Hendrik de Beer Testamentêre Trust	<ul style="list-style-type: none"> <li> Portion 13 (Remaining Extent) of the farm Smithskraal 1519</li> </ul>
Belle Rive Properties (Pty) Ltd	<ul style="list-style-type: none"> <li> Portion 15 of the farm Smithskraal 1519</li> <li> Portion 18 of the farm Smithskraal 1519</li> </ul>

SURROUNDING LANDOWNERS & INTERESTED AND AFFECTED PARTIES	
Haib Systems Trading 04 Trading (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Catharina 44</li> <li>■ Portion 8 of the farm Catharina 44</li> </ul>
Submac Plant CC	<ul style="list-style-type: none"> <li>■ Portion 0 of the farm Onrust 332</li> </ul>
Mr. PJ Roos	<ul style="list-style-type: none"> <li>■ Portion 2 (Remaining Extent) of the farm Uitkyk 342</li> </ul>
Abwena Boerdery (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 4 (Remaining Extent) of the farm Cawoods Hope 324</li> </ul>
Callender-Easby Trust	<ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Vryheid 663</li> <li>■ Portion 2 of the farm Vryheid 663</li> </ul>
Laucob Boerdery CC	<ul style="list-style-type: none"> <li>■ Portion 3 of the farm Vryheid 663</li> </ul>
Leeuwheuvel Boerdery (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 1 of the farm Vryheid 663</li> <li>■ Portion 1 (Remaining Extent) of the farm Overschot 496</li> <li>■ Portion 4 of the farm Overschot 496</li> </ul>
Mr. H Esterhuysen	<ul style="list-style-type: none"> <li>■ Portion 1 of the farm Buitenhoop 333</li> </ul>
Mr. PJ Esterhuysen	<ul style="list-style-type: none"> <li>■ Portion 2 of the farm Buitenhoop 333</li> </ul>
VTV Bemarking (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Buitenhoop 333</li> <li>■ Portion 0 of the farm Annex-Naudesfontein 1618</li> <li>■ Portion 2 of the farm Naudesfontein 263</li> </ul>
Tilba Estate (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Naudesfontein 263</li> </ul>
Callavista (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 0 of the farm Vaal-laagte 274</li> <li>■ Portion 0 of the farm Holpan 260</li> </ul>
Ivanco Invest (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 0 of the farm Concordia 933</li> <li>■ Portion 0 of the farm Pontrift 404</li> <li>■ Portion 0 (Remaining Extent) of the farm Schoolplaats Annex 4</li> </ul>
Sanet Nel Trust	<ul style="list-style-type: none"> <li>■ Portion 3 of the farm Pandam 467</li> </ul>



Uys Familie Boerdery (Pty) Ltd	<ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of the farm Ganna Vlakte 19</li> </ul>
<b>STAKEHOLDERS</b>	
<ul style="list-style-type: none"> <li>■ Department of Economic Small Business Development, Tourism and Environmental Affairs (DETEA);</li> <li>■ Department of Public Works and Infrastructure (PWI);</li> <li>■ Department of Agriculture and Rural Development (DARD);</li> <li>■ Department of Labour (DoL);</li> <li>■ Department of Police, Roads and Transport (DPRT);</li> <li>■ Department of Water and Sanitation (DWS);</li> <li>■ Lekwa-Teemane Local Municipality (LRLM);</li> <li>■ Tokologo Local Municipality (TLM);</li> <li>■ Tokologo Local Municipality – ward councillor (Ward 8);</li> <li>■ Lejweleputswa District Municipality (LDM);</li> <li>■ Eskom;</li> <li>■ South African Heritage Resources Agency (SAHRA)</li> </ul>	

Table 5: List of landowners, I&AP's and stakeholders that registered on the project.

<b>LANDOWNERS / I&amp;AP'S / STAKEHOLDERS</b>
<ul style="list-style-type: none"> <li>■ Aqua Boerdery (Pty) Ltd (J Greyling)</li> </ul>
<ul style="list-style-type: none"> <li>■ AH de Beer Testamentêre Trust (E Dehaan)</li> </ul>
<ul style="list-style-type: none"> <li>■ Ivanco Invest (Pty) Ltd (care of Duncan &amp; Rothman Attorneys)</li> </ul>
<ul style="list-style-type: none"> <li>■ Leeuwheuvel Boerdery (Pty) Ltd (JF van der Merwe)</li> </ul>
<ul style="list-style-type: none"> <li>■ Tilba Estates (Pty) Ltd (M Thompson)</li> </ul>
<ul style="list-style-type: none"> <li>■ Falkirk Estates (Pty) Ltd (M Thompson)</li> </ul>
<ul style="list-style-type: none"> <li>■ YorkAgric (Pty) Ltd (JL Callender-Easby)</li> </ul>
<ul style="list-style-type: none"> <li>■ Wesruim Boerdery (Pty) Ltd (JL Callender-Easby)</li> </ul>
<ul style="list-style-type: none"> <li>■ Mr L Lithoko (Attended Public Meeting)</li> </ul>
<ul style="list-style-type: none"> <li>■ Mr S Olifant (Attended Public Meeting)</li> </ul>
<ul style="list-style-type: none"> <li>■ Mr H van der Merwe (Attended Public Meeting)</li> </ul>

An advertisement was placed in the Bloemnuus on 01 November 2018 and on-site notices were placed on 02 November 2018 at the northern and southern boundary of the application area, the Spar in Christiana and the Suidwes Co-Operation in Boshof. A public meeting was held on 20 November 2018 where the project was presented and discussed. Meeting minutes are attached as Appendix 5.



The application for a mining right (together with supporting documentation) as well as the application for an environmental authorisation were uploaded simultaneously onto the SAMRAD system on 15 June 2021. DMRE acknowledged receipt of the application on 28 June 2021, and the project was assigned with FS 30/5/1/2/2/10066 MR as reference number.

In compliance with the timeframes stipulated in the EIA Regulations, 2014 (as amended by GNR 326 effective 7 April 2017) the Draft Scoping Report (DSR) was compiled to allow perusal of the report by the I&AP's and stakeholders listed above. A 30-day commenting period, ending 23 August 2021, will be allowed for perusal of the documentation and submission of comments. Comments or response received on the DSR will be incorporated into the Final Scoping Report to be submitted to DMRE for decision making. Upon approval of the Final Scoping Report the Draft Environmental Impact Assessment Report will be compiled and circulated for public comment for a 30-day commenting period. The comments received on the draft EIA & EMPR will be incorporated into the final EIA & EMPR to be submitted for decision making to DMRE.

See attached as Appendix 5 proof that the I&AP's and stakeholders were contacted.

### iii) Summary of issues raised by I&Aps

(Complete the table summarizing comments and issues raised, and reaction to those responses)

Table 6: Summary of issues raised by I&AP's and stakeholders.

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those must be consulted were in fact consulted		Date Comments Received	Issues raised	EAP's response to issues raised by the Applicant
<b>AFFECTED PARTIES</b>		-	-	-
<b>Landowner/s</b>	<b>X</b>	-	-	-
Mr JN Fourie  <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of Abramsyskraal 175</li> </ul>	X	To date no comments were received.		
Wesruim Boerdery (Pty) Ltd  <ul style="list-style-type: none"> <li>■ Portion 1 of Abramsyskraal 175</li> <li>■ Portion 3 of Abramsyskraal 175</li> <li>■ Portion 12 (Remaining Extent) of the farm Smithskraal 1519</li> <li>■ Portion 0 of Thorburnton 106</li> </ul>	X	21/11/2018	JL Callender-Easby registered Wesruim Boerdery (Pty) Ltd as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 26 November 2018, and responded as listed below.
<p>Comments received from Wesruim Boerdery (Pty) Ltd:</p> <p>“John Louis Callender-Easby (ID: 520512 5022 087) is an interested party in respect of the area that is contemplated in the mining rights application.</p> <ul style="list-style-type: none"> <li>■ Portion 1 of farm Abramsyskraal 175 RD</li> <li>■ Portion 3 of farm Abramsyskraal 175 RD</li> <li>■ Portion 12 (Remaining Extent) of farm Smithskraal 1519 RD</li> <li>■ Portion 0 of farm Thorburnton 106 RD</li> </ul> <p>As a land owner, Investing Property 99 (Pty) Ltd (“Invest in Property”) has an obligation, in terms of section 22(4) (b) of the Mineral Resources and Development Act 28 of 2002, as amended and the EIA Regulations, 2014 to consult with Wesruim Boerdery (Pty) Ltd, a date for such consultation will be established, where concerns can be raised.</p>				



Should you require any additional financial information, please contact us. Thank you for your prompt attention to this matter.”

Response to Wesruim Boerdery (Pty) Ltd:

“Greenmined herewith acknowledge receipt of your email, received 21 November 2018, with regard to the proposed mining right application to be submitted by Invest in Property 99 (Pty) Ltd. We registered Wesruim Boerdery (Pty) Ltd as well as Yorkagric (Pty) Ltd as interested and affected parties (I&AP) on the project, and will hence forth keep you updated on the progress of the Environmental Impact Assessment process.

As part of the public participation process required in terms of NEMA, the applicant will consult with you as landowner in order to obtain written consent prior to commencement of any mining activity.

We trust you find this in order. Please do not hesitate to contact me in the event of any uncertainties”

Yorkagric (Pty) Ltd ■ Portion 2 (Remaining Extent) of Abramsyskraal 175 ■ Portion 6 of Abramsyskraal 175	X	21/11/2018	JL Callender-Easby registered YorkAgric (Pty) Ltd as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 26 November 2018, and responded as listed below.
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Comments received from YorkAgric (Pty) Ltd:

“John Louis Callender-Easby (ID: 520512 5022 087) is an interested party in respect of the area that is contemplated in the mining rights application.

- Portion 2 (Remaining Extent) of farm Abramsyskraal 175 RD
- Portion 6 of farm Abramsyskraal 175 RD

As a land owner, Investing Property 99 (Pty) Ltd (“Invest in Property”) has an obligation, in terms of section 22(4) (b) of the Mineral Resources and Development Act 28 of 2002, as amended and the EIA Regulations, 2014 to consult with YorkAgric (Pty) Ltd, a date for such consultation will be established, where concerns can be raised.

Should you require any additional financial information, please contact us. Thank you for your prompt attention to this matter.”

# INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT



Response to YorkAgric (Pty) Ltd:

“Greenmined herewith acknowledge receipt of your email, received 21 November 2018, with regard to the proposed mining right application to be submitted by Invest in Property 99 (Pty) Ltd. We registered Wesruim Boerdery (Pty) Ltd as well as Yorkagric (Pty) Ltd as interested and affected parties (I&AP) on the project, and will hence forth keep you updated on the progress of the Environmental Impact Assessment process.

As part of the public participation process required in terms of NEMA, the applicant will consult with you as landowner in order to obtain written consent prior to commencement of any mining activity.

We trust you find this in order. Please do not hesitate to contact me in the event of any uncertainties”

Seriso 654 (Pty) Ltd ■ Portion 8 of Abramsyskraal 175	X	To date no comments were received.
VTV Boerdery (Pty) Ltd ■ Portion 0 (Remaining Extent) of Annex-Naudesfontein 259 ■ Portion 2 of Annex-Naudesfontein 259 ■ Portion 3 of Annex-Naudesfontein 259 ■ Portion 4 of Annex-Naudesfontein 259	X	To date no comments were received.
Republic of South Africa ■ Portion 0 (Remaining Extent) of Beth-El-Pella 623	X	To date no comments were received.
Laucob Boerdery CC	X	To date no comments were received.



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<ul style="list-style-type: none"> <li>■ Portion 1 (Remaining Extent) of Beth-El-Pella 623</li> <li>■ Portion 2 (Remaining Extent) of Beth-El-Pella 623</li> <li>■ Portion 4 of Beth-El-Pella 623</li> <li>■ Portion 7 of Beth-El-Pella 623</li> <li>■ Portion 2 (Remaining Extent) of Leeuwheuvel 262</li> </ul>				
<p>Mr. &amp; Mrs WA Fourie</p> <ul style="list-style-type: none"> <li>■ Portion 6 of Beth-El-Pella 623</li> </ul>	X	To date no comments were received.		
<p>Agrivan Farming (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of Ebenezer 127</li> </ul>	X	To date no comments were received.		
<p>Falkirk Estates (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 1 of Ebenezer 127</li> </ul>	X	27/11/2018	Murray Thompson registered Falkirk Estates (Pty) Ltd as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 27 November 2018, and responded as listed below.
<p>Comments received from Falkirk Estates (Pty) Ltd:</p> <p>“Please be advised that you are requested to register the following companies as interested and affected parties to your application for the grant of a mining right, by virtue of their ownership of the following properties:</p> <p>1) Tilba Landgoed (Pty) Ltd (Reg 1997/11208/07)</p> <p>a) Portion 7 Smitskraal 1519</p> <p>b) Portion 2 Smitskraal 1519</p>				

## INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT



2) Falkirk Estates (Pty) Ltd (Reg 2015/227561/07)  
 a) Portion 1 Ebenezer 127

Contact details as follows:

P.O. BOX 266

Christiana

2680

Email: [murray@anthorn.co.za](mailto:murray@anthorn.co.za)


The registration of Tilba Landgoed (Pty) Ltd, and Falkirk Estates (Pty) Ltd is required due to the fact that they are the registered owners of the above mentioned properties that are contemplated in the mining rights application, Investing Property 99 (Pty) Ltd (“Invest in Property”) has an obligation, in terms of section 22(4)(b) of the Mineral Resources and Development Act 28 of 2002, as amended and the EIA Regulations, 2014 to consult with Tilba Landgoed (Pty) Ltd, and Falkirk Estates (Pty) Ltd. A date for such a consultation will be established where all concerns can be raised.”

Response to Falkirk Estates (Pty) Ltd:

“Greenmined herewith acknowledge receipt of your email, received 27 November 2018, with regard to the proposed mining right application to be submitted by Invest in Property 99 (Pty) Ltd. We registered Tilba Landgoed (Pty) Ltd and Falkirk Estates (Pty) Ltd as interested and affected party (I&AP) on the project, and will hence forth keep you updated on the progress of the Environmental Impact Assessment process.

As part of the public participation process required in terms of NEMA, the applicant will consult with the landowner in order to obtain written consent prior to commencement of any mining activity.

We trust you find this in order. Please do not hesitate to contact me in the event of any uncertainties.”

Callender-Easby Trust   Portion 2 of Ebenezer 127	X	To date no comments were received.		
Leeuwheuvel Boerdery (Pty) Ltd	X	19/11/2018	JF van der Merwe registered Leeuwheuvel Boerdery (Pty) Ltd as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 20 November 2018, and responded as listed below.

**INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT**



<ul style="list-style-type: none"> <li>■ Portion 1 (Remaining Extent) of Leeuwheuvel 262</li> <li>■ Portion 4 of Leeuwheuvel 262</li> <li>■ Portion 5 of Leeuwheuvel 262</li> </ul>				
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Comments received from Leeuwheuvel Boerdery (Pty) Ltd:

“I, J F van der Merwe, is the owner of Leeuwheuvel Boerdery (Edms) Bpk.

My contact details is

JF van der Merwe  
 PO Box 288  
 Christiana  
 2680  
 Telephone 0829205527  
 Office 0825778157

I am an Interested party due to the fact that I am the owner of the following farms.

- Portion 1 the remaining extent of the farm Leeuwheuvel 262 RD
- Portion 4 the remaining extent of the farm Leeuwheuvel 262 RD
- Portion 5 the remaining extent of the farm Leeuwheuvel 262 RD

As a land owner, Invest in Property 99 (Pty) Ltd has an obligation, in terms of section 22(4) of the Mineral Resources and development Act 28 of 2002, as amended and the EIA Regulations,2014 to consult with LEEUWHEUWEL BOERDERY (EDMS) BPK. A date for such a consultation will be established, where all concerns can be raised.”

Response to Leeuwheuvel Boerdery (Pty) Ltd:

“Greenmined herewith acknowledge receipt of your email, received 19 November 2018, with regard to the proposed mining right application to be submitted by Invest in Property 99 (Pty) Ltd. We registered you as an interested and affected party (I&AP) on the project, and will hence forth keep you updated on the progress of the Environmental Impact Assessment process.

As part of the public participation process required in terms of NEMA, the applicant will consult with you as landowner in order to obtain written consent prior to commencement of any mining activity.

**INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT**



We trust you find this in order. Please do not hesitate to contact me in the event of any uncertainties.”

Peace Haven Trust ■ Portion 7 (Remaining Extent) of Leeuwheuvel 262	X	To date no comments were received.		
Mr CP Laubscher ■ Portion 8 of Leeuwheuvel 262	X	To date no comments were received.		
Tilba Estate (Pty) Ltd ■ Portion 2 (Remaining Extent) of Smithskraal 1519 ■ Portion 7 of Smithskraal 1519	X	27/11/2018	Murray Thompson registered Tilba Estate (Pty) Ltd as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 27 November 2018, and responded as listed below.

Comments received from Tilba Estate (Pty) Ltd:

“Please be advised that you are requested to register the following companies as interested and affected parties to your application for the grant of a mining right, by virtue of their ownership of the following properties:

- 1) Tilba Landgoed (Pty) Ltd (Reg 1997/11208/07)
  - a) Portion 7 Smitskraal 1519
  - b) Portion 2 Smitskraal 1519
- 2) Falkirk Estates (Pty) Ltd (Reg 2015/227561/07)
  - a) Portion 1 Ebenezer 127

Contact details as follows:

## INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT



P.O. BOX 266

Christiana

2680

Email: [murray@anthorn.co.za](mailto:murray@anthorn.co.za)

The registration of Tilba Landgoed (Pty) Ltd, and Falkirk Estates (Pty) Ltd is required due to the fact that they are the registered owners of the above mentioned properties that are contemplated in the mining rights application, Investing Property 99 (Pty) Ltd (“Invest in Property”) has an obligation, in terms of section 22(4)(b) of the Mineral Resources and Development Act 28 of 2002, as amended and the EIA Regulations, 2014 to consult with Tilba Landgoed (Pty) Ltd, and Falkirk Estates (Pty) Ltd. A date for such a consultation will be established where all concerns can be raised.”

Response to Tilba Landgoed (Pty) Ltd:

“Greenmined herewith acknowledge receipt of your email, received 27 November 2018, with regard to the proposed mining right application to be submitted by Invest in Property 99 (Pty) Ltd. We registered Tilba Landgoed (Pty) Ltd and Falkirk Estates (Pty) Ltd as interested and affected party (I&AP) on the project, and will hence forth keep you updated on the progress of the Environmental Impact Assessment process.

As part of the public participation process required in terms of NEMA, the applicant will consult with the landowner in order to obtain written consent prior to commencement of any mining activity.

We trust you find this in order. Please do not hesitate to contact me in the event of any uncertainties.”

<p>Aqua Boerdery (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 4 of Smithskraal 1519</li> <li>■ Portion 9 of Smithskraal 1519</li> </ul>	<p>X</p>	<p>19/11/2018</p>	<p>Johan Greyling registered Aqua Boerdery (Pty) Ltd as I&amp;AP submitting the comments as listed below.</p>	<p>Greenmined acknowledged receipt of the registration on 26 November 2018, and responded as listed below.</p>
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Comments received from Aqua Farming (Pty) Ltd:

“I Johannes Jacobus Greyling, as the Managing Director of Aqua Farming (Pty) Ltd resides at the following address:

- Portion 4 of the farm Smithskraal 1519
- Contact Telephone number – 082 417 8930

## INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT



Aqua Farming (Pty) Ltd is the registered owner of the following two properties:

- Portion 4 of the Farm Smithskraal 1519 – Title Deed T17931/2000
- Portion 9 of the Farm Smithskraal 1519 – Title Deed T14380/1993

and as an interested party and due to the fact that AQUA Farming (Pty) Ltd is the registered owner of the above properties that are contemplated in the mining rights application, Investing Property 99 (Pty) Ltd (“Invest in Property”) has an obligation, in terms of section 22(4)(b) of the Mineral Resources and Development Act 28 of 2002, as amended and the EIA Regulations, 2014 to consult with Aqua Farming (Pty) Ltd, a date for such consultation will be established, where all concerns can be raised.”

Response to Aqua Farming (Pty) Ltd:

“Greenmined herewith acknowledge receipt of your email, received 20 November 2018, with regard to the proposed mining right application to be submitted by Invest in Property 99 (Pty) Ltd.

We registered Aqua Boerdery (Pty) Ltd as an interested and affected party (I&AP) on the project, and will hence forth keep you updated on the progress of the Environmental Impact Assessment process.

As part of the public participation process required in terms of NEMA, the applicant will consult with the landowner in order to obtain written consent prior to commencement of any mining activity.

We trust you find this in order. Please do not hesitate to contact me in the event of any uncertainties.”

Ivanco Invest (Pty) Ltd ■ Portion 5 of Smithskraal 1519 ■ Portion 17 of Smithskraal 1519	X	19/11/2018	Duncan & Rothman Attorneys registered Ivanco Invest (Pty) Ltd as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 20 November 2018, and responded as listed below.
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Comments received from Duncan & Rothman Attorneys on behalf of Ivanco Invest (Pty) Ltd:

“1. We are addressing this letter to you at the instructions of.



2. Please be advised that you are hereby requested to:

2.1 Register Ivanco Invest Proprietary Limited (Registration number 1992/005282/07) as an interested and affected party by virtue of its ownership of the following properties:

2.2.1 Portion 5 (a portion of Portion 3) of the Farm Smithskraal No 1519, District Boshof, Free State Province, held under Deed of Transfer No T6857/1996; and

2.2.2 Portion 17 of the Farm Smithskraal No 1519, District Boshof, Free State Province, held under Deed of Transfer No T10063/2009.

2.2 Address all future correspondence to Duncan & Rothman Incorporated for the attention of Mr IC Potgieter/pf.

3. Please also be advised that Invest in Property 99 (Pty) Ltd as the applicant for the grant of a mining right which inter alia include the properties of our client has until now failed to consult with our client as is required in terms of Section 22(4)(b) of the Mineral and Petroleum Resources Development Act 28 of 2002 (as amended) as well as in terms of the EIA Regulations, 2014.

4. Kindly confirm that you will comply with the above requests.

5. All the rights of our client are specifically reserved.”

Response to Duncan & Rothman Attorneys (Ivanco Invest (Pty) Ltd):

“Greenmined herewith acknowledge receipt of your email, received 19 November 2018, with regard to the proposed mining right application to be submitted by Invest in Property 99 (Pty) Ltd. We registered Ivanco Invest Proprietary Limited (Reg No 1992/005282/07) as an interested and affected party (I&AP) on the project, and will hence forth address project related correspondence to Duncan & Rothman Incorporated.

As part of the public participation process required in terms of NEMA, the applicant will consult with the landowner/his attorney in order to obtain written consent prior to commencement of any mining activity.

We trust you find this in order. Please do not hesitate to contact me in the event of any uncertainties.”

Adriaan Hendrik de Beer Testamentêre Trust  Portion 13 (Remaining Extent) of Smithskraal 1519	X	26/11/2018	Erna Dehaan registered Adriaan Hendrik de Beer Testamentêre Trust as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 28 November 2018, and responded as listed below.
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Comments received from the Adriaan Hendrik de Beer Testamentêre Trust:

“The abovementioned matter and the e-mail dated 13 November 2018 received from Me. Marlene Lingenfelder from your company, has reference.

You are herewith notified that our trust as interested and affected party as well as the registered freehold owner of the abovementioned property, strongly objects to the abovementioned matter and the granting of any mining right in respect of our property.

Your attention is explicitly directed to the fact that the relevant trust submitted and internal appeal in terms of section 96 of the Mineral and Petroleum Resources Development Act, 2002 (28 of 2002), as amended, on 15 September 2016 already, and such appeal has still not been finalised. The relevant actions appealed against in the case in hand, were explained in the said appeal. The said appeal relates to the granting of a prospecting right in favour of the relevant company i.r.o amongst others, our property.

You are kindly requested to address future correspondence relating to the relevant matter to Mr Michael Oberholzer at [michael.oberholzer@telkomsa.net](mailto:michael.oberholzer@telkomsa.net) and/or [michaeloberholzer71@gmail.com](mailto:michaeloberholzer71@gmail.com). Please forward a copy of the Draft Scoping Report to Mr M.A. Oberholzer and another copy to me at [dehaanerna@gmail.com](mailto:dehaanerna@gmail.com).

Mr M.A. Oberholzer’s cellular phone No. is 082 934 6068.

Under the heading “Project description” in the relevant notice, it is stated that “the applicant wishes to convert the prospecting right into a mining right for the winning of alluvial diamonds, gold and sand”. I am, however, with respect, of the view that the relevant existing prospecting right that was granted in respect of amongst others, our property, cannot be converted as stated as no old order prospecting right as referred to in section 6 of the Transitional Arrangements (Schedule II) of the MPRDA, is applicable in the case in hand. Please advise whether any application in terms of section 102 of the MPRDA for the addition of minerals, has been submitted by Invest in Property 99 (Pty) Ltd in respect of its relevant granted prospecting right.

Please acknowledge receipt hereof.”

Response to Mr Oberholzer as requested by Me Dehaan:

“Greenmined Environmental (hereinafter “Greenmined”) herewith acknowledge receipt of Me Dehaan’s email, which correspondence was received on 26 November 2018, with regards to the proposed mining right application to be submitted on behalf of Invest in Property 99 (Pty) Ltd.

Greenmined, on behalf of the applicant, registered the A.H. de Beer Testamentary Trust (the “Trust”) as an interested and affected party (I&AP) on the project, and will henceforth address all communication with regards to the Environmental Impact Assessment process to yourself as requested by Me Dehaan.

Greenmined takes note of the objection lodged by the Trust and herewith would like to inform you that the application for the proposed mining right has not yet been submitted to the DMR. However, as a registered I&AP a copy of the Draft Scoping Report will be available for your perusal in due course.



**INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT**



Please note that the writer of the background information document (BID) did not intend for this document to read that the current prospecting right will be converted into a mining right in terms of Section 102 of the MPRDA, but merely deduced that the applicant will apply for a mining right on the back of the existing prospecting right and the results related thereto. As stated in the BID Invest in Property 99 (Pty) Ltd intends to apply for a mining right in terms of Section 22 of the MPRDA, read together with the NEMA and EIA Regulations, 2014 (as amended 2017).

We trust you will find this in order. Please do not hesitate to contact me in the event of any.”

Belle Rive Properties (Pty) Ltd ■ Portion 15 of Smithskraal 1519 ■ Portion 18 of Smithskraal 1519	X	To date no comments were received.		
<b>Lawful occupier/s of the land</b>		None of the landowners identify additional lawful occupiers to be contacted.		
-	-	-	-	-
<b>Landowners or lawful on adjacent properties</b>	X	-	-	-
Haib Systems Trading 04 Trading (Pty) Ltd ■ Portion 0 (Remaining Extent) of Catharina 44 ■ Portion 8 of Catharina 44	X	To date no comments were received.		
Submac Plant CC ■ Portion 0 of Onrust 332	X	To date no comments were received.		
Mr. PJ Roos	X	To date no comments were received.		

**INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT**



<ul style="list-style-type: none"> <li>■ Portion 2 (Remaining Extent) of Uitkyk 342</li> </ul>		
<p>Abwena Boerdery (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 4 (Remaining Extent) of Cawoods Hope 324</li> </ul>	X	To date no comments were received.
<p>Callender-Easby Trust</p> <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of Vryheid 663</li> <li>■ Portion 2 of Vryheid 663</li> </ul>	X	To date no comments were received.
<p>Laucob Boerdery CC</p> <ul style="list-style-type: none"> <li>■ Portion 3 of Vryheid 663</li> </ul>	X	To date no comments were received.
<p>Leeuwheuvel Boerdery (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 1 of Vryheid 663</li> <li>■ Portion 1 (Remaining Extent) of Overschot 496</li> <li>■ Portion 4 of Overschot 496</li> </ul>	X	See above comments submitted by Mr JF van der Merwe.
<p>Mr. H Esterhuyse</p> <ul style="list-style-type: none"> <li>■ Portion 1 of Buitenhoop 333</li> </ul>	X	To date no comments were received.

**INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT**



<p>Mr. PJ Esterhuysen</p> <ul style="list-style-type: none"> <li>■ Portion 2 of the farm Buitenhooop 333</li> </ul>	<p>X</p>	<p>To date no comments were received.</p>
<p>VTV Bemarking (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of Buitenhooop 333</li> <li>■ Portion 0 of Annex-Naudesfontein 1618</li> <li>■ Portion 2 of Naudesfontein 263</li> </ul>	<p>X</p>	<p>To date no comments were received.</p>
<p>Tilba Estate (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 0 (Remaining Extent) of Naudesfontein 263</li> </ul>	<p>X</p>	<p>See above comments submitted by Tilba Estate (Pty) Ltd.</p>
<p>Callavista (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 0 of Vaal-laagte 274</li> <li>■ Portion 0 of Holpan 260</li> </ul>	<p>X</p>	<p>To date no comments were received.</p>
<p>Ivanco Invest (Pty) Ltd</p> <ul style="list-style-type: none"> <li>■ Portion 0 of Concordia 933</li> <li>■ Portion 0 of Pontrift 404</li> <li>■ Portion 0 (Remaining Extent) of Schoolplaats Annex 4</li> </ul>	<p>X</p>	<p>See above comments submitted by Ivanco Invest (Pty) Ltd.</p>
<p>Sanet Nel Trust</p>	<p>X</p>	<p>To date no comments were received.</p>

INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT



■ Portion 3 of Pandam 467		
Uys Familie Boerdery (Pty) Ltd ■ Portion 0 (Remaining Extent) of Ganna Vlakte 19	X	To date no comments were received.
<b>Municipal councillor</b> Ward 8	X	To date no comments were received.
<b>Municipality</b> Tokologo Local Municipality	X	To date no comments were received.
<b>Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA etc</b>	X	-
Department of Police, Roads and Transport	X	To date no comments were received.
Eskom	X	To date no comments were received.
Department of Water and Sanitation	X	To date no comments were received.
Department of Public Works and Infrastructure	X	To date no comments were received.

INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT



<b>Communities</b>		No communities border the proposed mining area or were identified within 100 m from the site.		
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
<b>Dept. Land Affairs</b>	<b>X</b>	05 November 2018	A request was sent to the Department of Land Affairs to confirm whether a land claim was registered over any of the earmarked properties. As no response was received from the Department of Land Affairs, this request was resent on 17 January 2019. Response is still awaited and the matter will be followed-up.	
-	-	-	-	-
<b>Traditional Leaders</b>		No tradition leaders borders the proposed mining area or were identified within 100 m from the site.		
-	-	-	-	-
-	-	-	-	-
<b>Dept. Environmental Affairs</b>	<b>X</b>	-		
Department of Economic Small Business Development, Tourism and Environmental Affairs.	<b>X</b>	To date no comments were received.		
<b>Other Competent Authorities affected</b>		-	-	-
Department of Agriculture and Rural Development – FS	<b>X</b>	To date no comments were received.		
Department of Labour	<b>X</b>	To date no comments were received.		

**INVEST IN PROPERTY 99 (PTY) LTD – DRAFT SCOPING REPORT**



Lekwa-Teemane Local Municipality	X	To date no comments were received.		
Lejweleputswa District Municipality	X	To date no comments were received.		
South African Heritage Resources Agency (SAHRA)	X	To date no comments were received.		
<b><u>OTHER AFFECTED PARTIES</u></b>		-	-	-
-		-	-	-
<b><u>INTERESTED PARTIES</u></b>		-	-	-

#### iv) The Environmental attributes associated with the sites

##### (1) Baseline Environment

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

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

This section describes the general biophysical, cultural and socio-economic environment as well as baseline conditions that may be affected by the proposed mining project. The information provided here was obtained from desktop studies and must be treated as preliminary. More detailed information based on site specific conditions, obtained during site assessments and focussed investigations will be collected during the EIA process and elaborated on in the DEAIR.

### PHYSICAL ENVIRONMENT

#### CLIMATE

Boshof normally receives about 301 mm of rain per year, with most rainfall occurring mainly during summer. The chart below (lower left) shows the average rainfall values for Boshof per month. It receives the lowest rainfall (0 mm) in July and the highest (54 mm) in March. The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Boshof range from 17.4°C in June to 31°C in January. The region is the coldest during July when the mercury drops to 0°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures. Information obtained from SA Explorer.

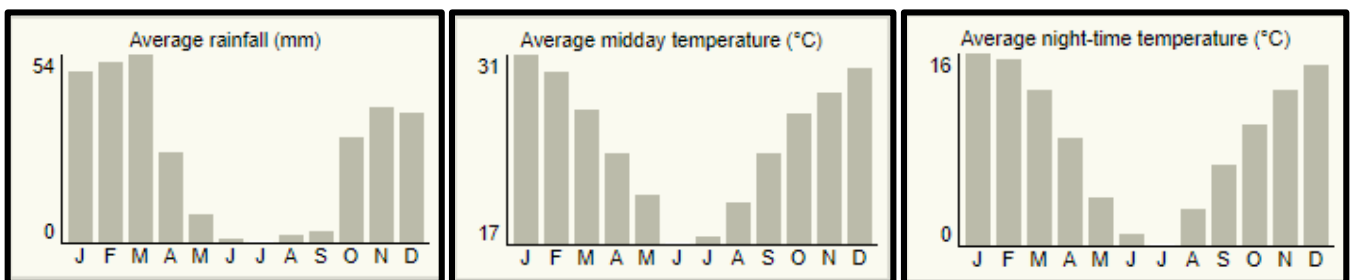


Figure 2: Charts showing the climatic averages of the Piketberg area (image obtained from SAExplorer).

#### TOPOGRAPHY

The topography of the study area is known to be flat supporting riparian thickets, accompanied by seasonally flooded grasslands and disturbed herblands often dominated by alien plants without distinct topographic features. The majority of the study area lies at an elevation of >1200 m above mean sea-level (mamsl), except along the lower reaches of the Vaal River, where the elevation declines to ±1197 mamsl. Elevation gradually increases in a south-easterly direction as one moves away from the riverbed.

**GEOLOGY AND SOILS**

The geology of the Boshof area belongs to the Kalahari Group, with aolin sand. The diamond fields of the study area are broadly underlain by Ventersdorp lavas or Dwyka and Ecca Group shales and conglomerates. Two types of gravels have been identified in the study area, namely the Rooikoppie gravels and the Terraced alluvial gravel within the valleys which may be calcretised.

Both the palaeo and modern rivers within the study area were formed on a floor of eroded Ventersdorp lavas of the Allanridge Andesite Formation and all flow southwards due to Late Pliocene uplift of the Griqualand-Transvaal Axis into the Vaal system.

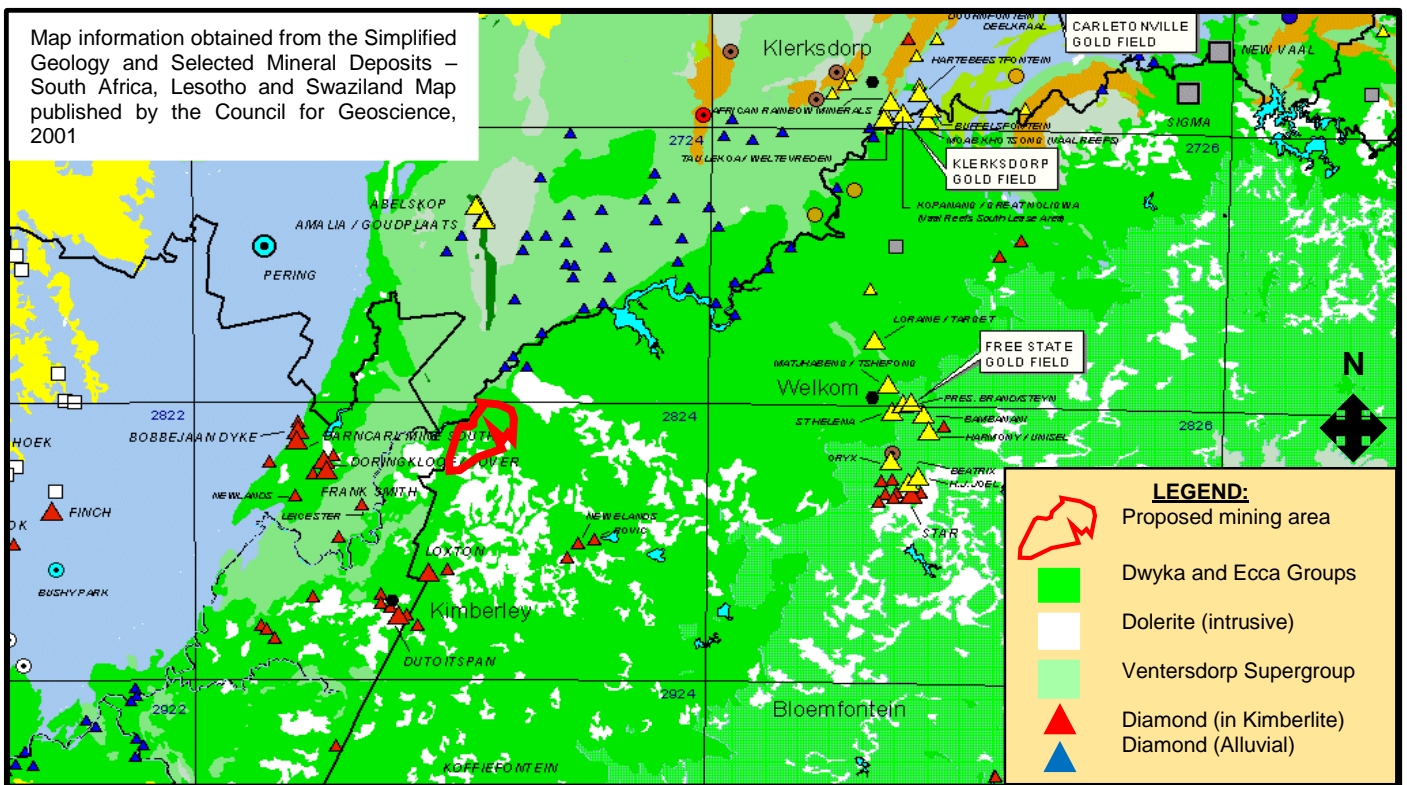


Figure 3: Indication of the simplified geology of the study area as obtained from the Council of Geoscience.



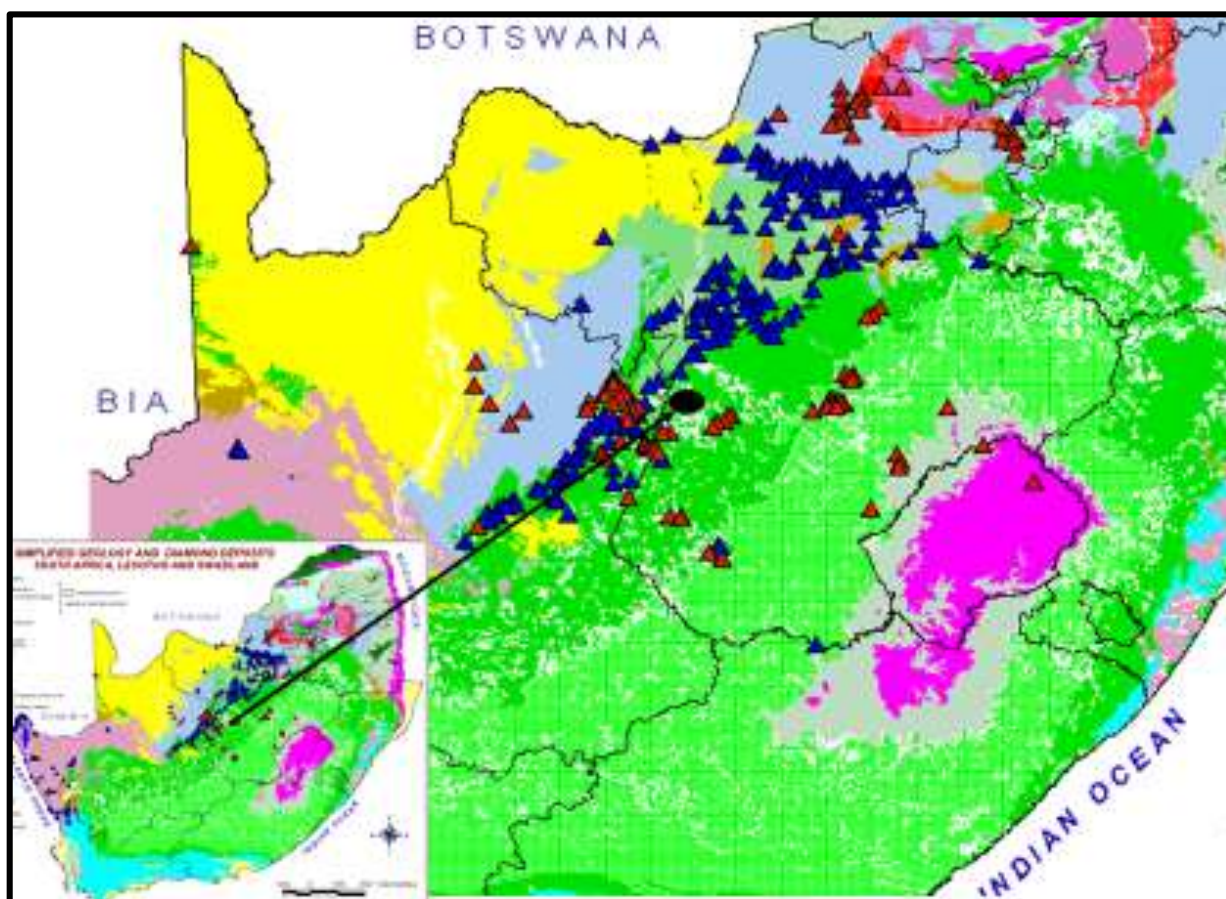


Figure 4: Map showing the alluvial diamond (blue triangle) and diamond in kimberlite (red triangle) resources within the study area.

## HYDROLOGY

(Information extracted from: 1. *Internal Strategic Perspective: Lower Vaal Water Management Area (WMA No. 10)*, Department of Water Affairs and Forestry, 2004. 2. *Classification of Significant Water Resources (River Wetlands, Groundwater and Lakes) in the Upper, Middle and Lower Vaal Water Management Areas (WMA) 8, 9, 10: Management Classes of the Vaal River Catchment Report*, Department of Water Affairs, 2012)

The proposed mining area stretches inland from the east, south-eastern bank of the Vaal River (Free State Province), and is located within the Lower Vaal Water Management Area (WMA No. 10) and the Vaal Downstream/Bloemhof Sub Water Management Area.

The water use in WMA No. 10 is dominated by irrigation, which represents 80% of the local requirements for water. According to the *Internal Strategic Perspective for the Lower Vaal Management Area (IPS: Lower Vaal WMA)* as compiled by the Department of Water and Sanitation (then Department of Water Affairs and Forestry) in 2004,  $\pm 12\%$  of the requirements is for urban and industrial use, 7% for rural domestic supplies and stock watering, and the remainder for mining purposes.

The water quality within the WMA varies from poor in the highly developed areas to good in the less developed areas. The water quality is impacted on by point discharges from

industries, wastewater treatment works, mine dewatering, irrigation return flows and diffuse sources such as runoff from mining and industrial complexes, agriculture and urban areas (IPS: Lower Vaal WMA 2004).

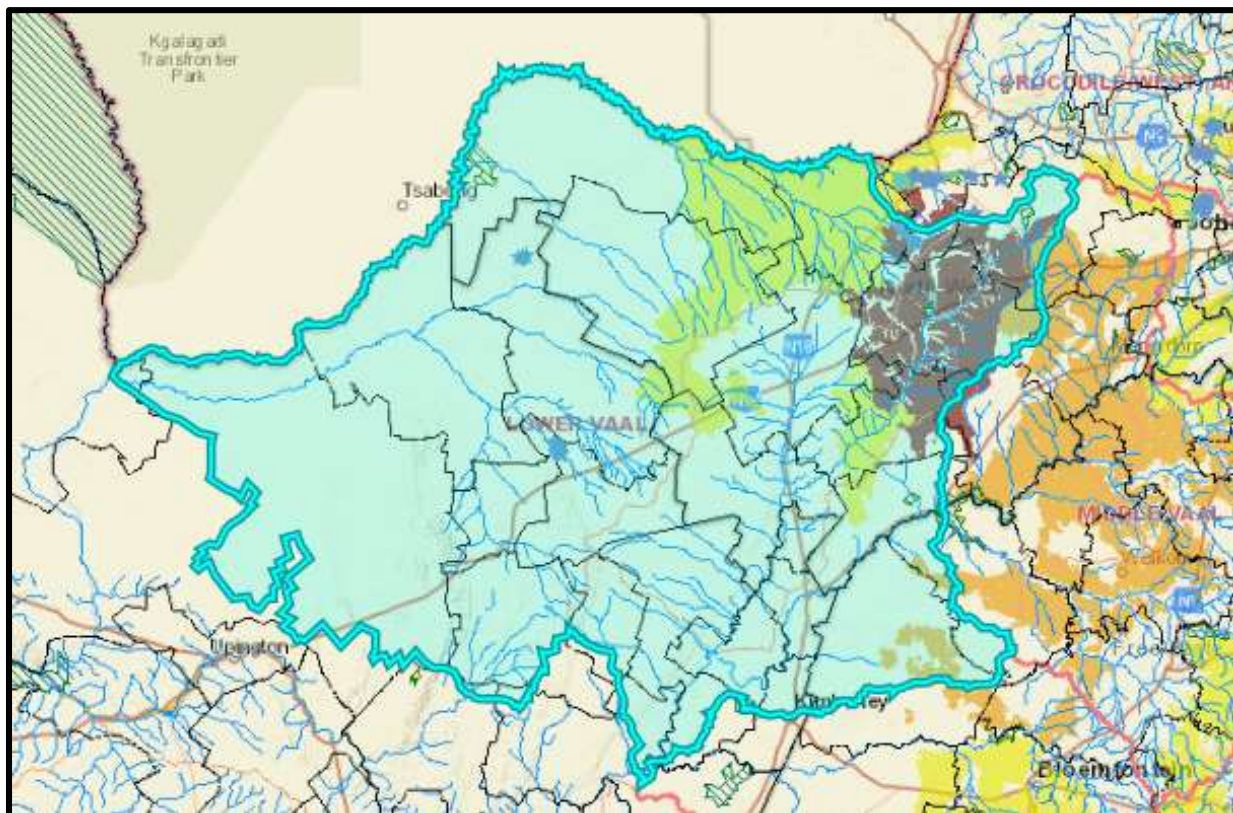


Figure 5: Map showing the location of the Lower Vaal Water Management Area (WMA No. 10) (blue polygon) (Image obtained from BGIS Map Viewer – National Wetlands and NFEPA).

The Vaal River downstream of Bloemhof Dam serves as a conveyance conduit to supply water for irrigation and urban use in the lower reaches of the Vaal River (Kimberley, Christiana, Warrenton, Windsorton, Barkly West and Delportshoop). Outside the riparian zone, dryland commercial agriculture is the prominent land-use in the subWMA.

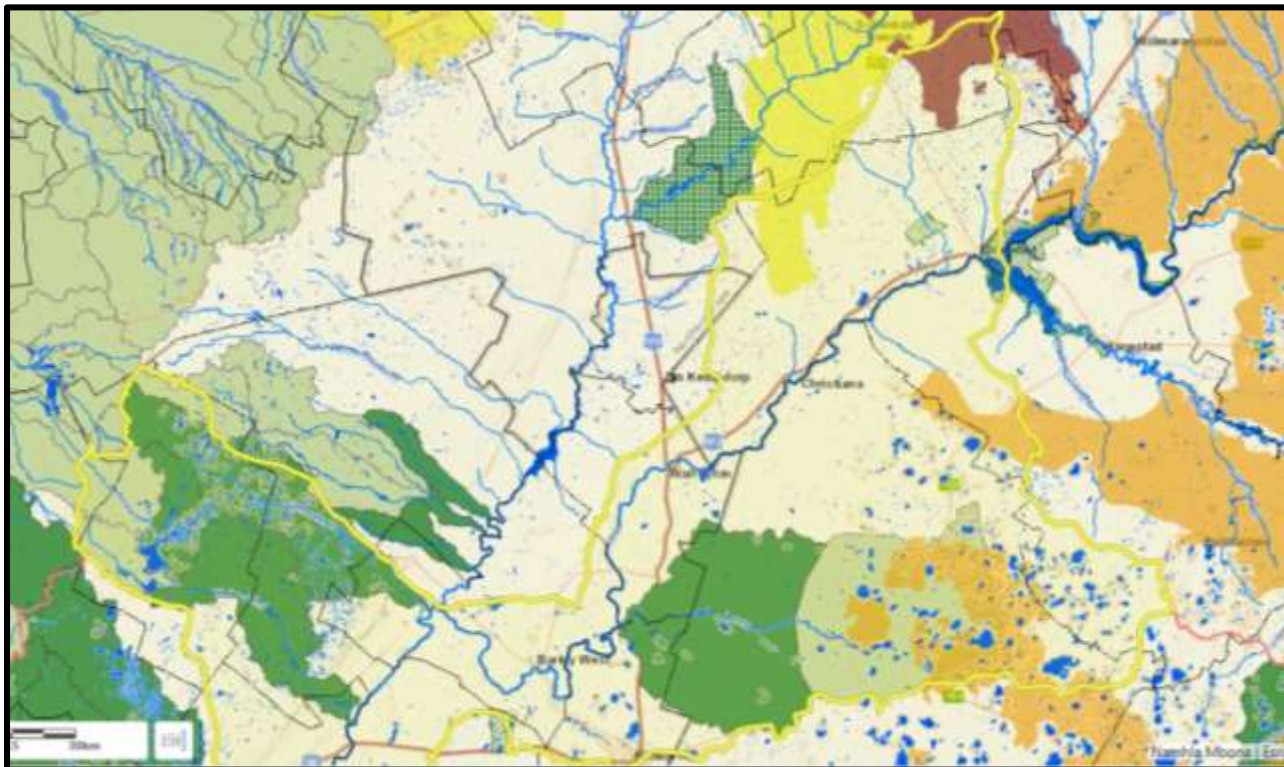


Figure 6: Map showing the location of the Vaal Downstream/Bloemhof Sub Water Management Area (WMA No. 10) (yellow polygon) (Image obtained from BGIS Map Viewer – National Wetlands and NFEPA).

## **AIR QUALITY AND NOISE AMBIANCE**

The air and noise ambiance of the study area was historically representative of an agricultural environment in which farming equipment operates with occasional dust emissions from denuded areas. The agricultural use of the study area intensified over years, and current land uses include crop production supported by centre-pivot irrigation, orchards, dryland farming, game and livestock farming, diamond mining, and tourism, all of which contribute to the atmospheric quality and noise ambiance of the study area. A surfaced public road, turning from the R708, cross the proposed mining area, and will be used as main access road. This road follows the Vaal River in a south-western direction.

## **BIOLOGICAL ENVIRONMENT**

### **GROUNDCOVER**

The proposed site falls within the Savanna Biome. It was established that the following vegetation types, as classified by Mucina and Rutherford (2006), are present, alternatively may be present within the study area:

- Kimberley Thornveld (SVk 4);
- Schmidtsdrif Thornveld (SVk 6);

- Highveld Alluvial Vegetation (AZa5).



Figure 7: Vegetation types over which the proposed mining area extends. Where the light purple indicates Highveld Alluvial Vegetation (AZa5); light brown shows Kimberley Thornveld (SVk4), and dark brown shows the extent of Schmidtsdrift Thornveld (SVk6) (Image obtained from BGIS Map Viewer – National Wetlands and NFEPA).

#### Kimberley Thornveld (SVk4):

Kimberley Thornveld (SVk 4) is characterised by plains, often slightly irregular, with a well-developed tree layer of *Acacia erioloba*, *A. tortilis*, *A. karroo* and *Boscia albitrunca*. The vegetation type has a well-developed shrub layer with occasional dense stands of *Tarchonanthus camphoratus* and *A. mellifera*. The area usually has numerous denuded areas with an open grass layer.

The vegetation type is classified as Least Threatened although only 2% of it has been included in formally protected areas such as the Vaalbos National Park, Sandveld Nature Reserve, Bloemhof Dam Nature Reserve and S.A. Lombard Nature Reserve. 18% of the natural occurring vegetation has been transformed and a conservation target of 16% was set for the vegetation type (Mucina and Rutherford 2006).

#### Schmidtsdrif Thornveld (SVk6):

Schmidtsdrif Thornveld (SVk 6) is mostly a closed shrubby thornveld dominated by *Acacia mellifera* and *A. tortilis*. Apart from grasses, bulbous and annual herbaceous plant species are prominent. The vegetation is sometimes very disturbed due to overgrazing by goats and others browsers.



The vegetation type is classified as Least Threatened although only 0.2% of it is formally protected within the Vaalbos National Park. 13% of the natural occurring vegetation has been transformed and a conservation target of 16% was set for the vegetation type. The alien invader plant species known as Mesquite or *Prosopis* has become a nuisance in the Schmidtsdrif Thornveld and requires continuous monitoring and management. (Mucina and Rutherford 2006).

#### Highveld Alluvial Vegetation (AZa5):

The Highveld Alluvial Vegetation (AZa5) vegetation type within the study area is mainly found along the banks of the Vaal River, and is known for its flat topography that supports riparian thickets mostly dominated by *Acacia karroo*, accompanied by seasonally flooded grasslands and disturbed herblands often dominated by alien plants. Important species within this vegetation type include, but is not limited to, *Acacia karroo*, *Salix mucronata* subsp. *mucronata*, *S. mucronata* subsp. *woodii*, *Ziziphus mucronata*, *Celtis africana*, *Rhus lancea*. Herbs: *Persicaria lapathifolia*, *Alternanthera sessilis*, *Barleria macrostegia*, *Corchorus asplenifolius*, *Equisetum ramosissimum*. Graminoids: *Agrostis lachnantha*, *Andropogon eucomus*, *Chloris virgata*, *Cynodon dactylon*, *Eragrostis plana*.

The vegetation type is classified as Least Threatened with nearly 10% of it formally protected in various Nature Reserves. This vegetation type is prone to invasion by a number of weeds, encouraged by the high nutrient status of soils and ample water supply.

#### **BIODIVERSITY CONSERVATION AREAS**

The Free State Biodiversity Plan shows that Ecological Support Areas (ESA) were identified within the study area. The Lexicon of Biodiversity Planning in South Africa defines an ESA as “an area that must be maintained in at least fair ecological condition (semi-natural/moderately modified state) in order to support the ecological functioning of a CBA (critical biodiversity area) or protected area, or to generate or deliver ecosystem services, or to meet remaining biodiversity targets for ecosystem types or species when it is not possible or no necessary to meet them in natural or near-natural areas”.

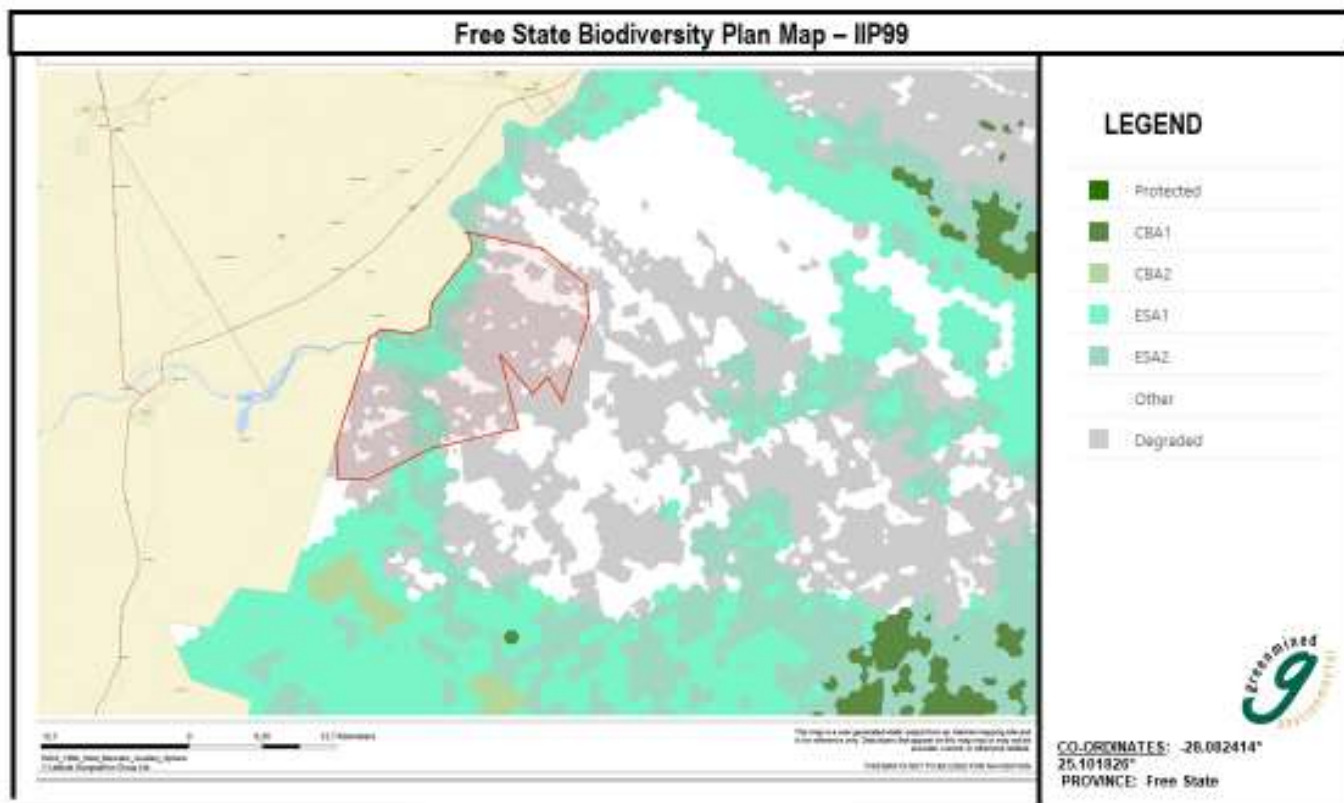


Figure 8: Free State Biodiversity Plan showing the proposed mining area that extends over an ESA1 area.

### **MINING AND BIODIVERSITY**

*(Information extracted from the Mining and Biodiversity Guideline: Mainstreaming Biodiversity into the Mining Sector, Department of Environmental Affairs, Department of Mineral Resources, Chamber of Mines, 2013)*

The Mining and Biodiversity Guideline, compiled by the South African Mining and Biodiversity Forum (SAMBF) provides the mining sector with a practical, user-friendly manual for integrating biodiversity considerations into planning processes and managing biodiversity during the developmental and operational phases of a mine, from exploration through to closure.

When the proposed mining footprint is layered over the Mining and Biodiversity Map, as shown in the figure below, the study area falls outside any identified biodiversity sensitive area and therefore does not require any additional action.

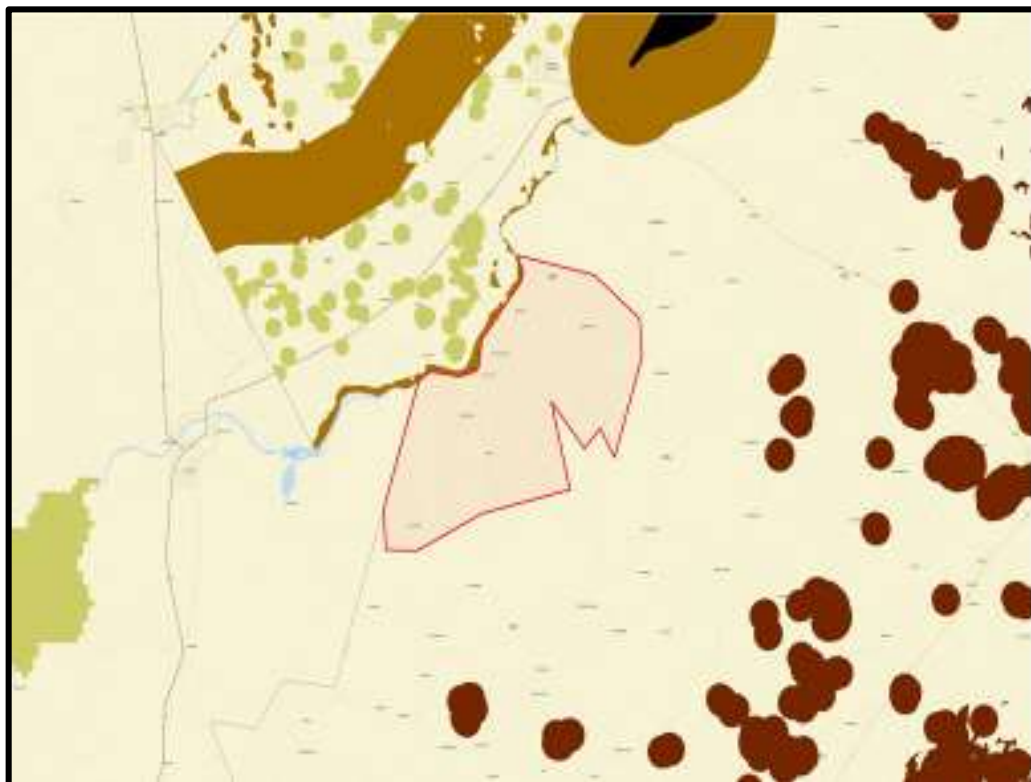


Figure 9: The Mining and Biodiversity importance map with the proposed mining footprint indicated by the red polygon. Black – Legally protected, mining prohibited; Dark Brown – Highest biodiversity importance, highest risk for mining; Lighter Brown – High biodiversity importance, high risk to mining; Dull Yellow – Moderate biodiversity importance.

## FAUNA

Fauna that may be present on, or visit the study area, includes reptiles such as tortoises, harlequin snakes, sand snakes, skaapstekers, house and mole snakes, puff adders and even cape cobras. The area is also home to numerous bird species nesting in the riparian vegetation along the Vaal River, as well as the shrub and tree cover inland from the river valley.

Various game farms were established within the area, where amongst other species springbok, kudu, oryx, zebra, waterbuck, ostrich and black wildebeest roam. Duiker and steenbok also frequent the area. Predators such as the African wild cat, aardwolf, black-backed jackal, caracal, and genet are also present within certain natural areas.

## HUMAN ENVIRONMENT

### CULTURAL AND HERITAGE ENVIRONMENT

The study area is rich in history that extends from the Stone Age to the very recent (1997) diamond rush upon rediscovery of diamonds along the banks of the Vaal River on the Free State side. Stone Age activity is supported by rock art and the presence of stone

implements (e.g. Stowlands). The discovery of diamonds in the Vaal River in the 1870's catechized the eventual founding of the town of Christiana on the Northern Cape Province side of the Vaal River (nearest town to the application area). The area is also rich in Anglo-Boer War history, such as Christiana town being the first ZAR (Zuid-Afrikaanse Republic) town to be captured by General Hunter on 16 May 1900.

The South African Heritage Resources Agency (SAHRA) compiled the Palaeontological (fossil) Sensitivity Map (PSM) to guide developers, heritage officers and practitioners in screening palaeontologically sensitive areas at the onset of a project. When the footprint of the proposed mining area is placed on the PSM, it shows the study area to extend over areas of high (orange), moderate (green), low (blue), insignificant/zero (grey), and unknown (white) concern as presented in the figure below. In light of this, a palaeontological desktop study will be conducted that will comment on the need for a field based assessment.

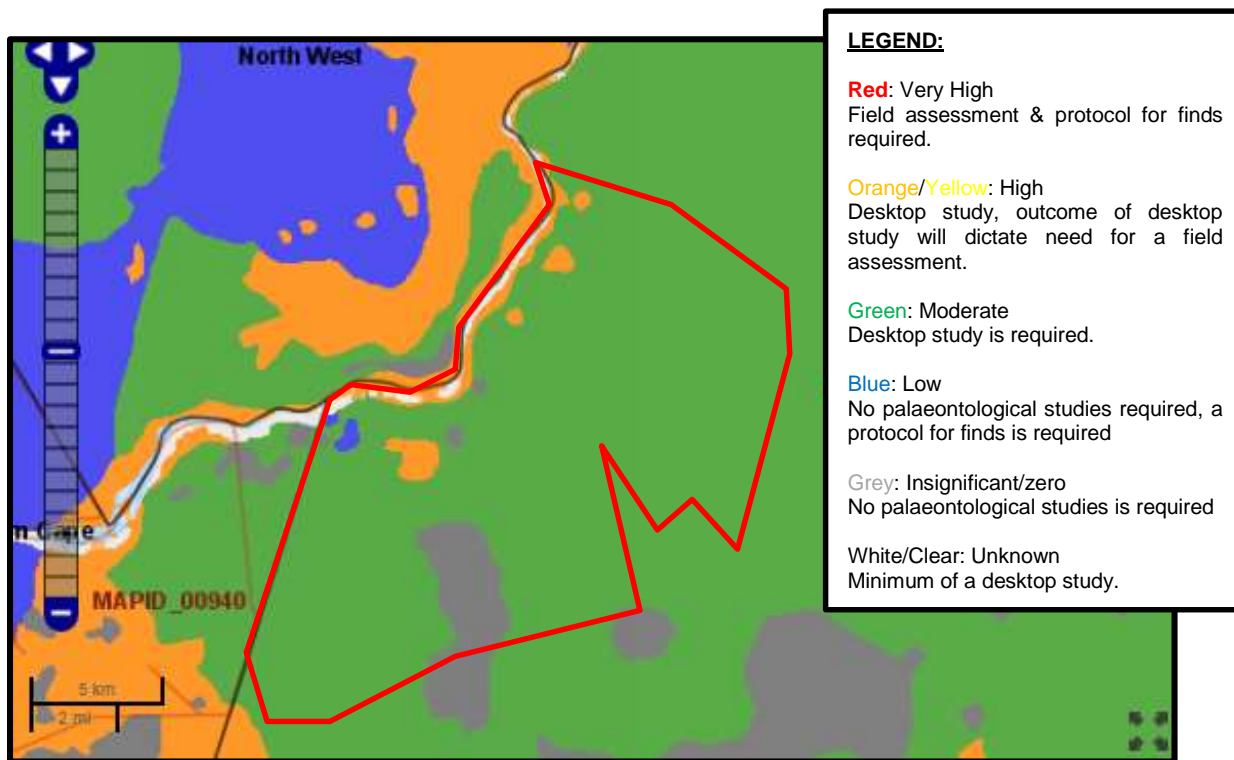


Figure 10: The SAHRA palaeontological sensitivity map shows that the proposed mining footprint (red polygon) extends over areas of High, Moderate, Low, Insignificant/Zero, or Unknown concern.



**SOCIO-ECONOMIC ENVIRONMENT**

*(Information extracted from the Social and Labour Plan for the Invest in Property 99 (Pty) Ltd Mining Operation, Lejweleputswa Magisterial District, 2019)*

The proposed mining area is located on the south-eastern bank of the Vaal River within the Free State Province and forms part of Ward 8 of the Tokologo Local Municipality. The Tokologo local municipality is a category B municipality located within the Lejweleputswa district in the Western Free State Province. Boshof is the capital town and is situated in the centre, whilst Dealesville is further east of Boshof, and Hertzogville is situated in the north of the municipal area. Dealesville is the smallest town within Tokologo Local Municipality.

Population Dynamics

According to STATS (2011), the Tokologo Local Municipality consists of a total of 28 926 people, of which 84.5% is African black, 9.9% is white, with the other population groups making up the remaining 5.6%.

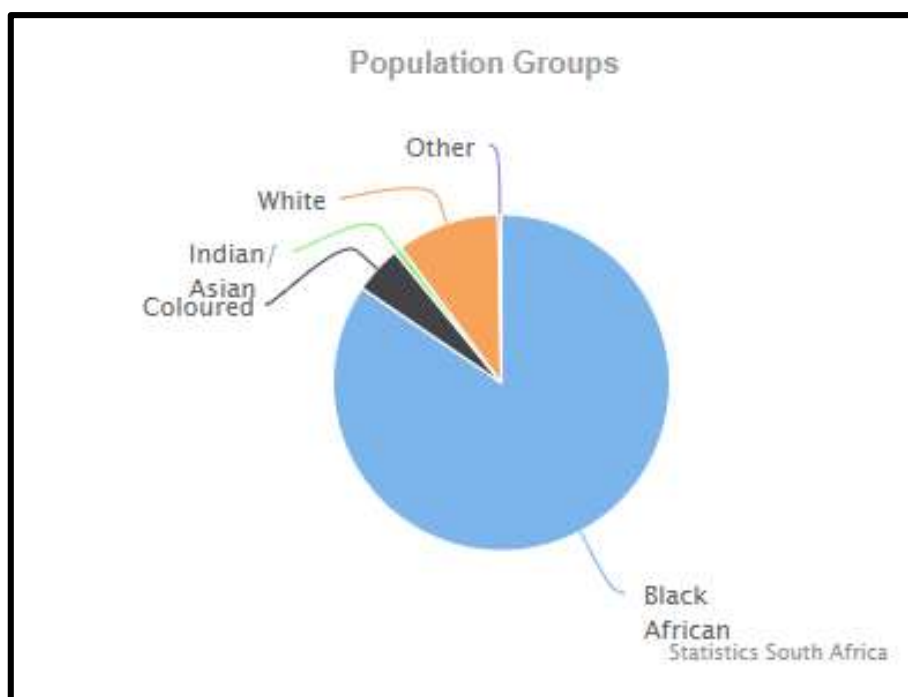


Figure 11: Indication of the population groups of the Tokologo municipal area.

Tokologo population had more males than females from the age of 35-64 with percentage contribution of 1.2%. Even though the male population has been more than the female population since 1996, there was a slight decrease of 0.7% between 2001 and 2011. In terms of gender, the table below shows a slight increase of 1.5% of males compared to 1996, 2001 and 2011 where female was dominating in Tokologo local municipality.

Table 7: Sex ratio (male per 100 female – 102).

Age group	Gender		Total
	Male	Female	
0-14 (Children)	4262	4042	8303
15-34 (Youth)	5024	5055	10079
35-64 (Adults)	4328	3997	8325
65+ (Elderly)	1120	1322	2442
<b>Total</b>	<b>14733</b>	<b>14416</b>	<b>29149</b>

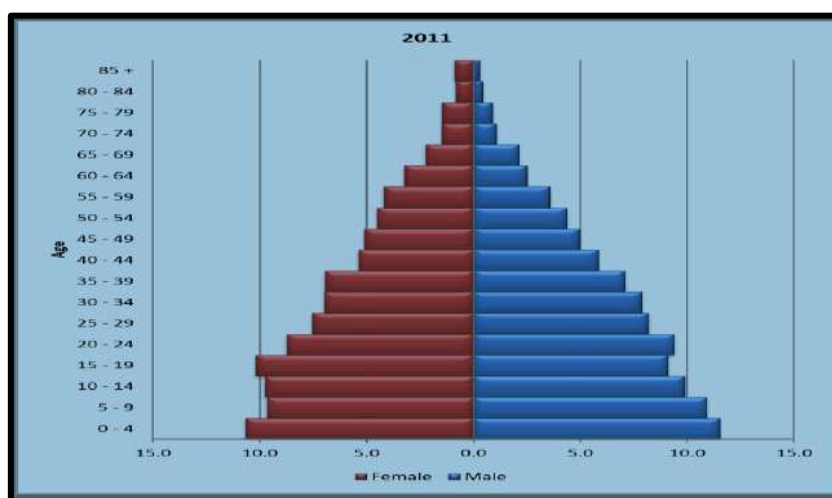






Figure 12: Gender profile of the Tokologo municipal area.

Economic Profile

The primary activities in Boshof are restricted to agriculture which includes livestock farming, game farming and crop farming. The commercial sector mainly consists of service provision to the agricultural community in the rural hinterland. The trade and service sector in Hertzogville is focused on providing for the basic needs of the local urban and surrounding farming community only. The industrial sector in Hertzogville consists of the co-operative where agricultural products are processed, the abattoir and a few light industrial activities relating to vehicle maintenance and the agricultural sector. Dealesville is a service centre to its local residents, providing only the most essential services. Livestock farming and crop farming activities are most common in the area, although salt works on a small scale also exist at some of the numerous salt pans characterizing the area.

The sectorial composition to the different sectors for the GDP contribution is as follows:

-  Agriculture 24.6%
-  Mining 21.6%
-  Manufacture 2.9%
-  Electricity 2.9%



■ Construction	2.5%
■ Trade	12.3%
■ Transport	5.0%
■ Finance	7.6%
■ Community services	20.7%

Education Levels

The figure below shows percentage distribution of Tokologo population aged 5-24 years who were attending school during the population census 2011. In 2011, 66.5% were found to be attending school whereas 33.5% were not. Males were found to be attending school more than females with 67.7% and 65.3% respectively.

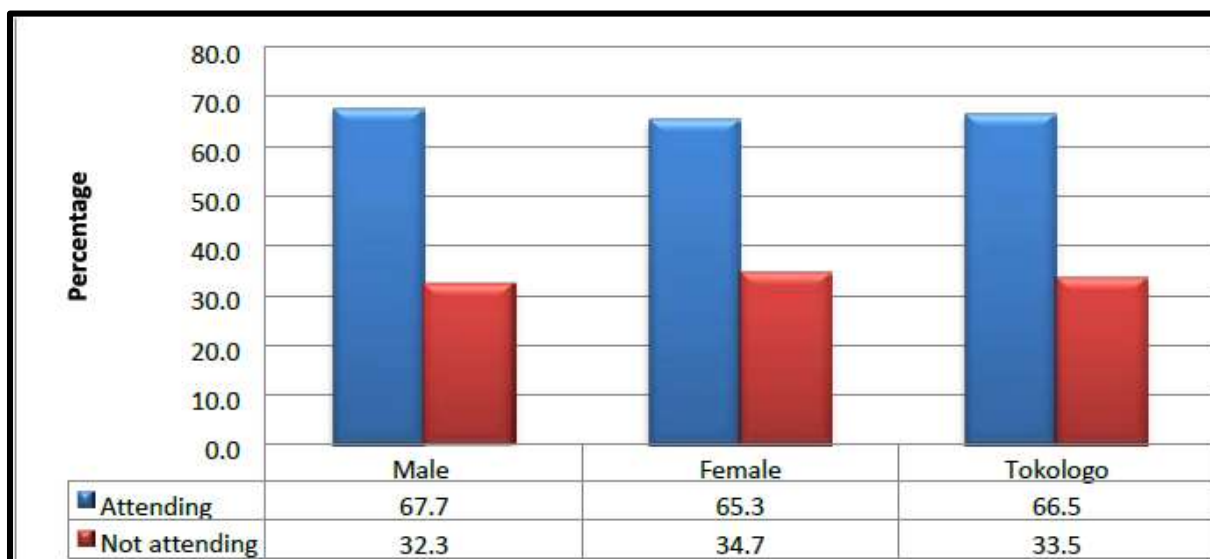


Figure 13: School attendance based on gender distribution.

The figure below shows the education levels of population aged 5 years and above in Tokologo at 12.6% in 2011. As for higher education levels, there was a decrease in number of people who attained higher education level certificates from 1996 to 2001 from 2.2% to 1.8%, however, there was an increase from 1.8% to 3.4% in 2001 and 2011 respective.

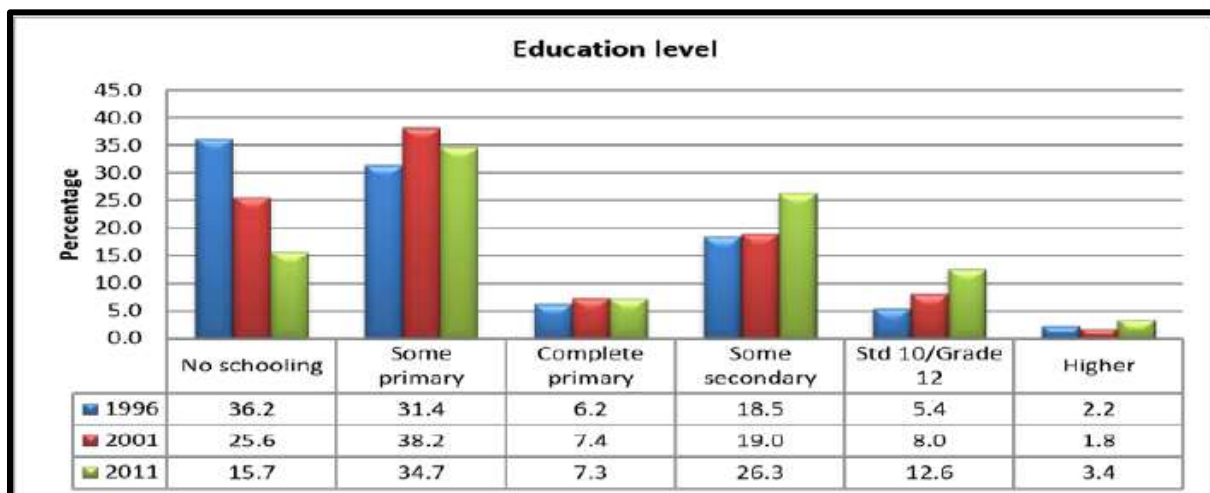


Figure 14: Education levels of the Tokologo population.

The figure below show an increase of people who has obtained Grade 12 as compared to 2011. There was also a slight increase in people who obtained higher/national diploma with grade 12/occupational certificate/ NQF 6. One of the concerns in the municipality is an increase of people who doesn't attend school and end-up increasing the number of unemployed people in the municipality.

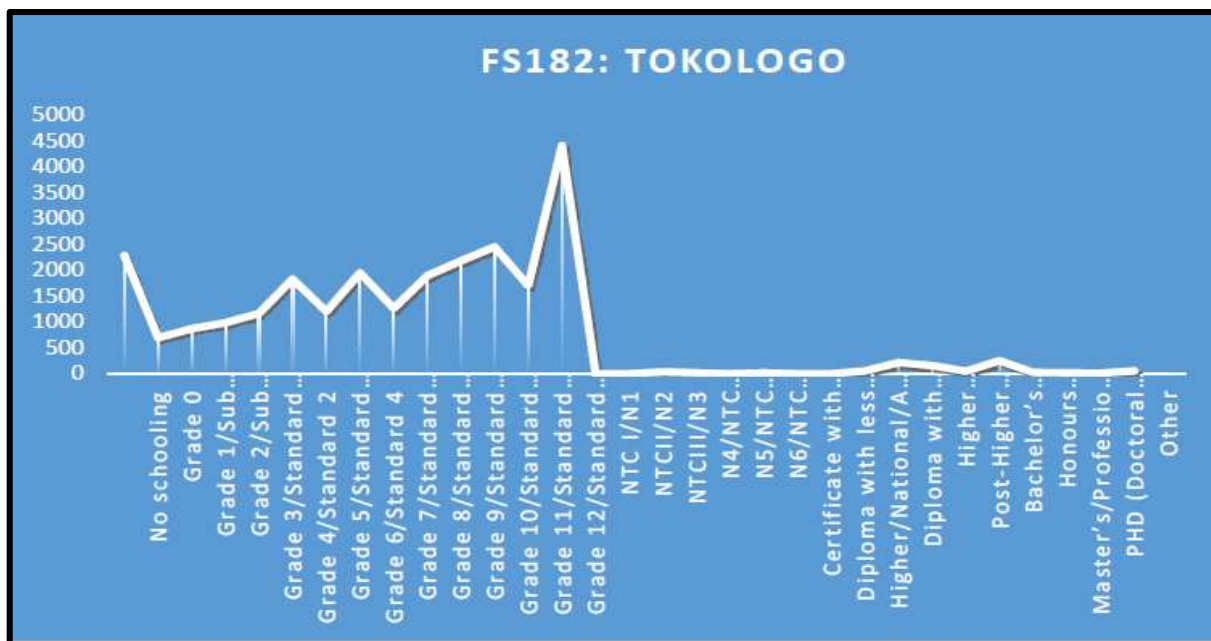


Figure 15: Number of people compared to various education levels.

Employment Profile

The indicators show that the overall unemployment rate for Tokologo increased steadily from 22.8% in 1996 to 27.4% in 2011 whereas in 2001 it was 16.9%. Female unemployment rate over the years 1996, 2001 and 2011, is greater than that of males. It



is clear that the labour participation rate was the highest in 2001 with 59.5% followed by 1996 with 58.6% then 2011 with 50.0%. Same pattern is shown for both male and female youth participation rate. Labour absorption rate was found to be the highest in 1996 with 45.2% and decreased to 36.3% in 2011 whereas for both male and female it was also highest in 1996 with 61.3% and 29.6% respectively.

Income Profile

The people that are employed earn an average wage. 1.2% of the household income is between R1.00 and R4 800.00 per month. 5.1% of the household income is between R4 801.00 and R9 600.00 per month. 43.9% of the household income is between R9 601.00 and R19 600.00 per month. 25.6% of the household income is between R19 601.00 and R38 200.00 per month. 8.4% of the household income is between R38 201.00 and R76 400.00 per month. 4.7% of the household income is between R76 401.00 and R153 800.00 per month. 4.7% of the household income is between R153 801.00 and R307 600.00, 3.2% of the household income is between R307 601.00 and R614 400.00, 1.1% of the household income is between R614 001.00 and R1 228 800.00, 0.3% of the household income is between R1 228 801.00 and R2 457 600.00 and lastly 0.1% of the household income is R2 457 601.00 +. Please refer to the figure below.

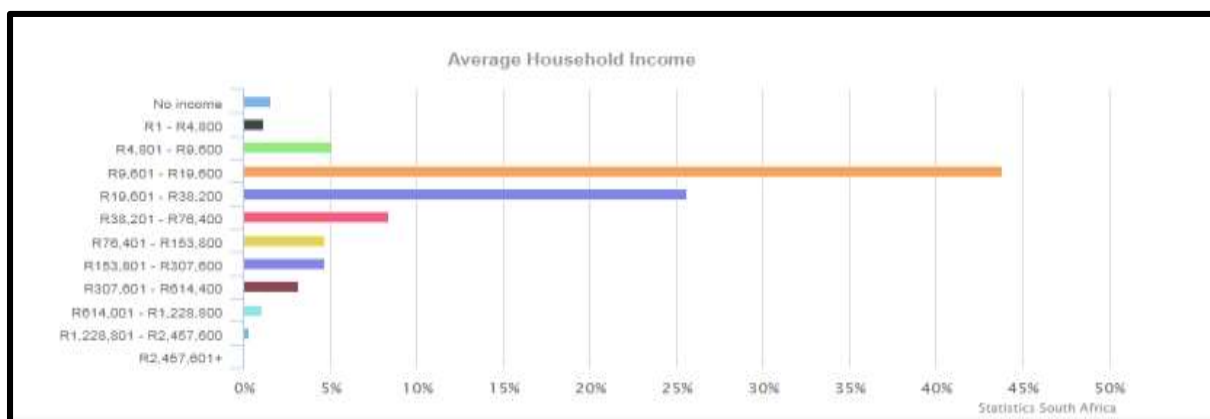


Figure 16: Average household income.

Unemployment

9 122 people are economically active (employed or unemployed but looking for work), and of these 27.4% are unemployed. Of the 4 647 economically active youth (15 – 34 years) in the area, 35.8% are unemployed. Tokologo Local municipality is the lowest recorded unemployment rate in the district, it has increased from 20.3% in 2005 to 26.8% percent in 2014, with the average of 23% unemployment rate.

The below figure shows labour absorption rates in Tokologo local municipality over census years 1996, 2001 and 2011. Labour absorption rate was found to be the highest in 1996 with 45.2% and decreased to 36.3% in 2011 whereas for both male and female it was also highest in 1996 with 61.3% and 29.6% respectively.

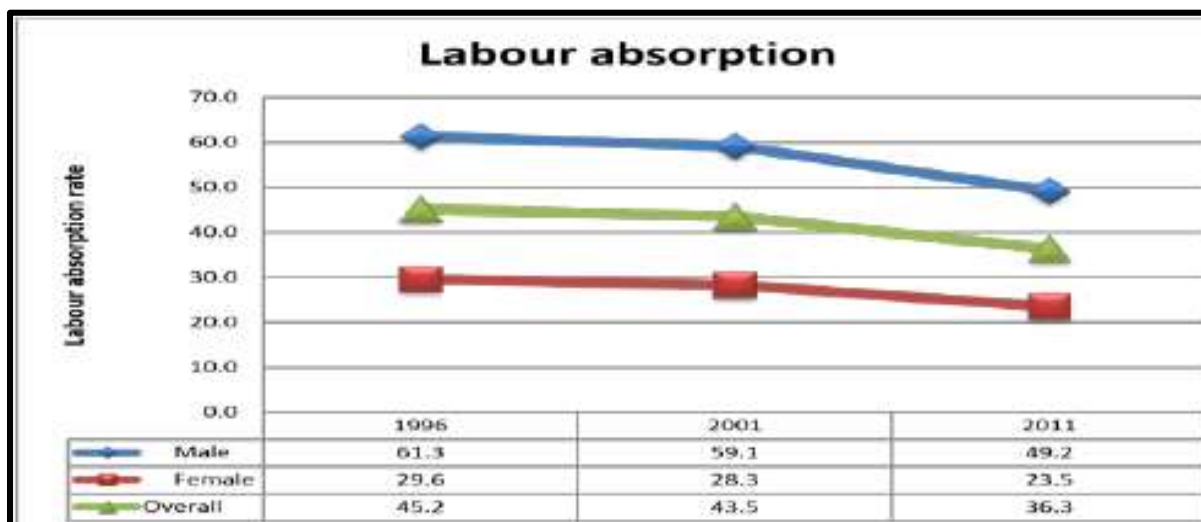


Figure 17: Labour absorption figures.

The figure below shows youth (15-35 years) unemployment rate of Tokologo local municipality by gender. Over the years 1996, 2001 and 2011, the unemployment rate was found to be 27.1%, 32.4% and 35.2% respectively and again the female unemployment rate lead over males and Tokologo municipality since 1996 to 2011.

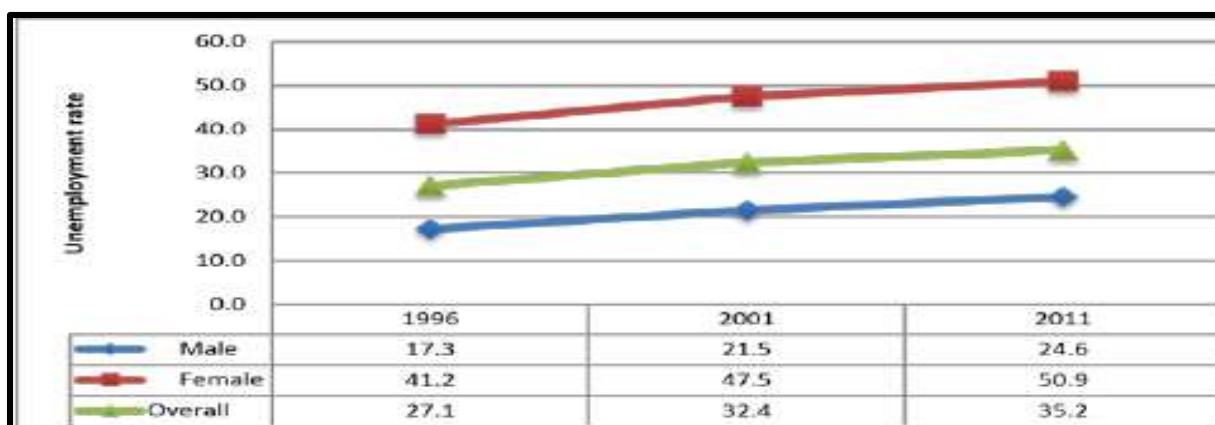


Figure 18: Youth unemployment rate of Tokologo local municipality.

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

The area earmarked for the proposed mining activity extends over thirty-six (36) properties as listed earlier, within the magisterial district of Lejweleputswa, situated on the south-eastern bank of the Vaal River. The primary land use of the earmarked properties is agriculture including livestock- and/or game farming, crop production (centre-pivot

irrigation), orchards, and dryland farming. The land use of some of the properties was also extended to include diamond mining and tourism.

As mentioned earlier, the Applicant entered into a surface use agreement with the property owners when the prospecting right (FS30/5/1/1/2/474PR) was issued that bar mining in the cultivated areas (pivots and/or orchards) of the earmarked properties. As shown in the figure below, large portions of the earmarked properties was already developed for agricultural use. When these areas (developed agricultural areas) are excluded from the allowable mining footprint (in accordance with the surface use agreement) approximately  $\pm 35\%$  of the mining right footprint remains to be prospected and/or mined by the Applicant should a mining right be issued.

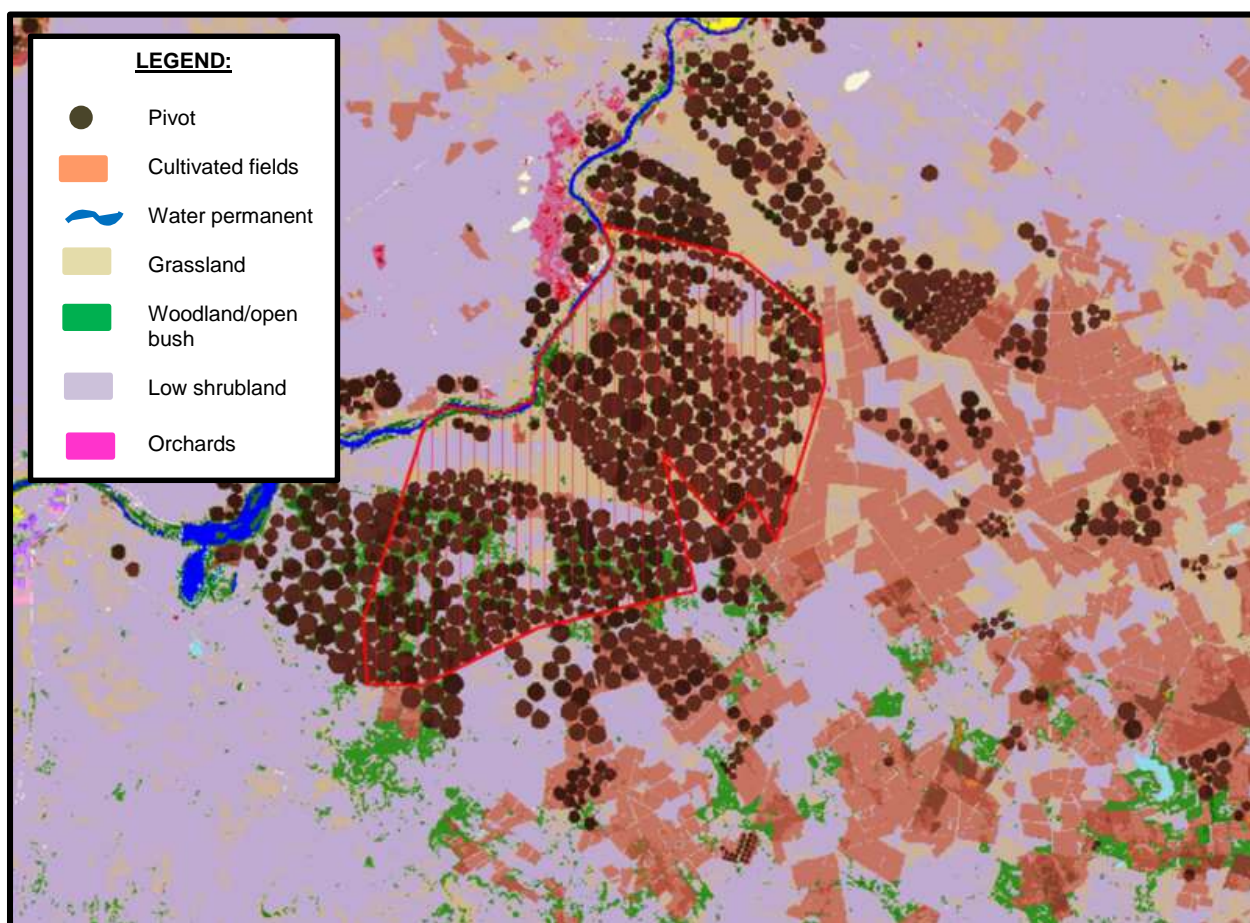


Figure 19: Land use of the study area where the mining footprint is shown by the red polygon.

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

**SPECIFIC ENVIRONMENTAL FEATURES****SITE SPECIFIC TOPOGRAPHY**

The proposed mining area is situated along the south-eastern bank of the Vaal River within the Free State Province at an altitude that range between 1 195 – 1 278 mamsl. As mentioned earlier the topography of the study area is flat, with the elevation rising gradually in a south-easterly direction away from the riverbed. The figure below shows the elevation profile of the footprint area from the highest point in the south (1 278 mamsl) to the lower reaches of the Vaal River (1 195 mamsl).



Figure 20: Elevation profile of the proposed mining area from the highest point in the south (1 278 mamsl) to the lower reaches of the Vaal River (1 195 mamsl).

**SITE SPECIFIC GEOLOGY AND SOILS**

The site specific geology and soils of the proposed mining area resembles that of the wider study area as discussed earlier.

The feasibility study done by Anmic diamonds, in 2016, on a portion of the farm Smithskraal 1519 determined that the thickness of the gravels ranges from 200 mm to 450/500 mm (averaging out at  $\pm 300$  mm). The gravels consist of various varieties of quartz, jasper, agate and silicified wood etc. all good indicators. The geologist dated the





gravel bed at roughly 1 million years, with the silicified wood in the gravels dating back 280 million years.

ARS Geology Consulting and Mineralogical Services confirmed the presence of accessory gold particles in the diamondiferous gravels between Christiana and Warrenton in 2018.

### **SITE SPECIFIC HYDROLOGY**

The hydrology of the proposed mining footprint is representative of the regional hydrology described for the study area earlier in this report. The Vaal River forms the north-western boundary of the proposed mining area. Further to this, the earmarked footprint harbors some drainage lines with associated floodplains and potential wetlands of importance.

According to the SANBI National Wetlands and FEPA information a few wetlands do occur within the study area as shown in the figure below. The wetlands mainly fall within one of the following categories:

- Floodplain Wetland: The mostly flat or gently sloping wetland area adjacent to and formed by a lowland or upland floodplain river, and subject to periodic inundation by overtopping of the channel bank (SANBI, 2009).
- Unchannelled Valley-Bottom Wetland: A mostly flat valley-bottom wetland area without a major channel running through it, characterised by an absence of distinct channel banks and the prevalence of diffuse flows, even during and after high rainfall events. Water inputs are typically from an upstream channel, as the flow becomes dispersed, and from adjacent slopes (if present) or groundwater. Water generally moves through the wetland in the form of diffuse surface flow and/or interflow (with some temporary containment of water in depressional areas), but the outflow can be in the form of diffuse or concentrated surface flow (SANBI, 2009).
- Valleyhead Seep: A gently-sloping, typically concave wetland area located on a valley floor at the head of a drainage line, with water inputs mainly from subsurface flow (although there is usually also a convergence of diffuse overland water flow in these areas during and after rainfall events). Horizontal, unidirectional (down-slope) movement of water in the form of interflow and diffuse surface flow dominates within a valleyhead seep, while water exits at the downstream end as concentrated surface flow where the valleyhead seep becomes a channel (SANBI, 2009).

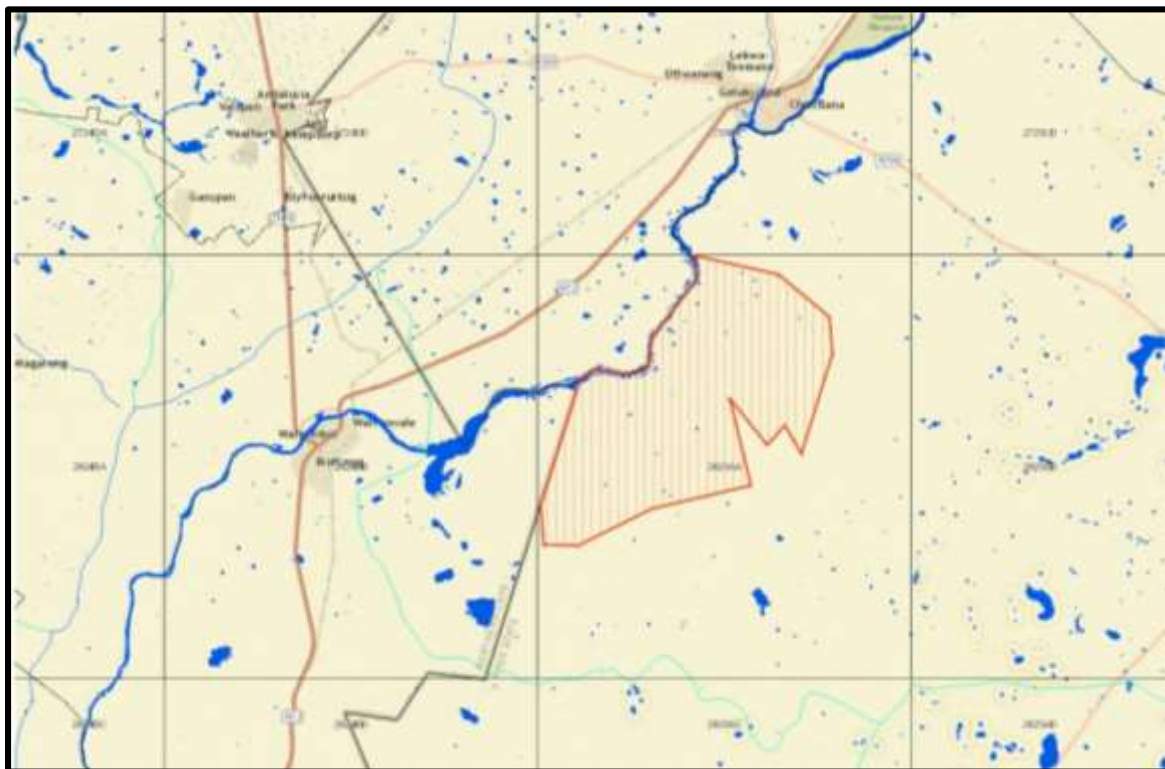


Figure 21: Map showing the location of wetland pockets (blue) within the proposed mining area (red polygon) (Image obtained from BGIS Map Viewer – National Wetlands and NFEPA).

As the proposed mining area is within 500 m of wetlands it requires a Water Use Licence in terms of Section 39 of the National Water Act, 1998 (Act No. 36 of 1998) for water uses as defined in section 21 of the act. A hydrologist/wetland specialist will assess the significance of the footprint area in relation to wetlands and/or drainage areas of concern as part of the water use license application (WULA) process. The assessment that will provide the required information for water use licensing in terms of the NWA, 1998 will accompany the WULA application to the Department of Water and Sanitation.

### **SITE SPECIFIC AIR QUALITY AND NOISE AMBIANCE**

Emission into the atmosphere is controlled by the National Environmental Management: Air Quality Act, 2004. The proposed mining activity does not trigger an application in terms of the said act, and emissions to be generated is expected to mainly entail dust due to the displacement of soil, processing of ROM, and transport of material on gravel roads. Noise will be generated as a result of the processing activities, as well as loading, stockpiling and transporting of material.

The impact of the proposed mining activity on the air quality and noise ambiance of the receiving environment will be assessed during the EIA process to be discussed in detail



in the draft environmental impact assessment report (DEIAR). The discussion will also propose mitigation and management measures to address/minimise identified impacts.

### **SITE SPECIFIC GROUNDCOVER**

The vegetation cover of the proposed mining footprint is representative of the regional groundcover described for the study area earlier in this report. Undisturbed/natural areas has vegetation representative of the Kimberley Thornveld, Schmidtsdrif Thornveld, and the Highveld Alluvial Vegetation type.

The site specific vegetation will be described in the DEIAR elaborating on the *status quo* with regard to vegetation cover, identification of CBA's, ESA's and other areas/species of concern. The discussion will also propose buffer zones, mitigation measures, and management actions to be considered during the EIA process. The findings of the study will be collated onto a sensitivity map to be overlain by the footprint of the proposed mining area.

### **SITE SPECIFIC CULTURAL AND HERITAGE ENVIRONMENT**

The cultural and heritage environment with specific reference to archaeological- and palaeontological aspects will be assessed during the EIA process. Heritage Contracts and Archaeological Consulting (HCAC) was contracted to conduct a desktop heritage impact assessment (HIA) inclusive of a palaeontological opinion of the study area. The outcome of the study as well as comments received from SAHRA will be incorporated into the DEIAR.

### **SITE SPECIFIC SOCIO-ECONOMIC ENVIRONMENT**

A Social and Labour Plan (SLP) was submitted as part of the MR application of the Applicant and will be discussed in detail in the DEIAR. The SLP forms the basis for the implementation of programmes and projects as key activity drivers of the development and operation of the proposed mining activity in the Boshof area. It offers the building blocks for future economic development and growth of the local area. The scope of the document offers the Applicant a platform to engage in the development of the local economy and community through a basis of human resource development, economic delivery, business development and community participation. The nature of the document is therefore aimed at the widest possible comprehension and stimulation for inputs.

The SLP notes that the Applicant proposes to have approximately 180 employees (30 employees per site) who will support approximately 576 dependents. Due to the fact that



most of the employees will reside within Christiana, it is fair to presume that the majority of monthly earned salaries will be spent in the local area. Indirectly, through the payment for services and suppliers the mine also supports employment of the procurement partners.

### **SITE SPECIFIC EXISTING INFRASTRUCTURE**

The infrastructure within the mining footprint include, but isn't limited to, the following:

- Fencing;
- Housing and supporting structures;
- Pivots;
- Power lines.
- Roads (public as well as private); and
- Water abstraction and storage infrastructure.

The proposed mining method is such that it can be moved away from build structures and existing infrastructure, thereby rendering the impact in this regard insignificant.

As mentioned earlier, approximately  $\pm 35\%$  of the mining right footprint remains to be prospected and/or mined by the Applicant when the already developed areas are excluded from the application footprint.

Mitigation measures and management actions will be discussed in the DEIAR to protect the existing infrastructure in the footprint area against mining related impacts.

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

(Show all environmental, and current land use features)

The environmental and current land use map is attached as Appendix 6.

#### **i) Impacts Identified**

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultants with affected parties together with the significance, probability and duration of the impacts)

The following potential impacts were identified for the main activities associated with each phase of the proposed project. The listed impacts must be treated as preliminary, to be expanded upon proper assessment of the study area during the EIA process. The significance rating was determined using the methodology as explained under *j) Methodology used in determining and ranking the significance of environmental impacts*. The impact rating listed below was determined for each impact **prior** to bringing the proposed mitigation measures into consideration. The degree of mitigation indicates the possibility of partial, full or no mitigation of the identified impact.



**SITE ESTABLISHMENT:**

Increased traffic on public and private access roads

**Rating: Medium**

**Degree of Mitigation: Partial**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
2	5	4	3.6	3	5	4	14.4

Visual intrusion as a result of site establishment

**Rating: Medium**

**Degree of Mitigation: Partial**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
2	5	2	3	4	5	4.5	13.5

Loss of areas of agricultural importance

**Rating: Low-Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
4	5	4	4.3	3	1	2	8.6

Potential negative impact on the Vaal River and/or wetlands within the affected area

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
5	5	5	5	3	1	2	10

Potential impact on fauna within footprint area

**Rating: Low**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
2	5	2	3	2	1	1.5	4.5

Potential impact on areas/infrastructure of heritage or cultural concern

**Rating: Low-Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
5	5	5	5	2	1	1.5	7.5



Potential impact on existing infrastructure within the footprint area.

**Rating: Low-Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
4	5	4	4.3	3	1	2	8.6

Increased and continued work opportunities to local residents (**Positive Impact**)

**Rating: Medium-High**

**Degree of Mitigation: N/A**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
1	5	5	3.6	5	5	5	18

Diversified income to landowners (**Positive Impact**)

**Rating: Medium**

**Degree of Mitigation: N/A**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
1	5	3	3	5	3	4	12

**STRIPPING AND STOCKPILING OF TOPSOIL OF THE MINING AREA:**

Dust nuisance caused by the disturbance of soil

**Rating: Low-Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
3	2	2	2.3	4	2	3	6.9

Noise nuisance caused by earthmoving machinery

**Rating: Low-Medium**

**Degree of Mitigation: Partial**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
2	2	2	2	4	2	3	6

Potential infestation of the topsoil heaps with weeds or invader plant species

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
3	5	4	4	4	2	3	12



Loss/contamination of stockpiled topsoil

**Rating: Low-Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
3	5	1	3	4	2	3	9

Potential contamination of construction area and surface runoff as a result of hydrocarbon spillages

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
4	4	2	3.3	4	3	3.5	11.6

Potential erosion of denuded areas.

**Rating: Low-Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
4	5	1	3.3	4	2	3	9.9

**EXCAVATION AND LOADING:**

Safety risk posed by open excavations.

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
4	5	1	3.3	4	5	4.5	14.9

Potential flooding of excavations.

**Rating: Low**

**Degree of Mitigation: Partial**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
3	1	1	1.6	3	2	2.5	4

Dust nuisance due to the movement of earthmoving equipment.

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

Severity	Duration	Extent	Consequence	Probability	Frequency	Likelihood	Significance
3	4	2	3	4	5	4.5	13.5



Noise nuisance generated by earthmoving equipment

**Rating: Medium**

**Degree of Mitigation: Partial**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	4	2	2.6	3	5	4	10.4

Potential contamination of surface runoff as a result of hydrocarbon spillages.

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	3	3.5	11.6

Degradation of access roads.

**Rating: Medium-High**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	5	4	4.3	4	5	4.5	19.4

**PROCESSING OF GRAVEL:**

Increased water use within the study area.

**Rating: High**

**Degree of Mitigation: Partial**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	5	5	4.6	5	5	5	23

Dust nuisance generated at the processing area

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
3	4	2	3	4	5	4.5	13.5

Noise nuisance stemming from the processing activities

**Rating: Medium**

**Degree of Mitigation: Partial**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	4	2	2.6	3	5	4	10.4





Safety risk posed by settling ponds

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
3	4	1	2.6	4	5	4.5	11.7

Potential contamination of environment as a result of improper waste disposal

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	3	3.5	11.6

**TRANSPORT OF CONCENTRATE TO RECOVERY PLANT:**

Increased traffic along the public and private access roads.

**Rating: Medium**

**Degree of Mitigation: Partial**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	5	4	3.6	4	3	3.5	12.6

Overloading of trucks impact road infrastructure

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
3	5	5	4.3	2	3	2.5	10.8

Increased income generated within the Tokologo municipal area (**Positive Impact**)

**Rating: Medium-High**

**Degree of Mitigation: N/A**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	18

Contribution of mine to local economic development (**Positive Impact**)

**Rating: Medium-High**

**Degree of Mitigation: N/A**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	18



**BACKFILLING OF EXCAVATIONS:**

Dust nuisance generated as a result of the rehabilitation/landscaping activities

**Rating: Low**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	1	2	1.6	3	1	2	3.2

Noise nuisance caused by machinery during the decommissioning phase.

**Rating: Low**

**Degree of Mitigation: Partial**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	1	2	1.6	3	1	2	3.2

Potential safety risk posed by unrehabilitated excavations.

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	5	1	3.3	4	5	4.5	14.9

Potential increase in the risk of soil erosion from reinstated but denuded areas

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	1	3	4	5	4.5	13.5

Potential infestation of the reinstated areas by weeds and invader plant species

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	1	3	5	2	3.5	10.5

Potential contamination of environment as a result of improper waste disposal

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	5	4.5	14.9



Return of the rehabilitated area to agricultural land use (**Positive Impact**)

**Rating: Medium-High**

**Degree of Mitigation: N/A**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	18

**REHABILITATION OF PROCESSING AREA:**

Dust nuisance generated as a result of the rehabilitation/landscaping activities

**Rating: Low**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	1	2	1.6	3	1	2	3.2

Noise nuisance caused by machinery during the decommissioning phase.

**Rating: Low**

**Degree of Mitigation: Partial**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
2	1	2	1.6	3	1	2	3.2

Potential increase in the risk of soil erosion from reinstated but denuded areas

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	1	3	4	5	4.5	13.5

Potential infestation of the reinstated areas by weeds and invader plant species

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	1	3	5	2	3.5	10.5

Potential contamination of environment as a result of improper waste disposal

**Rating: Medium**

**Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	5	4.5	14.9



Potential use of the settling ponds for water storage or aquaculture purposes (**Positive Impact**)

**Rating: Medium**

**Degree of Mitigation: N/A**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
1	5	4	3.3	4	5	4.5	<b>14.9</b>

Return of the rehabilitated area to agricultural land use (**Positive Impact**)

**Rating: Medium-High**

**Degree of Mitigation: N/A**

			Consequence			Likelihood	Significance
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	<b>18</b>

**j) Methodology used in determining the significance of environmental impacts**

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

**Methodology for the assessment of the potential environmental, social and cultural impacts**

**DEFINITIONS AND CONCEPTS:**

**Environmental Significance:**

The concept of significance is at the core of impact identification, evaluation and decision-making. The concept remains largely undefined and there is no international consensus on a single definition. The following common elements are recognized from the various interpretations:

- Environmental significance is a value judgment
- The degree of environmental significance depends on the nature of the impact
- The importance is rated in terms of both biophysical and socio-economic values
- Determining significance involves the amount of change to the environment perceived to be acceptable to affected communities.

Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of acceptability) (DEAT (2002) Impact Significance, Integrated Environmental Management, Information Series 5).

The concept of risk has two dimensions, namely the consequence of an event or set of circumstances, and the likelihood of particular consequences being realised (Environment Australia (1999) Environmental Risk Management).

**Impact**

The positive or negative effects on human well-being and / or the environment.



**Consequence**

The intermediate or final outcome of an event or situation OR it is the result, on the environment, of an event.

**Likelihood**

A qualitative term covering both probability and frequency.

**Frequency**

The number of occurrences of a defined event in a given time or rate.

**Probability**

The likelihood of a specific outcome measured by the ratio of a specific outcome to the total number of possible outcomes.

**Environment**

Surroundings in which an organisation operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation (ISO 14004, 1996).

**Methodology that will be used**

The environmental significance assessment methodology is based on the following determination:

$$\text{Environmental Significance} = \text{Overall Consequence} \times \text{Overall Likelihood}$$

**Determination of Overall Consequence**

Consequence analysis is a mixture of quantitative and qualitative information and the outcome can be positive or negative. Several factors can be used to determine consequence. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen: Severity/Intensity, Duration and Extent/Spatial Scale. Each factor is assigned a rating of 1 to 5, as described in the tables below.

**Determination of Severity / Intensity**

**Severity** relates to the nature of the event, aspect or impact to the environment and describes how severe the aspects impact on the biophysical and socio-economic environment.



Table 8: Table to be used to obtain an overall rating of severity, taking into consideration the various criteria.

Type of criteria	Rating				
	1	2	3	4	5
Quantitative	0-20%	21-40%	41-60%	61-80%	81-100%
Qualitative	Insignificant / Non-harmful	Small / Potentially harmful	Significant/ Harmful	Great/ Very harmful	Disastrous / Extremely harmful
Social/ Community response	Acceptable / I&AP satisfied	Slightly tolerable / Possible objections	Intolerable/ Sporadic complaints	Unacceptable / Widespread complaints	Totally unacceptable / Possible legal action
Irreversibility	Very low cost to mitigate/ High potential to mitigate impacts to level of insignificance/ Easily reversible	Low cost to mitigate	Substantial cost to mitigate/ Potential to mitigate impacts/ Potential to reverse impact	High cost to mitigate	Prohibitive cost to mitigate/ Little or no mechanism to mitigate impact Irreversible
Biophysical (Air quality, water quantity and quality, waste production, fauna and flora)	Insignificant change / deterioration or disturbance	Moderate change / deterioration or disturbance	Significant change / deterioration or disturbance	Very significant change / deterioration or disturbance	Disastrous change / deterioration or disturbance

### Determination of Duration

**Duration** refers to the amount of time that the environment will be affected by the event, risk or impact, if no intervention e.g. remedial action takes place.

Table 9: Criteria for the rating of duration.

Rating	Description
1	Up to ONE MONTH
2	ONE MONTH to THREE MONTHS (QUARTER)
3	THREE MONTHS to ONE YEAR
4	ONE to TEN YEARS
5	Beyond TEN YEARS



**Determination of Extent/Spatial Scale**

**Extent** or **spatial scale** is the area affected by the event, aspect or impact.

Table 10: Criteria for the rating of extent / spatial scale.

Rating	Description
1	Immediate, fully contained area
2	Surrounding area
3	Within Business Unit area of responsibility
4	Within the farm/neighboring farm area
5	Regional, National, International

**Determination of Overall Consequence**

**Overall consequence** is determined by adding the factors determined above and summarized below, and then dividing the sum by 3.

Table 11: Example of calculating overall consequence.

Consequence	Rating
Severity	Example 4
Duration	Example 2
Extent	Example 4
<b>SUBTOTAL</b>	<b>10</b>
<b>TOTAL CONSEQUENCE:</b> (Subtotal divided by 3)	<b>3.3</b>

**Determination of Likelihood:**

The determination of likelihood is a combination of Frequency and Probability. Each factor is assigned a rating of 1 to 5, as described below.

**Determination of Frequency**

**Frequency** refers to how often the specific activity, related to the event, aspect or impact, is undertaken.

Table 12: Criteria for the rating of frequency.

Rating	Description
1	Once a year or once/more during operation
2	Once/more in 6 Months
3	Once/more a Month
4	Once/more a Week
5	Daily



**Determination of Probability**

**Probability** refers to how often the activity or aspect has an impact on the environment.

Table 13: Criteria for the rating of probability.

Rating	Description
1	Almost never / almost impossible
2	Very seldom / highly unlikely
3	Infrequent / unlikely / seldom
4	Often / regularly / likely / possible
5	Daily / highly likely / definitely

**Overall Likelihood**

Overall likelihood is calculated by adding the factors determined above and summarized below, and then dividing the sum by 2.

Table 14: Example of calculating overall likelihood.

Consequence	Rating
Frequency	Example 4
Probability	Example 2
<b>SUBTOTAL</b>	<b>6</b>
<b>TOTAL LIKELIHOOD</b> (Subtotal divided by 2)	<b>3</b>

**Determination of Overall Environmental Significance:**

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will then fall into a range of **LOW, LOW-MEDIUM, MEDIUM, MEDIUM-HIGH** or **HIGH**, as shown in the table below.

Table 15: Determination of overall environmental significance.

Significance or Risk	Low	Low-Medium	Medium	Medium-High	High
Overall Consequence X Overall Likelihood	1 - 4.9	5 - 9.9	10 - 14.9	15 – 19.9	20 - 25

**Qualitative description or magnitude of Environmental Significance**

This description is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritizations and decision making process associated with this event, aspect or impact.





Table 16: Description of environmental significance and related action required.

Significance	Low	Low-Medium	Medium	Medium-High	High
Impact Magnitude	Impact is of very low order and therefore likely to have very little real effect. Acceptable.	Impact is of low order and therefore likely to have little real effect. Acceptable.	Impact is real, and potentially substantial in relation to other impacts. Can pose a risk to company	Impact is real and substantial in relation to other impacts. Pose a risk to the company. Unacceptable	Impact is of the highest order possible. Unacceptable. Fatal flaw.
Action Required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve	Implement monitoring. Investigate mitigation measures and improve management measures to reduce risk, where possible.	Improve management measures to reduce risk.	Implement significant mitigation measures or implement alternatives.

Based on the above, the significance rating scale has been determined as follows:

**HIGH** Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and / or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit.

**MEDIUM-HIGH** Impacts of a substantial order. In the case of negative impacts, mitigation and / or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these.

**MEDIUM** Impact would be real but not substantial within the bounds of those, which could occur. In the case of negative impacts, mitigation and / or remedial activity would be both feasible and fairly easily possible, In case of positive impacts; other means of achieving these benefits would be about equal in time, cost and effort.

**LOW-MEDIUM** Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and / or remedial activity would be either easily achieved or little would be required, or both. In case of positive impacts alternative means for achieving this benefit would likely be easier, cheaper, more effective, less time-consuming, or some combination of these.



**LOW** Impact would be negligible. In the case of negative impacts, almost no mitigation and or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap and simple. In the case of positive impacts, alternative means would almost all likely be better, in one or a number of ways, than this means of achieving the benefit

**INSIGNIFICANT** There would be a no impact at all – not even a very low impact on the system or any of its parts.

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

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

The preferred site alternative identified by the Applicant, named Site Alternative 1 in this document, entails the mining of an area that corresponds to the approved prospecting right (FS30/5/1/1/2/474PR) area. SA1 was identified during the planning phase by the Applicant and project team, as the preferred and only viable site alternative based on the evaluation of the prospecting results and due to the following:

- The prospecting results (to date) have shown that the prospecting footprint area has a high potential to yield diamondiferous gravel. Prospecting has however also shown that the presence of diamondiferous gravel is highly variable and cannot be projected based on the amount of prospecting done to date. The Applicant therefore desires the proposed mining right to incorporate the entire prospecting right area as this will allow additional time for prospecting and mining of the resource within the remaining footprint.
- The property owners of the earmarked area, and the Applicant has existing surface right agreements that can be renewed and honoured should the mining right be issued.
- Although a site alternative for the major mining area (20 207.3968 ha) is not deemed viable, site alternatives are possible within the boundary of the major mining area, as the minor areas (±2 ha) will be moved in between areas of agricultural importance, buffer zones and no-go areas, and any other sensitive areas identified during the EIA process. Exclusion areas will be defined in the environmental impact assessment report.

Should viable site alternatives be identified during the EIA process, the project team will heed the suggestions, and investigate the possible implementation thereof.



Project Alternative 1 entails the winning of alluvial diamonds and gold from minor areas ( $\pm 2$  ha) to be operated within the footprint of the major footprint area (20 207.3968 ha). The current project alternative proposes the simultaneous operation of six (6) minor areas through opencast and strip-mining methods, with the concentrate, recovered at the processing plant, transported to an off-site recovery plant. The operation of all minor areas will be in accordance with the conditions of the surface use agreement to be signed by the Applicant and landowner prior to the commencement of mining. PA1 entails the disturbance of  $\pm 0.06\%$  of the proposed footprint area at any given time as concurrent rehabilitation is proposed. Additional project alternatives can be considered during the EIA process as supplementary information is obtained from the specialist studies, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.

As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR.

Currently, the following potential impacts were identified that may have a negative impact on the receiving environment:

- Increased traffic on public and private access roads;
- Visual intrusion as a result of site establishment;
- Loss of areas of agricultural importance;
- Potential negative impact on the Vaal River and/or wetlands within the affected area;
- Potential impact on fauna within footprint area;
- Potential impact on areas/infrastructure of heritage or cultural concern;
- Potential impact on existing infrastructure within the footprint area;
- Dust nuisance caused by the disturbance of soil;
- Noise nuisance caused by earthmoving machinery and processing infrastructure;
- Potential infestation of the topsoil heaps with weeds or invader plant species;
- Loss/contamination of stockpiled topsoil;
- Potential contamination of construction area and surface runoff as a result of hydrocarbon spillages;
- Potential erosion of denuded areas;
- Safety risk posed by open excavations and settling ponds;
- Potential flooding of excavations;
- Degradation of access roads;
- Increased water use within the study area;
- Overloading of trucks impact road infrastructure; and
- Potential contamination of environment as a result of improper waste disposal.



The potential positive impacts associated with the proposed project includes:

- Increased and continued work opportunities to local residents.
- Diversified income to landowners.
- Contribution of mine to local economic development.
- Return of the rehabilitated area to agricultural land use; and
- Potential use of the settling ponds for water storage or aquaculture purposes.

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

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

In light of the above listed impacts that may have a negative impact on the study area, the following preliminary mitigation measures are proposed to address/minimize the resulting impacts:

##### **Increased traffic on public and private access roads:**

- Mining related equipment must overnight at a designated parking area within the processing area, to reduce the number of vehicles/equipment driving on the public and private access roads.
- The speed of all mining equipment/vehicles must be restrictions to 40 km/h on internal farm roads and 60 km/h on the public roads.
- The mitigation measures associated with this impact must be expanded upon as part of the proposed traffic assessment of the EIA process.

##### **Visual Mitigation:**

- The site must have a neat appearance and be kept in good condition at all times.
- Mining equipment must be stored neatly in dedicated areas when not in use;
- The screening of mining infrastructure must be considered;
- The right holder must limit vegetation removal, and stripping of topsoil may only be done immediately prior to the mining/use of a specific area;
- The stockpile areas must be managed to prevent excessive storage periods of overburden material;
- Upon decommissioning of a minor area, the site must be rehabilitated and topsoiled to reduce the visual impact of the mining activities and return the area to its prior status.

##### **Loss of areas of agricultural importance:**

- The exclusion of agricultural active areas must be defined in the surface use agreement, to be signed by the Applicant with each landowner, prior to commencement of the mining activities.
- Upon decommissioning of a minor area, the disturbed footprint has to be reinstated to its prior or better status, in order to allow it to be used for agricultural purposes.



**Potential negative impact on the Vaal River and/or wetlands within the affected area:**

- Buffer areas must be demarcated, sign posted and managed as no-go area around wetlands identified within the footprint of any minor area prior to commencement of the mining activities.
- Any channelized flow off of mining areas must be slowed, and storm water management infrastructure must be implemented.
- The mitigation measures associated with this impact must be expanded upon as part of the hydrology assessment and associated EIA process.

**Potential impact on fauna within footprint area:**

- Site management must ensure no fauna is caught, killed, harmed, sold or played with at the mining area;
- Workers must be instructed to report any animals that may be trapped in the working area;
- No snares may be set or nests raided for eggs or young;
- The mitigation measures associated with this impact must be expanded upon as part of the ecological assessment and associated EIA process.

**Potential impact on areas/infrastructure of heritage or cultural concern:**

- If during the pre-site establishment phase, site establishment-, operations- or closure phases of this project, any person employed by the developer, one of its subsidiaries, contractors and subcontractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager;
- It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area;
- The senior on-site Manager must inform the ECO (within the first hour of discovery) of the chance find and its immediate impact on operations. The ECO must then contact a professional archaeologist for an assessment of the finds who must notify the South African Heritage Resources Agency (SAHRA);
- Work may only commence once the area was cleared by SAHRA;
- The mitigation measures associated with this impact must be expanded upon as part of the heritage- and palaeontological impact assessment and associated EIA process.

**Mitigation of negative impacts to existing infrastructure:**

- Mining may not endanger/damage the existing infrastructure on the farms within the mining boundary without prior written permission obtained from the land/infrastructure owner. Such permission must be filed for auditing purposes.
- Damage caused to non-mining related infrastructure due to mining related activities must be repaired/replaced by the Applicant on his/her own cost.



The following mitigation measures must be implemented with regard to Eskom power reticulation infrastructure:

- No building may be erected within 9 (NINE) metres from either side of the centre line from any Eskom 11 / 22kV power line crossing the property involved or within 6 (SIX) metres from any structure supporting mechanism.
- No building may be erected within 3 (THREE) metres from any Eskom underground cable.
- The location of the cable from the Eskom transformer to the distribution box must be pointed out to the contractor by the owner and is the owner's responsibility.
- A copy of this letter / documentation must be handed to the contractor who must have it available on site.
- That existing Eskom power lines and infrastructure are acknowledged as established infrastructure on the properties and any rerouting or relocation would be for the cost of the applicant/developer.
- That Eskom rights or servitudes, including agreements with any of the landowners, obtained for the operation and maintenance of these existing power lines and infrastructure be acknowledged and honoured throughout its lifecycle which include, but are not limited to:
  - i. Having 24 hour access to its infrastructure according to the rights mentioned above.
  - ii. To perform maintenance (structural as well as servitude – vegetation management) on its infrastructure according to its maintenance programmes and schedules.
  - iii. To upgrade or refurbish its existing power lines and infrastructure as determined by Eskom.
  - iv. To perform any other activity not listed above to ensure the safe operation and maintenance of the Eskom power lines or infrastructure.
  - v. Eskom shall not be liable for the death or injury of any person, or for loss of or damage to any property, whether as a result of the encroachment or use of the area where Eskom has its services, by the applicant, his/her agent, contractors, employees, successors in title and assignee.
  - vi. The applicant indemnifies Eskom against loss, claims or damages, including claims pertaining to interference with Eskom services, apparatus or otherwise.
  - vii. Eskom shall at all times have unobstructed access to and egress from its services.
  - viii. Any development which necessitates the relocation of Eskom's services will be to the account of the developer.

**Dust emissions associated with the project:**

The liberation of dust into the surrounding environment must be effectively controlled by the use of, inter alia, water spraying and/or other dust-allaying agents.



- The roads and stockpile areas must be sprayed with water or an environmentally friendly dust-allaying agent that contains no PCB's (e.g. DAS products) if dust is generated above acceptable limits.
- The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness in addressing dust suppression.
- Speed on the gravel roads must be limited to 40 km/h to prevent the generation of excessive dust.
- The crusher plant must have operational water sprayers to alleviate dust generation from the conveyor belts.
- Areas devoid of vegetation, which could act as a dust source, must be minimized and vegetation removal may only be done immediately prior to mining.
- Topsoil stockpiles must be covered alternatively planted with indigenous grass species to minimize exposed surface areas, and reduce windblown dust from the site. The vegetation will further assist in capturing wind born dust and minimizing the spread of dust from the site.
- Compacted dust must weekly be removed from the crusher plant to eliminate the dust source.
- The Applicant must implement a dust management plan and conduct fall-out dust monitoring (if deemed necessary) on site to accurately determine the site specific dust levels.
- Weather conditions must be taken into consideration upon commencement of daily operations. Limiting operations during windy periods will reduce airborne dust and resulting impacts.
- Dust generated from the stripping of topsoil and mining operations shall comply with the National Dust Control Regulations, GN No R827 promulgated in terms of NEM:AQA (Act 39 of 2004) and ASTM D1739 (SANS 1137:2012).
- Best practice measures shall be implemented during the stripping of topsoil, processing and stockpiling activities in order to minimize potential dust impacts.

**Noise mitigation measures:**

- All mining related vehicles must be equipped with silencers and maintained in a road worthy condition in terms of the National Road Traffic Act, 1996 (Act No 93 of 1996).
- Best practice measures shall be implemented in order to minimize potential noise impacts.
- The Applicant must ensure that employees and staff conduct themselves in an acceptable manner while on site.
- Employees will not be allowed to reside on site.
- No loud music may be allowed on site.
- A qualified occupational hygienist must be contracted to quarterly monitor and report on the personal noise exposure of the employees working at the mine. The monitoring must be done in accordance with the SANS 10083:2004 (Edition 5) sampling method as well as NEM:AQA, 2004, SANS 10103:2008.



**Weeds and invader plants mitigation measures:**

- An invasive plant species management plan must be implemented at the site to ensure the management and control of all species regarded as Category 1a and 1b invasive species in terms of NEM:BA (National Environmental Management: Biodiversity Act 10 of 2004 and regulations applicable thereto). Weed/alien clearing must be done on an ongoing basis throughout the life of the mining activities.
- Management must take responsibility to control declared invader or exotic species on the rehabilitated areas. The following control methods can be used:
  - The plants can be uprooted, felled or cut off and can be destroyed completely.
  - The plants can be treated chemically by a registered PCO through the use of an herbicide recommended for use by the PCO in accordance with the directions for the use of such an herbicide.
- All stockpiles must to be kept free of weeds.

**Loss/contamination of stockpiled topsoil:**

- The first 300 mm of topsoil must be removed and stored within a designated, signposted stockpile area. Stockpiled topsoil must be protected from erosion and mixing with other material. The topsoil must be used to cover the rehabilitated area and improve the establishment of natural vegetation;
- Topsoil stockpiles must be kept free of weeds;
- Topsoil stockpiles must be placed on a levelled area and measures must be implemented to safeguard the piles from being washed away in the event of heavy rains/storm water;
- Topsoil heaps may not exceed 1.5 m in order to preserve micro-organisms within the topsoil, which can be lost due to compaction and lack of oxygen;
- Storm- and runoff water must be diverted around the stockpile area to prevent erosion.

**Waste Management:**

- Regular vehicle maintenance must be done at the site workshop. If emergency repairs are required on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 liter closed container/bin to be removed from the emergency service area to the workshop in order to ensure proper disposal.
- Any effluents containing oil, grease or other industrial substances must be collected in a suitable receptacle and removed from the site, either for resale or for appropriate disposal at a recognized facility.
- Spills must be cleaned up immediately (within the first hour of occurrence) to the satisfaction of the Regional Manager (DMRE) by removing the spillage together with the polluted soil and by disposing it at a recognized facility. Proof must be filed.





- Suitable covered receptacles must be available at all times and conveniently placed for the disposal of waste.
- Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc, must be stored in a container with a closable lid at a collecting point to be collected at least once a month and disposed of at a recognized landfill site. Specific precautions must be taken to prevent refuse from being dumped on or in the vicinity of the mine area.
- Biodegradable refuse must be handled as indicated above.

**Storm water handling:**

- Storm water must be diverted around the topsoil heaps, mining area and access roads to prevent erosion and loss of material.
- Channeled run-off from active or un-rehabilitated mine areas must be slowed through the installation of temporary sediment traps, such as small sand bag impoundments. The impounding structures must still allow all water to return to the natural river channels.
- All activities must be conducted only in accordance with the Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management, developed by the Department of Water and Sanitation (DWS), and any other conditions which that Department may impose:
  - Clean water (e.g. rainwater) must be kept clean and be routed to a natural watercourse by a system separate from the dirty water system. You must prevent clean water from running or spilling into dirty water systems.
  - Dirty water must be collected and contained in a system separate from the clean water system.
  - Dirty water must be prevented from spilling or seeping into clean water systems.
  - A storm water management plan must apply for the entire life cycle of the mine and over different hydrological cycles (rainfall patterns).
  - The statutory requirements of various regulatory agencies and the interests of stakeholders must be considered and incorporated into the storm water management plan.

**Safety risk posed by open excavations and settling ponds:**

- All operations must comply with the Mine Health and Safety Act, 1993 (Act No 85 of 1993).
- Signage warning the public of the mining area must comply with the requirements of the Mine Health and Safety Act, 1993.
- All operational minor areas must be fenced with an access control gated entrance.
- The settling ponds must be fenced with animal proof fencing to prevent the drowning of fauna that gets stuck in the settling ponds.
- Excavations must be backfilled as soon as the diamondiferous gravel was removed from the pit and the excavation is no longer needed.



**Potential flooding of excavations:**

- No equipment may park overnight within the excavations.
- Should the excavations be flooded by rainwater, the release of the water must be such that it does not cause erosion of the release area. The speed of water must be controlled and the damming of water within close proximity to the excavation must be avoided.

**Management of access roads:**

- Storm water must be diverted around the access road to prevent erosion.
- Vehicular movement must be restricted to existing access routes to prevent crisscrossing of tracks through undisturbed areas.
- Rutting and erosion of the access road caused as a result of the mining activities must be repaired by the mining right holder.

**Mitigation of Overloading:**

- A weighing device must be installed at the mining area to prevent overloading;
- Proof of load weights must be filed and be available for auditing by relevant officials.

**Rehabilitation of the excavations in each minor area:**

- Rocks and coarse material removed during the excavation phase must be dumped into the excavation, and the excavation must be backfilled to its prior status.
- No waste may be permitted to be deposited into the excavations.
- Once overburden, rocks and coarse natural materials has been added to the excavation and it was profiled with acceptable contours and erosion control measures, the topsoil previously stored must be returned to its original depth over the area.
- The area must be fertilized if necessary to allow vegetation to establish rapidly. The site must be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora, should natural vegetation not re-establish within 6 months from closure of the site.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analyzed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a vegetation seed mix to his or her specification.
- The mitigation measures associated with these impacts must be expanded upon as part of the closure plan and EIA process.

**Rehabilitation of the mining related infrastructure in each minor area:**

- Rehabilitation of the surface area shall entail landscaping, levelling, top dressing, land preparation, seeding (if required) and maintenance, and weed / alien clearing.
- All infrastructure, temporary equipment and other items used during the mining period shall be removed from the site (section 44 of the MPRDA).



- Waste material of any description, including receptacles, scrap, rubble and tyres, shall be removed entirely from the mining area and disposed of at a recognized landfill facility. It will not be permitted to be buried or burned on the site.
- Weed / Alien clearing will be done in a sporadic manner during the life of the mining activities. Species regarded as Category 1a and 1b invasive species in terms of NEM:BA (National Environmental Management: Biodiversity Act 10 of 2004 and regulations applicable thereto) must be managed and controlled on site on an ongoing basis;
- Final rehabilitation shall be completed within a period specified by the Regional Manager.
- The mitigation measures associated with these impacts must be expanded upon as part of the closure plan and EIA process.

**m) The outcome of the site selection Matrix Final Site Layout Plan**

(Provide a final site layout plan as informed by the process of consultation with interested and affected parties)

The most current site layout plan was compiled upon assessment of the site specific conditions and contribution of the consultation process and is attached as Appendix 4 to this document.

**n) Motivation where no alternative sites were considered**

Should the final Scoping Report be approved, the EIA process to follow will assess the implementation of project-, technology and/or design alternatives and in the circumstance no motivation is required in terms of this heading.

**o) Statement motivating the preferred site**

(Provide a statement motivation of the final site layout that is proposed)

SA1 entails the mining of an area that corresponds with the approved prospecting right area. PA1 entails the winning of alluvial diamonds and gold from minor areas ( $\pm 2$  ha) to be operated within the footprint of the major footprint area (20 207.3968 ha). The current project alternative proposes the simultaneous operation of six (6) minor areas through opencast and strip-mining methods, with the concentrate, recovered at the processing plant, transported to an off-site recovery plant. The operation of all minor areas will be in accordance with the conditions of the surface use agreement to be signed by the Applicant and landowner prior to the commencement of mining.

The alternatives as described above, was identified during the planning phase by the Applicant and project team, as the preferred alternatives based on the evaluation of the prospecting results. The current project proposal allows for the combined land use (agriculture and mining) of the earmarked properties as mining will take place in between the agricultural active areas (pivots, orchards etc.) even though this reduces the available mining area to  $\pm 35\%$  of the 20 207.3968 ha application area.



As mentioned earlier, the operation of minor areas within the footprint of the major mining area will minimize the impact of mining on the receiving environment, as denuded areas will be restricted to  $\pm 12$  ha at any given time. Although the exact position of the minor areas is dependent on prospecting results and the presence of diamondiferous gravel, the current proposal will entail the disturbance of only 0.06% of the mining right area at any given time, as concurrent rehabilitation (strip-mining) is proposed.

It is proposed that the layout of each minor area will in principal correspond to the site layout plan attached as Appendix 4.

As mentioned earlier, additional project alternatives can be considered during the EIA process as supplementary information is obtained, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.

### **3. PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS**

#### **a) Description of alternatives to be considered including the option of not going ahead with the activity**

##### **Site Alternatives**

Site Alternative 1 entails the mining of an area that corresponds with the approved prospecting right (FS30/5/1/1/2/474PR), currently held by the Applicant. Although a site alternative for the major mining area (20 207.3968 ha) is not deemed viable, site alternatives are possible within the boundary of the major mining area, as the minor areas ( $\pm 2$  ha) will be moved in between areas of agricultural importance, buffer zones and no-go areas, and any other sensitive areas identified during the EIA process. Exclusion areas will be defined in the environmental impact assessment report.

##### **Project Alternatives**

Project Alternative 1 entails the winning of alluvial diamonds and gold from minor areas ( $\pm 2$  ha) to be operated within the footprint of the major footprint area (20 207.3968 ha). The current project alternative proposes the simultaneous operation of six (6) minor areas through opencast and strip-mining methods, with the concentrate, recovered at the processing plant, transported to an off-site recovery plant. The operation of all minor areas will be in accordance with the conditions of the surface use agreement to be signed by the Applicant and landowner prior to the commencement of mining. PA1 entails the disturbance of  $\pm 0.06\%$  of the proposed footprint area at any given time as concurrent rehabilitation is proposed.



Additional project alternatives can be considered during the EIA process as supplementary information is obtained, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.

### **Technology/Design Alternatives**

As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR. The following technology/design principles will be considered by the Applicant and project team:

- The use of permanent infrastructure as opposed to temporary infrastructure;
- The processing of the concentrate at a remote recovery plant opposed to the use of a locally established plant.

### **No-go Alternative**

The no-go alternative entails no change to the *status quo* and is therefore a real alternative that needs to be considered. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, crop production, and game/livestock farming with the diamond and gold resources unmined. Amongst others, the socio-economic impact of mining on current, and future land uses of the study area will be compared to the *status quo* and will be considered as part of the EIA process, and discussed in the DEIAR.

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

(The EAP must undertake to assess the aspects affected by each individual mining activity whether listed or not, including activities such as blasting, Loading, hauling and transport, and mining activities such as Excavations, stockpiles, discard dumps or dams, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc....etc.)

The aspects to be assessed as part of the environmental impact assessment process that will follow upon approval of the Scoping Report by the DMRE will include, but not be limited to, the following:

1. Project alternatives will be considered during the EIA process as supplementary information becomes available. Viable preferred alternatives will in turn dictate the design and layout of the proposed project as well as hone the proposed mining method.
2. Upon deciding on the preferred alternatives, the applicability of the listed activities identified in terms of the NEMA EIA Regulations, 2017 will be confirmed and aligned with the most recent proposal.



3. The need and desirability of the proposed activity will be discussed in detail and weighed against the no-go option of upholding the *status quo* at the study area.
4. The inputs received during the public participation process (first- and second phase) will be assessed and considered by the project team during the EIA process.
5. The findings, recommendations and management measure proposed in the desktop Heritage Impact Assessment (inclusive of a palaeontological opinion) will be assessed during the EIA process and incorporated into the DEIAR.
6. The impact of the proposed project on the physical-, biological-, and human environments will be assessed. The nature, probability and significance of the potential impacts associated with the project will be determined through the use of the above mentioned methodology.
7. Mitigation measures will be proposed to control, modify, remedy or stop the impacts associated with the proposed activity on the surrounding environment.
8. Any additional requirements submitted by the DMRE will be incorporated into the DEIAR and treated accordingly.

**c) Description of aspects to be assessed by specialists**

Heritage Contracts and Archaeological Consulting (HCAC) was contracted to conduct a desktop heritage impact assessment (HIA) inclusive of a palaeontological opinion of the study area. The objective of the cultural and archaeological study will be:

- To obtain a good understanding of the overall archaeological and cultural heritage conditions of the area through a brief desktop study;
- To locate, identify, record, photograph and describe sites of archaeological and cultural importance through a desk-based assessment;
- Propose a study method forward;
- Ensure that all requirements of the local South African Heritage Resources Agency (SAHRA) are met; and
- Report on the results of the archaeological and cultural heritage study adhering to minimum standards as prescribed by the SAHRA and approved by the Association for Southern African Professional Archaeologist (ASAPA).

The outcome of the study as well as comments received from SAHRA will be incorporated into the DEIAR.



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

The impact assessment component of the EIA is subdivided into several environmental aspects to be studied as listed below (preliminary list):

- Hydrology;
- Air quality and noise ambiance;
- Fauna and flora component;
- Cultural and heritage environment;
- Socio-economic environment;
- Existing infrastructure including access roads to be affected; and
- Project alternatives including the no-go option.

Greenmined will use in-house specialists to review the environmental aspects which will be assessed as part of the environmental impact assessment process. The environmental aspects briefly described in the Scoping Report will be updated, and site and technology specific impacts and mitigation recommendations will be made and be reviewed by the project team, registered stakeholders and I&AP's, and competent authority (DMRE).

The significance of the impacts will be assessed in terms of the methodology described in *Section 2 j) Methodology Used in Determining and Ranking the Significance*.

#### **e) The proposed method of assessing duration significance**

The significance of the identified impacts will be determined using the approach outlined in *Section 2 j) Methodology Used in Determining and Ranking the Significance*. The environmental significance assessment methodology is based on the Overall Consequence x Overall Likelihood.

Consequence analysis is a mixture of quantitative and qualitative information and the outcome can be positive or negative. For the purpose of determining the environmental significance in terms of consequence, the following factors were chosen: Severity/Intensity, Duration and Extent/Spatial Scale.

The determination of likelihood is a combination of Frequency and Probability.

The multiplication of overall consequence with overall likelihood will provide the environmental significance, which is a number that will then fall into a range of LOW, LOW-MEDIUM, MEDIUM, MEDIUM-HIGH or HIGH.



Qualitative description or magnitude of Environmental Significance is qualitative and is an indication of the nature or magnitude of the Environmental Significance. It also guides the prioritizations and decision making process associated with this event, aspect or impact.

Assessing duration significance forms part of the environmental significance determination of the impacts and will be assessed accordingly.

### **f) The stages at which the competent authority will be consulted**

The DMRE will be kept informed during the application phase. As competent authority the DMRE will be invited to comment on the Draft Scoping Report (DSR), and all comments received will be incorporated into the FSR to be considered for approval.

Should the DMRE approve the Final Scoping Report, the draft EIA report, including all investigations, assessments and the specialist study, will be circulated for a 30-day commenting period. Any additional requirements received from the DMRE will be added to the Final EIA report to be submitted for approval.

As stipulated in the NEMA EIA Regulations, 2014 (as amended 2017) read together with the MPRDA, 2002, the EIA process will comprise of the following:

1. Application for Environmental Authorization and a Mining Right uploaded with accompanying documentation to the online SAMRAD system;
2. The DMRE responds with reference number and accepts the application;
3. Draft Scoping Report circulated for perusal by I&AP's and stakeholders (including the DMRE);
4. Final Scoping Report (FSR) submitted to the DMRE;
5. The DMRE decision on FSR;
6. If the FSR is approved, the Draft EIA report is circulated for perusal by I&AP's and stakeholders (including the DMRE);
7. Final EIA report submitted to DMRE;
8. The DMRE decision on Final EIA report;
9. If the FEIAR is approved, the DMRE issues the Environmental Authorizations;
10. Appeal period;
11. Submission of the Financial Provision amount;
12. Approval of supporting documentation including, but not limited to, the Mine Works Programme, Social and Labour Plan, and BEE structure; and finally
13. Issuing of the Mining Right.





**g) Particulars of the public participation process with regard to the Impact Assessment process that will be conducted**

**i) Steps to be taken to notify interested and affected parties.**

(These steps must include the steps that will be taken to ensure consultation with the affected parties identified in (h) (ii) herein).

The aspects to be assessed as part of the environmental impact assessment process was added to the Draft Scoping Report that will be distributed to all registered I&AP's and stakeholders for a 30-day commenting period.

Registered I&AP's and stakeholders will be provided with a copy of the Draft Scoping Report for their perusal, while the rest of the stakeholders and I&AP's (unregistered) will be notified of the availability of the DSR should they be interested. An electronic copy of the document will be available on the Greenmined website.

All additional comments and recommendations received on the Draft Scoping Report will be added to the Final Scoping Report to be submitted to the DMRE for approval.

**ii) Details of the engagement process to be followed**

(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not the attended public meetings and records of such consultation will be required in the EIA at a later stage).

Public participation during the impact assessment phase of the EIA will entail a review of the findings of the EIA, presented in the Draft Scoping Report and Draft EIA and EMPr Reports. These reports will be made available for public comment as described above.

I&APs will be advised of the availability of these reports and how to obtain them. They will be encouraged to comment in writing (mail or email). Any issues, comments or suggestions raised during the comment period will be added to the Comments and Response Report (CRR) that will accompany the Final Scoping Report.

**iii) Description of the information to be provided to Interested and Affected Parties.**

(Information to be provided must include the initial site plan and sufficient detail of the intended operation and the typical impacts of each activity, to enable them to assess what impact the activities will have on them or on the use of their land.)

Upon approval of the Final Scoping Report, the Draft EIA report will be compiled. The Draft EIA & EMPR report will be circulated to the registered I&AP's and stakeholders for their perusal over a 30-days period.

The Environmental Impact Assessment Report and Environmental Management Programme Report templates prescribed by the DMRE in terms of the National Environmental Management



Act, 1998 in respect of listed activities that have been triggered by this application will be used to assess the information with regard to the proposed mining project.

The research and analysis with regard to the project will be processed and interpreted to compile the information required in the abovementioned template to be distributed for public comment.












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

The EIA process for the proposed mining project is depicted below:

1. Application for Environmental Authorization and Mining Right to the DMRE;
2. The DMRE responds with reference number and accepts the application;
3. Draft Scoping Report circulated for perusal by I&AP's and stakeholders;
4. Final Scoping Report (FSR) submitted to DMRE;
5. The DMRE decision on FSR;
6. Impact Assessment Process:
  - Project description and site environmental baseline;
  - Impact assessment;
  - Mitigation measures and recommendations;
  - EMPr compilation;
7. Draft EIA report circulated for perusal by registered I&AP's and stakeholders;
8. Final EIA report submitted to DMRE;
9. The DMRE decision on Final EIA report;
10. Announcement of Environmental Authorization and Appeal Procedure;
11. Opportunity to Appeal;
12. Submission of Financial Provision amount;
13. Issuing of Mining Right.

**i) 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 17: Table listing the identified impacts, residual risks to be managed and monitored.

<b>ACTIVITY</b> Whether listed or not listed  (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply, dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)	<b>POTENTIAL IMPACT</b> (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	<b>MITIGATION TYPE</b> (modify, remedy, control or stop) Through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc) E.g. Modify through alternative method. Control through noise control Control through management and monitoring through rehabilitation.	<b>POTENTIAL FOR RESIDUAL RISK</b>
 Demarcation of site with visible beacons.	 No impact could be identified.	<u>Control:</u> Implementation of proper housekeeping and site management.	LOW
 Site establishment.  Transport of concentrate to recovery plant.	 Increased traffic on public and private access roads.	<u>Modify:</u> Consideration of alternatives.  <u>Control:</u> Proper road and traffic management.	LOW
 Site establishment.	 Visual intrusion as a result of site establishment.	<u>Modify:</u> Consideration of alternatives.  <u>Control:</u> Proper housekeeping.	LOW-MEDIUM
 Site establishment.	 Loss of areas of agricultural importance.	<u>Control:</u> Road and traffic management	LOW-MEDIUM
 Site establishment.	 Potential negative impact on the Vaal River and/or wetlands within the affected area.	<u>Stop:</u> Mining in accordance with the surface use agreement.  <u>Control:</u> Site management.	MEDIUM

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<p><b>ACTIVITY</b></p> <p>Whether listed or not listed</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply, dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)</p>	<p><b>POTENTIAL IMPACT</b></p> <p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)</p>	<p><b>MITIGATION TYPE</b></p> <p>(modify, remedy, control or stop)</p> <p>Through</p> <p>(e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc)</p> <p>E.g.</p> <p>Modify through alternative method.</p> <p>Control through noise control</p> <p>Control through management and monitoring through rehabilitation.</p>	<p><b>POTENTIAL FOR RESIDUAL RISK</b></p>
<ul style="list-style-type: none"> <li>■ Site establishment.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential impact on fauna within footprint area.</li> </ul>	<p><u>Control:</u> Proper housekeeping.</p>	<p>LOW</p>
<ul style="list-style-type: none"> <li>■ Site establishment.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential impact on areas/infrastructure of heritage or cultural concern.</li> </ul>	<p><u>Stop:</u> No-go areas excluded from the mining area.</p> <p><u>Control:</u> Site management.</p>	<p>LOW-MEDIUM</p>
<ul style="list-style-type: none"> <li>■ Site establishment.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential impact on existing infrastructure within the footprint area.</li> </ul>	<p><u>Stop:</u> No-go areas excluded from the mining area.</p> <p><u>Control:</u> Site management.</p>	<p>LOW-MEDIUM</p>
<ul style="list-style-type: none"> <li>■ Stripping and stockpiling of topsoil of the mining area.</li> <li>■ Excavation and loading.</li> <li>■ Processing of gravel.</li> <li>■ Backfilling of excavations.</li> <li>■ Rehabilitation of processing area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Dust nuisance caused by the disturbance of soil.</li> <li>■ Dust nuisance due to the movement of earthmoving equipment.</li> <li>■ Dust nuisance generated at the processing area.</li> <li>■ Dust nuisance as a result of the rehabilitation/landscaping activities.</li> </ul>	<p><u>Control:</u> Dust suppression methods and proper housekeeping.</p>	<p>LOW</p>
<ul style="list-style-type: none"> <li>■ Stripping and stockpiling of topsoil of the mining area.</li> <li>■ Excavation and loading.</li> </ul>	<ul style="list-style-type: none"> <li>■ Noise nuisance caused by earthmoving machinery.</li> </ul>	<p><u>Control:</u> Noise suppression methods and proper housekeeping.</p>	<p>LOW</p>

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<p><b>ACTIVITY</b></p> <p>Whether listed or not listed</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply, dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)</p>	<p><b>POTENTIAL IMPACT</b></p> <p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)</p>	<p><b>MITIGATION TYPE</b></p> <p>(modify, remedy, control or stop)</p> <p>Through</p> <p>(e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc)</p> <p>E.g.</p> <p>Modify through alternative method.</p> <p>Control through noise control</p> <p>Control through management and monitoring through rehabilitation.</p>	<p><b>POTENTIAL FOR RESIDUAL RISK</b></p>
<ul style="list-style-type: none"> <li>■ Processing of gravel.</li> <li>■ Backfilling of excavations.</li> <li>■ Rehabilitation of processing area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Noise nuisance stemming from the processing activities.</li> <li>■ Noise nuisance caused by machinery during the decommissioning phase.</li> </ul>		
<ul style="list-style-type: none"> <li>■ Stripping and stockpiling of topsoil of the mining area.</li> <li>■ Backfilling of excavations.</li> <li>■ Rehabilitation of processing area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential infestation of the topsoil heaps with weeds or invader plant species.</li> <li>■ Potential infestation of the reinstated areas by weeds and invader plant species.</li> </ul>	<p><u>Control &amp; Remedy:</u> Implementation of an invasive plant species management plan.</p>	<p>LOW-MEDIUM</p>
<ul style="list-style-type: none"> <li>■ Stripping and stockpiling of topsoil of the mining area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Loss/contamination of stockpiled topsoil.</li> </ul>	<p><u>Control &amp; Remedy:</u> Proper housekeeping and implementation of a stormwater management plan.</p>	<p>LOW</p>
<ul style="list-style-type: none"> <li>■ Stripping and stockpiling of topsoil of the mining area.</li> <li>■ Excavation and loading.</li> <li>■ Processing of gravel.</li> <li>■ Backfilling of excavations.</li> <li>■ Rehabilitation of processing area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential contamination of construction area and surface runoff as a result of hydrocarbon spillages.</li> <li>■ Potential contamination of surface runoff as a result of hydrocarbon spillages.</li> <li>■ Potential contamination of environment as a result of improper waste disposal.</li> </ul>	<p><u>Control &amp; Remedy:</u> Proper housekeeping and implementation of an emergency response plan and waste management plan.</p>	<p>LOW-MEDIUM</p>
<ul style="list-style-type: none"> <li>■ Stripping and stockpiling of topsoil of the mining area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential erosion of denuded areas.</li> </ul>	<p><u>Control &amp; Remedy:</u> Implementation of a stormwater management plan and closure plan.</p>	<p>LOW-MEDIUM</p>

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<p><b>ACTIVITY</b></p> <p>Whether listed or not listed</p> <p>(E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply, dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc...etc...etc)</p>	<p><b>POTENTIAL IMPACT</b></p> <p>(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)</p>	<p><b>MITIGATION TYPE</b></p> <p>(modify, remedy, control or stop)</p> <p>Through</p> <p>(e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc...etc)</p> <p>E.g.</p> <p>Modify through alternative method.</p> <p>Control through noise control</p> <p>Control through management and monitoring through rehabilitation.</p>	<p><b>POTENTIAL FOR RESIDUAL RISK</b></p>
<ul style="list-style-type: none"> <li>■ Backfilling of excavations.</li> <li>■ Rehabilitation of processing area.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential increase in the risk of soil erosion from reinstated but denuded area.</li> </ul>		
<ul style="list-style-type: none"> <li>■ Excavation and loading.</li> <li>■ Backfilling of excavations.</li> </ul>	<ul style="list-style-type: none"> <li>■ Safety risk posed by open excavations.</li> <li>■ Safety risk posed by unrehabilitated excavations.</li> </ul>	<p><u>Stop &amp; Control:</u> Demarcation of open excavations and proper housekeeping.</p>	<p>MEDIUM</p>
<ul style="list-style-type: none"> <li>■ Excavation and loading.</li> </ul>	<ul style="list-style-type: none"> <li>■ Potential flooding of excavations.</li> </ul>	<p><u>Remedy:</u> Implementing a stormwater management plan.</p>	<p>LOW</p>
<ul style="list-style-type: none"> <li>■ Excavation and loading.</li> </ul>	<ul style="list-style-type: none"> <li>■ Degradation of access roads.</li> </ul>	<p><u>Modify &amp; Control:</u> Upgrade/repair of roads affected as a result of the mining activity.</p>	<p>MEDIUM-HIGH</p>
<ul style="list-style-type: none"> <li>■ Processing of gravel.</li> </ul>	<ul style="list-style-type: none"> <li>■ Increased water use within the study area.</li> </ul>	<p><u>Modify &amp; Control:</u> Consideration of alternatives and control of water use.</p>	<p>MEDIUM</p>
<ul style="list-style-type: none"> <li>■ Processing of gravel.</li> </ul>	<ul style="list-style-type: none"> <li>■ Safety risk posed by settling ponds.</li> </ul>	<p><u>Stop &amp; Control:</u> Demarcation of settling ponds and proper housekeeping.</p>	<p>LOW-MEDIUM</p>
<ul style="list-style-type: none"> <li>■ Transport of concentrate to recovery plant</li> </ul>	<ul style="list-style-type: none"> <li>■ Overloading of trucks impact road infrastructure.</li> </ul>	<p><u>Control:</u> Adherence to road traffic requirements.</p>	<p>LOW</p>

## **j) Other Information required by the competent Authority**

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

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

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as **Appendix 2.19.1** and confirm that the applicable mitigation is reflected in 2.5.3, 2.11.6 and 2.12 herein)

The following potential negative impacts were identified that may have an impact on the socio-economic conditions of directly affected persons:

#### **Visual intrusion associated with the mining:**

The presence of mining related infrastructure (i.e. processing infrastructure, settling pond) as well as the excavations will impact on the visual character of the study area. The significance of this impact must be fully assessed during the EIA process taking project-, design alternatives and screening methods into consideration in an attempt to reduce the impact as much as possible.

#### **Deterioration of access roads:**

Should mining related equipment park at a designated parking area within the processing area (after hours) it will reduce the number of vehicles/equipment driving on the public and private access roads. Indirectly, this will also reduce the probability of deterioration of access roads as a direct result of the mining activities. Rutting and erosion of the access road caused as a result of the mining activities will have to be repaired by the Applicant, and with the correct mitigation measures and management actions it is believed that this impact can be minimized.

#### **Impact on the air quality and noise ambiance of the study area:**

The presence of the crushing and screening infrastructure, excavations and the use of earthmoving equipment all increase the possibility of dust and noise generation as a result of the proposed mining activities. The degree of impact as well as the significance of dust and noise generation be assessed during the EIA process. By nature these impacts require constant monitoring to be implemented throughout the site establishment-, operational-, and decommissioning phases of a project.

#### **Loss of agricultural land during the operational phase of the mine (change of land use):**

The Applicant committed to renew the surface use agreements with the landowners of all the properties prior to the commencement of mining. The exclusion of mining from



cultivated areas will form part of the said agreement to be signed by the landowner and Applicant. In light of this, the potential impact is deemed to be of low-medium significance as long as the commitment is honoured by the Applicant.

**Safety risk posed by open excavations and settling ponds:**

The operation of excavations and the use of settling ponds that are not properly fenced will pose a serious threat to both animals and humans within the study area. The potential impact can however be fully mitigated through the implementation of mitigation measures and good housekeeping practices.

The following potential positive impacts were identified that may have an impact on the socio-economic conditions of directly affected persons:

**Employment opportunities and Socio-economic impact:**

The proposed labour component is expected to be 180 including management. The largest majority of this number will be employed from the immediate surrounding communities. In light of the high unemployment figures of the Tokologo municipal area, the generation of work opportunities are of high significance. As a result of the multiplier effect it is expected that the income of 180 employees will support 576 dependents, and due to the fact that most of the employees will reside within the Tokologo Municipal area, it is fair to presume that the majority of monthly earned salaries will be spent within the local area. Indirectly, through the payment for services and suppliers, the mine will also support employment of the procurement partners. The operation will contribute to the local economy in the area, both directly and through the multiplier effect that its presence will create. Equipment and supplies will be purchased locally, and wages are spent at local businesses, generating both jobs and income in the area.

**Diversification of property income and joint land use:**

As mentioned earlier, the Applicant committed to renew the surface use agreements with the property owners, honouring the commitment to mine only in areas that does not affect the farming/business activities of the landowner. In light of this arrangement, the project proposal allows for the combined land use (agriculture and mining) of the earmarked properties as mining will take place in between the agricultural active areas (pivots, orchards etc.). Should the MR application be approved it will further allow property owners the opportunity of diversifying their property's income through the compensation paid to them by the Applicant.





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

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

The presence of national estate as referred to in section 3(2) of the NHRA, 1999 will be assessed by the archaeologist as part of the desktop heritage impact assessment to follow during the EIA process. The altered nature of the operational farms, being applied over, does reduce the possibility of the presence of areas/artefacts of national estate value, however this will be confirmed by an appropriately qualified specialist. The Applicant indicated that should such areas of importance be identified the recommendations of the specialist will be heeded with changes being made to the design and or layout of the proposed project.

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

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

The alternatives to be considered during the impact assessment process will be done at the hand of information obtained during the site investigation, public participation process, desktop studies as well as specialist studies conducted of the study area. As discussed earlier the following alternatives will be assessed in the EIAR:

#### **Site Alternatives**

Although a site alternative for the major mining area (20 207.3968 ha) is not deemed viable, site alternatives are possible within the boundary of the major mining area, as the minor areas ( $\pm 2$  ha) will be moved in between areas of agricultural importance, buffer zones and no-go areas, and any other sensitive areas identified during the EIA process. Exclusion areas will be defined in the environmental impact assessment report.

#### **Project Alternatives**

Additional project alternatives can be considered during the EIA process as supplementary information is obtained, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.



### **Technology/Design Alternatives**

As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR. The following technology/design principles will be considered by the Applicant and project team:

- The use of permanent infrastructure as opposed to temporary infrastructure;
- The processing of the concentrate at a remote recovery plant opposed to the use of a locally established plant.

### **No-go Alternative**

The no-go alternative entails no change to the *status quo* and is therefore a real alternative that needs to be considered. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, crop production, and game/livestock farming with the diamond and gold resources unmined. Amongst others, the socio-economic impact of mining on current, and future land uses of the study area will be compared to the *status quo* and will be considered as part of the EIA process, and discussed in the DEIAR.



**I) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION**

I Christine Fouche 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.

A handwritten signature in cursive script, appearing to read 'Fouche'.

**Signature of the EAP**

**DATE:** 30 June 2021

**m) UNDERTAKING REGARDING LEVEL OF AGREEMENT**

I Christine Fouche herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with interested and Affected Parties and stakeholders has been correctly recorder and reported herein.

A handwritten signature in cursive script, appearing to read 'Fouche'.

**Signature of the EAP**

**DATE:** 30 June 2021

- END -