



FINAL SCOPING REPORT

PURE SOURCE MINE

**Submitted in support of an Application for a Mining Right and Integrated Environmental
Authorisation**

**PREPARED ON BEHALF OF:
Monte Cristo Commercial Park (Pty) Ltd**

**AS PER SECTION 79(4) OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT
ACT, 2002 (ACT NO. 28 OF 2002) AND SECTION 21 OF THE NATIONAL ENVIRONMENTAL
MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998)**

**DMR REFERENCE NUMBERS:
FS 30/5/1/2/2/10048 MR
FS 30/5/1/2/3/2/1/10048 EM**

14 DECEMBER 2018

MONTE CRISTO COMMERCIAL PARK (PTY) LTD

PURE SOURCE MINE

FINAL SCOPING REPORT

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DOCUMENT CONTROL		
Revision	Date	Report
1	8 October 2018	Draft Scoping Report (subjected to at least 30 days Public Participation Process)
2	14 December 2018	Final Scoping Report

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PURPOSE OF THIS DOCUMENT

This document has been compiled in support of a Mining Right and an Integrated Environmental Authorisation application and aims to assess any impacts associated with mining activities as detailed in the associated Mining Work Programme. It is important that Interested and Affected Parties are provided with an opportunity to review and comment on the Scoping Report, thereby contributing to the Scoping Process and assisting in identifying any additional risks or impacts that may be experienced. As such, a public consultation is being undertaken for this project and results are documented in this Final Scoping Report. This report will be made available to Interested and Affected Parties for review and comment for a period of at least 30 days (excluding public holidays and the period 15 December 2018 to 5 January 2019).

Members of the public, local communities and stakeholders are invited to comment on the Final Scoping Report which is made available for public review and comment from the 14th December 2018 to the 7th February 2019. The Final Scoping Report has also been submitted to the Department of Mineral Resources (DMR). Hard copies of the report are available at the following public venues:

Venue	Address	Contact details
Thutong Public Library	Site 1094, Tumahole, 9585, Free State Province	072 813 3448
Heavenly Events Venue	Stonewall Cafe, Vaaloewer Drive, 1911, Gauteng Province	079 388 4514
Hardware Store at FKA	Main Street, Lindequesdrif, 2520, North West Province	072 930 0831

An electronic copy of the Final Scoping Report is available on the Shango Solutions website (<http://www.shango.co.za/public-documents/>), for download. In addition, CD copies of the report are available from Shango Solutions upon request. All comments on the Final Scoping Report must be submitted directly to the decision-making authority, the DMR, and a copy of such comments submitted to Shango Solutions, utilising the following contact details:

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DMR reference number: FS 30/5/1/2/2/10048 EM	Project name: Pure Source Mine
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SUMMARY OF WHAT THE SCOPING REPORT CONTAINS

This report contains:

- A description of the proposed mining activities.
- A description of the existing environment (baseline information) in the proposed project area.
- The environmental issues and impacts which were identified during the scoping phase.
- The assessed environmental impacts and recommended mitigation measures.
- An overview of the Environmental Impact Assessment process, including public participation.
- A list of Interested and Affected Parties involved during the Scoping Phase Process and their comments.
- The Plan of Study for impact assessment and terms of reference of the specialist studies planned for the Impact Assessment Phase.

EXECUTIVE SUMMARY

Background

Goosebay Farm (Pty) Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd “VLDC” Group) submitted an application for a Mining Right and Environmental Authorisation to the Department of Mineral Resources (DMR), Free State Regional Manager in November 2017. This application was allocated the Mining Right reference number FS 30/5/1/2/2/10042 MR. However, this initial application was withdrawn by the Applicant.

A new Mining Right and Environmental Authorisation application under a new company, Monte Cristo Commercial Park (Pty) Ltd (wholly owned by the VLDC Group - to be empowered according to BEE requirements) was submitted on the 24th August 2018 and has been allocated the Mining Right reference number FS 30/5/1/2/2/10048 MR and Environmental Authorisation reference number FS 30/5/1/2/3/2/1/10048 EM.

Introduction

Monte Cristo Commercial Park (Pty) Ltd (hereafter referred to as “MCCP”, the Applicant) is proposing to establish an open pit mine which will involve the development of open pits and associated mine infrastructure. The project will be known as Pure Source Mine. Commodities to be mined include sand, aggregate/gravel and diamond (alluvial).

In order to undertake the proposed mining and associated activities, MCCP requires a Mining Right (MR) in terms of Section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002, as amended) (MPRDA). In accordance with the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) Environmental Impact Assessment (EIA) and Waste Regulations as well as the National Water Act, 1998 (Act 36 of 1998) (NWA), the following environmental permitting and licensing processes are required:

- Undertaking the Public Participation Process.
- Compilation of an Integrated Environmental Authorisation Application.
- Compilation of Scoping and Environmental Impact reports.
- Development of an Environmental Management Programme and an Integrated Water and Waste Management Plan.
- Submission of an Integrated Water Use License Application.
- Submission of an Air Emissions License Application.

The VLDC Group has appointed Shango Solutions as the Environmental Assessment Practitioner (EAP) to manage the required environmental process for the Mining Right Application.

Legal Background and Requirements

This report has been compiled in accordance with Appendix 2 of the General Notice Regulations (GNR) 326 of the NEMA 2014 EIA Regulations (as amended on the 7th April 2017) and the Directive set out in the template prescribed by the DMR.

Project Location

The proposed application area is located approximately 15 km northwest of the town of Sasolburg, in the Free State Province of South Africa and covers 858.5825 hectares (ha), of which only 363.5 ha is allocated for mining and associated infrastructure, over the following farm portions:

- Remaining Extent of the farm Woodlands 407.

- Remaining Extent of Portion 1 of the farm Woodlands 407.
- Portion 3 of the farm Woodlands 407.

Geological Formation and Mining Target

Quaternary age sands and aggregates represent the mining target. These sands are unconsolidated and unconformably overlie sediments of the Transvaal Supergroup. The secondary commodity of interest is the unconsolidated, quaternary gravels, which potentially contain alluvial diamonds.

Uses and demand for the sand products and aggregates can be summarised as follows:

- The South African refractory industry requires a very pure silica sand with very little impurities. The users of refractory sand have very stringent quality criteria and only specific sands can be upgraded to produce refractory sand.
- Plaster sand is sought-after in the building industry. This sand has a specific size distribution and requires the clay content to be removed.
- Building sand has the lowest quality requirements in terms of chemical make-up and sizing and is in high demand.
- A local market for screened silica sand exists throughout the country for recreational uses such as for equestrian and golf courses.
- Glass sand is very fine-grained sand with detailed specifications, which is supplied to the glass making industry.
- The aggregate mining aims to produce G4 to G7 materials. These are utilised in the local civil construction and building supply industries.

Industrial and jewellery (commercial) diamonds are in constant demand and will be sold in accordance with the South African diamond board regulations to domestic and international buyers.

Project Description and Scope of Proposed Activity

Mining under the Mining Right will be undertaken by a “truck and shovel” method utilising suitably sized diesel driven equipment. A 363.5 ha area will be demarcated for phased open pit mining and associated infrastructure. The area containing the sand deposit will be mined in portions of on average 6.8 ha each year (in most years, however, the area to be mined will not exceed 5 ha), with continuous roll-over rehabilitation. The area containing the aggregate resource will be mined in portions of on average 4.6 ha, per year (in most years, however, the area to be mined will not exceed 4 ha). The planned open pit mine will comprise three distinct areas for the silica sand (main pit, north pit and east pit) and four areas for the aggregate (northern pit, central pit, south eastern pit and south western pit). Each area considers an estimated maximum depth of 12 m but may exceed a depth of 12 m in certain areas. The entire application area could have potential for diamond bearing gravels. The anticipated life of the mine is 30 years. An overview of the mining method for the three commodities is described below.

Sand Mining

Prior to commencement of sand mining, topsoil will be removed from the area demarcated for mining and stockpiled next to the pit for the purpose of rehabilitation. The sand will be mined in benches and reject material will be backfilled into the void as mining advances. Opencast benches will be established with a maximum height between 1.5 m to 3 m. Sand will either be screened in the pit or transported by truck or conveyer to the washing plant.

Alluvial Diamond Mining

Once sand mining has commenced, the underlying gravel (potentially diamondiferous) will be exposed and Reverse Circulation boreholes will be drilled to ascertain gravel quality and the diamond potential. Where appropriate, the gravel will be excavated and screened. The oversize will be used as infill, the -2 mm will report to the sand mining operation and the +2-32 mm fraction will be processed near the pit, to extract diamonds. The diamond potential exists across the entire project area, but will initially be evaluated in the Main, Northern and East sand deposit area. Should diamond potential be established via the proposed drilling programme referred to above, the appropriate gravel fraction will be transported to an on-site processing plant to extract diamonds. The alluvial diamond mining process will commence as soon as the Mining Right is granted.

Aggregate Mining

In the absence of sand, topsoil will be stripped to expose aggregate and stockpiled prior to excavating the aggregate. The excavated aggregate will be crushed in the pit by a mobile crusher and reject material will be backfilled into the void as mining advances.

A total sand resource of 21 910 291 million m³ is estimated for the application area. The average depth of the sand deposit is 10.64 m. All of the outcropping and underlying sediments on this property could be used for aggregate. From test pits dug on the application area, the total volume of fresh aggregate to an average depth 6.98 m is calculated at 9 565 043 million m³ and approximately 7.67 m for oxidised aggregate with a total volume of 10 498 882 million m³.

Silica sand is present on the Farm Woodlands and has been mined historically on the property. The types of sand present on Portions 1, 3 and the Remaining Extent of the Farm Woodlands 407 vary from light yellow plaster, dark yellow plaster, white plaster, grey plaster, building to red sand. Oxidised aggregate is suitable for decorative purposes, but not for use in the civil construction industry.

The anticipated life of the mine is 30 years with an option to renew if the mining programme is not yet completed. The closure objective is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River. The application area is currently utilised as a game farm and this will continue to remain the primary land use with other agricultural activities such as crop production. Mining is an interim land use and it will be conducted in a sensitive manner that will not have a negative impact on the game.

Proposed Mining Infrastructure

The following infrastructure components will be established for the mining process:

- Dams.
- Wash plant for sand mining.
- Rotary pan processing plant for alluvial diamond mining.
- Potential alluvial diamond X-ray and/or flow sorting facility.
- Clean and dirty water management infrastructure (pollution control dams, water recycling plan (part of the wash plant), settling ponds, storm water runoff structures, water pipeline network as well as pump stations).
- Drying and screening plants.
- Topsoil and run-of mine stockpiles.

Additional mining and processing infrastructure will include haul roads, workshop, weighbridge and offices, conveyor systems, powerlines, change houses, staff accommodation and recreation facilities and portable chemical ablution facilities for employees during the construction and operational phases.

Need and Desirability of the Project

Mining is important for economic development, to construct durable, modern structures, employment creation and revenue collection. The proposed site has previous sand mining activities, known to provide good quality silica sand to the local and regional building industry. This type of sand is commonly utilised in concrete mixtures in the construction industry. Sand is also used for mortar and rendering of plastered walls. The project site is located in the Ngwathe Local Municipality, and according to the municipality's 2018/19 Local Economic Development Strategy, the identified economic sectors of the municipality are Tourism, Agriculture, Manufacturing and Mining.

Extensive investigations have revealed that there is a shortage of alluvial silica sand in the Pretoria Witwatersrand-Vaal industrial complex. Alluvial silica sand has a greater utility than silica sand that is created by means of crushing processes. Furthermore, many of the previously existing abundant alluvial silica sand mines located in the Vaal Triangle (such as Copper Sunset, Skysand and Mission Point mines) are on the verge of being exhausted, thus making the mining of the existing resource at the Pure Source Mine both necessary and desirable, with regards to economic considerations.

Alternatives

The identification of alternatives is a key aspect of the success of the environmental impact assessment process. All reasonable and feasible alternatives must be identified and screened to determine the most suitable alternatives to consider in this application. There are however, some constraints that have to be taken into account when identifying alternatives for a project depending on the scope. Such constraints include financial, social and environment related constraints.

Alternatives can typically be identified according to:

- Activity alternatives.
- Location alternatives.
- Design or layout alternatives.
- Technology alternatives.
- Operational alternatives.
- No Action alternative (No Go).

Alternatives are typically distinguished into discrete or incremental alternatives. Discrete alternatives are overall development options, which are typically identified during the pre-feasibility, feasibility and/or environmental impact assessment process. Incremental alternatives typically arise during the environmental impact assessment process and are usually suggested by means of addressing/mitigating identified impacts (mining in low sensitivity areas). These alternatives are closely linked to the identification of mitigation measures and are therefore not specifically identified as distinct alternatives.

For any alternative to be considered feasible, such an alternative must meet the need and purpose of the proposed activity without presenting significantly high associated impacts. The proposed activity is mining. Three alternative sites are considered for the position of the supporting mining infrastructure within the application area.

Environmental Specialist Studies

The compilation of the Scoping Report for the proposed mining project required the input and contribution from several specialists, namely:

- Soil, Land Capability and Agricultural Potential.
- Ecology (Fauna, Avifauna and Flora).
- Terrestrial Biodiversity.
- Aquatics and Wetland Biodiversity.
- Hydrology including Floodlines and Buffer Zone Calculations.
- Financial Provision and Final Rehabilitation, Decommissioning and Closure Plan.
- Heritage.
- Palaeontology.
- Social.
- Economic.

- Visual.
- Noise and Air Quality.
- Traffic.
- Geohydrology and Waste Classification.

The specialist studies assisted in determining the baseline information on the receiving environment and in identifying environmental sensitivities on site. The studies also assisted in the assessment of impacts associated with the project activities and in providing mitigation measures for the identified impacts.

Baseline Environment

The compilation of the baseline information is based on specialist studies undertaken in support of this application, as well as input from the public through the Public Participation Process. Based on the assessment of the specialist studies, which were conducted at scoping level, and constituted mainly desktop work, no major fatal flaws were identified for this project, provided that the mitigation measures recommended by the specialists are implemented by the Applicant.

Preliminary Impacts

Below is a preliminary list of negative impacts identified during the Scoping phase of this project. These impacts, and any others identified, will be further assessed during the EIA phase of the project:

- Hazardous excavations causing safety risks to third parties.
- Interference with existing land uses.
- Sense of place.
- Perceptions and expectations.
- Loss of soil resources and related land capability.
- Physical loss of biodiversity.
- Disturbance of biodiversity.
- Loss or disturbance of aquatic ecosystems.
- Quantity and quality impacts on surface and underground water resources.
- Increase in air pollution.
- Increase in disturbing noise levels.
- Negative landscape and visual impacts.
- Increase in traffic and effects on road conditions and safety.
- Loss or disturbance of heritage/cultural/palaeontological resources.
- Inward migration and associated social ills.
- Reduction of current economic activities.
- Impact on property values and tourism.
- Soil contamination.
- Soil compaction.
- Impact on human health.
- Impact on livelihoods.

The preliminary positive implications of the proposed Pure Source Mine project are as follows:

- Job creation.
- Generation of technical and general skills to low-skilled labourers.
- Increase in business opportunities for the construction, industrial and jewellery industries.
- Gross Domestic Product (GDP) improvement and wealth generation.
- Contribution to royalties and tax revenues.
- Increase in product supply, therefore lowering the equilibrium price in the diamond, sand, and gravel markets.

These impacts, and any others identified, will be further assessed during the EIA phase of the project.

Plan of Study for EIA Phase

The S&EIA process is being carried out in accordance with the NEMA 2014 EIA Regulations (as amended). Each of the specialists will undertake a detailed EIA assessment. Included in this report is a detailed plan of study provided by each of the appointed specialists to be implemented during the EIA phase. Potential impacts identified during the Scoping and EIA will be assessed by the specialists for each feasible development

alternative and for each phase of the project. The EIA and specialist studies will provide input into the EMPR which will provide the necessary action plans and management measures to mitigate the identified impacts.

Public Participation Process

The Public Participation Process (PPP) for the proposed project is being undertaken in accordance with the requirements of the MPRDA, and NEMA in line with the principles of Integrated Environmental Management (IEM). IEM implies an open and transparent participatory process, whereby stakeholders and other Interested and Affected Parties (I&APs) are afforded an opportunity to comment on the project. A joint PPP has been implemented to engage with I&APs and meet the requirements for Public Participation as stipulated by the relevant legislation. The PPP provides stakeholders with information about the proposed project, and several opportunities to comment throughout the EIA/EMPR process. This will ensure public involvement at each key step in the process and allow for comments, concerns, suggestions, and objections to the proposed project to be included in each of the submissions to the relevant Government Authorities.

The first phase of an EIA is the Scoping Phase. In terms of the MPRDA and the NEMA, I&APs must be given the opportunity to comment on the proposed project. The Scoping Report aims to describe the proposed project, the environment in which the project is located, and the potential impacts that may result if the project goes ahead. The Draft Scoping Report was made available for public comment for a period of at least 30 days from the 8th October 2018 to the 9th November 2018. A public Open day was held on the 24th October 2018 to introduce I&APs to the project and discuss the results of the scoping phase. Following requests, an additional Scoping Phase Public Consultation meeting was held on the 10th November 2018. The comments received from I&AP's during this commenting period have been captured in an I&AP summary table included in this Scoping Report as well as in the Notes for the Record for both public consultation events.

An Environmental Impact Report (EIR) including an Environmental Management Programme Report (EMPR), will be compiled and presented for public comment as the next step of this EIA process during which time further stakeholder engagement will take place.

Conclusion

In order to comply with national legislation, the proposed Pure Source Mine Mining Right project will require authorisation in terms of the MPRDA and NEMA. As such the project is required to undertake and submit the following reports for adjudication by the Competent Authority (DMR):

- Scoping Report and EMPR as per the requirements of the MPRDA.
- Scoping, EIR and EMPR as per the requirements of the NEMA.

Thus, in parallel to the application in terms of the MPRDA, an application in terms of NEMA was compiled and submitted to the DMR for decision-making. The first phase of an EIA is the Scoping Phase. Specialists were appointed to undertake scoping level assessments to (i) describe the baseline receiving environment, (ii) identify environmental sensitivities on site, (iii) assist in the assessment of impacts associated with the project activities and (iv) to provide mitigation measures for the identified impacts. Included in this report is a detailed plan of study provided by each of the appointed specialists to be implemented during the EIA phase. Potential impacts identified during the EIA will be assessed by the specialists for each development alternative and for each phase of the project. An EIR, including an EMPR, will be compiled and presented for public comment as the next step of this EIA process during which time further stakeholder engagement will take place.



SCOPING REPORT

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

SUBMITTED FOR ENVIRONMENTAL AUTHORISATIONS 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).

PREPARED BY:



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DMR File Reference Numbers: FS 30/5/1/2/5/2/10048 MR and FS 30/5/1/2/3/2/1/10048 EM

IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act, 2002 (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, 1998 (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 instructions or guidance provided by the Competent Authority to the submission of applications.

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

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information requested 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

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 impact 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.
- 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.

This report has been designed to meet the requirements for a Scoping Report as stipulated in the 2014 Environmental Impact Assessment (EIA) Regulations (as amended) promulgated under the National Environmental Management Act, 1998 (Act 107 of 1998, as amended). The adjudicating authority for this application is the Department of Mineral Resource and this report has been compiled in accordance with the applicable Department of Mineral Resources Guidelines and Scoping Report and EIA and Environmental Management Programme template.

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Appendices

- Appendix A: Environmental Authorisation Application Form
- Appendix B: Mining Work Programme
- Appendix C: Details and Experience of EAP
- Appendix D: Project Maps
- Appendix E: Public Participation Process
- Appendix F: Specialists Reports

CD Back Pocket

Contains the relevant information in electronic format.

- Audio recording of the Open Day which took place on the 24th October 2018. Provided by Renee de Jong Hartslief.
- Visual and audio recordings of the Addition Public Participation Event which took place on the 10th November 2018.

Definitions

Abbreviation	Description
%	Percent
AQA	Air Quality Impact Assessment
AQMP	Air Quality Management Plan
AEL	Atmospheric Emissions License
AP	Action Plan
BBBEE	Broad Based Black Economic Empowerment
BID	Background Information Document
Bgl	Below Ground Level
CA	Competent Authority
CARA	Conservation of Agricultural Resources Act (No. 43 of 1983)
Capex	Capital Expenditure
CBA	Critical Biodiversity Area
CRR	Comments and Responses Report
DEA	Department of Environmental Affairs
DMR	Department of Mineral Resources
DRDLR	Department Rural Development and Land Reform
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECO	Environmental Control Officer
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMF	Environmental Management Framework
EMPR	Environmental Management Programme
EP	Equator Principle
ESA	Ecological Sensitive Area
FP	Financial Provision
FSR	Final Scoping Report
GDP	Gross Domestic Product
Ha	Hectare
HDV	Heavy duty vehicle
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
IUCN	International Union for Conservation of Nature
IWULA	Integrated Water Use Licence Application
IWWMP	Integrated Water and Waste Management Plan
Km	Kilometre
kV	Kilo Volt
LoM	Life of Mine
LDV	Light duty vehicle
M	Metre
Ma	Million years

MAMSL	Metres above sea level
MAP	Mean Annual Precipitation
MCCP	Monte Christo Commercial Park
Mg/m ² /day	Milligram per cubic metre per day
MI	Megalitre
mm/a	Millimetres per annum
MPRDA	Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)
MRA	Mineral Right Application
MVA	Megavoltampere
MWP	Mine Work Programme
NDP	National Development Plan
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:AQA	National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004)
NEM:BA	National Environmental Management: Biodiversity Act, 2004 (Act No.10 of 2004)
NEM:PAA	National Environmental Management: Protected Areas Act (Act No. 57 of 2003)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
NEMLAA	National Environmental Laws Amendment Act, 2014 (Act No. 25 of 2014)
NFA	National Forest Act, 1998 (Act No 84 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No. 25 of 1999)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
Opex	Operational expenditure
PCD	Pollution control dam
PPP	Public Participation Process
PR	Prospecting Right
PS	Performance Standards
RoD	Record of Decision
RoM	Run-of-Mine
S&EIA	Scoping, Environmental Impact Assessment and Environmental Management Programme
SAHRA	South African Heritage Resources Agency
SDF	Spatial Development Plan
SLP	Social and Labour Plan
SOP	Standard Operating Procedures
SPLUMA	Spatial Planning and Land Use Management Act, 2013 (Act No. 16 of 2013)
SSC	Species of special concern
VLDC	Van Wyk Land Development Corporation
WMA	Water Management Area
TSF	Tailings Storage Facility
TMM	Trackless Mobile Machine
WML	Waste Management License
WRD	Waste Rock Dump

1. BACKGROUND

Goosebay Farm (Pty) Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd “VLDC” Group) submitted an application for a Mining Right and Environmental Authorisation to the Department of Mineral Resources (DMR), Free State Regional Manager in November 2017. This application was allocated the Mining Right reference number: FS 30/5/1/2/2/10042 MR. However, this initial application was withdrawn by the Applicant.

A new Mining Right and Environmental Authorisation application under a new company, Monte Cristo Commercial Park (Pty) Ltd (wholly owned by the VLDC Group - to be empowered according to BEE requirements) was submitted on the 24th August 2018 and has been allocated the Mining Right reference number FS 30/5/1/2/2/10048 MR and Environmental Authorisation reference number FS 30/5/1/2/3/2/1/10048 EM. Kindly refer to Appendix A for the accompanying Integrated Environmental Authorisation Application Form that was submitted simultaneously with the Mining Right Application. The project is referred to as the Pure Source Mine.

2. INTRODUCTION

Monte Cristo Commercial Park (Pty) Ltd (hereafter referred to as “MCCP”, the Applicant) is proposing to establish an open pit mine which will involve the development of open pits and associated mine infrastructure. The project will be known as Pure Source Mine. In accordance with the associated Mining Work Programme (Appendix B), commodities to be mined include sand, aggregate/gravel and diamond (alluvial).

In order to undertake the proposed mining and associated activities, Monte Cristo requires a Mining Right (MR) in terms of Section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002, as amended) (MPRDA). In accordance with the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) Environmental Impact Assessment (EIA) and Waste Regulations, the National Water Act, 1998 (Act 36 of 1998) (NWA) as well as the National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) (NEMAQA) and associated Regulations, the following environmental permitting and licensing processes are required:

- Undertaking the Public Participation Process.
- Compilation of an Integrated Environmental Authorisation Application.
- Compilation of Scoping and Environmental Impact reports. Development of an Environmental Management Programme and an Integrated Water and Waste Management Plan.
- Submission of a Water Use License Application.

The VLDC Group has appointed Shango Solutions as the Environmental Assessment Practitioner (EAP) to manage the required environmental process for the Mining Right Application.

3. DETAILS OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

Shango Solutions was appointed by the VLDC Group as the Environmental Assessment Practitioner (EAP) to compile this report. The contact details of the Shango Solutions consultant who compiled the report are as follows:

- Name of the EAP: Shango Solutions
- Contact person: Ms Zizo Siwendu
- Tel No.: 011 678 6504

- Fax No.: 011 678 9731
- E-mail address: zizo@shango.co.za

3.1 Expertise of the EAP

3.1.1 Qualifications of the EAP

In terms of Regulation 13 of the NEMA 2014 EIA Regulations (Government Notice R326), an independent EAP must be appointed by the applicant to manage the application. Shango Solutions have been appointed by the Applicant as the EAP and are compliant with the definition of an EAP as defined in the NEMA and the associated EIA Regulations. This includes, inter alia, the requirement that Shango Solutions is:

- Objective and independent.
- Has expertise in conducting EIAs.
- Comply with the NEMA, the Regulations and all other applicable legislation.
- Takes into account all relevant factors relating to the application.
- Provides full disclosure to the applicant and the relevant environmental authority.

3.1.2 Summary of EAP's Past Experience

Shango Solutions, registered as Dunrose Trading 186 (Pty) Ltd and established in April 2004, provides a diverse range of services to the mineral and mining sectors. Currently, 29 permanent multi-disciplinary employees and about 30 nationally and internationally recognised affiliates are employed. The company has a track record of successful project management and leadership, including complex multi-disciplinary assignments.

Consultancy activities straddle the entire mining value chain from exploration to beneficiation, thereby providing the client with complete solutions. Activities are performed in multi-disciplinary teams. Areas of specialisation include target generation, exploration, geodatabase compilation and management, geological modelling, resource estimation, mineral asset valuations, due diligences, desktop project reviews and technical reporting. The company services the majority of the major mining houses, but also junior exploration companies, mineral resource investment firms, government institutions and departments and the artisanal and small-scale mining sectors. Shango Solutions collaborates closely with local and international experts in the mining and corporate industries. This, in conjunction with our affiliations with academic and parastatal institutions, ensures provision of the most innovative and appropriate solutions to clients.

Shango has completed in excess of 600 projects, of which the majority were located in Africa. The company consequently has extensive ground-based mining related experience throughout Africa, especially southern, eastern and north-west African states. Our extensive knowledge of the African minerals industry has attracted some of the largest names in mineral extraction to our client base. The project portfolio highlights our cross-sectorial approach and capability.

Shango incorporates in excess of 500 years of Africa-based mining and exploration experience. This includes, but is not limited to, gold, platinum, rare earth elements, base metals, uranium, coal, natural gas, ferrochrome, aggregate, heavy mineral sands and diamonds. Over the last decades, we have established comprehensive 2D Geographic Information Systems (GIS) databases throughout Africa, which consider geological and geophysical data, mineral occurrences, defunct and existing mines, infrastructure and mining statistics.

Ms Zizo Siwendu's experience lies mainly with environmental assessments for the mining industry, including the compilation of environmental studies in support of Environment Authorisations for Prospecting, Mining,

Exploration and Production Right projects as well as other development projects that require Environmental Authorisation.

The declaration of independence of the EAP and the Curriculum Vitae (indicating the experience with environmental impact assessment and relevant application processes) of the consultants that were involved in the Basic Assessment process and the compilation of this report are attached as Appendix C.

3.1.3 Specialist Consultants

Specialist studies were undertaken to address the key issues that required further investigation. The specialist studies involved the gathering of data relevant to identifying and assessing environmental impacts that may occur as a result of the proposed project. These impacts were then assessed according to pre-defined rating scales. Specialists also recommended appropriate mitigation/control or optimisation measures to minimise potential negative impacts or enhance potential benefits, respectively.

Component	Company Responsible
Soils, Land Capability and Agricultural Potential	The Biodiversity Company
Terrestrial Biodiversity	The Biodiversity Company
Aquatic and Wetlands	The Biodiversity Company
Hydrology, Floodlines and Bufferzones Calculation	The Biodiversity Company
Visual	The Biodiversity Company
Heritage	Francios Coetzee
Noise and Air Quality	Airshed Planning Professionals
Traffic	Siyazi Transportation Services Free State
Palaeontology	Shango Solutions
Social	Umsizi Sustainable Social Solutions
Economic	Independent Economic Researchers
Financial Provision	Digby Wells
Geohydrology and Waste Classification	Noa Agencies

4. DESCRIPTION OF THE PROPOSED PROPERTY

The area of interest occupies approximately 858 hectares (ha), is located approximately 15 km northwest of the town of Sasolburg, and it is situated in the Parys Magisterial District. The proposed site can be found in Ward 7 of the Ngwathe Local Municipality, which forms part of the Fezile Dabi District Municipality in the Free State Province of South Africa. Although the site is located entirely within the Ngwathe Local Municipality, it lies on the border of two other local municipalities: the Emfuleni Local Municipality (within the Sedibeng District Municipality of the Gauteng Province) and the JB Marks Local Municipality (within the Dr Kenneth Kaunda District Municipality of the North West Province). Three (3) farm portions extend over the application area, previously covered by the Prospecting Right FS 30/5/1/1/2/608 PR. Table 1 and Figure 1 indicate the property details of the Mining Right application area.

Table 1: Locality details.

Farm name	1- Remaining Extent of the farm Woodlands 407. 2- Remaining Extent of Portion 1 of the farm Woodlands 407. 3- Portion 3 of the farm Woodlands 407. Goosebay Farm (Pty) Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd) is the landowner of the three properties.		
Application area (Ha)	The application area extends over three farm portions with an actual extent of 858.5825 ha. However, the total area to be disturbed by the mining activities and the associated infrastructure is only approximately 365 ha.		
Magisterial district	Parys Magisterial District.		
Distance and direction from nearest town	The Mining Right application area is located approximately 15 km northwest of Sasolburg and 21 km north east from the town of Parys. It can be accessed from the R42 or R59, onto Boundary Road (locally known as Barrage Road), travelling west on the S171 (locally known as Vaal Eden Road) for approximately 8 km.		
21 digit surveyor general code for each portion	Farm Name:	Portion:	SG Codes:
	1- Woodlands 407	RE	F02500000000040700000
	2- Woodlands 407	RE of 1	F02500000000040700001
	3- Woodlands 407	3	F02500000000040700003

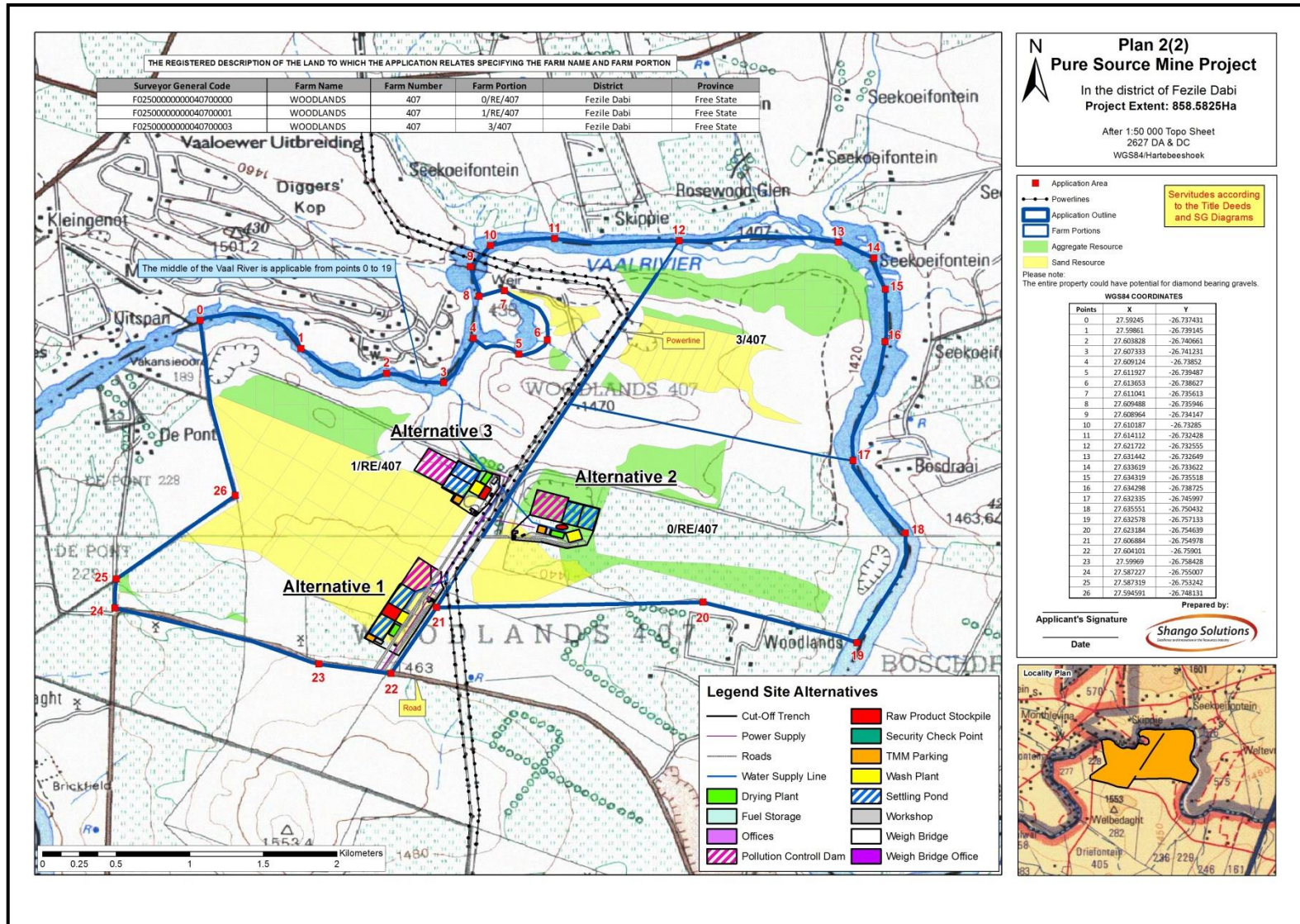


Figure 1: Locality map indicating the farm portions (refer to Appendix D for enlarged map).

5. GEOLOGICAL FORMATION AND MINING TARGET

The Quaternary age sands and aggregates represent the mining target. These sands are unconsolidated and unconformably overlie sediments of the Transvaal Supergroup. A stratigraphic column of this rock succession is shown in Figure 2. The secondary commodity of interest is the unconsolidated, Quaternary gravels, which potentially contain alluvial diamonds.

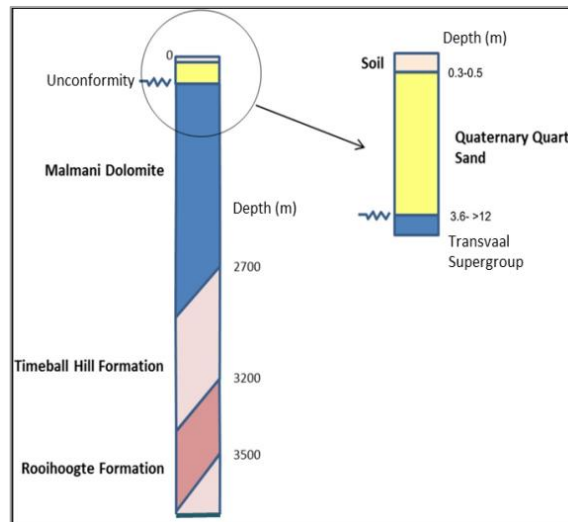


Figure 2: Stratigraphic column of the area on interest.

6. DESCRIPTION AND SCOPE OF PROPOSED ACTIVITY

Mining under the Mining Right will be undertaken by a “truck and shovel” method utilising suitably sized diesel driven equipment. A 363.5 ha area will be demarcated for phased open pit mining and associated infrastructure. The areas containing the sand deposit will be mined in portions of 6.8 ha each year in average (in most years, however, the area to be mined will not exceed 5 ha), with continuous roll-over rehabilitation, over a 30 year period. The areas containing the aggregate resource will in average be mined in portions of 4.6 ha per year (in most years, however, the area to be mined will not exceed 4 ha). The planned open pit mine will comprise three distinct areas for the silica sand (main pit, north pit and east pit) and four areas for the aggregate (northern pit, central pit, south eastern pit and south western pit). Each area considers an estimated maximum depth of 12 m but may exceed a depth of 12 m in certain areas (Figures 3 to 6).

A total sand resource of 21 910 291 million m³ is estimated for the application area. The average depth of the sand deposit is 10.64 m. All of the outcropping and underlying sediments on this property could be used for aggregate. From test pits dug on the application area, the total volume of fresh aggregate to an average depth 6.98 m is calculated at 9 565 043 million m³ and approximately 7.67 m for oxidised aggregate with a total volume of 10 498 882 million m³.

Silica sand is present on the Farm Woodlands and has been mined historically on the property. The types of sand present on Portions 1, 3 and the Remaining Extent of the Farm Woodlands 407 vary from light yellow plaster, dark yellow plaster, white plaster, grey plaster, building to red sand. Oxidised aggregate is suitable for decorative purposes, but not for use in the civil construction industry.

The entire Mining Right application area could have potential diamond bearing gravels. The anticipated life of the mine is 30 years with an option to renew if the mining programme is not yet completed.

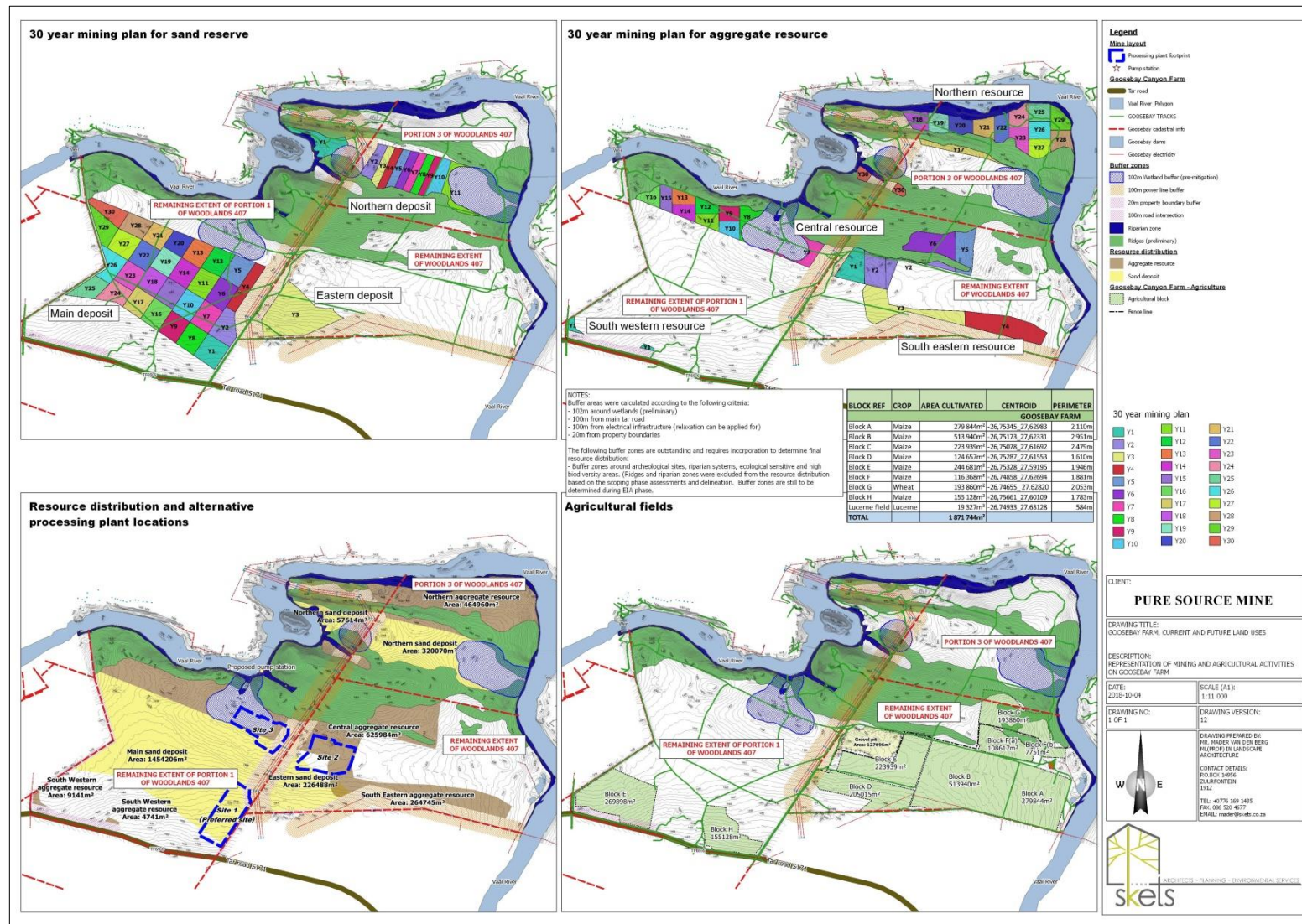


Figure 3: 30 year mining plan (refer to Appendix D for enlarged map).



Figure 4: Year 1 to 10 mining plan (refer to Appendix D for enlarged map).

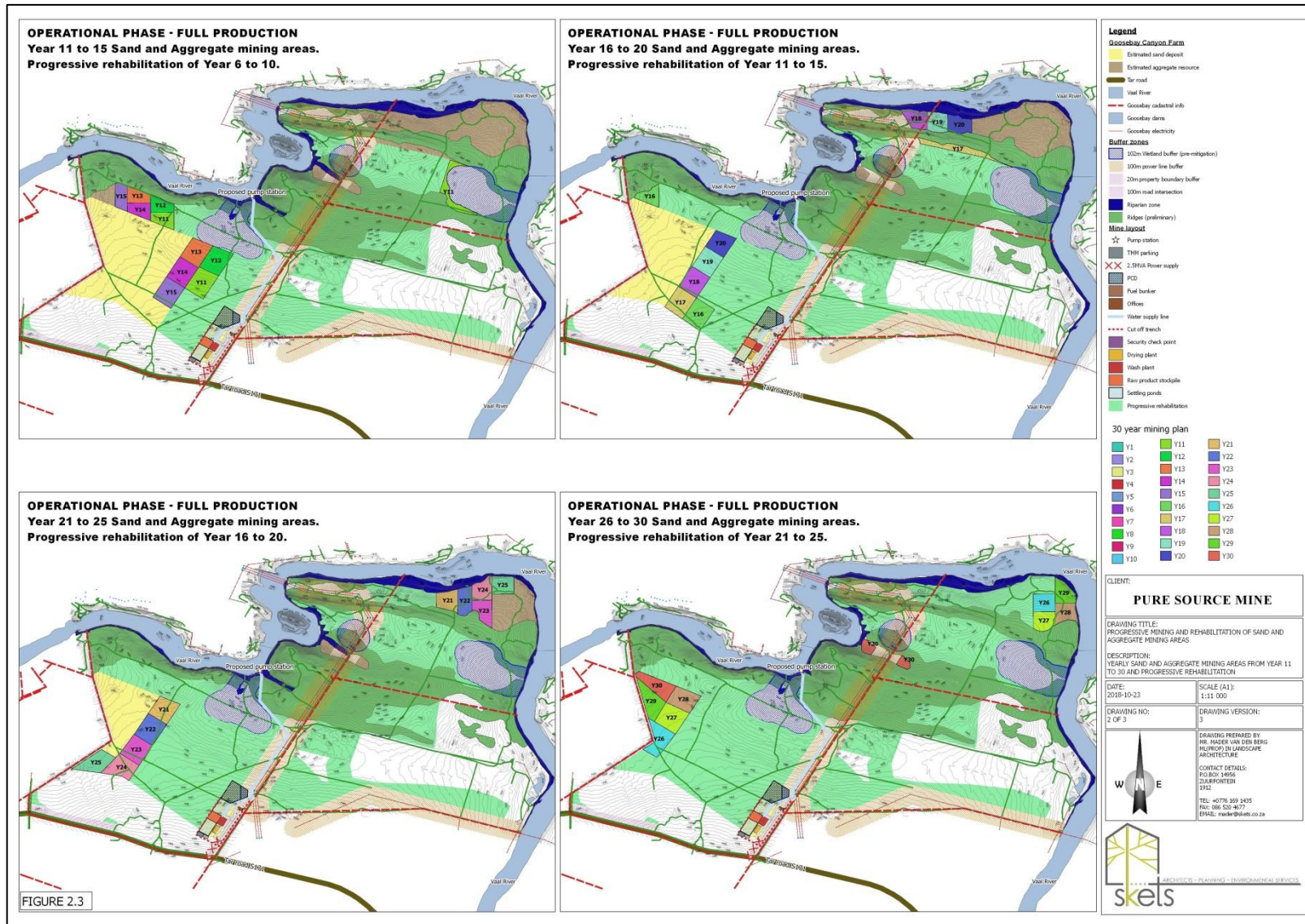


Figure 5: Year 11 to 25 mining plan (refer to Appendix D for enlarged map).

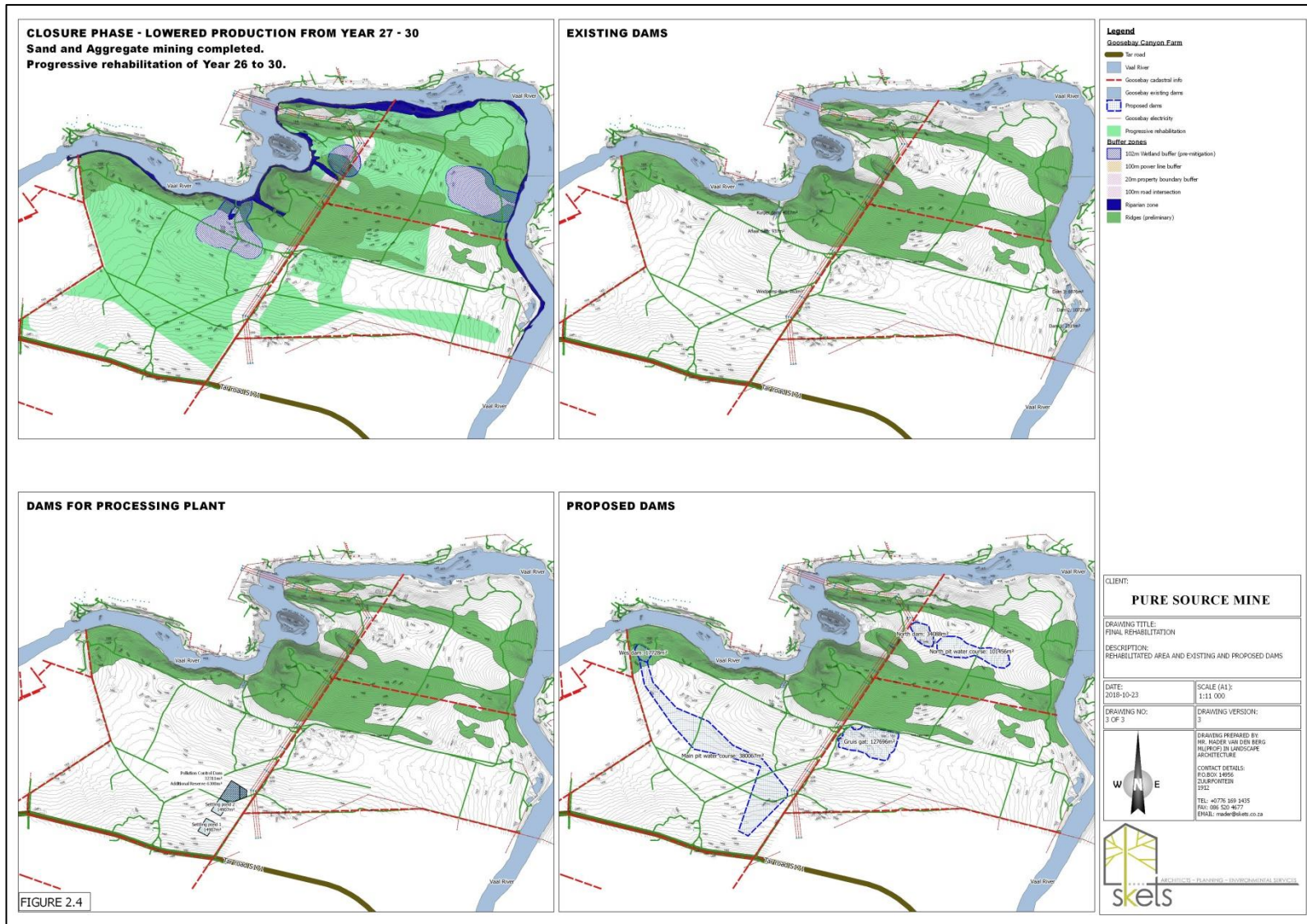


Figure 6: Year 26 to 30 mining plan (refer to Appendix D for enlarged map).

An overview of the mining method for the three commodities is described below.

6.1 Sand Mining

Prior to the commencement of sand mining, topsoil will be removed from the area demarcated for mining and stockpiled next to the pit for the purpose of rehabilitation. The sand will be mined in benches and reject material will be backfilled into the void as mining advances. Opencast benches will be established with a maximum height between 1.5 m and 3 m. Sand will either be screened in the pit or transported by truck or conveyer to the washing plant. The specialised sand processing methodology is illustrated in Figure 7.

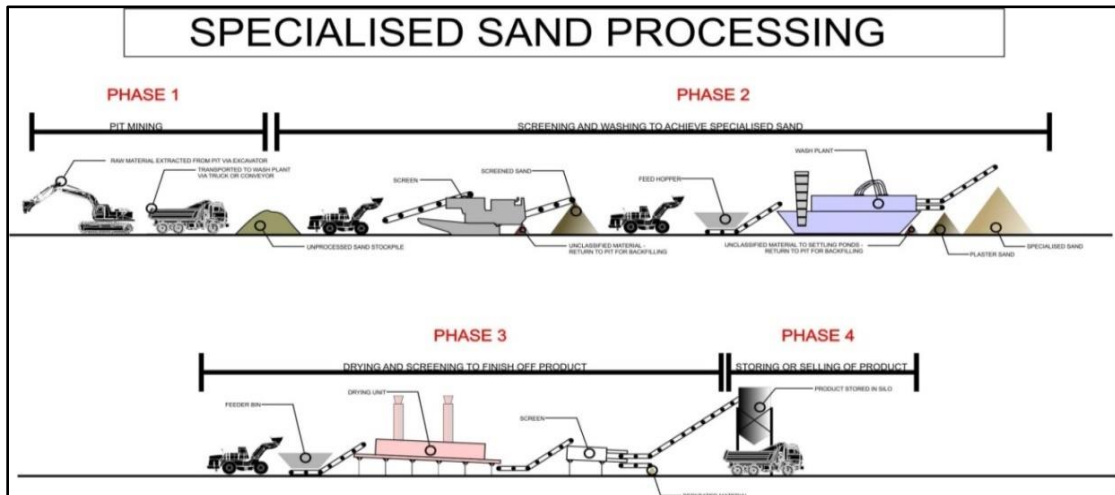


Figure 7: Specialised sand processing.

Silica sand is an important material utilised in the South African construction industry. It is also used in the manufacturing, as refractory sand, and in the glass making sectors. There is also a demand for recreational sand for use on golf courses and sporting facilities.

6.2 Aggregate Mining

In the absence of sand, topsoil will be stripped to expose aggregate and stockpiled prior to excavating the aggregate. The excavated aggregate will be crushed in the pit by a mobile crusher and reject material will be backfilled into the void as mining advances. Figure 8 depicts the steps followed during the mining and processing of aggregate. The aggregates produced will include G4-G7 material for civil construction. The aggregate in the oxidised zone can be sold for landscaping and decorative purposes, once a market is found.

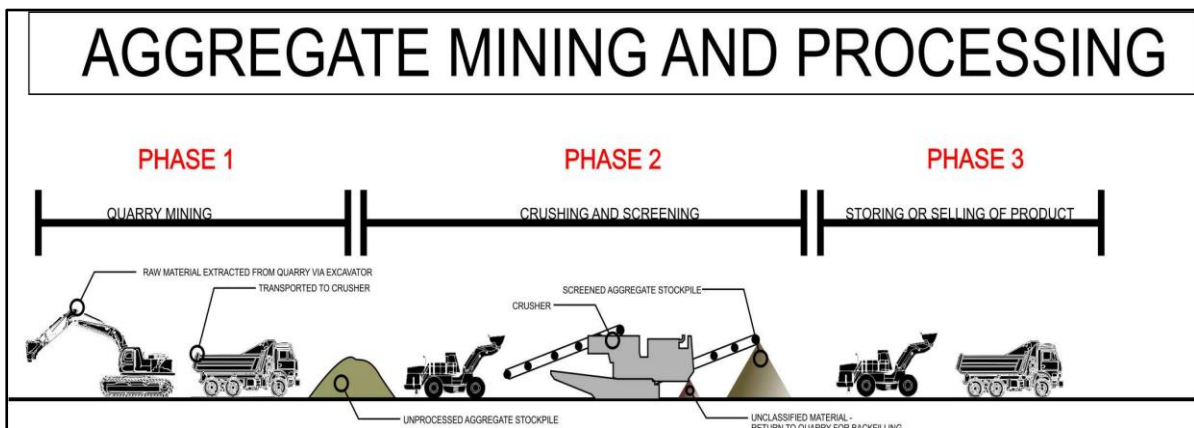


Figure 8: Aggregate mining and processing.

Any mining or mineral processing related material that cannot be sold will be used to backfill the mined out pits during rollover rehabilitation.

6.3 Alluvial Diamond Mining

Once sand mining has commenced, the underlying gravel (potentially diamondiferous) will be exposed and Reverse Circulation boreholes will be drilled to ascertain gravel quality and the diamond potential. Where appropriate, the gravel will be excavated and screened. The oversize will be used as infill, the -2 mm will report to the sand mining operation and the +2-32 mm fraction will be processed near the pit, to extract diamonds. The diamond potential exists across the entire project area, but will initially be evaluated in the Main, Northern and East sand deposit area. Should diamond potential be established, gravel will be transported to the plant for processing to extract diamonds utilising the methodology presented in the Figure 9 and outlined in the following steps:

- The overburden is removed – the topsoil will be stockpiled as per the current programme for the sand mining and the sand is excavated and diverted to the current sand mining operation.
- The basal gravel unit is screened – the oversize is sent back to any open excavation as rehabilitation infill, the -2 mm is forwarded to the sand mining operation and the +2-32 mm fraction is stockpiled as plant feed.

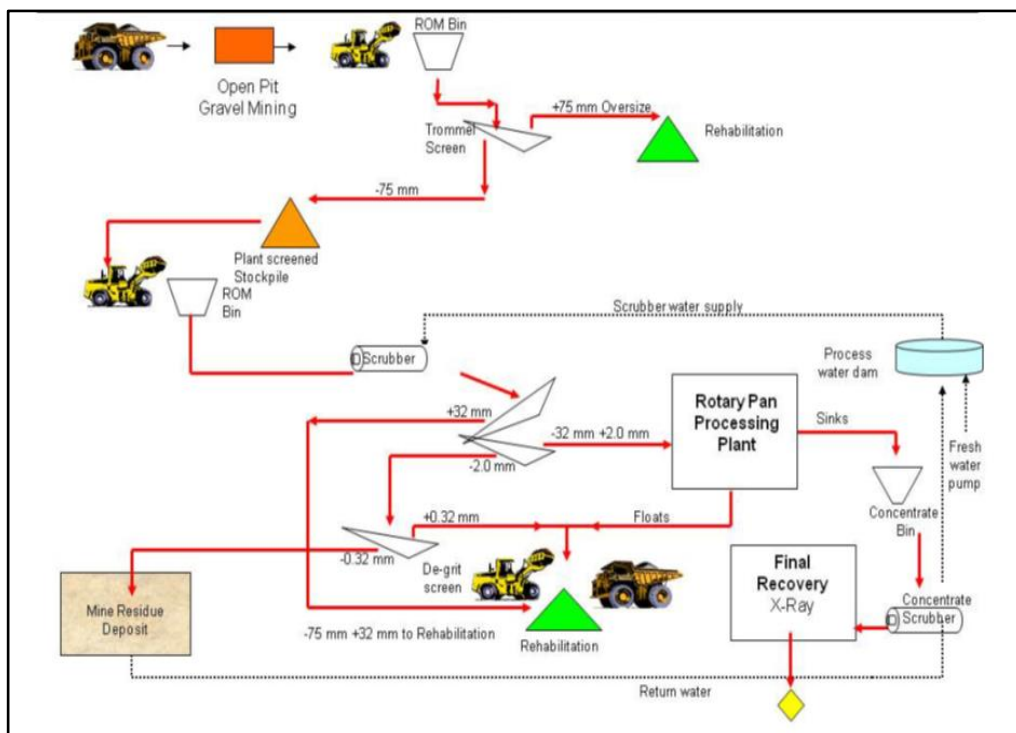


Figure 9: Diamond extraction methodology.

Industrial and jewellery (commercial) diamonds are in constant demand and will be sold in accordance with the South African diamond board regulations to domestic and international buyers.

6.4 Product Consumers

6.4.1 Sand

6.4.1.1 Refractory Sand

The South African refractory industry uses a great deal of refractory sand per year. This grade of sand represents very pure silica sand with very little impurities. The users of refractory sand have very stringent quality criteria and only specific sands can be upgraded to produce refractory sand.

6.4.1.2 Plaster Sand

Plaster sand is a highly sought after product in the building industry. This sand has a specific size distribution and requires the clay content to be removed.

6.4.1.3 Building Sand

Building sand has the lowest quality requirements in terms of chemical make-up and sizing, and it is in high demand.

6.4.1.4 Silica Sand for Equestrian and Golf Course Purposes

A local market for screened sand exists such as, for equestrian and golf courses, throughout the country. Due to the cost of transport, customers require nearby supply of the products. There are a number of golf courses and equestrian estates in close proximity to the Pure Source Mine project. Therefore it is well situated to supply local needs. However, silica sand can further be utilised in various other Industries.

6.4.1.5 Glass Sand

Glass sand considers very fine-grained sand with detailed specifications, which is supplied to the glass making industry.

The sand products that are produced will be suitable for the following local consumers, including (but not limited to) the industries listed below:

1. Scaw Metals – Refractory Sand
2. Consol Glass – Glass Sand
3. Builders Warehouse – Vanderbijlpark – Plaster Sand
4. Regional and local Building Suppliers – Building Sand and Plaster Sand
5. Local Golf Courses – Recreational Sand
6. Equestrian Estates – Recreational Sand
7. Local transport companies and building material suppliers.

6.4.1.6 General considerations relating to the shortage of alluvial silica sand in the Pretoria Witwatersrand-Vaal (PWV) industrial complex

Extensive investigations have revealed that there is a shortage of alluvial silica sand in the PWV industrial complex. Alluvial silica sand has a greater utility than silica sand that is created by means of crushing processes. Furthermore many of the previously existing abundant alluvial silica sand mines located in the Vaal Triangle (such as Copper Sunset, Skysand and Mission Point mines) are on the verge of being exhausted, thus making the mining of the existing resource at the Pure Source Mine both necessary and desirable, with regards to economic considerations.

The specifications of the sand products vary for the different end-users. Building sand can be sold without beneficiation. The higher class of plaster sand requires a low clay content and appropriate sizing which can be achieved through processing. In order to achieve the specifications the sand requires on site beneficiation. This will include screening and washing of the sand to achieve the correct size distribution and removal of ultra-fine clay material and other impurities. The screening, washing and drying will take place on the mining and in the plant areas, respectively.

6.4.2 Aggregates

Aggregates will be sold to civil construction companies and local building suppliers. The specifications of the aggregate will differ from place to place across the mining area and will be sold according to requirements of the customer. The only beneficiation which may take place will be the crushing of the raw material before it is loaded on trucks for transport to the customers. This will be performed in the mining area with mobile crushers.

6.4.3 Diamonds

Diamonds will be sold to licensed diamond traders for use in industrial and jewellery (commercial) markets according to the prevailing rules and regulations in the diamond industry.

7. EXISTING INFRASTRUCTURE WITHIN THE APPLICATION AREA AND SURROUNDINGS

The following infrastructure exists within the application area and surroundings:

- Historical opencast diamond mining and sand mining activities, other sand mining activities are on-going on neighbouring farms by Sweet Sensations 168 (Pty) Ltd to the west and Tja Naledi Beafase Investment Holdings (Pty) Ltd to the east of Pure Source Mine.
- Certain portions of the project area are currently being utilised for agriculture, maize monocultures at present.
- Game farming – the majority of the central and northern portions of the property are currently being used for large game farming and a number of species are currently stocked including (but not limited to) Ostrich, Springbok, Waterbuck and Zebra, Eland, Impala, Redhaartebees, Blesbuck and Kudu.
- A number of farm dams have been constructed on the property.
- Farm housing/dwellings.
- Various secondary gravel access roads.
- A small resort and campsite.
- Electrical infrastructure, specifically a major Eskom transmission line which bisects the application area.

8. PROPOSED PROJECT INFRASTRUCTURE

Existing infrastructure at the project area is minimal. The area is reasonably well accessed through a local, regional and national network of roads. Planned associated infrastructure over a 13.5 ha area will consider the following (Figure 7):

- Dams.
- Wash plant for sand mining.
- Rotary pan processing plant for alluvial diamond mining.
- Potential alluvial diamond X-ray and/or flow sorting facility.
- Clean and dirty water management infrastructure (pollution control dams, water recycling plant settling ponds, storm water runoff structures, water pipeline network as well as pump stations).
- Drying and screening plants.
- Topsoil and run-of mine stockpiles.

Additional mining and processing infrastructure will include haul roads, workshop, weighbridge and office, conveyor systems, powerlines, change houses, staff accommodation and recreational facilities and portable chemical ablution facilities for employees during the construction and operational phases.

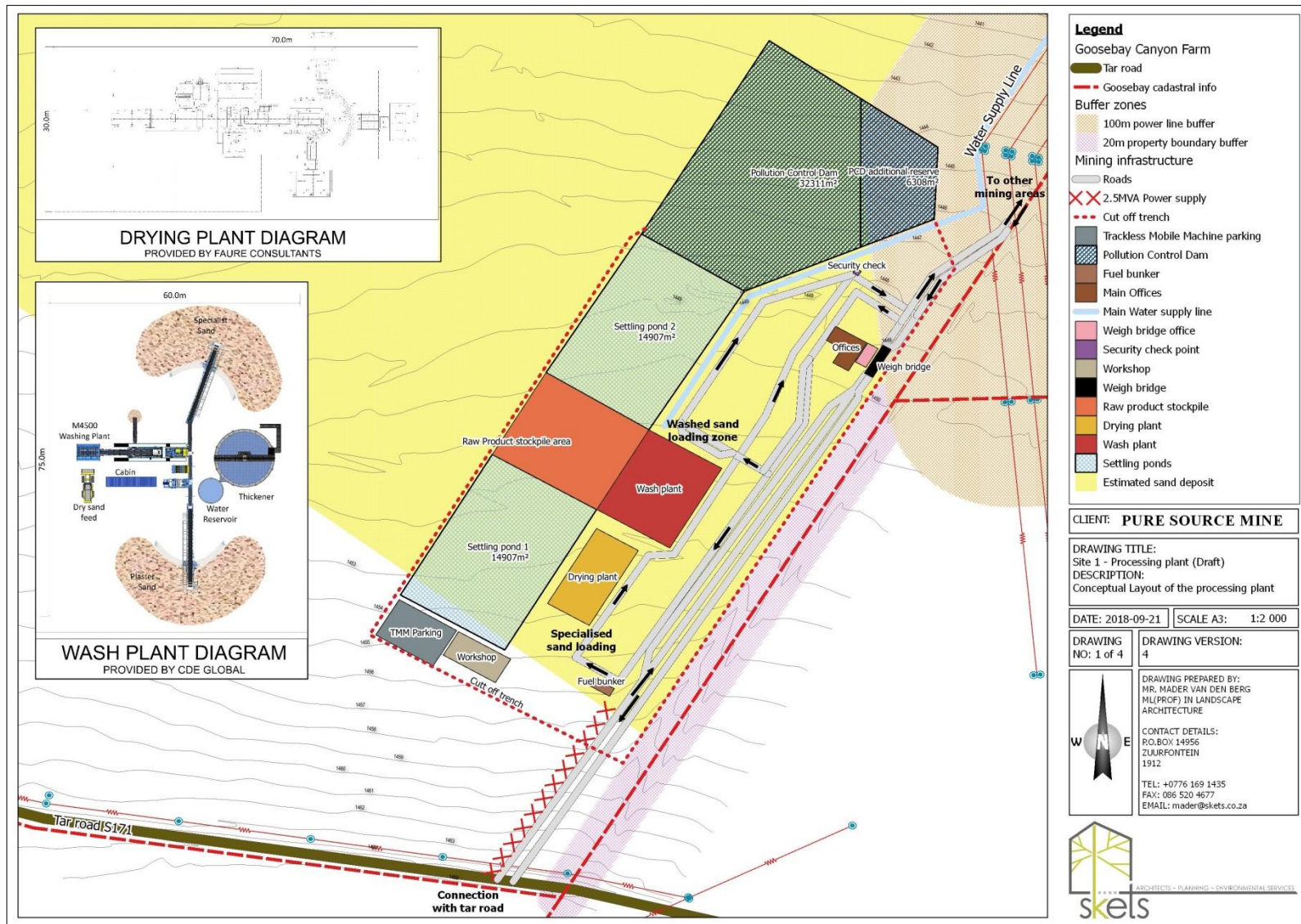


Figure 10: Planned associated mine infrastructure (refer to Appendix D for enlarged map).

8.1 Services

8.1.1 Water Supply

Water for mining and beneficiation will be sourced from ground water, or extracted from the Vaal River, pursuant to the obtaining of the relevant Water Use License. The estimated annual water requirements are:

- 500 000 m³ for sand mining.
- 300 000 m³ for aggregate and diamond mining.
- 10 000 m³ for dust suppression.

It is estimated that the supply of water required for the plant and wash-down operations would be approximately 800 - 1 000 m³/hr, therefore a water recycling plant (part of the wash plant) will be required to reduce the water consumption to 80 – 100 m³/hr. A small volume of water will also be required for the workshops, offices and change house.

It will be necessary to undertake an Integrated Water Use License Application (IWULA) process and associated Water and Waste Water Management Plan (IWWMP) in order to obtain a Water Use License from the Department of Water and Sanitation (DWS).

8.1.2 Power Supply

The proposed mine will require power supply from the national grid for the beneficiation plant and workshops, for which an application has been made to Eskom. There is an 11 kV line on the southern boundary of the project area from which power will be obtained for the plant. The planning has been completed and payment has been made to Eskom for a preliminary 180 kVA Ruraflex supply. It is anticipated that the electrical requirement, once the plant is in full production, will be 2 500 kVA or 2.5 MVA. This will supply the washing plant, drying plant, workshops and offices and ancillary uses.

8.1.3 Transport

The Vaal Eden Road (S171), which forms the southern boundary of the project area, will be utilised during transporting of materials to and from site. An access road will be established from the gate to the plant area and will be utilised throughout the life of the project.

8.1.4 Waste

General and hazardous industrial waste will be temporarily stored on-site in designated areas (waste/salvage yard), and disposed of at off-site permitted waste disposal facilities.

8.1.5 Sewage

Portable chemical toilets will be utilised and serviced regularly by external services providers during the construction and operational phases of the project.

8.1.6 Offices, Workshop and Change House

The offices, workshop, change house and dormitories will be established adjacent to the plant infrastructure, and as per industry standard will be of a portable nature. The mine offices, workshops and change house will initially be in the form of portable containers or “Kwikspace” type facilities.

8.1.7 Storage of Dangerous Goods

During the construction and operational phases, limited quantities of diesel fuel, oil and lubricants may be stored on-site. A maximum amount of 60 m³ of diesel fuel may be stored in above ground diesel storage tanks with elevated bunded walls.

8.1.8 Equipment and/or Technology that may be Used

The equipment required for this type of mining is readily available in South Africa. Local manufacturers and suppliers will supply the equipment. The mining equipment will all be diesel driven, therefore the only electricity requirements will be for the beneficiation process (washplant, processing plant, crusher, diamond plant) and maintenance facilities.

8.2 Staff and Housing

8.2.1 Employment

Employment would constitute approximately 22 to 25 workers during the construction phase and approximately 48 to 50 full-time employees at peak production.

8.2.2 Operating times

For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the Environmental Impact Assessment (EIA) phase.

8.2.3 Housing

Pure Source Mine will facilitate suitable employee accommodation that will allow employees to reside in a stable, healthy and secure environment within commuting distance from their place of work.

8.3 Mine Scheduling

During Years 1 and 2, mining will consist only of excavating sand and aggregate at the locations as set out in the 30 year mining plan (Figure 3). The processes will include screening and crushing. Prospecting of diamonds will also occur during this time. The only infrastructure that will be constructed in the beginning of Year 1 will be roads, weighbridge, offices and a security check point. During this time other preparations may include the installation of the water supply line, electrical supply and cut-off trenches. The wash plant, drying plant, workshop, settling ponds and Pollution Control Dams (PCDs) will be finalised for use in Year 3. Between Years 3 to 27, full production of sand and aggregate/gravel is expected during which the wash plant and drying plant will be in use. Depending on the outcome of the diamond prospecting, diamondiferous gravel may also be processed. During Years 27 to 30, production will decrease to meet closure targets at the end of Year 30.

As such, Years 1 and 2 can be classified as the construction phase for specialised sand, in conjunction with mining activities for screened products only. Years 3 to 30 will be the operational phase with the last three years involving the lowering of production to achieve closure objectives.

8.4 Envisaged End Use Post Mine Closure

Shortly after acquiring the three farm portions which make up Goosebay Farm (Pty) Ltd (Goosebay Farm), more than 10 years ago, the VLDC Group applied to the relevant authorities for an Environmental Authorisation to develop Goosebay Farm into an Eco-Estate. This Environmental Authorisation was duly granted by the relevant authority on the 12th January 2011. The development of Goosebay Farm into an Eco-Estate is accordingly consistent with the purpose for which the VLDC Group acquired the abovementioned three farm portions. It is also consistent with the VLDC Group's core business model, which has involved the development of numerous upmarket residential estates. Accordingly, the VLDC Groups post-mining objective is that the three farm portions ultimately be developed into an upmarket residential Eco-Estate, the details of which were initially

communicated to the Environmental Authorities at the time of applying for the Environmental Authorisation, referred to herein above.

The application area is currently utilised as a game farm and this will continue to remain the primary land use with other agricultural activities such as crop production. Mining is an interim land use and it will be conducted in a sensitive manner that will not have a negative impact on the game.

The VLDC Group considers that the mining of the three farm portions, followed by the post-mining use of said farm portions, by the development of same into a residential Eco-Estate is in the interest of the I&APs, local communities and economy in general. It will ensure that no economically viable mineral resources will be sterilised and that the benefits of the resources available in the area will be maximised.

9. LISTED AND SPECIFIED ACTIVITIES

Listed activities are activities identified in terms of Section 24 of NEMA which are likely to have a detrimental effect on the environment, and which may not commence without an EA from the Competent Authority. An EA required for a listed activity is subject to the completion of an environmental process, either a Basic Assessment (BA) or a S&EIA. In addition, this project may trigger certain National Environmental Management Waste Act, 2008 (Act 59 of 2008 - NEMWA) listed activities. The applicable NEMA and NEMWA listed activities anticipated to be triggered by this project are outlined in Table 2. The table also includes a description of those project activities which relate to the applicable listed activities. The DMR will act as the Competent Authority on the project, with the Free State Department of Economic, Small Business Development, Tourism and Environmental Affairs (DESTEA) and the Department of Water and Sanitation (DWS) acting as the Commenting Authorities (CA).

Table 2: Listed and specified activities in terms of the NEMA EIA Regulations promulgated in December 2014 and amended on the 7th April 2017.

Activity Number	Listed Activity
NEMA LISTING NOTICE 1 GNR 327	
GNR 327 of 7 April 2017, Activity 9	The development of infrastructure exceeding 1 000 metres in length for the bulk transportation of water or storm water – (i) with an internal diameter of 0.36 metres or more or; (ii) with a peak throughput of 120 litres per second or more.
GNR 327 of 7 April 2017, Activity 12 (ii)(c)	The development of infrastructure or structures with a physical footprint of 100 metres or more where such development occurs – if no development setback exists, within 32 metres of a watercourse measures from the edge of a watercourse.
GNR 327 of 7 April 2017, Activity 14	The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.
GNR 327 of 7 April 2017, Activity 24 (ii)	The development of a road with a reserve wider than 13.5 metres, or where no reserve exists is wider than 8 metres.
GNR 327 of 7 April 2017, Activity 28	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

Activity Number	Listed Activity
	1998 and where such development: (i) will occur outside an urban area, where the total land to be used 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.
NEMA LISTING NOTICE 2 GNR 325	
GNR 325 of 7 April 2017, Activity 17	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 28 of 2002), including (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource [,]; or (b) [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002)] 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.
GNR 325 of 7 April 2017, Activity 6	The development of facilities or infrastructure for any process which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent, excluding (i) activities which are identified and included in Listing Notice 1 of 2014; (ii) activities which are included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act 59 of 2008) in which case the National Environmental Management: Waste Act 2008 applies; (iii) the development of facilities or infrastructure for the treatment of effluent, polluted water, waste water or sewage where such facilities have a daily throughout capacity of 2 000 cubic metres or less; or (iv) where the development is directly related to aquaculture facilities or infrastructure where the waste water discharge capacity will not exceed 50 cubic metres per day.
GNR 325 of 7 April 2017, 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.
NEMA LISTING NOTICE 3 GNR 324	

Activity Number	Listed Activity
GNR 324 of 7 April 2017, Activity 12(b)	The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan - (i) within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; (ii) within critical biodiversity areas identified in bioregional plans; (iii) on land, where at the time of the coming into effect of this notice or thereafter such space was zoned open space, conservation or had an equivalent zoning; or (iv) areas within a watercourse or wetland; or within 100 metres from the edge of a watercourse or wetland.
GNR 324 of 7 April 2017, Activity 13	The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.
NEMWA GNR 921 OF 29 NOVEMBER 2013	
GNR 921, Activity 10 (Category B)	The construction of a facility for a waste management activity listed in Category B of this Schedule (not in isolation to associated waste management activity).
GNR 633 OF 24 JULY 2015	
GNR 633, Activity 11 (Category B)	The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right, exploration right or production right in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002).

In addition, it is anticipated that this project will trigger various water uses as defined in Section 21 of the National Water Act, 1998 (Act 36 of 1998 – NWA) and would subsequently require that an Integrated Water Use License Application (IWULA) be obtained from the Department of Water and Sanitation (DWS). Anticipated Water uses to be triggered are as detailed in Table 3.

Table 3: Water use types in terms of Section 21 of the National Water Act, 1998 (Act 36 of 1998).

Water Use	Description
Section 21 (a)	Taking water from a water resource.
Section 21 (b)	Storing of water.
Section 21 (c)	Impeding or diverting the flow of water in a watercourse.
Section 21 (e)	Engaging in a controlled activity.
Section 21 (f)	Discharging waste or water containing waste into a river resource through a pipe, canal, sewer or other conduit.
Section 21 (g)	Disposing of waste in a manner which may detrimentally impact on a water resource.
Section 21 (i)	Altering the bed, banks, course of characteristics of a watercourse.

Water Use	Description
Section 21 (j)	Removing, discharging or disposing of water found underground for the continuation of an activity or for the safety of persons.

Furthermore, an Air Emission License Application will be lodged (for the drying plant) with the Fezile Dabi District Municipality. It is anticipated that the Listed Activities (Category 5.2 of the NEM:AQA, GNR. 893, Gazette No. 37054 of 22 November 2013) detailed in Table 4, will be applicable to the Pure Source Mine Project.

Table 4: Listed Activities Subcategory 5.2 – Drying.

Description		The drying of mineral solids including ore, using dedicated combustion installations	
Application		Facilities with a capacity of more than 100 tons/month product.	
Substance or mixture of substances		Plant status	Mg/NM ³ under normal conditions of 273 Kelvin and 101.3 kPa
Common name	Chemical symbol		
Particulate matter	N/A	New	50
Sulphur dioxide	SO ₂	New	1 000
Oxides of oxygen	NO _x expressed as NO ₂	New	5 000

9.1 Activities Associated with Planned Mining

The activities associated with each phase of the mining operations are described in Table 5.

Table 5: Activities associated with planned mining.

Main activity/action/process	Ancillary activity
Planning and Design	
General mine management	Employment Human resource management Interaction with local community
Site visit	Vehicle and foot traffic on-site
Drilling for monitoring boreholes	Drilling
Construction	
General management	Employment Human resource management
Site preparation and site establishment	Clearance and preparation of soil stockpile areas Dust suppression Construction of temporary access roads Employment Fencing Hazardous substances management Truck and heavy machinery operation Site security Soil management

Main activity/action/process	Ancillary activity
	Utilisation of portable toilets and generation of sewage Vegetation clearance Waste management
Construction of mineral processing facilities	Concrete works Dust suppression Earthworks Fencing Fuel storage and refuelling Hazardous substances management Power supply connections Soil management Vegetation clearance Waste management
Mine area site preparation	Clearance and preparation of soil stockpile areas Dust suppression Establishment of storm water management infrastructure for road network Fuel storage and refuelling Road construction Truck and heavy machinery operation
Site establishment – temporary site office infrastructure	Dust suppression Fencing Fuel storage and refuelling Hazardous substances management Power supply connections Site security Soil management Truck and heavy machinery operation Utilisation of portable toilets and generation of sewage Vegetation clearance Waste management
Water management infrastructure construction	Construct the dirty and clean water management features Construction of culverts, berms and crossings Construction of PCD Dust suppression Installation of pipelines for water management Installation of pumps, flow meters Truck and heavy machinery operation Vegetation clearance Rehabilitation of vegetation where necessary

Main activity/action/process	Ancillary activity
Operation	
General management	Employment Human resource management Interaction with local community
Maintenance and operation of site infrastructure and facilities	Site security Employment Soil management Noise management Dust management Vegetation clearance Waste management Water management Maintenance and management of portable toilets by contractor Power line supply Vehicle and foot traffic on-site Hazardous substances management Interaction with local community
Open pit mining	Dust suppression Establishment of in pit infrastructure Fuel storage and refuelling Hauling for mineral processing Pumping of in-pit water/dewatering Product stockpiling Soil stockpile management Removal of minerals - truck and shovel Storage of in pit water in sump Truck and heavy machinery operation Use and maintenance of portable toilets Vegetation clearance
Mineral processing	Product processing - washing Product stockpile management Dust suppression Fuel storage and refuelling Hauling processed products Water management Waste management
Decommissioning	
General mine management	Employment Interaction with local community

Main activity/action/process	Ancillary activity
General decommissioning activities	Dust suppression Removal of waste
Infrastructure removal	Dismantling, removal and rehabilitation of unnecessary infrastructure
Filling open pit voids	Filling the final open pit voids
Rehabilitation and Closure	
General mine management	Employment Human resource management
General surface rehabilitation	Profiling of area Replacement of subsoil and topsoil Ripping of roads and other compacted areas Managing the site for all post mining impacts to prevent any further pollution
Storm water management	Construction of contour berms or other erosion control measures
Re-vegetation	Dust suppression Fertilisation Seeding with local indigenous species
Post closure monitoring and maintenance	Alien vegetation management Environmental monitoring of rehabilitated areas Erosion control measures
Application for closure certificate	Alien vegetation management Environmental monitoring of rehabilitated areas Erosion control measures

10. POLICY AND LEGISLATIVE CONTEXT

Pure Source Mine requires authorisation in terms of the following interlinked pieces of legislation:

- The Mineral and Petroleum Resources Development Act, 2002 (MPRDA, Act 28 of 2002 - amended).
- The National Environmental Management Act, 1998 (NEMA, Act 107 of 1998 – as amended).
- The National Environmental Management Waste Act, 2008 (NEMWA, Act 59 of 2008).
- The National Environmental Management Air Quality Act, 2008 (NEMAQA, Act 39 of 2004).
- The National Water Act, 1998 (NWA, Act 36 of 1998).

These pieces of core legislation stipulate the required studies, reports and legal processes to be conducted and the results thereof submitted to the relevant authorities for approval prior to commencement. In addition to the above, there are various pieces of legislation which govern certain aspects of the mining operations and these are summarised in Table 6, together with the main legislative requirements mentioned above.

Table 6: Policy and legislative context.

Applicable legislation and guidelines	Reference where applied	How does this development comply with and respond to the legislation and policy context
<p>Constitution of the Republic of South Africa, 1996 (Act 108 of 1996)</p> <p>The constitution of any country is the supreme law of that country. The Bill of Rights in Chapter 2 Section 24 of the Constitution of South Africa Act, 1996 (Act 108 of 1996) makes provisions for environmental issues and declares that:</p> <p>“Everyone has the right -</p> <ul style="list-style-type: none"> (a) To an environment that is not harmful to their health or well-being. (b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that: <ul style="list-style-type: none"> i. Prevent pollution and ecological degradation. ii. Promote conservation. iii. Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”. 	Throughout the SR and EIR process.	EIA is conducted to fulfil the requirement of the Bill of Rights
<p>National Environmental Management Act, 1998 (Act 107 of 1998) (as amended)</p> <p>The NEMA (1998) requires that a project of this nature (inclusive of a Mining Right) must undergo a Scoping and Environmental Impact Assessment; an Environmental Management Programme must also be compiled.</p> <p>Regulations applicable to this project include the following:</p> <ul style="list-style-type: none"> • EIA Regulations 326 (2017) in terms of NEMA. • Listing Notice 1: 327 (2017) in terms of NEMA. • Listing Notice 2: 325 (2017) in terms of NEMA • Listing Notice 3: 324 (2014) in terms of NEMA. 	Throughout the SR and EIR Process.	In terms of the National Environmental Management Act an Application for Integrated Environmental Authorisation subject to a Scoping and Environmental Impact Assessment process has been applied for.
<p>Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (as amended)</p> <p>The MPRDA (2002) requires an Applicant who wishes to proceed with a mining project to</p>	Throughout the SR and EIR Process.	In terms of the Mineral and Petroleum Resources Development Act a Mining Right Application has been applied for.

Applicable legislation and guidelines	Reference where applied	How does this development comply with and respond to the legislation and policy context
obtain a Mining Right, part of which requires the applicant to obtain Environmental Authorisation in terms of the NEMA (1998).		
<p>National Water Act, 1998 (Act 36 of 1998)</p> <p>The NWA recognizes that water is a scarce and unevenly distributed national resource which must managed encompassing all aspects of water resources. In terms of Chapter 4 of the NWA, activities and processes associated with the proposed mine and associated infrastructure, are required to be licensed by the Department of Water and Sanitation (DWS). An Integrated Use Licence Application (IWULA) will be lodged with the DWS in terms of Section 21 of the NWA, which lists several water uses requiring authorisation. Furthermore, an Integrated Water and Waste Management Plan (IWWMP) will be compiled and submitted in support of the IWULA.</p>	Throughout the process – all water related aspects.	In terms of the National Water Act, an Integrated Water Use License will be applied for.
<p>National Heritage Resources Act, 1999 (Act 25 of 1999)</p> <p>The National Heritage Resources Act aims to promote good management of cultural heritage resources and encourages the nurturing and conservation of cultural legacy so that it may be bestowed to future generations. Due to the nature and extent of the project, it is likely that some heritage resources and palaeontological features are likely to occur within the project boundary area.</p>	Throughout the process.	Specialist heritage and palaeontology impact studies have been undertaken in support of this application.
<p>Specific Environmental Management Acts (SEMAs)</p> <p>The SEMAs refer to specific portions of the environment where additional legislation over and above the NEMA (1998) is applicable. SEMAs relevant to this application include the following:</p> <ul style="list-style-type: none"> • National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004). • National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004). • National Environmental Management Waste Act, 2004 (Act 26 of 2014). 	Throughout the process.	Relevant specialist studies have been undertaken in support of this application. In terms of the National Environmental Management: Air Quality Act, 2004 (Act 39 of 2004) an Air Emissions License will be applied for.

10.1 Applicable National Legislation

10.1.1 Mineral and Petroleum Development Act

The Mineral and Petroleum Resources Development Act, 2002 (MPRDA - Act 28 of 2002), aims to “make provision for equitable access to, and sustainable development of the nation’s mineral and petroleum resources”. The MPRDA governs the sustainable utilisation of South Africa’s mineral resources and it outlines the procedural requirements that need to be met to acquire mineral and petroleum rights in South Africa.

In terms of the MPRDA, a Mining Right must be issued prior to the commencement of any mining activities. As per Section 22 of the MPRDA, the Applicant is required to conduct a Scoping and Environmental Impact Assessment and submit an EMPR for approval as well as to notify in writing and consult with Interested and Affected Parties (I&APs) within 44 days of acceptance of the application. The MPRDA also requires adherence with related legislation, chief amongst them is the National Environmental Management Act, 1998 (Act 107 of 1998, NEMA) and the National Water Act, 1998 (Act 36 of 1998, NWA).

Several amendments have been made to the MPRDA. These include, but are not limited to, the amendment of Section 102, concerning amendment of rights, permits, programmes and plans, to requiring the written permission of the Minister for any amendment or alteration; and the section 5A(c) requirement that landowners or land occupiers receive twenty-one (21) days’ written notice prior to any activities taking place on their properties. One of the most recent amendments requires all mining related activities to follow the full NEMA process as per the 2014 EIA Regulations (as amended), which came into effect on 8th December 2014.

A Mining Right is exclusive, transferable and is valid for a period specified in the right, which may not exceed 30 years.

10.1.2 National Environmental Management Act

The main aim of the National Environmental Management Act, 1998 (NEMA - Act 107 of 1998) is to provide for co-operative governance by establishing decision-making principles on matters affecting the environment. In terms of the NEMA Environmental Impact Assessment (EIA) Regulations, the proponent is required to appoint an Environmental Assessment Practitioner (EAP) to undertake the EIA as well as the public participation process. In South Africa, EIA became a legal requirement in 1997 with the promulgation of Regulations under the Environmental Conservation Act (ECA). Subsequently, NEMA was passed in 1998. Section 24(2) of NEMA empowers the Minister and any MEC, with the concurrence of the Minister, to identify activities which must be considered, investigated, assessed and reported on to the competent authority responsible for granting the relevant Environmental Authorisation. On 21 April 2006 the Minister of Environmental Affairs and Tourism promulgated Regulations in terms of Chapter 5 of the NEMA.

The objective of the Regulations is to establish the procedures that must be followed in the consideration, investigation, assessment, and reporting of the activities that have been identified. The purpose of these procedures is to provide the Competent Authority with adequate information to make decisions which ensure that activities which may impact negatively on the environment to an unacceptable degree are not authorised, and that activities which are authorised are undertaken in such a manner that the environmental impacts are managed to acceptable levels.

In accordance with the provisions of Sections 24 (5) and Section 44 of the NEMA the Minister has published Regulations (GNR. 326) pertaining to the required process for conducting EIA’s to apply for, and be considered for, the issuing of an EA. These Regulations provide a detailed description of the EIA process to be followed when applying for EA for any listed activity. The Regulations differentiate between a simpler Basic

Assessment Process (required for activities listed in GNR. 327 and 326) and a more complete EIA process (activities listed in GNR. 325). In the case of this project there are activities triggered under GNR. 325, 326 and 327 and as such, a full EIA process is necessary.

Section 24 P of the NEMA requires that an applicant for an Environmental Authorisation relating to prospecting, mining or production must, before the Minister responsible for mineral resources issues the environmental authorisation, comply with the prescribed Financial Provision for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts. Therefore, the potential environmental liabilities associated with the proposed activity must be quantified and indicate the method of Financial Provision in line with the National Environmental Management Act (1998): Regulations Pertaining to the Financial Provision for Prospecting Exploration, Mining and Production, (2015). The requirement for mines to comply with the NEMA Financial Provisioning Regulations becomes effective as from January 2019 (as per the extension of the transitional period). As such, the Financial Provision costs in line with DMR guidelines will be presented in the EIA report.

10.1.3 National Environmental Management: Waste Amendment Act

On the 2nd June 2014 the National Environmental Management: Waste Amendment Act, 2014 (NEMWAA - Act 26 of 2014) came into force. Waste is accordingly no longer governed by the MPRDA, but is subject to all the provisions of the National Environmental Management: Waste Act, 2008 (NEMWA). Section 16 of the NEMWA must also be considered which states as follows:

1. "A holder of waste must, within the holders' power, take all reasonable measures to:
 - (a) Avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste that are generated.
 - (b) Reduce, re-use, recycle and recover waste.
 - (c) Where waste must be disposed of, ensure that the waste is treated and disposed of in an environmentally sound manner.
 - (d) Manage the waste in such a manner that it does not endanger health or the environment or cause a nuisance through noise, odour, or visual impacts.
 - (e) Prevent any employee or any person under his or her supervision from contravening the Act.
 - (f) Prevent the waste from being used for unauthorised purposes.

These general principles of responsible waste management are incorporated into the requirements in the EMPR to be implemented for this project.

Schedule 3: Defined Wastes have been broken down into two categories: Category A being hazardous wastes and category B being general wastes. Under Category A (hazardous wastes) the act makes allowance for "wastes resulting from exploration, mining, quarrying, and physical and chemical treatment of minerals".

In order to attempt to understand the implications of this it is important to ensure that the definitions of all the relevant terminologies are defined:

- Hazardous waste: means "any waste that contains organic or inorganic elements or compounds that may, owing to the inherent physical, chemical or toxicological characteristic of that waste, have a detrimental impact on health and the environment and includes hazardous substances, materials or objects within business waste, residue deposits and residue stockpiles."
- Residue deposits: means "any residue stockpile remaining at the termination, cancellation or expiry of a prospecting right, mining right, mining permit, exploration right or production right."

- Residue stockpile: means “any debris, discard, tailings, slimes, screening, slurry, waste rock, foundry sand, mineral processing plant waste, ash or any other product derived from or incidental to a mining operation and which is stockpiled, stored or accumulated within the mining area for potential re-use, or which is disposed of, by the holder of a mining right, mining permit or, production right or an old order right, including historic mines and dumps created before the implementation of this Act.”

Various regulations have been drafted in support of the NEMWA, as discussed below.

10.1.3.1 NEMWA Planning And Management Of Residue Stockpiles And Residue Deposits Regulations, 2015 (GNR. 632)

The purpose of these Regulations is to regulate the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation. The identification and assessment of environmental impacts arising from residue stockpiles and residue deposits must be undertaken as part of the Environmental Impact Assessment conducted in terms of the NEMA. A risk analysis based on the characteristics and the classification as set out in Regulation 4 and 5 must be utilised to determine the appropriate mitigation and management measures.

Stockpiling areas will be proposed for the Pure Source Mine project and therefore the identification of stockpile areas will be required.

10.1.3.2 NEMWA National Norms And Standards For The Assessment Of Waste For Landfill Disposal, 2013 (GNR. 635)

These norms and standards prescribe the requirements for the assessment of waste prior to disposal to landfill. The aim of the waste assessment tests is to characterise the material to be deposited or stored in terms of the above-mentioned waste assessment guidelines set by the Department of Environmental Affairs (DEA).

10.1.3.3 NEMWA Waste Classification And Management Regulations, 2013 (GNR. 634)

Chapter 9 of the Waste Classification and Management Regulations stipulates the requirements for a motivation for and consideration of listed Waste Management Activities that do not require a Waste Management License. The motivation must:

- Demonstrate that the waste management activity can be implemented without unacceptable impacts on, or risk to, the environment or health.
- Must provide a description of the waste.
- Description of waste minimisation or waste management plans.
- Description of potential impacts, etc.

10.1.4 The National Environmental Management: Biodiversity Act

The National Environmental Management Biodiversity Act (NEMBA) provides for the management and conservation of South Africa's biodiversity within the framework of the NEMA as well as the protection of species and ecosystems that warrant national protection. Within the framework of this act, various regulations are promulgated which provide specific requirements and management measures relating to protecting threatened ecosystems, threatened or protected species as well as the control of alien and invasive species. An assessment of the application area will be undertaken by a biodiversity specialist and the findings of this assessment will be presented in the EIA phase.

A summary of these regulations is presented below.

10.1.4.1 National List Of Ecosystems That Are Threatened And Need Of Protection (GNR. 1002 OF 2011)

The NEMBA provides for listing of threatened or protected ecosystems in one of the following categories:

- Critically Endangered (CR) ecosystems, being ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation.
- Endangered (EN) ecosystems, being ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems.
- Vulnerable (VU) ecosystems, being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems.
- Protected ecosystems, being ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed as critically endangered, endangered or vulnerable.

The Biodiversity Specialist will assess whether any of these threatened or protected ecosystems occur within the study area and provide recommendations on how the development should or should not proceed based on the findings of the assessment. The results of this assessment will be presented in the EIA phase of this study.

10.1.4.2 Threatened or Protected Species Regulations (GNR. 152 of 2007)

The purpose of these regulations is to –

- Further regulate the permit system set out in Chapter 7 of the Biodiversity Act insofar as that system applies to restricted activities involving specimens of listed threatened or protected species.
- Provide for the registration of captive breeding operations, commercial exhibition facilities, game farms, nurseries, scientific institutions, sanctuaries and rehabilitation facilities and wildlife traders.
- Provide for the regulation of the carrying out of a specific restricted activity, namely hunting.
- Provide for the prohibition of specific restricted activities involving specific listed threatened or protected species.
- Provide for the protection of wild populations of listed threatened species.
- Provide for the composition and operating procedure of the Scientific Authority.

10.1.4.3 Alien And Invasive Species List

This Act is applicable since it protects the quality and quantity of arable land in South Africa. Loss of arable land should be avoided and declared Weeds and Invaders in South Africa are categorised according to one of the following categories, and require control or removal:

- Category 1a Listed Invasive Species: Category 1a Listed Invasive Species are those species listed as such by notice in terms of section 70(1)(a) of the Act as species which must be combated or eradicated.
- Category 1b Listed Invasive Species: Category 1b Listed Invasive Species are those species listed as such by notice in terms of section 70(1)(a) of the Act as species which must be controlled
- Category 2 Listed Invasive Species: Category 2 Listed Invasive Species are those species listed by notice in terms of section 70(1)(a) of the Act as species which require a permit to carry out a restricted activity within an area specified in the Notice or an area specified in the permit, as the case may be

- Category 3 Listed Invasive Species: Category 3 Listed Invasive Species are species that are listed by notice in terms of section 70(1)(a) of the Act, as species which are subject to exemptions in terms of section 71(3) and prohibitions in terms of section 71A of Act, as specified in the Notice

The provisions of this Act will be considered and where relevant incorporated into the proposed mitigation measures and requirements of the EMPR during the EIA phase of this application.

10.1.5 The Sub-Division of Agricultural Land Act

In terms of the Subdivision of Agricultural Land Act, 1970 (Act 70 of 1970), any application for change of land use must be approved by the Minister of Agriculture, while under the Conservation of Agricultural Resources Act (Act 43 of 1983) no degradation of natural land is permitted.

10.1.6 The Conservation of Agricultural Resources Act

The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983) states that the degradation of the agricultural potential of soil is illegal. The Act requires the protection of land against soil erosion and the prevention of water logging and salinization of soils by means of suitable soil conservation works to be constructed and maintained. The utilisation of marshes, water sponges and watercourses are also addressed in this report.

10.1.7 The National Environmental Management: Protected Areas Act

The National Environmental Management: Protected Areas Act, 2003 (NEMPAA - Act 57 of 2003) observes to: "provide for the protection and conservation of ecologically viable areas representative of South Africa's biological biodiversity and its natural landscapes and seascape; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas; for the continued existence, governance and functions of South African National Parks; and for matters in connection therewith.

- The objectives of this Act are:
 - (a) To provide, within the framework of the national legislation, including the National Environmental Management Act, for the declaration and management of protected areas.
 - (b) To provide for co-operation governance in the declaration and management of protected areas.
 - (c) To effect a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity.
 - (d) To provide for a diverse and representative network of protected areas on state land, private land, communal land and marine water.
 - (e) To promote sustainable utilisation of protected areas for the benefit of people, in a manner that would preserve the ecological character of such areas.
 - (f) To promote participation of local communities in the management of protected areas, when appropriate.
 - (g) To provide for the continued existence of South African National Parks.

10.1.8 National Water Act

The National Water Act, 1998 (NWA - Act 36 of 1998) makes provision for two types of application for water use licences, namely individual applications and compulsory applications. The NWA also provides that the responsible authority may require an assessment by the Applicant of the likely effect of the proposed licence

on the resource quality, and that such assessment be subject to the EIA Regulations. A person may use water, if the use is -

- Permissible as a continuation of an Existing Lawful Water Use (ELWU).
- Permissible in terms of a General Authorisation (GA).
- Permissible under Schedule 1.
- Authorised by a License.

The NWA defines 11 water uses. A water use may only be undertaken if authorised. Water users are required to register certain water uses that actually took place on the date of registration, irrespective of whether the use was lawful or not.

Section 21 of the National Water Act 1998 lists the following 11 water uses which can only be legally undertaken through the water use authorisation issued by the Department of Water and Sanitation (DWS):

- (a) Taking water from a water resource.
- (b) Storing water.
- (c) Impeding or diverting the flow of water in a watercourse.
- (d) Engaging in a stream flow reduction activity contemplated in Section 36.
- (e) Engaging in a controlled activity identified as such in Section 37(1) or declared under Section 38(1).
- (f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduits.
- (g) Disposing of waste in a manner which may detrimentally impact on a water resource.
- (h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process.
- (i) Altering the bed, banks, course or characteristics of a watercourse.
- (j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.
- (k) Using water for recreational purposes.

In terms of the National Water Act, a Water Use License Application will be lodged for the relevant Water Uses as detailed in Table 2.

10.1.9 National Heritage Resources Act

The National Heritage Resources Act, 1999 (NHRA - Act 25 of 1999) stipulates that cultural heritage resources may not be disturbed without authorisation from the relevant heritage authority. Section 34(1) of the NHRA states that, "no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority..." The NHRA is utilised as the basis for the identification, evaluation and management of heritage resources and specifically, those resources impacted on by development as stipulated in Section 38 of NHRA, and those developments administered through NEMA and MPRDA legislation. In the latter cases the feedback from the relevant heritage resources authority is required by the State and Provincial Departments managing these Acts before any authorisations are granted for development.

The last few years have seen a significant change towards the inclusion of heritage assessments as a major component of Environmental Impacts Processes required by NEMA and MPRDA. This change requires us to evaluate the Section of these Acts relevant to heritage (Fourie, 2008b). The NEMA 23(2)(b) states that an integrated environmental management plan should, "...identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage".

A study of subsections (23)(2)(d), (29)(1)(d), (32)(2)(d) and (34)(b) and their requirements reveals the compulsory inclusion of the identification of cultural resources, the evaluation of the impacts of the proposed activity on these resources, the identification of alternatives and the management procedures for such cultural resources for each of the documents noted in the Environmental Regulations. A further important aspect to be taken account of in the Regulations under NEMA is the Specialist Report requirements laid down in Section 33 (Fourie, 2008b).

MPRDA defines 'environment' as it is in the NEMA and therefore acknowledges cultural resources as part of the environment. Section 39(3)(b) of this Act specifically refers to the evaluation, assessment and identification of impacts on all heritage resources as identified in Section 3(2) of the National Heritage Resources Act that are to be impacted on by activities governed by the MPRDA. Section 40 of the same Act requires the consultation with any State Department administering any law that has relevance on such an application through Section 39 of the MPRDA. This implies the evaluation of Heritage Assessment Reports in Environmental Management Plans or Programmes by the relevant heritage authorities (Fourie, 2008b).

In accordance with the legislative requirements and EIA rating criteria, the regulations of the South African Heritage Resources Agency (SAHRA) and Association of Southern African Professional Archaeologists (ASAPA) have also been incorporated to ensure that a comprehensive and legally compatible Heritage Impact Assessment Report is compiled.

10.1.10 Spatial Planning and Land Use Management Act

The Spatial Planning and Land Use Management Act 16 of 2013 (SPLUMA) promotes optimal exploitation of minerals and mineral resources. The Act provides a framework for a planning system for the country. The Act introduces provisions to cater for development principles; norms and standards; inter-governmental support; Spatial Development Frameworks (SDFs) across national, provincial, regional and municipal areas, Land Use Schemes (LUS), and municipal planning tribunals.

11. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITY

MCCP is proposing to optimise resource extraction through applying for a Mining Right. The anticipated market prices in the medium and long-term are considered to be favourable for project development. The project is likely to contribute greatly to the socio-economic status quo in the form of increased income, employment and other benefits that would cascade through the local, regional and national levels.

Mining is important for economic development, to construct durable, modern structures, employment creation and revenue collection. The proposed site has previous sand mining activities, known to provide good quality silica sand to the local and regional building industry. This type of sand is commonly utilised in concrete mixtures in the construction industry. Sand is also used for mortar and rendering of plastered walls. The project site is located in the Ngwathe Local Municipality, and according to the municipality's 2018/19 Local Economic Development Strategy, the identified economic sectors of the municipality are Tourism, Agriculture, Manufacturing and Mining.

Extensive investigations have revealed that there is a shortage of alluvial silica sand in the PWV industrial complex. Alluvial silica sand has a greater utility than silica sand that is created by means of crushing processes. Furthermore many of the previously existing abundant alluvial silica sand mines located in the Vaal Triangle (such as Copper Sunset, Skysand and Mission Point mines) are on the verge of being exhausted, thus making the mining of the existing resource at the Pure Source Mine both necessary and desirable, with regards to economic considerations.

12. CONSIDERATION OF ALTERNATIVES

The identification of alternatives is a key aspect of the success of the environmental impact assessment process. All reasonable and feasible alternatives must be identified and screened to determine the most suitable alternatives to consider in this application. There are however, some constraints that have to be taken into account when identifying alternatives for a project depending on the scope. Such constraints include financial, social and environment related constraints. Alternatives can typically be identified according to:

- Activity alternatives.
- Location alternatives.
- Design or layout alternatives.
- Technology alternatives.
- Operational alternatives.
- No-Action alternative (No-Go).

Alternatives are typically distinguished into discrete or incremental alternatives. Discrete alternatives are overall development options, which are typically identified during the pre-feasibility, feasibility and/or environmental impact assessment process. Incremental alternatives typically arise during the environmental impact assessment process and are usually suggested as a means of addressing/mitigating identified impacts (mining in low sensitivity areas). These alternatives are closely linked to the identification of mitigation measures and are therefore not specifically identified as distinct alternatives.

For any alternative to be considered feasible, such an alternative must meet the need and purpose of the proposed activity without presenting significantly high associated impacts.

Activity and Location Alternatives

The proposed activity is mining. The geology is the primary driver in determining the location for mining. The application area has been selected based on historical and active mining operations in the immediate surroundings of the application area (there are two operational sand mines adjacent to the application area), along with historical and current data that indicate the economic viability of the sand, aggregate/gravel and alluvial diamond minerals to occur. As such, neither activity nor location alternatives were considered.

No Go Alternative

The “No Go” or “No Action” alternative refers to the alternative of not embarking on the proposed project at all. This alternative would denote the current status quo without the proposed project. It is important to note that the No Go alternative is the baseline against which all other alternatives and the development proposal are assessed.

When considering the No Go alternative, the impacts (both positive and negative) associated with any other specific alternative or the current project proposal would not occur and in effect the impacts of the No Go alternative are therefore inadvertently assessed by assessing the other alternatives. In addition to the direct implications of retaining the status quo there are certain other indirect impacts, which may occur should the No Go alternative be followed. The No Go alternative as a specific alternative is not considered feasible for the following reasons:

- The Applicant holds an Environmental Authorisation for the establishment of an Eco-Estate with residential, resort and conservation land uses. Certain areas of the application area are currently utilised for agricultural purposes (in the form of game farming and maize crop production) and eco-tourism. These two functions will continue to remain the primary land uses during the mining

activities. If the project is rejected, the Applicant will progress with the establishment of the Eco-Estate (with some agriculture). As such, the status quo of the properties under application will ultimately change, irrespective of the mining activities.

- Mining is important for economic development, to construct durable, modern structures, employment creation and revenue collection. The proposed site has previous sand mining activities, known to provide good quality silica sand to the regional and local building industry.
- Extensive investigations have revealed that there is a shortage of alluvial silica sand in the PWV industrial complex. Alluvial silica sand has a greater utility than silica sand that is created by means of crushing processes. In addition, many of the previously existing abundant alluvial silica sand deposits located in the Vaal Triangle are on the verge of being exhausted, thus making the mining of the existing resource at the Pure Source Mine both necessary and desirable, with regards to economic considerations
- Furthermore, if this project is approved, it will ensure that no economically viable mineral resources will be sterilised and that the benefits of the resources available in the area will be maximised.

The No Go alternative, as a specific alternative will not be considered further.

For the purpose of this project, the need and justification for alternatives was specifically guided by the relatively low sensitivity of the receiving socio-economic and biophysical environment as well as the geology. Three alternative sites are considered for the location of the supporting mining infrastructure within the application area.

12.1 Site Alternative 1

Site Alternative 1 (Site 1, Figure 1) is the preferred site for the project. Site 1 is located near the south eastern border of Remaining Extent of Portion 1 of Woodlands 407 on a disturbed area (Figure 11). The site is strategically placed to be in close proximity to the main sand resource, the S171 tar road and power supply. The footprint of the infrastructure (excluding roads, power line and water supply) is approximately 13.5 ha.

Advantages:

- The site is currently disturbed and no additional encroachment on natural vegetation will be required.
- This location will have the least impact on the migration patterns of the game that roam on the farm due to the fact that previous mining occurred in this area. It is also near the perimeter of the farm, bordered by fenced agricultural fields on two sides.
- It is in close proximity to existing infrastructure such as a public road network and power supply, therefore minimising construction and operational impacts.
- It is in close proximity to the main sand and aggregate deposits which in turn requires the least distance for transporting material.
- The site and proposed mine layout, provides a safe separation between active mining in the pit, and vehicle circulation for product collection.
- The site is furthest away from the nearest residential development.

Disadvantages:

- The site is fairly exposed and visible from potential sensitive viewpoints.

12.2 Site Alternative 2

Site Alternative 2 (Site 2, Figure 1) is located near the western border of Remaining Extent of Woodlands 407 adjacent to an abandoned gravel pit (Figure 12). The settling ponds and pollution control dam are proposed in the borrow pit to make use of the existing depression. The remainder of the infrastructure will be located on

existing cultivated farmland. This site is approximately 1.3 km north of the S171 and east of the main sand deposit. The footprint of the infrastructure (excluding roads, power line and water supply) is approximately 13.5 ha.

Advantages:

- The site is fairly well concealed from potential sensitive viewpoints.
- It makes use of an abandoned borrow pit for the settling and pollution control dams thereby minimising the disturbance footprint.

Disadvantages:

- Part of the site will encroach on actively cultivated agricultural fields.
- An existing transmission line separates the site from the main sand deposit which will create difficulties in transporting the material to and from the processing plant.
- General requirements for mining activities at or near Eskom infrastructure include restrictions of certain activities (such as truck circulation) that may not occur under their powerlines or within their servitude.
- The site is further away from the public road and power supply, therefore requiring greater infrastructure development which may increase construction and operational impacts.

12.3 Site Alternative 3

Site Alternative 3 (Site 3, Figure 1) is located on Remaining Extent of Portion 1 of Woodlands 407, near its eastern border and just north of the main sand deposit (Figure 13). It is approximately 1.2 km north of the S171. The existing vegetation cover is predominantly grassland. The footprint of the infrastructure (excluding roads, power line and water supply) is approximately 13.5 ha.

Advantages:

- The site is fairly well concealed from potential sensitive viewpoints.

Disadvantages:

- The entire site will encroach on natural grassland which is utilised by the game for grazing.
- The site will most probably interfere with the game's migration patterns as it is fairly close to the centre of the 3 farm portions.
- A part of the site will fall within a preliminary wetland buffer.
- The site is closest to the nearest residential development and may increase impacts such as noise, etc.
- The site is further away from the public road and power supply, therefore requiring greater infrastructure development which may increase construction and operational impacts.

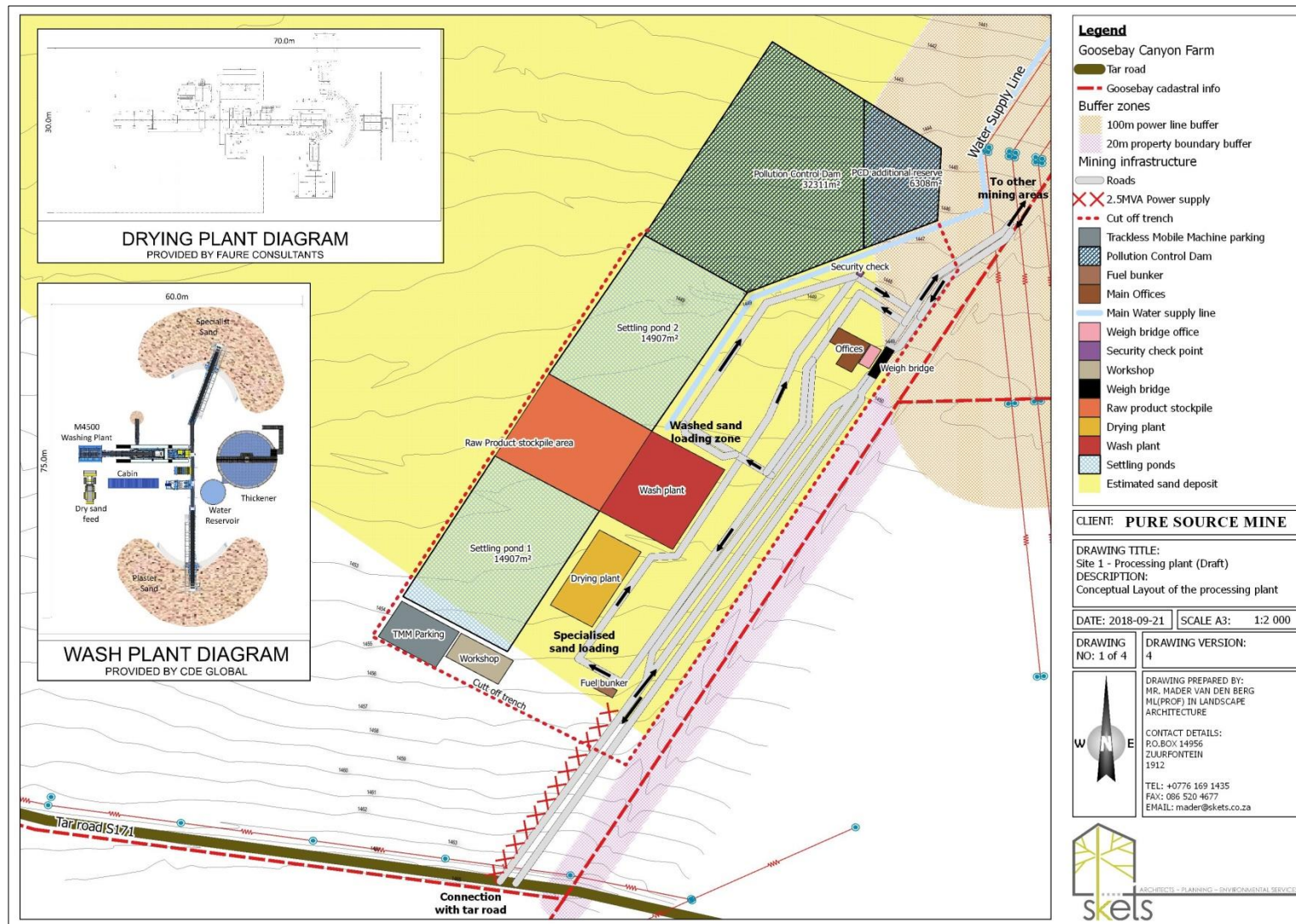


Figure 11: Site alternative 1 (refer to Appendix D for enlarged map).

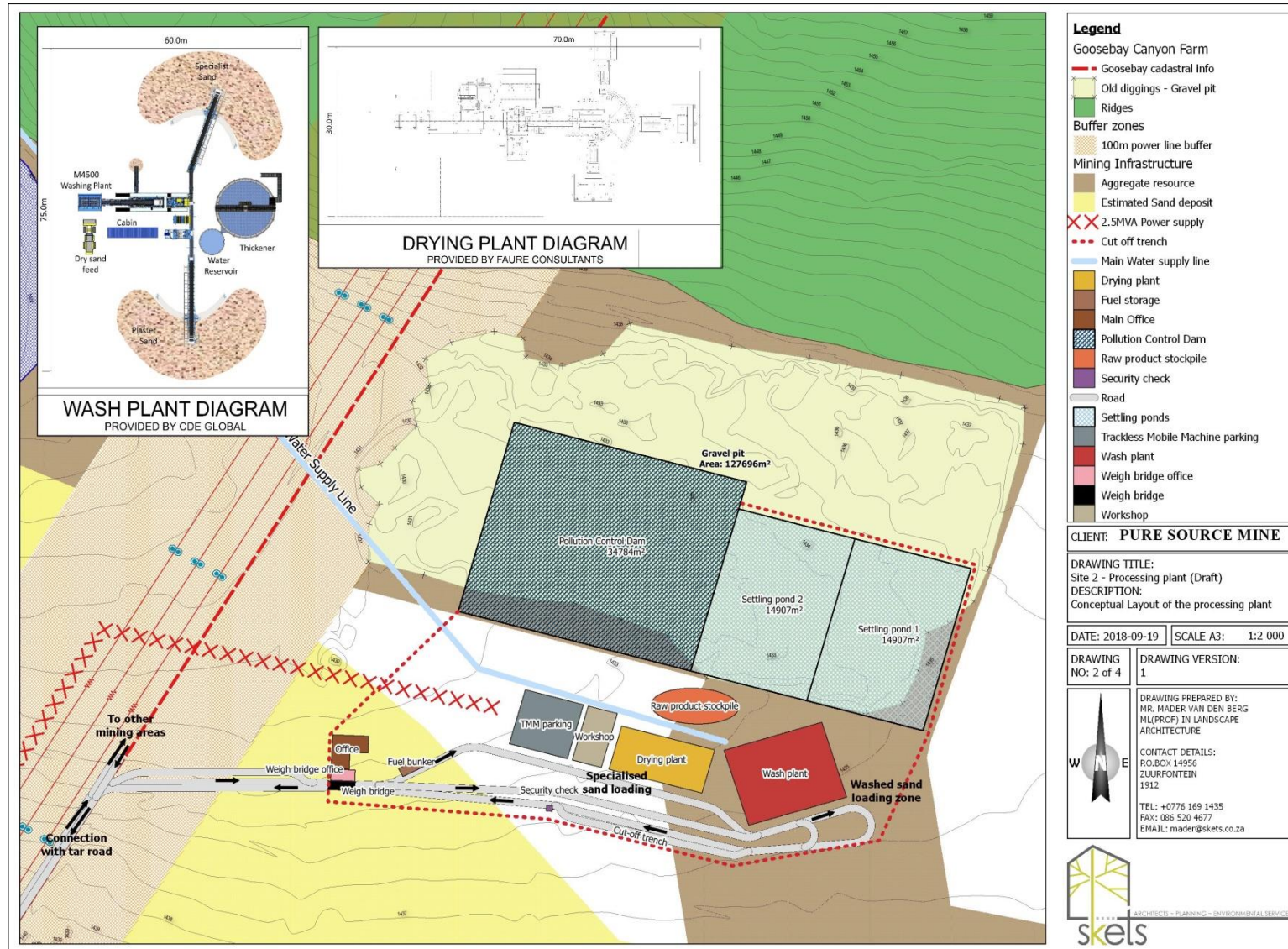


Figure 12: Site alternative 2 (refer to Appendix D for enlarged map).

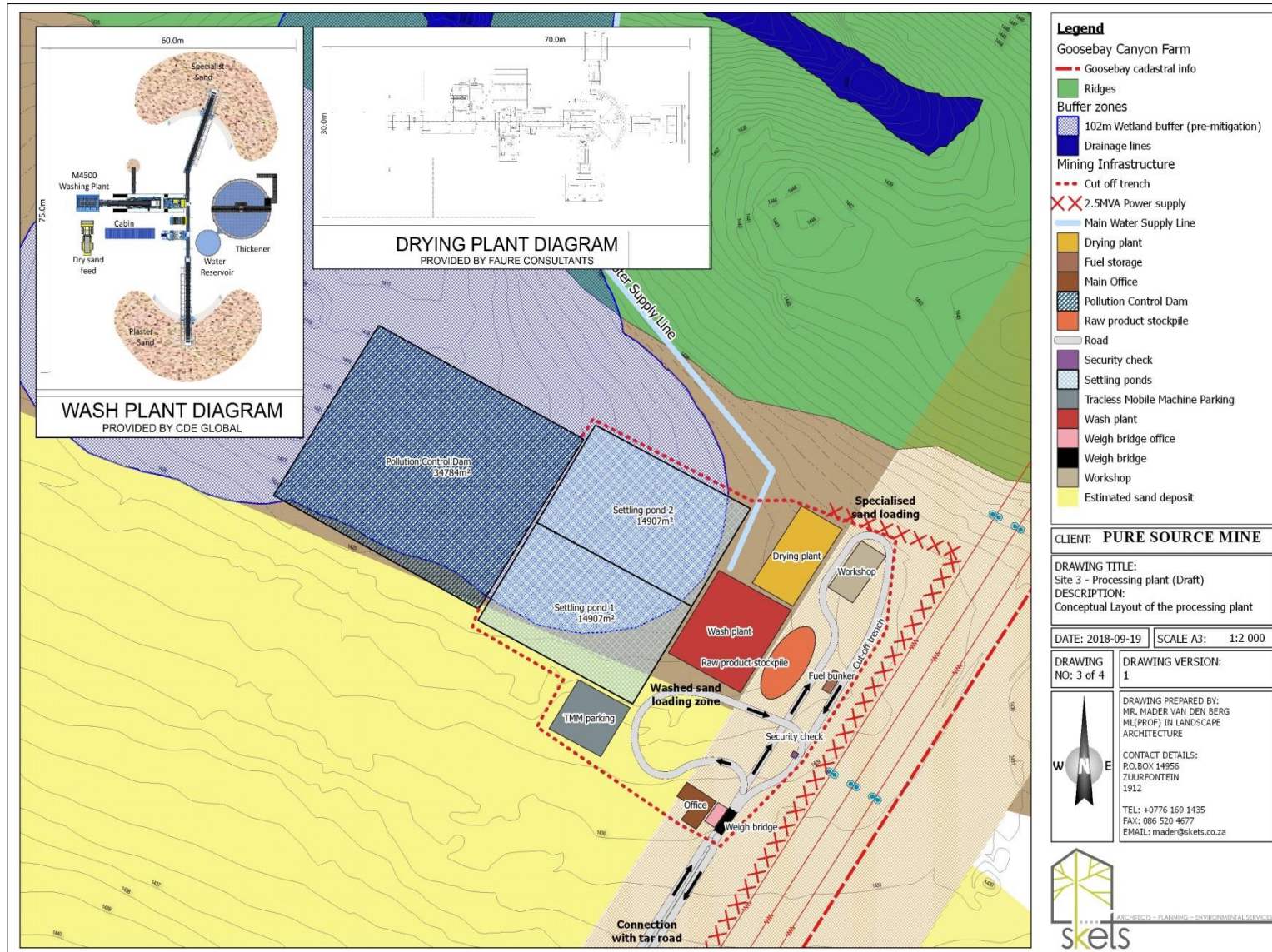


Figure 13: Site alternative 3 (refer to Appendix D for enlarged map).

13. PUBLIC PARTICIPATION PROCESS

13.1 Public Participation Methodology

South Africa, being one of the countries with the most progressive constitutions, enshrined the public's right to be involved in decisions. Section 57(1) of the new Constitution that provides: "The National Assembly may (b) make rules and orders concerning its business, with due regard to representative and participatory democracy, accountability, transparency and public involvement". This provision, along with several others gave rise to many new trends in South African legislation. In environmental legislation, the idea of public participation (or stakeholder engagement) features strongly and especially the National Environmental Management Act, 1998 (Act 107 of 1998, NEMA – as amended) and the recent regulations passed under the auspices of this Act make very strict provisions for public participation in environmental decision-making.

Public participation can be defined as "a process leading to a joint effort by stakeholders, technical specialists, the authorities and the proponent who work together to produce better decisions than if they had acted independently" (Greyling, 1999). From this definition, it can be seen that the input of the public is regarded as very important indeed.

The Public Participation Process (PPP) is designed to provide sufficient and accessible information to Interested and Affected Parties (I&APs) in an objective manner to assist them to:

- During the Scoping Phase:
 - Raise issues of concern and suggestions for enhanced benefits.
 - Verify that their issues have been recorded.
 - Assist in identifying reasonable alternatives.
 - Provide relevant local information and knowledge to the environmental assessment.
- During the Environmental Impact Assessment (EIA) Phase:
 - Contribute relevant local information and knowledge to the environmental assessment.
 - Verify that their issues have been considered in the EIA process.
 - Comment on the findings of the environmental assessments.
- During the decision-making phase:
 - Obtain information on the outcome, i.e. the competent authority's decision, and how and by when the decision can be appealed.

Refer to Appendix E for proof of the PPP undertaken to date.

13.2 Identification of I&APs

I&APs referred to in this report include:

- Pre-identified and registered landowners and adjacent landowners.
- Pre-identified and registered key stakeholders.
- I&APs who responded to the pre-notification and requested to be registered.
- I&APs who responded to the initial and Draft Scoping Report notification and requested to be registered.
- I&APs who attended the Public Participation meetings and requested to be registered.

The pre-identified I&APs were identified through various avenues such as WinDeed Searches and identification of key interest groups and authorities. Other I&APs were identified through obtaining a list of people who had previously registered as I&APs during the PPP for the initial application lodged by Goosebay Farm (Pty) Ltd. A large number of I&APs registered in response to the pre-notification which was sent to pre-identified I&APs on the 5th September 2018.

The I&AP database was compiled containing the following categories of stakeholders:

- National, provincial and local government.
- Agricultural sector.
- Organised business.
- Host and adjacent communities.
- Land claimants.
- Other organisations, clubs, communities, and unions.
- Various Non-Government Organisations (NGOs).

13.3 List of Authorities Identified and Notified

The following authorities have been identified and notified of the proposed Pure Source Mine:

- Ngwathe Local Municipality.
- Fezile Dabi District Municipality.
- Emfuleni Local Municipality.
- Sedibeng District Municipality.
- JB Marks Local Municipality
- Dr Kenneth Kaunda District Municipality.
- Free State Department of Economic Development, Tourism, Environmental Affairs and Small Business.
- Free State Department of Agriculture, Rural Development, Land and Environmental Affairs.
- Free State Department of Mineral Resources.
- Free State Department of Agriculture and Rural Development.
- Free State Department of Human Settlements.
- Free State Department of Cooperative Governance, Traditional Affairs and Human Settlements.
- Free State Department of Police, Roads and Transport.
- Free State Department of Public Works.
- Free State Department of Water and Sanitation.
- Gauteng Department of Economic Development.
- Gauteng Department of Agriculture and Rural Development.
- Gauteng Department of Cooperative Governance and Traditional Affairs.
- Gauteng Department of Human Settlements.
- Gauteng Department of Roads and Transport.
- North West Department of Economic Development, Environment, Conservation and Tourism.
- North West Department of Rural, Environmental and Agricultural Development.

- North West Department of Rural, Environmental and Agricultural Development.
- North West Department of Rural, Environmental and Agricultural Development.
- North West Department of Water and Sanitation.
- North West Department of Rural Development and Land Reform.
- North West Department of Public Works, Roads and Transport.
- North West Department of Agriculture.
- Northwest Provincial Heritage Resources Authority - NWPHRA.
- North West Department of Agriculture, Forestry and Fisheries.
- North West Department of Agriculture and Environmental Affairs.
- North West Parks Board.
- South African Water Research Commission.
- South African Heritage Resources Agency.
- National Department of Rural Development and Land Reform.
- National Department of Mineral Resources.
- National Department of Agriculture, Forestry and Fisheries.
- National Department of Environmental Affairs.
- The Council for Scientific and Industrial Research - CSIR.
- South African National Roads Agency Ltd – SANRAL.
- Eskom.
- Transnet.

13.4 List of Key Stakeholders Identified and Notified

The following key stakeholders have been identified and notified of the proposed Pure Source Mine:

- BirdLife SA.
- Federation for a Sustainable Environment.
- Endangered Wildlife Trust – EWT.
- Wildlife and Environment Society of South Africa – WESSA.
- Protect Vaal Eden Committee.
- Friends of Vredefort Dome World Heritage Site.
- Save the Vaal Environment.
- Goose Bay Canyon Recreation and Power Boat Club.
- Goose Bay Canyon Share Block (Pty) Ltd.
- Porcupine Ridge Eco Estate Homeowners Association.
- Vaaloewer Ratepayers Association.
- The Save Committee.
- Free State Dome Landowners Association/Vredefort Dome Landowners Association.
- North West Dome Landowners Association.
- Vredefort Dome Tourism Association.
- The Savannah Africa.

13.5 List of Surface Rights/Land Owners Identified and Notified

Mr Mark van Wyk/Goosebay Farm (Pty) Ltd has been identified as the surface right/landowner of the area under application.

13.6 List of Adjacent Landowners Notified

The following adjacent landowners have been identified and notified of the proposed Pure Source Mine:

- Temlett Hugh William/Leafy Glade Props 4 (Pty) Ltd/Goose Bay Canyon Golf Estate (Pty) Ltd/ Goosebay Canyon Country Club (Pty) Limited.
- Zeekoefontein Family Trust.
- Fourie Antionetta Maryna/Modans Inv CC.
- Strydom Johannes Rudolph.
- Theron Gertruida/Theron Paulus Stephanus.
- Cronk William Arthur.
- Human Petro Johanna/ Nonyana River Estate (Pty) Ltd.
- Greyling Johanna Susanna/ Rainbow Place Prop 168 (Pty) Ltd.
- Streetwise Shopping Centre CC.
- Plaas Seekoefontein Beleggings CC.
- Daniel Van Zyl/Daniel Van Zyl Familie Trust.
- Mull Emmerentia/Mull Manfred Hermann/Themuel's Enterprises CC.
- Jackson Demi Megan.
- Kuchenbecker Anna Susanna.
- Kajee Mohammed Ameen/ Amroz Inv CC.
- Rieple Heinz-Joachim.
- Tille Kurt/ Zebra Pond CC.
- Van Nugteren Cornelius/Van Nugteren Carlette.
- Pistorius Family Trust.
- Dadabhay Yusuf/Noldick Prop CC.
- Vaal Eiendomme (Pty) Ltd.
- Abdullah Ismail Ebrahim.
- Kruger Anita Michaela.
- C J Terblanche Beleggings (Pty) Ltd.
- Elizabeth Jacoba Muller.
- Petrus Johannes Koekemoer/Sakha Indlu Development and Construction (Pty) Ltd.
- Dennis Clive Rogers/Sakha Indlu Development and Construction (Pty) Ltd.
- Daniel Jacobus Basch/Sakha Indlu Development and Construction (Pty) Ltd.
- Christiaan Johann Gerber/Sakha Indlu Development and Construction (Pty) Ltd.
- Johnny Kasimatis/ Sakha Indlu Development and Construction (Pty) Ltd.
- Davendranath Maharaj/Sakha Indlu Development and Construction (Pty) Ltd.
- Hellenis Gerhardus Rens/Sakha Indlu Development and Construction (Pty) Ltd.
- Athos Phytides.
- Mark Allan Santana.
- Rudolff Wilhelm Hendrik Gersteling.
- Pierre van Renen.
- Deon Nico Strydom.
- Abrie Hannekom/Hanekom Trust.
- Jonathan van Aswegen/Van Aswegen Testamentere Trust.
- Stephen Jacobs.
- P J van Rensburg.
- Johanna Getruida Terblanche/Noord Vrystaat Graan and Vee (Pty) Ltd.
- Christiaan Strauss.
- Ananias Bernardus Buys/Vidimax Investments (Pty) Ltd.
- Kim Beverley Muller/Little Swift Investments Four Six Eight (Pty) Ltd.
- Petronella Jacoba De Beer/Encibrite Ltd.
- Johannes Christiaan de Beer.
- Johan George Wassermann.
- Johannes Ernst Helmbold.
- Leeupoort Trust.
- Luis Miguel De Azevedo Ferreira.
- L D C Family Trust.
- Christian Gouws/Ilifu Trading 325 CC.
- Arnoldus Stephanus de Beer/Erf 32 Welbedacht (Pty) Ltd.

- Louisa Johanna Wolmarans/Erf 33 Welbedacht (Pty Ltd.
- Louisa Johanna De Beer/Biz Afrika 1646 (Pty) Ltd.
- Peter Trevor Norman van Heerden.
- Mohamed Farhad Areff.
- Salmoen Everhardus van Rooyen/Manswarrio Property (Pty) Ltd.
- Gail Burger.
- S E van Rooyen.
- Vela Mngwengwe/Republic of South Africa /Department of Rural Development and Land Reform.
- Merlin Trust.
- Jonathan van Aswegen.
- Manie Greef.
- P J van Rensburg.
- P C Rensburg.
- L Koekemoer.
- Trevor van Heerden.

13.7 Notification of I&APs

This section provides details on the notification that was distributed as part of the S&EIA process to date.

13.7.1 Pre-Notification

Prior to commencement of the PPP, pre-notification was distributed to I&APs on the 5th September 2018. The pre-notification was sent via e-mail, fax and registered mail. The purpose of the pre-notification was to notify I&APs of the changes in respect of the project, such as the change in the EAP and to make I&APs aware of the new Mining Right Application lodged under the new company, Monte Cristo Commercial Park (Pty) Ltd, amongst others.

13.7.2 Initial Project Notification

The PPP commenced on the 5th October 2018 with an initial notification and call to register period ending on the 9th November 2018. Initial notification was given in the following manner detailed below.

13.7.2.1 Registered Letters, Faxes and E-mails

Notification letters, faxes and e-mails were distributed to all pre-identified I&APs (including affected and adjacent surface landowners, government organisations, NGOs, relevant municipalities, ward councillors and other organisations that might be affected. The notification letters included the following information:

- Background information on the Applicant.
- List of anticipated activities to be authorised.
- Scale and extent of activities to be authorised.
- Sufficient detail of the intended operation (to enable I&APs to assess/surmise what impact the activities will have on them or on the use of their land).
- The purpose of the proposed project.
- Details of the affected properties (including a locality map).
- Details of the MPRDA, NEMA and NWA Regulations that must be adhered to.
- Date by which any request to register as an I&AP must be forwarded to Shango Solutions.
- Contact details of the EAP.

In addition, a questionnaire was included in the registered mail, e-mails and faxes sent, and requested the following information from I&APs:

- Information on any potential impacts from the proposed project.
- Suggestions on potential mitigation measures for the anticipated impacts.
- Information on current land uses and their location within the area.

- Information on the location of any environmental features of note within and in the vicinity of the study area.
- Details of the landowner and information (contact details) of lawful property occupiers, if any.
- Details of any other I&APs that should be notified.
- Details on any land developments proposed in the near future.
- Any specific comments or concerns regarding the application.

13.7.2.2 Background Information Document (BID)

A Background Information Document (BID) (in English, Afrikaans and Sesotho) was prepared, distributed to I&APs and made available on the Shango Solutions website (<http://www.shango.co.za/public-documents>). The BID includes the following information:

- Background information on the Applicant.
- Project location.
- Map of the proposed project area.
- Project description and associated infrastructure.
- Anticipated services.
- Details of the MPRDA, NEMA and NWA Regulations that must be adhered.
- Preliminary potential impacts.
- Specialist assessments undertaken in support of this application.
- Description of the application process.
- Information on document review.
- Relevant Shango Solutions contact person for the project.

13.7.2.3 Newspaper Advertisement

Newspaper advertisements (in English, Afrikaans and Sesotho) describing the proposed project were placed in The Star which is a national newspaper with adequate circulation in the area. The newspaper advertisements included the following information:

- Project name.
- Applicant name.
- Project location.
- Nature of the activity.
- Details of the MPRDA, NEMA and NWA Regulations that must be adhered.
- Information on document review.

13.7.2.4 Site Notice Placement

Twenty (20) A1 correx board site notices (in English, Afrikaans and Sesotho) were placed within and around the perimeter of the proposed project area. The on-site notices included the following information:

- Applicant name and background information on the Applicant.
- Project description and associated infrastructure.
- Details of the MPRDA, NEMA and NWA Regulations that must be adhered.
- Project location and a map of proposed project area.
- Information on document review.
- Relevant Shango Solutions contact person for the project.

13.7.2.5 Poster Placement

A3 posters (in English, Afrikaans and Sesotho) were placed at local public gathering places within and around the application area. The notices and written notification afforded all pre-identified I&APs the opportunity to register for the project as well as to submit their issues/queries/concerns and indicate the contact details of any other potential I&APs that should be contacted.

13.7.3 Availability of the Draft Scoping Report Notification

The Draft Scoping Report was made available for public review and comment for a period of at least 30 days, from the 8th October 2018 to 9th November 2018. All I&APs (pre-identified I&APs, I&APs registered during the pre-notification period, as well as adjacent and surrounding landowners) were notified on the 5th October 2018 of the availability of the Draft Scoping Report and where to locate it. I&APs were also informed of the timeframes for comments/concerns and queries to be submitted to Shango Solutions.

The Draft Scoping Report was made available at the Vintage Yard Wedding Venue in the Free State Province for perusal and comment by all I&APs. Furthermore, the report was made available on the Shango Solutions website for download. Comments received from I&APs during the Draft Scoping Report review period are included in the Final Issues and Responses Report that is submitted to the DMR as part of this Final Scoping Report.

Notification regarding the availability of the Draft Scoping Report, a component of the PPP, was given in the following manner:

13.7.3.1 Notification Letters

Notification letters (in English, Afrikaans and Sesotho) were distributed to I&APs (pre-identified I&APs, I&APs registered during the pre-notification period, as well as adjacent and surrounding landowners) via fax, e-mail and/or registered mail on the 5th October 2018.

13.7.3.2 Newspaper Advertisements

Newspaper advertisements specifying where the Draft Scoping Report is located were placed in The Star, which is a national newspaper with adequate circulation in the area, on the 5th October 2018.

13.7.3.3 SMS Notification

SMS notification was sent out to all I&APs with a cellphone number on the I&AP Database.

13.7.4 Public Participation Open Days/Meetings

During the 30 day Draft Scoping Report review period, an Open Day was held to present the findings of the Scoping Phase. The Open Day took place on the 24th October 2018. Notification documents regarding the Open Day were sent out to all pre-identified and registered I&APs. The documents included details on the venue, date as well as the duration of the Open Day.

During the Open Day session, 32 informative posters were displayed on the walls by Shango Solutions (the EAP) prior to the open session. A4 versions of the Open Day posters were provided to I&APs. The EAP as well as relevant project specialists were available during the public Open Day for one on one discussions and questions from the public.

Audio recordings of the Open Day taken by Renee de Jong Hartsliet are presented in the CD back pocket of this Final Scoping Report.

13.7.5 Additional Public Consultation

As stated above, the Stakeholder Open Day took place on the 24th October 2018. Following further requests from I&APs, an additional public consultation meeting was scheduled and it took place on the 10th November 2018. Invitations to attend the additional public consultation were distributed via e-mails, faxes on the 26th October 2018 and SMSes on the 29th October 2018. Twenty (20) A3 correx board site notices were placed within and around the application area informing the public on the date, time and venue for the additional public meeting. In addition, A3 posters were placed at local public gathering places surrounding application area on the 6th November 2018.

During the additional public consultation, various aspects regarding the proposed project were discussed and concerns, queries, comments and suggestions raised by the meeting attendees were recorded. The Notes for the Record (Version 1) were distributed to attendees of the additional public consultation on the 22nd November 2018, for review and comment. In addition, video recordings of the meeting were made available on the Shango Solutions website. The recordings form part of the CD back pocket of this Final Scoping Report and will also remain on the Shango website. I&APs were advised to provide comment by no later than the 30th November 2018. Comments received during the review period were utilised to compile the revised Notes for the Record (Version 2), which were distributed to attendees on the 30th November 2018, for their review and comment. I&APs were advised to provide comment by no later than the 7th December 2018. The Notes for the Record provided as an appendix (Appendix E) to this Final Scoping Report constitute Version 3 of these Notes.

13.8 How Issues Raised Were Addressed

Issues raised during the draft Scoping Report review period, including oral and written comments submitted by I&APs during the Open Day and the Additional Public Consultation event, are included in this Final Scoping Report for submission to the DMR.

13.9 Summary of Issues Raised by I&APs

Table 7 details comments received by Shango Solutions to date and these comments have been included in the Issues and Responses Report (Appendix E) as part of the submission to the DMR (the Competent Authority).

Table 7: Summary of issues raised by I&APs during the pre-notification phase.

I&AP	Method	Date	Issue	Response
Key Stakeholders				
Landowner/s				
Mark van Wyk/Goosebay Farm (Pty) Ltd			No comment received at this stage.	
Adjacent Landowner/s				
Temlett Hugh William/Leafy Glade Props 4 (Pty) Ltd/Goose Bay Canyon Golf Estate (Pty) Ltd/Goosebay Canyon Country Club (Pty) Limited			No comment received at this stage.	
Zeekoefontein Family Trust			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Fourie Antionetta Maryna/Modans Inv CC			No comment received at this stage.	
Strydom Johannes Rudolph			No comment received at this stage.	
Theron Gertruida/Theron Paulus Stephanus			No comment received at this stage.	
Cronk William Arthur			No comment received at this stage.	
Human Petro Johanna/Nonyana River Estate (Pty) Ltd			No comment received at this stage.	
Greyling Johanna Susanna/Rainbow Place Prop 168 (Pty) Ltd			No comment received at this stage.	
Streetwise Shopping Centre CC			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	

I&AP	Method	Date	Issue	Response
Plaas Seekoeifontein Beleggings CC			No comment received at this stage.	
Daniel Van Zyl/Daniel Van Zyl Familie Trust			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Mull Emmerentia/Mull Manfred Hermann/Themuel's Enterprises CC			No comment received at this stage.	
Jackson Demi Megan			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Kuchenbecker Anna Susanna			Information could not be sourced on WinDeed. Efforts will be made to solicit contact information during the EIA phase.	
Kajee Mohammed Ameen/ Amroz Inv CC			No comment received at this stage.	
Rieple Heinz-Joachim			No comment received at this stage.	
Tille Kurt/ Zebra Pond CC			No comment received at this stage.	
Van Nugteren Cornelius/Van Nugteren Carlette			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Pistorius Family Trust			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Dadabhay Yusuf/Noldick Prop CC			No comment received at this stage.	
Vaal Eiendomme (Pty) Ltd			No comment received at this stage.	
Abdullah Ismail Ebrahim			No comment received at this stage.	

I&AP	Method	Date	Issue	Response
Kruger Anita Michaela			No comment received at this stage.	
C J Terblanche Beleggings (Pty) Ltd			No comment received at this stage.	
Elizabeth Jacoba Muller			No comment received at this stage.	
Petrus Johannes Koekemoer/Sakha Indlu Development and Construction (Pty) Ltd			No comment received at this stage.	
Dennis Clive Rogers/Sakha Indlu Development and Construction (Pty) Ltd			No comment received at this stage.	
Daniel Jacobus Basch/Sakha Indlu Development and Construction (Pty) Ltd			No comment received at this stage.	
Christiaan Johann Gerber/Sakha Indlu Development and Construction (Pty) Ltd			No comment received at this stage.	
Johnny Kasimatis/ Sakha Indlu Development and Construction (Pty) Ltd			No comment received at this stage.	
Davendranath Maharaj/ Sakha Indlu Development and Construction (Pty) Ltd			No comment received at this stage.	
Hellenis Gerhardus Rens/ Sakha Indlu Development and Construction (Pty) Ltd			No comment received at this stage.	
Athos Phytides	E-mail	12 November 2018	Good day My name is Athos Phytides Contact Details : 083 629 7065 REF: FS 30/5/1/2/2/10048 MR	Dear Athos, Thank you for your mail. Based on the Traffic Impact Assessment, the proposed Pure Source Mine will be accessed by means of an existing farm access road from road S171. A visual investigation of the

I&AP	Method	Date	Issue	Response
			<p>My concern is the quality of the road and the amount of trucks on the road and the water table.</p> <p>Hope to hear from you soon</p> <p>Kind Regards</p> <p>Athos Phytides</p>	<p>relevant section of the road S171 was undertaken as part of the traffic assessment. According to the investigation, the road surface of S171 is in a poor condition with multiple potholes. In order to avoid further deterioration of this road, it is recommended that (i) a Roads Maintenance Plan, inclusive of upgrades, be prepared and that (ii) a pavement design specialist be commissioned to investigate the condition of the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <p>According to the Traffic Impact Assessment, it is expected that the proposed activities will have a manageable impact on traffic during all phases of the project, provided that road infrastructure improvements are implemented to mitigate the impact of the proposed land development area.</p> <p>Groundwater studies are still on-going. However, impacts on the water table could be associated with mine dewatering and water supply from groundwater resources. Both these impacts will be properly assessed and quantified during the EIA phase of the project.</p> <ul style="list-style-type: none"> • Mine dewatering <ul style="list-style-type: none"> - The process by which water is removed due to the mining process. The proposed mining is shallow (i.e. less than 20 m deep). The recorded water levels in the area are also shallow and interception of groundwater is likely. The water should be managed according to the National Environmental Management Act (NEMA) Requirements i.e. closed system separating contact with non-contact water. The drawdown of the water will be monitored with regional monitoring boreholes to correctly measure any potential impact and mitigate accordingly. • Water supply <ul style="list-style-type: none"> - This is currently on-going and additional studies are required to properly assess the impact on the local groundwater regime should groundwater be used and licensed for water supply.

I&AP	Method	Date	Issue	Response
				Should you have any further questions in this regard, please do not hesitate to contact me.
Simone Santana/ Allan Santana	E-mail	28 October 2018	<p>Noted with thanks.</p> <p>I would like to know if we (my husband Allan Santana and I of farm 2 Du Pont) need to still formally lodge an objection or if our attendance on Wednesday was sufficient to notify Shango and Pure Source mining of our intent as an affected and interested party?</p> <p>Regards, Simone Santana</p>	<p>Dear Simone,</p> <p>Thank you for your mail and for attending the Open Day held on Wednesday the 24th October 2018.</p> <p>This e-mail serves to notify you that you can still formally lodge a written objection to the above mentioned project.</p> <p>Should you have any further concerns in this regard, please do not hesitate to contact me.</p>
Simone Santana/ Allan Santana	E-mail	09 November 2018	<p>To Whom It May Concern:</p> <p>We would like to raise our objection, as owners of Plot 2, Pont de Val, Vaal Eden, Parys district, to the intention of Pure Source Mining Operations – owned by the Applicant Monte Cristo Commercial Park (Pty) Ltd – to the application for open cast mining which involves open pits and associated mining infrastructure.</p> <p>The objection raised by us should be noted on the following grounds:</p> <ol style="list-style-type: none"> 1. Our property's main purpose is our second dwelling out of Johannesburg to enjoy quiet family time. During our 10 years on our portion of the farm, we have enjoyed our solitude, peace, quiet and nature of the remote location. The remoteness from towns was a prime decision for our investment because we wanted a weekend and holiday escape. a. We are deeply concerned for the safety of our property which is mostly unoccupied during the week, we are as concerned for our safety for when 	<p>Dear Simone,</p> <p>Please see our responses in red.</p> <p>To Whom It May Concern:</p> <p>We would like to raise our objection, as owners of Plot 2, Pont de Val, Vaal Eden, Parys district, to the intention of Pure Source Mining Operations – owned by the Applicant Monte Cristo Commercial Park (Pty) Ltd – to the application for open cast mining which involves open pits and associated mining infrastructure.</p> <p>Your objection to the proposed Pure Source Mine is noted.</p> <p>The objection raised by us should be noted on the following grounds:</p> <ol style="list-style-type: none"> 1. Our property's main purpose is our second dwelling out of Johannesburg to enjoy quiet family time. During our 10 years on our portion of the farm, we have enjoyed our solitude, peace, quiet and nature of the remote location. The remoteness from towns was a prime decision for our investment because we wanted a weekend and holiday escape. a. We are deeply concerned for the safety of our property which is mostly unoccupied during the

I&AP	Method	Date	Issue	Response
			<p>our children and us are alone on the property during the times of occupancy. With the stated increase in temporary and permanent staff needing accommodation on the proposed farm, this would significantly expose our quiet location for unintended associates within your staffing commune. You therefor CANNOT guarantee the safety of our property, staff or family.</p> <p>b. The associated noise pollution that will be part of the mining operation would be unacceptable. Based on previous experience, your own clearing and machinery in preparation of the site (which has started) has continued till late at night and over weekends. This may or may not be with your consent – however we have witnessed this to be the case.</p> <p>c. The natural environment i.e. bird life, mammal and reptile species have already been impacted by the current mining operations and will continue to dwindle and eradicated with continued mining activity.</p> <p>2. Water supply –</p> <p>a. Our main water supply is from our borehole which has been tested and is of the cleanest and purest quality. Our main concern is the impact on our water source that over time – will contaminate this water source.</p> <p>b. The natural runoff of mining activity and any additional contamination by other sources such as effluent into the</p>	<p>week; we are as concerned for our safety for when our children and us are alone on the property during the times of occupancy. With the stated increase in temporary and permanent staff needing accommodation on the proposed farm, this would significantly expose our quiet location for unintended associates within your staffing commune. You therefor CANNOT guarantee the safety of our property, staff or family.</p> <p>Noted. Based on the Socio-Economic Impact Assessment, it is understood that an influx of workers and jobseekers to an area (whether locals are employed, or outsiders are employed) could increase the safety risks in the local area and have an impact on the local social dynamics. Where possible, the Applicant will source local labour within the surrounding townships. As such, there won't be a need for labourers to relocate to site. Labourers will be transported to and from site on a daily basis. Should locals be employed, it could minimise the perceived and actual risk in this regard. According to the Social and Labour Plan, Pure Source Mine will facilitate suitable employee accommodation that will allow employees to reside in a stable, healthy and secure environment within commuting distance from their place of work.</p> <p>b. The associated noise pollution that will be part of the mining operation would be unacceptable. Based on previous experience, your own clearing and machinery in preparation of the site (which has started) has continued till late at night and over weekends. This may or may not be with your consent – however we have witnessed this to be the case.</p> <p>According to the Noise Baseline Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. The following mitigation measures have been recommended</p>

I&AP	Method	Date	Issue	Response
			<p>Vaal river is also of grave concern. The Vaal river is a key water resource and with the high consumption of water required for your mining activity – we are completely opposed to pumping from or into the river system which is inevitable despite many assurances that this would not be the case</p> <p>3. The road usage –</p> <p>a. The current road infrastructure of the main road S171 is in complete disrepair due to the amount of heavy-duty trucks. The road is simply not suitable for the heavy equipment and heavily loaded vehicles – it is a rural road designed for minimal traffic and certainly not for the loaded capacity of trucks that will constantly be on this road.</p> <p>b. It is also our concern that the unsafe driving practices of your trucks will still cause a fatality – will this only be the point at which local government/department of mineral resources steps in?? When one of our communities has borne the brunt of greed?</p> <p>We request that this process be completely halted and that our rights as owners and peace-loving community members be put first.</p> <p>Regards, Simone and Allan Santana</p>	<p>in order to minimise noise impacts:</p> <ul style="list-style-type: none"> • Maintain vehicles and equipment in good working order. • Provide noise berms where possible between activities and receptors. • Conduct noise monitoring in response to noise complaints. <p>No mining operations are currently taking place as the Applicant is still in the process of applying for a Mining Right. Rehabilitation of the previously mined areas (under mining permits) is currently underway.</p> <p>The planned working hours for the proposed Pure Source Mine are as follows:</p> <ul style="list-style-type: none"> • For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the Environmental Impact Assessment (EIA) phase. c. The natural environment i.e. bird life, mammal and reptile species have already been impacted by the current mining operations and will continue to dwindle and eradicated with continued mining activity. <p>Your comment is noted. Based on the terrestrial biodiversity assessment undertaken in support of this application, open pit mining and site clearance for infrastructure and associated access roads may result in the loss of habitat for species of conservation concern as well as the displacement, direct mortalities and disturbance of the faunal community. The biodiversity specialist has recommended mitigation measures to minimise impacts on fauna, which include, but a not limited to, (i) avoiding high biodiversity sensitivity areas and complying with prescribed buffer zones</p>

I&AP	Method	Date	Issue	Response
				<p>as well as (ii) implementing training to ensure that all staff are aware of faunal sensitivity.</p> <p>2. Water supply –</p> <p>a. Our main water supply is from our borehole which has been tested and is of the cleanest and purest quality. Our main concern is the impact on our water source that over time – will contaminate this water source.</p> <p>Noted. According to the Groundwater assessment, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations.</p> <p>b. The natural runoff of mining activity and any additional contamination by other sources such as effluent into the Vaal River is also of grave concern. The Vaal river is a key water resource and with the high consumption of water required for your mining activity – we are completely opposed to pumping from or into the river system which is inevitable despite many assurances that this would not be the case</p> <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. No untreated waste water and/or effluent will be discharged into the Vaal River as it will be managed in a closed system wherein contact water will be separated from non-contact water as per the Requirements of the National Environmental Management Act (NEMA). Water utilised during the sand washing process will be recycled back to the wash plant for re-use.</p>

I&AP	Method	Date	Issue	Response
				<p>3. The road usage –</p> <p>a. The current road infrastructure of the main road S171 is in complete disrepair due to the amount of heavy-duty trucks. The road is simply not suitable for the heavy equipment and heavily loaded vehicles – it is a rural road designed for minimal traffic and certainly not for the loaded capacity of trucks that will constantly be on this road.</p> <p>Based on the Traffic Impact Assessment, the proposed Pure Source Mine will be accessed by means of an existing farm access road from road S171. A visual investigation of the relevant section of the road S171 was undertaken as part of the traffic assessment. According to the investigation, the road surface of S171 is in a poor condition with multiple potholes. It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. In order to avoid further deterioration, it is recommended that (i) a Roads Maintenance Plan, inclusive of upgrades, be prepared and that (ii) a pavement design specialist be commissioned to investigate the condition of the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <p>b. It is also our concern that the unsafe driving practices of your trucks will still cause a fatality – will this only be the point at which local government/department of mineral resources steps in?? When one of our communities has borne the brunt of greed?</p> <p>Your concern is duly noted. The following mitigation measures have been recommended in order to ensure road safety:</p> <ul style="list-style-type: none"> • Construct safe access points/intersections. • Educate employees (temporary and permanent)

I&AP	Method	Date	Issue	Response
				<p>about road safety.</p> <ul style="list-style-type: none"> Enforce strict vehicle speeds. If a person or animal is injured by traffic activities, an emergency response procedure must be implemented. <p>We request that this process be completely halted and that our rights as owners and peace-loving community members be put first.</p> <p>Your request is noted and will be included in the Issues and Responses Report to be submitted to the Competent Authority for their decision-making.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Rudolf Wilhelm Hendrik Gersteling	E-mail	08 November 2018	Mr Gersteling completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> Mining should not take place. I stay permanently at 228 farm de Pont which is less than 2 km from Goose Bay. Communities which exist within the application area include the following residential owners: Mr and Mrs Burger farm de Pont 228 subdivision 15, Mr and Mrs Phytides farm de Pont 228 subdivision 1, Mr and Mrs Santana farm de Pont 228 subdivision 2, Mr and Mrs Hannekom Vaal Eden. Not aware of any tribal authorities within, or affected by, the proposed project. Although Goose Bay is situated in the Vredefort Dome and the Vredefort Dome forms part of one of the top heritage sites in the world. 	Good day, Thank you for your mail and for completing the Interested and Affected Party registration forms. Your comments and objection to the above mentioned project are duly noted. According to the specialist studies undertaken in support of this application, the proposed application area does not overlap with, nor will it impact upon any formally protected area. We are required by the relevant legislation to maintain a 5 km buffer from protected areas. The edge of the crater of the Vredefort Dome, a UNESCO World Heritage Site, is ~8 km to the south-west of the site. As such, the Vredefort Dome will not be impacted upon by the proposed mining activities. Ambient particulate and gaseous concentrations resulting from mining operations will be assessed in the air quality assessment during the Environmental Impact Assessment (EIA) phase of the project, in order to determine their impact on human health. Your concerns regarding road safety and the poor state of

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> Other I&APs who need to be notified include Department of Environmental Affairs, Wildlife Trust, www.fauna-flora.org, www.consevationconnected.co.za. More than 200 species of birdlife is found in this area. In addition, a huge variety of reptiles are also present. More than 50 species of small mammals live in this habitat. Majority of these birds and animals stay in their territory. Farmers farm with mielies, cattle and sheep. The properties 228 farm de Pont subdivisions 5 and 6 are for sale. This land is part of a heritage site (Vredefort Dome). Microscopic organisms, animals and birds live in the environment of Goose Bay and surrounds. In terms of socio-economics, this environment is for agricultural purposes and not mining. Any activity of mining should not take place. Nature is destroyed. Mining will carry on for 30 years. When winds blow, dust coming from the mines will result in risks on human health. Our children cannot enjoy riding bicycles because of dangerous trucks on the public road. I made a choice by buying land at 228 farm de Pont subdivision 3 to give my family a different kind of life. They have the opportunity to enjoy the 	<p>the roads are noted. Based on the Traffic Impact Assessment, the proposed Pure Source Mine will be accessed by means of an existing farm access road from road S171. A visual investigation of the relevant section of the road S171 was undertaken as part of the traffic assessment. According to the investigation, the road surface of S171 is in a poor condition with multiple potholes. In order to avoid further deterioration of this road, it is recommended that (i) a Roads Maintenance Plan, inclusive of upgrades, be prepared and that (ii) a pavement design specialist be commissioned to investigate the condition of the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <p>The following mitigation measures have been recommended to ensure road safety:</p> <ul style="list-style-type: none"> ✓ Construct safe access points/intersections. ✓ Educate employees (temporary and permanent) about road safety. ✓ Enforce strict vehicle speeds. ✓ If a person or animal is injured by traffic activities, an emergency response procedure must be implemented. <p>Based on the Noise Impact Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures have been recommended to reduce noise impacts relating to this project. The planned working hours for the proposed Pure Source Mine are as follows:</p> <ul style="list-style-type: none"> ✓ For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the

I&AP	Method	Date	Issue	Response
			<p>country/farm life and nature. I have also offered my life to build a house and develop my land as an investment. Currently with all the mining activities taking place, the lives of my family have changed. The noise coming from the mines is very loud. We no longer see the animals and birds that lived in this habitat. The windy storms we often experience are terrible. We stay in a cloud of dust and this has an influence on our health.</p> <ul style="list-style-type: none"> The trucks using the road pose a danger to all road users as they drive fast and do not adhere to road rules. My family and I do not feel safe living near the mines. 	<p>EIA phase.</p> <p>The Terrestrial Biodiversity Assessment identified the potential loss of habitat for Species of Conservation Concern (SCC) (based on the National Biodiversity Areas Plan) and the loss of areas of high biodiversity (based on the Free State Critical Biodiversity Areas Plan). Further investigations will be made during the EIA phase.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality impacts. In addition, mitigation measures such as dust suppression have been proposed to minimise dust emission.</p> <p>Should you have any further concerns or questions in this regard, please do not hesitate to contact me.</p>
Madelein Gersteling	E-mail	08 November 2018	<p>Mrs Gersteling completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Mining should not take place. I stay with my husband and daughter on 228 farm de Pont subdivision 5. The deed is in my husband's name. There are five families staying on the farm de Pont. Some only come on weekends. The Gerstelings and Burgers stay permanently. Other I&APs who need to be notified are Greenpeace SA and the Department of Environmental Affairs. The receiving environment comprises crop and livestock farming. When we 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration forms.</p> <p>Your comments and objection to the above mentioned project are duly noted.</p> <p>According to the specialist studies undertaken in support of this application, the proposed application area does not overlap with, nor will it impact upon any formally protected area. We are required by the relevant legislation to maintain a 5 km buffer from protected areas. The edge of the crater of the Vredefort Dome, a UNESCO World Heritage Site, is ~8 km to the south-west of the site. As such, the Vredefort Dome will not be impacted upon by the proposed mining activities.</p> <p>Ambient particulate and gaseous concentrations resulting from mining operations will be assessed in the air quality</p>

I&AP	Method	Date	Issue	Response
			<p>bought our land it was agricultural land.</p> <ul style="list-style-type: none"> • There is a heritage site within the project surrounds (one of the top heritage sites in the world) – the Vredefort Dome. • Wildlife is a huge concern. Many species of wildlife live in their habitat. The land is proclaimed for agricultural purposes and not for mining. • The activities that go with mining are problematic – conservation of nature is destroyed. Sand poses a risk to human health on windy days. The trucks on the road destroy the road and pose a danger to all road users. • This activity of mining will destroy God’s beautiful nature. All wildlife will disappear with time. 30 years is a very long time. I do not feel safe living here anymore and definitely fight a constant battle that mining should not take place in this environment. 	<p>assessment during the Environmental Impact Assessment (EIA) phase of the project, in order to determine their impact on human health.</p> <p>Your concerns regarding road safety and the poor state of the roads are noted. Based on the Traffic Impact Assessment, the proposed Pure Source Mine will be accessed by means of an existing farm access road from road S171. A visual investigation of the relevant section of the road S171 was undertaken as part of the traffic assessment. According to the investigation, the road surface of S171 is in a poor condition with multiple potholes. In order to avoid further deterioration of this road, it is recommended that (i) a Roads Maintenance Plan, inclusive of upgrades, be prepared and that (ii) a pavement design specialist be commissioned to investigate the condition of the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <p>The following mitigation measures have been recommended to ensure road safety:</p> <ul style="list-style-type: none"> ✓ Construct safe access points/intersections. ✓ Educate employees (temporary and permanent) about road safety. ✓ Enforce strict vehicle speeds. ✓ If a person or animal is injured by traffic activities, an emergency response procedure must be implemented. <p>Based on the Noise Impact Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures have been recommended to reduce noise impacts relating to this project. The planned working hours for the proposed Pure Source Mine are as follows:</p> <ul style="list-style-type: none"> ✓ For mining activities, a 5.5 day work week with a 2

I&AP	Method	Date	Issue	Response
				<p>shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the EIA phase.</p> <p>The Terrestrial Biodiversity Assessment identified the potential loss of habitat for Species of Conservation Concern (SCC) (based on the National Biodiversity Areas Plan) and the loss of areas of high biodiversity (based on the Free State Critical Biodiversity Areas Plan). Further investigations will be made during the EIA phase.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality impacts. In addition, mitigation measures such as dust suppression have been proposed to minimise dust emission.</p> <p>Should you have any further concerns or questions in this regard, please do not hesitate to contact me.</p>
Inneke Gersteling	E-mail	08 November 2018	<p>Inneke completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • Mining should not take place. • I am 18 years old and stay with my mom and dad. • There are a number of families with their employees that stay on the land. • Another I&AP that needs to be notified in the Department of Environmental Affairs. 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration forms.</p> <p>Your comments and objection to the above mentioned project are duly noted.</p> <p>According to the specialist studies undertaken in support of this application, the proposed application area does not overlap with, nor will it impact upon any formally protected area. We are required by the relevant legislation to maintain a 5 km buffer from protected areas. The edge of the crater of the Vredefort Dome, a UNESCO World Heritage Site, is ~8 km to the south-west of the site. As such, the Vredefort</p>

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> • The receiving environment comprises crop and livestock farming as well as horse farming. • We stay in a heritage site called the Vredefort Dome. • I am very concerned for the wildlife. My dad and I are very involved with the wildlife that is found here. • I see less and less wild animals. I do not hear the fish eagles anymore. The noise levels are high and I cannot breathe when the wind blows. • I am scared to stay here. I cannot ride my horses if a mine is opening up again. My horses get scared of the trucks passing along the road. In the past few years, my dad had to purchase new tyres because of all the potholes in the road. I 	<p>Dome will not be impacted upon by the proposed mining activities.</p> <p>Ambient particulate and gaseous concentrations resulting from mining operations will be assessed in the air quality assessment during the Environmental Impact Assessment (EIA) phase of the project, in order to determine their impact on human health.</p> <p>Your concerns regarding road safety and the poor state of the roads are noted. Based on the Traffic Impact Assessment, the proposed Pure Source Mine will be accessed by means of an existing farm access road from road S171. A visual investigation of the relevant section of the road S171 was undertaken as part of the traffic assessment. According to the investigation, the road surface of S171 is in a poor condition with multiple potholes. In order to avoid further deterioration of this road, it is recommended that (i) a Roads Maintenance Plan, inclusive of upgrades, be prepared and that (ii) a pavement design specialist be commissioned to investigate the condition of the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <p>The following mitigation measures have been recommended to ensure road safety:</p> <ul style="list-style-type: none"> ✓ Construct safe access points/intersections. ✓ Educate employees (temporary and permanent) about road safety. ✓ Enforce strict vehicle speeds. ✓ If a person or animal is injured by traffic activities, an emergency response procedure must be implemented. <p>Based on the Noise Impact Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range.</p>

I&AP	Method	Date	Issue	Response
				<p>Mitigation measures have been recommended to reduce noise impacts relating to this project. The planned working hours for the proposed Pure Source Mine are as follows:</p> <ul style="list-style-type: none"> ✓ For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the EIA phase. <p>The Terrestrial Biodiversity Assessment identified the potential loss of habitat for Species of Conservation Concern (SCC) (based on the National Biodiversity Areas Plan) and the loss of areas of high biodiversity (based on the Free State Critical Biodiversity Areas Plan). Further investigations will be made during the EIA phase.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality impacts. In addition, mitigation measures such as dust suppression have been proposed to minimise dust emission.</p> <p>Should you have any further concerns or questions in this regard, please do not hesitate to contact me.</p>
Pierre van Renen			No comment received at this stage.	
Deon Nico Strydom			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Abrie Hannekom/Hanekom Trust	E-mail	09 October 2018	Good day Zizo, I am Abrie Hanekom, the representative of the Hanekom Trust. We are totally against any form	Dear Marlene, Thank you for your mail.

I&AP	Method	Date	Issue	Response
			<p>of mining in the area for the following reasons –</p> <ol style="list-style-type: none"> 1. The miners do not keep their promises and break the law on many occasions. 2. The tar roads are not built to carry heavy vehicles at all. 3. The miners do not keep to the specified working hours. 4. The dust pollution is unbearable and are not controlled. 5. The trucks blocks the entrances to private property daily.\ 6. The Fauna and Flora of the area are permanently damaged. 7. Bird species are dying and leaving the area due to the dust pollution. 8. The Vaal River is also polluted and fish are dying. 9. The area is not zoned for mining. 10. The water table is decreasing. 11. The mining are conducted next to a town. 12. The value of our properties is decreasing and we need to be compensated to recover our losses. 13. No rehabilitation is done to the affected areas. <p>KINDLY CONFIRM RECEIPT OF E-MAIL.</p> <p>Regards</p> <p>AJ Hanekom</p>	<p>Your objection and reasons thereof are noted. Responses to your comments are written in red font colour:</p> <ol style="list-style-type: none"> 1. The miners do not keep their promises and break the law on many occasions <p>Noted.</p> <ol style="list-style-type: none"> 2. The tar roads are not build to carry heavy vehicles at all <p>A traffic impact assessment has been undertaken in support of the Mining Right Application and the findings will be included in the final Scoping Report that will be made available to the public for review, in due course. In addition, consultation with the Free State Department of Police, Roads and Transport will be undertaken during the EIA phase of the project in order to initiate a long-term road maintenance plan, to ensure the availability of a road network to transport workers and mined product, should the Mining Right be granted by the DMR.</p> <ol style="list-style-type: none"> 3. The miners do not keep to the specified working hours <p>Noted. The Environmental Management Programme Report (EMPR, which is legally binding to the Applicant) that will be compiled for this project, during the EIA phase, will specify working hours and days for the operation of the mine. Interested and Affected Parties have the right to report any areas of non-compliance to the decision- making authority (the DMR) if the mine does not operate according to the conditions of the EMPR.</p> <ol style="list-style-type: none"> 4. The dust pollution are unbearable and are not controlled <p>The implementation of an effective dust suppression and control plan will be included as a condition in the EMPR.</p> <ol style="list-style-type: none"> 5. The trucks blocks the entrances to private property daily <p>The EMPR will recommend that a traffic management plan</p>

I&AP	Method	Date	Issue	Response
				<p>be established by the Applicant in order to prevent blockages. In addition, a 4 lane access road is proposed as part of the Mining Right application process, in order to manage traffic, should the Mining Right be granted by the DMR.</p> <p>6. The Fauna and Flora of the area are permanently damaged</p> <p>Noted.</p> <p>7. Bird species are dying and leaving the area due to the dust pollution</p> <p>The implementation of an effective dust suppression and control plan will be included as a condition in the EMPR.</p> <p>8. The Vaal river are also polluted and fish are dying</p> <p>Noted. The EMPR will categorically state that no untreated waste water must be pumped into the Vaal River.</p> <p>9. The area are not zoned for mining</p> <p>Noted. According to the Zoning Certificate for the three affected properties, the area is zoned for agriculture. However, other permitted uses include shops, business premises, dwelling houses, residential buildings, places of worship, places of instruction and farming. Upon granting of the Mining Right, the Applicant will engage with the local Authority and apply for consent to include mining as an additional permitted use.</p> <p>10. The water table are decreasing</p> <p>A preliminary groundwater has been undertaken as part of the Scoping phase and the findings are included in the Scoping Report. A more detailed groundwater assessment will be conducted during the EIA phase and mitigation measures will be included in the EMPR to be compiled for this project.</p> <p>11. The mining are conducted next to a town</p> <p>According to the Mine, Health and Safety Act, (Act 29 of</p>

I&AP	Method	Date	Issue	Response
				<p>1996, as amended) a 100 m buffer zone must be maintained between a mine and any existing infrastructure. This buffer zone has been considered in the proposed mine plan layout.</p> <p>12. The value of our properties are decreasing and we need to be compensated to recover our losses</p> <p>An economic impact assessment has been undertaken as part of the Scoping phase and the findings are included in the Scoping Report (including the impact on the property values). A more detailed economic impact assessment will be conducted during the EIA phase and mitigation measures will be included in the EMPR for this project.</p> <p>13. No rehabilitation are done to the affected areas</p> <p>A Closure application that is currently underway is addressing this.</p>
Abrie Hannekom/Hanekom Trust	E-mail	10 October 2018	<p>Good day,</p> <p>Attached please find I&AP registration form.</p> <p>KINDLY ACKNOWLEDGE RECEIPT OF E-MAIL.</p> <p>Regards</p> <p>AJ Hannekom</p> <p>Mr Hannekom completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • Owner of Vaal Eden 44 and Portion 7 of Plaas de Pont. • Landowner next to mining site. • Existing communities within application area: Vaal Eden and Vaal Oewer and Plaas dePont area +/- 1 600 people. • Other I&APs who need to be notified: Holiday resort, wedding venues, game farms and bird sanctuaries next to 	<p>Dear Abrie,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form. Your comments are duly noted.</p> <p>I trust the concerns raised in your correspondence were addressed in Zizo's mail sent to you on the 12th October 2018 (see attached).</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<p>river and caravan parks.</p> <ul style="list-style-type: none"> • Description of receiving environment: Flora and fauna, grazing, natural water table, fish and bird life. • Land developments (current and proposed) within the application area: Vaal Eden Township townhouse development, Vaal Eden caravan park and guest house. • Cultural or heritage features within the application area and surrounds: graveyards and cave in Vaal Oewer area. • Potential biophysical or socio-economic impacts; Loss or tourism area, job losses due to decrease in tourism, depreciation of property value. • Any measures that should be taken to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. • Concerns: job losses, closure of business, property values, tar roads not built for heavy vehicles, dust and noise pollution. • General comments: NO MINING! Only one person will benefit from the mining due to the hundreds of job losses. The water pollution of Vaal Rivers. The mining site is not zoned for mining, but for agriculture. 	
Jonathan van Aswegen/Van Aswegen Testamentere Trust			No comment received at this stage.	

I&AP	Method	Date	Issue	Response
Stephen Jacobs			No comment received at this stage.	
P J van Rensburg			No comment received at this stage.	
Johanna Getruida Terblanche/Noord Vrystaat Graan and Vee (Pty) Ltd			No comment received at this stage.	
Christiaan Strauss	Public Meeting	24 October 2018	Mr Strauss completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> Interested in the proposed project due to impact on the infrastructure, environment and quality of life. Water, air and noise pollution, impact on the roads (S171). 	Dear Chris, Thank you for attending the Open Day and for completing the Interested and Affected Party (I&AP) registration form. Your comments are duly noted. You have been registered as an I&AP and will be kept up to date with any developments regarding this project. Should you have any questions in this regard, please do not hesitate to contact me.
Ananias Bernardus Buys/Vidimax Investments (Pty) Ltd			No comment received at this stage.	
Kim Beverley Muller/Little Swift Investments Four Six Eight (Pty) Ltd			No comment received at this stage.	
Petronella Jacoba De Beer/ Encibrite Ltd			No comment received at this stage.	
Johannes Christiaan de Beer			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Johan George Wassermann			No comment received at this stage.	
Johannes Ernst Helmbold			No comment received at this stage.	
Leeupoort Trust			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	

I&AP	Method	Date	Issue	Response
Luis Miguel De Azevedo Ferreira			No comment received at this stage.	
L D C Family Trust			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Christian Gouws/ Ilifu Trading 325 CC			No comment received at this stage.	
Arnoldus Stephanus de Beer/Erf 32 Welbedacht (Pty) Ltd			No comment received at this stage.	
Louisa Johanna Wolmarans/Erf 33 Welbedacht (Pty Ltd			No comment received at this stage.	
Louisa Johanna De Beer/Biz Afrika 1646 (Pty) Ltd			No comment received at this stage.	
Peter Trevor Norman van Heerden			No comment received at this stage.	
Mohamed Farhad Areff			No comment received at this stage.	
Salmoen Everhardus van Rooyen/Manswario Property (Pty) Ltd			See comments provided by the Environmental Management Group, the representative of Mr Salmoen van Rooyen.	
Gail Burger/Freddie Burger	E-mail	13 October 2018	<p>Mr Burger completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/-1 600 people. Tribal authorities within the application area: township and primary school. Other I&APs who need to be notified: holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Noted. Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details.

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Cultural or heritage features within the application area and surrounds: graveyard, cave in Vaaloewer area. Potential biophysical and/or socio-economic impacts: loss of tourism area, job losses due to decrease in tourism, depreciation of property values. Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. Concerns: job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<p>Township and primary school. Noted.</p> <ul style="list-style-type: none"> Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Noted. Please can you provide us with a description of the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life. Noted. Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Noted. Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Noted. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Loss of tourism area, job losses due to decrease in tourism, depreciation of property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on

I&AP	Method	Date	Issue	Response
				<p>tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p> <p>According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Nonetheless, loss of employment due to the mining operations will be assessed in the Socio-Economic Impact Assessment during the Environmental Impact Assessment (EIA) phase of this project.</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-

I&AP	Method	Date	Issue	Response
				<p>economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted.</p> <ul style="list-style-type: none"> Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. <p>Your concerns are duly noted. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will result in an increased potential for business-related visitors who will require accommodation in local guest houses.</p> <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area and other property owners in order to initiate a long-term roads maintenance plan.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation measures such as (i) limiting disturbed areas and</p>

I&AP	Method	Date	Issue	Response
				<p>(ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project.</p> <p>According to the noise baseline assessment for this project, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>Kindly refer to point 7 for our response on property values.</p> <ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Vela Mngwengwe/ Republic of South Africa /Department of Rural Development and Land Reform			No comment received at this stage.	

I&AP	Method	Date	Issue	Response
Merlin Trust			Contact details could not be sourced. Efforts will be made to solicit contact information during the EIA phase.	
Local Municipality – Ngwathe Local Municipality				
Executive Mayor - Joey Mochela			No comment received at this stage.	
Municipal Manager - Bruce William Kannemeyer			No comment received at this stage.	
Speaker - Mopedi Neheng			No comment received at this stage.	
Ward 7 Councillor - Gobidolo Mafika			No comment received at this stage.	
District Municipality – Fezile Dabi District Municipality				
Executive Mayor - Oumix Oliphant			No comment received at this stage.	
Municipal Manager – L M Molibeli			No comment received at this stage.	
Local Municipality – Emfuleni Local Municipality				
Executive Mayor - Jacob Khawe			No comment received at this stage.	
Municipal Manager – D O Nkoane			No comment received at this stage.	
Speaker - Maipato Tsokolibane			No comment received at this stage.	
Ward 25 Councillor – B E Ntsele			No comment received at this stage.	
District Municipality – Sedibeng District Municipality				
Executive Mayor - Busisiwe Modisakeng			No comment received at this stage.	

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Municipal Manager - Stanley Khanyile			No comment received at this stage.	
Local Municipality – JB Marks Local Municipality				
Executive Mayor - Kgotso Khumalo			No comment received at this stage.	
Municipal Manager - Blaai Mokgethi			No comment received at this stage.	
Speaker - Barei Segotso			No comment received at this stage.	
Ward 2 Councillor			No comment received at this stage.	
District Municipality – Dr Kenneth Kaunda District Municipality				
Executive Mayor - Barei Elizabeth Mosiane-Segotso			No comment received at this stage.	
Municipal Manager – M I Matthews			No comment received at this stage.	
Organs of State (Free State Province)				
Free State Department of Economic Development, Tourism, Environmental Affairs and Small Business			No comment received at this stage.	
Free State Department of Agriculture, Rural Development, Land and Environmental Affairs			No comment received at this stage.	
Free State Department of Rural Development and Land Reform	Telephone/ E-mail	09 October 2018	Requested the following information on the Pure Source Mine project: farm name, farm number, the magisterial districts and town it is situated in. Provided her e-mail address.	Good day Vivian Following our telephonic conversation, below is the information that you have requested. The project is based on the farm Woodlands 407 which falls under the Parys Magisterial District, within the Fezile Dabi District Municipality. The project area is located

I&AP	Method	Date	Issue	Response
				approximately 15 km northwest of Sasolburg and 21 km north east from the town of Parys. I have attached the Background Information Documents for your convenience. Should you have any further questions in this regard, please do not hesitate to contact me.
Free State Department of Rural Development and Land Reform	E-mail	10 October 2018 (3:15 PM)	Good afternoon Could you please provide our office with Deeds web(Copy) if you have, because this information it is not relevant for us to assist/respond to your enquiry. Please be specific which farm you want our office to assist with. e.g : 1. Farm name/Portion number/s or Remaining Extent. 2. District and Local Municipality "WHERE'S SITUATED (TOWN NAME) IN THE FREE STATE PROVINCE"? Because it not easy for us to search your enquiry on our database if the information it is not clear. Regards Vivian Pllice	Good day Vivian The farm under discussion is Woodlands 407 (Portions 0(RE), 1(RE) and 3). I have attached the title deeds. The farm is not in a town however it is located approximately 15 km northwest of Sasolburg and 21 km north east from the town of Parys It is situated in the Parys Magisterial District which falls under the Ngwathe Local Municipality, within the Fezile Ngwathe District Municipality. Thank you.
Free State Department of Rural Development and Land Reform	E-mail	10 October 2018 (4:17 PM)	Thank you, will attend to it. Kind regards Vivian Police	This correspondence is acknowledged.

I&AP	Method	Date	Issue	Response
Free State Department of Rural Development and Land Reform	E-mail	11 October 2018	<p>Good afternoon</p> <p>Kindly find the attached response letter as requested.</p> <p>Warmest regards</p> <p>Vivian Police</p> <p>Dear Ms/Mr NA Ramaru/ M Mmola</p> <p>Land claims enquiry:</p> <ol style="list-style-type: none"> 1. The farm Woodlands 407, District Parys, Province Free State. 2. Portion 0 Remaining Extent of the farm Woodlands 407, District Parys, Province Free State. 3. Portion 0 Remaining Extent of the farm Woodlands 407, District Parys, Province Free State. 4. Portion 3 of the farm Woodlands 407, District Parys, Province Free State. <p>We refer to your letter sent on the 08 and 10 October 2018.</p> <p>We confirm that as at the date of this letter no land claims appear on our database in respect of the property. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.</p> <p>Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commissioner's control, particularly related to claims that have been lodged but not yet been gazette such as:</p>	<p>Good morning Vivian</p> <p>Thank you for your assistance.</p>

I&AP	Method	Date	Issue	Response
			<ol style="list-style-type: none"> 1. Some Claimants referred to properties they claim dispossession of rights in land against using historical property descriptions which may not match the current property description; and 2. Some Claimants provided the geographic descriptions of the land they claim without mentioning the particular actual property description they claim dispossession of rights in land against. <p>The Commission therefore does not accept any liability whatsoever if through the process of further investigation of claims it is found that there is in fact a land claim in respect of the above property.</p> <p>If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to further search.</p>	
Free State Department of Rural Development and Land Reform	Telephone and E-mail	05 November 2018 (01:13PM)	Telephoned requesting title deeds for the farm Woodlands 407.	Dear Lefa, I trust this mail find you well As per telecom, please find herewith attached requested documents.
Free State Department of Rural Development and Land Reform	E-mail	06 November 2018 (3:27PM)	Good Day Kindly receive the attached response letter in respect of the Monte Cristo. We appreciate your cooperation and patience. Dear Ms Z Siwendu LAND CLAIMS ENQUIRY: <ol style="list-style-type: none"> 1. REMAINING EXTENT OF THE FARM WOODLANDS 407, DISTRICT 	Good day, Thank you for your correspondence. Your comment that no land claims appear on your database in respect of the affected property is well noted.

I&AP	Method	Date	Issue	Response
			<p>PARYS, PROVINCE FREE STATE.</p> <ol style="list-style-type: none"> 2. REMAINDER OF PORTION 01 OF THE FARM WOODLANDS 407, DISTRICT PARYS, PROVINCE FREE STATE. 3. PORTION 03 OF THE FARM WOODLANDS 407, DISTRICT PARYS, PROVINCE FREE STATE. <p>We refer to your enquiry received on the 05 October 2018.</p> <p>We confirm that as at the date of this letter no land claims appear on our database in respect of the Property. This includes the database for claims lodged by 31 December 1998; and those lodged between 1 July 2014 and 27 July 2016 in terms of the Restitution of Land Rights Amendment Act, 2014.</p> <p>Whilst the Commission takes reasonable care to ensure the accuracy of the information it provides, there are various factors that are beyond the Commission's control, particularly relating to claims that have lodged but not yet been gazetted such as:</p> <ol style="list-style-type: none"> 1. Some Claimants referred to properties they claim dispossession of rights in land against using historical property descriptions which may not match the current property description; and 2. Some Claimants provided the geographic descriptions of the land they claim without mentioning the particular actual property description they claim dispossession of rights in land against. <p>The Commission therefore does not accept any</p>	

I&AP	Method	Date	Issue	Response
			liability whatsoever if through the process of further investigation of claims it is found that there is in fact a land claim in respect of the above property. If you are aware of any change in the description of the above property after 19 June 1913 kindly supply us with such description so as to enable us to do a further search.	
Free State Department of Mineral Resources	E-mail	07 September 2018	Good day Kindly find the attached section 10 notice of file reference No: 10048 MR Monte Cristo Commercial Park (Pty) Ltd Regard Derrick Gumede NOTIFICATION OF ACCEPTANCE OF AN APPLICATION FOR A MINING RIGHT IN TERMS OF SECTION 22 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (28 OF 2002) (AS AMENDED) TO MINE FOR SILICA SAND (SILICA), SILICA SAND (GENERAL), AGGREGATE AND DIAMONDS (ALLUVIAL), IN RESPECT OF THE REMAINING EXTENT, REMAINING EXTENT OF PORTION 1 AND PORTION 3 OF THE FARM WOODLANDS 407, SITUATED IN THE MAGISTERIAL DISTRICT OF PARYS BY MONTE CRISTO COMMERCIAL PARK (PTY) LTD In accordance with Section 10 of the above mentioned Act, the Regional Manager of this Region must within 14 (fourteen) days after	Dear Derrick, Thank you very much for the Section 10 notice. May you enjoy the rest of your day and the weekend ahead?

I&AP	Method	Date	Issue	Response
			<p>accepting any application referred to above, in the prescribed manner:</p> <ul style="list-style-type: none"> (a) Make known that any of the said applications have been received; and (b) Call upon interested and affected persons to submit their comments regarding any of the relevant applications within 30 (thirty) days from the date of notice. <p>Regulation 3(2) of the said Act provides that the notice referred to in the preceding paragraph, must be placed on a notice board at the office of the Regional Manager that is accessible to the public. Regulation 3(3) of the Act provides that in addition to the notice referred to in the preceding paragraph, the Regional Manager must also make known the application by-</p> <ul style="list-style-type: none"> (i) Publication in the applicable Provincial Gazette; (ii) Notice in the Magistrate Court in the Magisterial District applicable to the land in question; or (iii) Advertisement in a local or national newspaper, circulating in the area where the land on which the application relates, is situated. <p>I am of the opinion that option (ii) above could be a practical one and take liberty to request your permission if the following arrangement is made namely:</p>	

I&AP	Method	Date	Issue	Response
			<p>(a) The completed notice is placed on your notice board; and</p> <p>(b) (b) You or any of your authorized staff members complete the return confirmation attached hereto confirming that a notice has indeed been placed on your notice board on a specific date and send it to this directorate through the designated email address, please.</p> <p>Your response to the aforesaid is urgently being awaited and an early reply will be appreciated, please.</p> <p>Your co-operation will be much appreciated.</p> <p>File ref: FS 30/5/1/2/2/10048 MR</p> <p>NOTICE IN TERMS SECTION 10 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) (AS AMENDED) [HEREINAFTER REFERRED TO AS THE MPRDA] OF AN ACCEPTANCE OF MINING RIGHT APPLICATION</p> <p>1. NOTICE IS HEREBY GIVEN THAT AN APPLICATION FOR A MINING RIGHT HAS BEEN RECEIVED IN TERMS OF SECTION 22(2) OF THE MPRDA FROM MONTE CRISTO COMMERCIAL PARK (PTY) LTD IN TERMS OF WHICH THE APPLICANT INTENDS TO MINE SILICA SAND (SILICA), SILICA SAND (GENERAL),</p>	

I&AP	Method	Date	Issue	Response
			<p>AGGREGATE AND DIAMONDS (ALLUVIAL) IN RESPECT OF THE REMAINING EXTENT, REMAINING EXTENT OF PORTION 1 AND PORTION 3 OF THE FARM WOODLANDS 407 SITUATED IN THE MAGISTERIAL DISTRICT OF PARYS, FREE STATE PROVINCE.</p> <p>2. TAKE NOTICE THAT THE APPLICATION HAS BEEN ACCEPTED BY THE FREE STATE REGIONAL MANAGER: MINERAL REGULATION ON 28 AUGUST 2018.</p> <p>3. PLEASE NOTE FURTHER THAT ALL INTERESTED AND AFFECTED PERSONS ARE IN TERMS OF SECTION 10(b) OF THE ACT CALLED UPON/INVITED TO SUBMIT IN WRITING THEIR COMMENTS IN RELATION TO THE ACCEPTED APPLICATION TO THE OFFICE OF THE REGIONAL MANAGER: FREE STATE REGION ON OR BEFORE 11 OCTOBER 2017.</p> <p>4. PLEASE TAKE FURTHER NOTICE THAT ANY PERSON WHO OBJECTS TO THE GRANTING OF THE ACCEPTED MINING RIGHT MUST REFER SUCH OBJECTIONS IN WRITING TO THE OFFICE OF THE</p>	

I&AP	Method	Date	Issue	Response
			REGIONAL MANAGER: FREE STATE REGION AT THE ABOVE ADDRESS QUOTE THE ABOVE INDICATED FILE REFERENCE NUMBER ON OR BEFORE 11 OCTOBER 2017. 5. PLEASE TAKE FURTHER NOTICE THAT THIS NOTICE WILL LAPSE ON 11 OCTOBER 2017. THUS DONE AND SIGNED AT WELKOM ON 28 TH DAY OF AUGUST 2017.	
Free State Department of Agriculture and Rural Development			No comment received at this stage.	
Free State Department of Human Settlements			No comment received at this stage.	
Free State Department of Cooperative Governance, Traditional Affairs and Human Settlements			No comment received at this stage.	
Free State Department of Police, Roads and Transport	E-mail	29 October 2018	Good day Please find attached hereto a copy of this Department's letter dated 29 October 2018 pertaining to the above-mentioned matter for your attention. Dear Sir/Madam APPLICATION FOR THE PROPOSED MINING OF SAND, AGGREGATE/GRAVEL AND ALLUVIAL DIAMONDS: REMAINDER OF WOODLANDS 407, SUBDIVISION 1 OF WOODLANDS 407 AND SUBDIVISION 3 OF WOODLANDS 407	Good morning, This correspondence bears reference to your letter dated 29 th October 2018. It is duly noted that the Free State Department of Police, Roads and Transport has three borrow pits on Subdivision 4 of Woodlands 407, adjacent to the proposed application area. It is also noted that the Department objects to the proposed mining activities, should the activities take place on the above mentioned property. Should you have any concerns in this regards, please do not hesitate to contact me.

I&AP	Method	Date	Issue	Response
			<ol style="list-style-type: none"> 1. Your fax dated 05 October 2018 pertaining to the above-mentioned matter, with DMR reference number FS30/5/1/2/2/10048EM, refers. 2. This Department takes note of the above-mentioned proposed mining activities that will take place on the Remainder of the farm Woodlands 407, Subdivision 1 of Woodlands 407 and Subdivision 3 of Woodlands 407. Your attention is nevertheless brought thereto that this Department has three borrow pits on Subdivision 4 of Woodlands 407. The numbers of these borrow pits are: <ol style="list-style-type: none"> 2.1. 203/2/181/170 2.2. 203/2/182/171 2.3. 203/2/183/172 3. This Department reserved these borrow pits in terms of the provisions of section 17(2) of the Free State Roads Ordinance, 1968 (Ordinance no.4 of 1968), as amended. The material from these borrow pits are utilised by the Department for road building or road rehabilitation purposes. Usable material for such purposes are limited in the province. 4. In view of the existing departmental borrow pits on Subdivision 4 of Woodlands 407, this Department has to object should any proposed mining activities for the above-mentioned mining project take place on this property. 5. Any enquiries pertaining to this matter 	

I&AP	Method	Date	Issue	Response
			can be directed to Me. Molahloe at telephone no. 051- 409 8589 or e-mail: molahloem@freetrans.gov.za.	
Free State Department of Public Works			No comment received at this stage.	
Free State Department of Water and Sanitation	E-mail	19 September 2018	<p>Good day Zizo, Hope this mail finds you well.</p> <p>This email serves to register the Department of Water and Sanitation as an interested and affected party for this project. The Department is interested in water (surface and groundwater) and waste management. Kindly send further communication regarding the project to the address below.</p> <p>Department of Water and Sanitation PO Box 528 BLOEMFONTEIN 9300 For attention: Mr Willem Grobler</p>	<p>Good day, Thank you for your mail.</p> <p>You have been registered as an Interested and Affected Party and will be kept up to date of any developments regarding this project such as:</p> <ul style="list-style-type: none"> • Availability of the draft and final Scoping Report • Availability of the draft and final Environmental Impact Report • All public meetings that will be held during the course of the Environmental Impact Assessment process • Outcome of the application <p>As requested, all communication regarding this project will be sent to the specified address.</p>
Organs of State (Gauteng Province)				
Gauteng Department of Economic Development			No comment received at this stage.	
Gauteng Department of Agriculture and Rural Development			No comment received at this stage.	
Gauteng Department of Cooperative Governance and Traditional Affairs			No comment received at this stage.	

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Gauteng Department of Human Settlements			No comment received at this stage.	
Gauteng Department of Roads and Transport			No comment received at this stage.	
Organs of State (North West Province)				
North West Department of Economic Development, Environment, Conservation and Tourism			No comment received at this stage.	
North West Department of Rural, Environmental and Agricultural Development			No comment received at this stage.	
North West Department of Water and Sanitation			No comment received at this stage.	
North West Department of Rural Development and Land Reform	E-mail	06 September 2018	<p>Kindly find the attached.</p> <p>LAND CLAIM QUERY: REMAINING EXTENT OF THE FARM WOODLANDS 407, REMAINING REMAINING EXTENT OF PORTION 1 OF THE FARM WOODLANDS 407 AND PORTION 3 OF THE FARM WOODLANDS 407</p> <p>I acknowledge receipt of your letter dated the 05 September 2018 regarding the above mentioned matter.</p> <p>Kindly note that a formal response could be expected from our office within the next 7 (seven) working days.</p> <p>Should you however require any additional information, you can contact Mrs Montwedi at the above mentioned contact details.</p>	This correspondence is acknowledged.
North West Department of Public Works, Roads and Transport			No comment received at this stage.	

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North West Department of Agriculture			No comment received at this stage.	
Northwest Provincial Heritage Resources Authority (NWPHRA)			No comment received at this stage.	
North West Department of Agriculture, Forestry and Fisheries			No comment received at this stage.	
North West Department of Agriculture and Environmental Affairs			No comment received at this stage.	
North West Parks Board			No comment received at this stage.	
Organs of State (National)				
South African Water Research Commission			No comment received at this stage.	
South African Heritage Resources Agency	Letter	08 November 2018	<p>Monte Cristo Commercial Park (Pty) Ltd (hereafter referred to as Monte Cristo, the Applicant) is proposing to establish an opencast mine which will involve the development of open pits and associated mine infrastructure. The project will be known as Pure Source Mine. Commodities to be mined include sand, aggregate/gravel and diamonds (alluvial). The application area borders the Vaal River and covers an aerial extent of 858.5825 hectares (ha). However, the overall surface area to be disturbed is only approximately 363.5 ha. The application area extends over three farm portions, namely (i) Remaining extent (Re), (ii) Remainder of Portion 1 and (iii) Portion 3 of the farm Woodlands 407, and is situated in the Free State Province of South Africa.</p> <p>The proposed project entails the establishment of an opencast mine including the development of open pits and associated mining infrastructure</p>	This correspondence was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
			<p>situated on the Remaining extent (Re), Remainder of Portion 1 and Portion 3 of the farm Woodlands 407 in the Free State Province. The overall surface area to be disturbed will be approximately 363.5 ha. No documents were submitted with the application.</p> <p>In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. Therefore, it is incumbent on the developer to ensure that a Heritage Impact Assessment conducted by a qualified archaeologist is done prior to any invasive activities. This must include the archaeological component (Phase 1) and any other applicable heritage components.</p> <p>The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in section 38) about the process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.</p> <p>The PalaeoSensitivity Map on SAHRIS (http://www.sahra.org.za/sahris/map/palaeo) indicates moderate, high and very high palaeontological sensitivities in the proposed area. Therefore, the SAHRA APM Unit requires a field-based Palaeontological Impact Assessment conducted by a qualified palaeontologist to be submitted to the application prior to any invasive activities.</p>	


I&AP	Method	Date	Issue	Response
			<p>If the property is very small or disturbed and there is no significant site the heritage specialist may choose to send a letter to the heritage authority to indicate that there is no necessity for any further assessment.</p> <p>Any other heritage resources that may be impacted such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.</p> <p>Should you have any further queries, please contact the designated official using the case number quoted above in the case header.</p>	
National Department of Rural Development and Land Reform			No comment received at this stage.	
National Department of Mineral Resources			No comment received at this stage.	
National Department of Agriculture, Forestry and Fisheries			No comment received at this stage.	
National Department of Environmental Affairs			No comment received at this stage.	
The Council for Scientific and Industrial Research -CSIR			No comment received at this stage.	
South African National Roads Agency - SANRAL			No comment received at this stage.	
Eskom	E-mail	12 September 2018	Good day Zizo PRE-NOTIFICATION REGARDING AN INTEGRATED ENVIRONMENTAL AUTHORISATION APPLICATION AND A WATER USE LICENSE APPLICATION ON THE FARM WOODLANDS 407 WITHIN THE PARYS MAGISTERIAL DISTRICT IN THE FREE STATE	This correspondence is acknowledged.

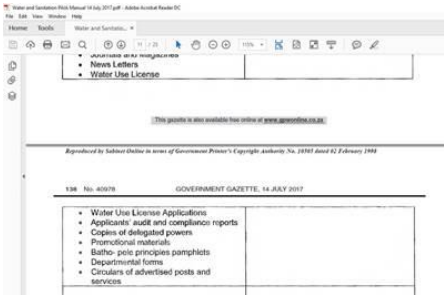
I&AP	Method	Date	Issue	Response
			<p>PROVINCE OF SOUTH AFRICA</p> <p>I hope this message finds you well it's been long since the last time we worked together.</p> <p>I would like to be register as an I&AP in the abovementioned EIA & WULA processes.</p> <p>Thanking you in advance.</p>	
Eskom	E-mail	08 October 2018	<p>Please find attached general requirements for works at or near Eskom infrastructure. Please send me KMZ files of the affected properties and possible layouts.</p> <p>Kind regards</p> <p>John Geeringh (Pr Sci Nat)</p> <p>Eskom requirements for work in or near Eskom servitudes.</p> <ol style="list-style-type: none"> 1. Eskom's rights and services must be acknowledged and respected at all times. 2. Eskom shall at all times retain unobstructed access to and egress from its servitudes. 3. Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals. 4. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer. 5. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his 	<p>Good day,</p> <p>Please find attached the KMZ file of the affected properties and plans showing the three possible layouts.</p> <p>If you have further requests in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<p>equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand.</p> <p>6. The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard.</p> <p>7. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction.</p> <p>8. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether</p>	

I&AP	Method	Date	Issue	Response
			<p>as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment.</p> <p>9. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager</p> <p>Note: Where and electrical outage is required, at least fourteen work days are required to arrange it.</p> <p>10. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with.</p> <p>11. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom.</p> <p>12. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed</p>	

I&AP	Method	Date	Issue	Response
			<p>as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).</p> <p>13. Equipment shall be regarded electrically live and therefore dangerous at all times.</p> <p>14. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area.</p> <p>15. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant.</p> <p>16. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant.</p> <p>17. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.</p> <p>John Geeringh (Pr Sci Nat)</p>	


I&AP	Method	Date	Issue	Response
			Senior Consultant Environmental Management Eskom GC: Land Development	
Transnet	E-mail	09 October 2018	<p>Good day Colleagues</p> <p>Our Ref: LS.BFX.25_1_33</p> <p>Please be informed that this application will not impact Transnet as the area of interest lies approximately 20 km from Transnet Land. See below;</p> 	<p>Good morning,</p> <p>Thank you for your mail.</p> <p>Your comment that Transnet will not be affected by the proposed project is well noted.</p> <p>May you have a lovely day further.</p>
Other Affected Parties				
BirdLife SA			No comment received at this stage.	
Federation for a Sustainable Environment	E-mail	05 September 2018	<p>Dear Zizo</p> <p>I thank you for the notification</p> <p>Please register the Federation for a Sustainable Environment as an interested and affected party.</p> <p>Kindly supply us with electronic copies of the documents, pending their release. In the interim, kindly provide us with an electronic copy of the WULA in order for us to comment in a meaningful and intelligent manner. WULAs are public documents.</p>	<p>Dear Mariette,</p> <p>Thank you for your mail.</p> <p>We haven't applied for the Water Use License at this stage. We only had a pre-application meeting with the Department of Water and Sanitation. You will be provided with a copy of the Water Use License Application after we have lodged the application.</p> <p>If you have any further queries in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<p>If however, you are not agreeable to provide us with a copy of the WULA, please inform us timeously in order for us to request it from the DWS in terms of the provisions of the DWS' PAIA manual.</p> <p>In this regard, we refer to the Department of Water and Sanitation's PAIA Manual. The WULAs are included amongst the class of records that are automatically available from the Department in terms of section 15 of PAIA. There is accordingly no need for the submission of a PAIA request in terms of section 18(1).</p> <p>Here is a screenshot of the relevant page from the PAIA Manual for ease of reference:</p> 	
Federation for a Sustainable Environment	E-mail	06 September 2018	Noted, with thanks!	This was acknowledged by Shango Solutions.
Federation for a Sustainable Environment	E-mail	14 October 2018	<p>Dear Zizo,</p> <p>Since I was copied on the correspondence, permit me please to refer to the above-mentioned application and to reply as follows:</p> <p>I write on behalf of the Federation for a Sustainable Environment, a registered I&AP.</p> <p>I now refer to the abovementioned notification. On the 6th of September 2018, you responded to</p>	<p>Dear Mariette,</p> <p>Thank you for your mail.</p> <p>As stated in Zizo's previous mail to, we haven't applied for the Water Use License at this stage. There are outstanding studies that are required for inclusion in the Water Use License Application. The Client is in the process of undertaking these studies. We will furnish you with a copy of the IWUL Application upon its availability during the EIA</p>

I&AP	Method	Date	Issue	Response
			<p>our request for a copy of the Water Use License Application as follows: "We haven't applied for the Water Use License at this stage. We only had a pre-application meeting with the Department of Water and Sanitation." (Subjoined hereunder for your convenience.)</p> <p>However, from the above notification, we now infer that you have applied, on behalf of your client, for an IWUL. Kindly supply us with a copy of the Application.</p> <p>With reference to your response to Mr Aboud: You responded that you – on behalf of your client – have to "meet deadlines" hence your non-negotiable response to Mr Aboud regarding his request for a meeting at a time convenient for IAPs.</p> <p>Permit us please to raise the following concern in this regard. (We kindly request that you include our comments and your responses in the Comments and Response Report.)</p> <p>While we understand your eagerness to meet deadlines, the accelerated EIA may compromise the assessment of flora and fauna and biodiversity within the geographical area of influence. The influence of seasonality on detection of flora and fauna and evaluation of biodiversity is well recognised worldwide. For example, within the Grassland Biome, most plant species and smaller fauna experience seasonal dormancy, whereas some avian species are migratory. At worst, if not conducted in appropriate seasons and for biologically relevant time periods, the EIA could under represent biodiversity by almost 95%. Assessment of hydrology requires a full hydrological cycle to encompass and assess ecosystem goods and services.</p>	<p>phase.</p> <p>Assessments on fauna, flora and hydrology will not be compromised. The specialists are well aware that these must be conducted over a full cycle and the studies will be conducted on scientifically and ecologically sound principles.</p> <p>Should you have any further concerns in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			We therefore appeal to the decision makers not to grant an EA unless you, as the EAP, conduct an EIA on scientifically and ecologically sound principles, as mentioned above.	
Federation for a Sustainable Environment	E-mail	16 October 2018	Dear Zizo The FSE, a key stakeholder in this application, will not be in the position to participate in the meeting on the 24 th . We kindly request a focus group meeting with you as the EAP and the Applicant on the 28 th of October 2018 (Monday) at our offices in Fourways, Sandton.	This was noted by Shango Solutions. Ms Liefferink was sent notification informing her that an additional public consultation has been scheduled for the Saturday the 10 th October 2018.
Federation for a Sustainable Environment	E-mail	18 October 2018	Dear Zizo I thank you for the notification, which I, on behalf of the Federation for a Sustainable Environment – a registered interested and affected party – accept. We await your future notification regarding the venue. Best Regards Mariette Liefferink	This correspondence is acknowledged.
Federation for a Sustainable Environment	E-mail	22 October 2018	Dear Zizo, I write on behalf of the Federation for a Sustainable Environment. We kindly request clarification regarding the following perceived anomaly: In terms of the Draft Scoping Report for Pure Source Mine (DMR REFERENCE NUMBERS: FS 30/5/1/2/2/10048 MR; FS 30/5/1/2/3/2/1/10048 EM) we are advised that “it is important that Interested and Affected Parties are provided with an opportunity to review and comment on the Scoping Report, thereby contributing to the Scoping process and	Dear Mariette, Thank you for your correspondence. Oral comments of I&APs to be submitted during the upcoming consultation event on the 10 th November 2018 and all written comments received from I&APs prior to the finalisation of the Final Scoping Report will be incorporated in the Issues and Response Report (an appendix to the Final Scoping Report,) which will be submitted to the Department of Mineral Resources. Kindly be advised that the Applicant is in the process of applying for a Closure Certificate over the Mining Permit areas.

I&AP	Method	Date	Issue	Response
			<p>assisting in identifying any additional risks or impacts that may be experienced. As such, a public consultation is being undertaken for this project and results will be documented in the Final Scoping Report. This report will be made available to Interested and Affected Parties for review and comment for a period of 30 days ending on the 9th November 2018.”</p> <p>(Emphasis added.)</p> <p>A public participation meeting, in terms of the subjoined correspondence, is scheduled for the 10th of November, 2018. Since the time period for review and comment prescribes, according to the abovementioned notification, on the 9th of November, 2018, kindly advise whether the oral comments of IAPs, submitted during the public participation meeting on the 10th of November, 2018 and the written comments, which the public participation meeting may solicit and which may be submitted after the public participation meeting, will be incorporated in the Comments and Response Report which will be submitted to the Department of Mineral Resources.</p> <p>Furthermore, it is our understanding that the following has relevance:</p> <p>In terms of the attached Pre-Directive of the Department of Mineral Resources, dated the 14th of September, 2018, the Goosebay Farm (Pty) Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd “VLDC” Group) failed to - in terms of section 43(4) of the MPRDA - apply for a closure certificate within the prescribed 180 days of the lapsing of its mining permit.</p> <p>The same above-mentioned “VLDC” Group applied for a new Mining Right on the 24th of August 2018 as well as an Environmental</p>	<p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<p>Authorisation and has submitted its Draft Scoping Report for public comment.</p> <p>According to the DMR's Pre-Directive, the owner, namely the VLDC Group, furthermore contravened the Environmental Authorisation by failing to:</p> <ol style="list-style-type: none"> 1. Submit a monitoring and performance assessment / environmental audit report to the Office of the DMR. 2. Conduct concurrent rehabilitation. Please see the subjoined authentic photographic evidence in substantiation.  <p>In terms of section 23(g) of the MPRDA "the Minister must grant a mining right if the applicant is not in contravention of any provision of this Act". By analogous reasoning, the Minister must not grant a mining right if the applicant is in contravention of any provision of the Act. Since the owner of Pure Source Mine is the same owner of Goosebay Farm (Pty) Ltd., we are of the considered opinion that the above-mentioned contraventions by the owner ought to influence the decision by the DMR, that is, not to grant an environmental authorisation.</p>	

I&AP	Method	Date	Issue	Response
Federation for a Sustainable Environment	E-mail	23 October 2018	<p>Dear Zizo</p> <p>We once more write on behalf of the Federation for a Sustainable Environment. We apologise for our fragmented responses.</p> <p>In our perusal of the Visual Assessment (Appendix F6) of the above Application, we noticed that the Consultant failed to assess the economic value of the loss of sense.</p> <p>It is part of our law that the potential impact of a development on the sense of place of an area must be considered. In the case of Director: Mineral Development Gauteng Region and another v. Save the Vaal Environment and others 1999 (2) SA 709 (SCA) at 715C, the Supreme Court of Appeals with regard to a proposed mine on a wetland next to the Vaal river, identified as an environmental concern the "...predicted constant noise, light, dust and water pollution resulting from the proposed strip mine will totally destroy the 'sense of place' of the wetland and the associated Cloudy Creek. Thus the spiritual, aesthetic and therapeutic qualities associated with this area will also be eliminated."</p> <p>This finding by the court established sense of place, as an environmental concern that can be impacted upon by development and that should be considered accordingly. The court also defined some of the aspects that constitute the concept 'sense of place.'</p> <p>Furthermore, in terms of the Principles of the NEMA, the EAP should evaluate the Best Practicable Environmental Option (BPEO).</p> <p>The balancing of the negative environmental impacts versus the alleged short term social benefits (which have not accrued in the last period of mining to the local communities) and</p>	<p>Dear Mariette,</p> <p>Thank you for your mail.</p> <p>We would like to provide comments aiming at addressing the following issues (written in bold) raised in your correspondence:</p> <p>Economic value of sense of place</p> <p>The economic report (Appendix F16) has considered sense of place to the extent that it is relevant in assessing potential impacts on property values and tourism. There is no impact category called "economic value of the loss of sense of place" or something similar. The assessment of impacts on property values and tourism is highly reliant on the outputs of the other specialist studies (visual, social, air quality, noise, biodiversity, wetland and hydrology) in terms of content and level of detail. The economic report utilised these studies to determine the impacts on property values and tourism.</p> <p>Best Practicable Environmental Option</p> <p>Kindly note that we are in the Scoping phase of the environmental assessment process. The purpose of the Scoping phase considers, but is not limited to, the following:</p> <ul style="list-style-type: none"> • Gather baseline (mainly desktop) information about the receiving environment. • Identification of (i) potential environmental impacts (negative and positive) and (ii) fatal flaws. • Based on the outcome, determine which areas can be mined with minimal risk to the environment. <p>The mining footprint has been reduced significantly due to the environmental sensitivities that were identified on site during the Scoping phase. Additional and more in-depth specialist studies will be carried out during the EIA phase. Depending on the outcome of these detailed studies, the mining footprint may be further reduced to avoid any additional environmental sensitivities, which may be</p>


I&AP	Method	Date	Issue	Response
			<p>the economic advantages can only be assessed if the loss to the environment is evaluated.</p> <p>The EIA must take into account the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining as well as the potential strategic importance of the minerals to the country. We therefore call for a full economic evaluation of the proposed sand, gravel and alluvial diamond mining compared with other reasonable/feasible alternative land uses (such as tourism and eco-tourism), as a necessary component of the EIA, in order to demonstrate that mining would be the optimum sustainable land use in the Vaaloewer area.</p> <p>This should include an assessment of the opportunity costs, e.g.:</p> <ul style="list-style-type: none"> ○ Understanding the value of the foregone opportunities; ○ The achievement of the desired aim/goal for the specific area; ○ Optimising of positive impacts; ○ Minimising of negative impacts; ○ Equitable distribution of impacts; and ○ The maintenance of ecological integrity and environmental quality. <p>We await your reply to the above-mentioned comments.</p>	<p>identified on site.</p> <p>In addition, negative and positive environmental impacts associated with the project have been identified and assessed in the Scoping Report and these will be further assessed during the EIA phase.</p> <p>Alternative options for the placement of the associated plant have been considered in the Scoping Report. The preferred plant alternative was selected based on the following:</p> <ul style="list-style-type: none"> • The site is currently disturbed and no additional encroachment on natural vegetation will be required. • This location will have the least impact on the migration patterns of the game that roam on the farm due to the fact that previous mining occurred in this area. It is also near the perimeter of the farm, bordered by fenced agricultural fields on two sides. • It is in close proximity to existing infrastructure such as a public road network and power supply, therefore minimising construction and operational impacts. • It is in close proximity to the main sand deposit which in turn requires the least distance for transporting material. • The site and proposed mine layout, provides a safe separation between active mining in the pit, and vehicle circulation for product collection. • The site is furthest away from the nearest residential development. <p>The Applicant will develop farm portions as an eco-estate with residential and hospitality facilities, for which an Environmental Authorisation was obtained. The application area is currently utilised as a game farm and this will continue to remain the primary land use with other</p>



I&AP	Method	Date	Issue	Response
				<p>agricultural activities such as crop production. Mining is an interim land use. As such, we cannot assess tourism and eco-tourism as an alternative land-use because it is the ultimate end land-use for the application area.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Federation for a Sustainable Environment	E-mail	26 October 2018	<p>Dear Mpho</p> <p>I thank you for the notification. Kindly respond to my previous correspondence.</p>	This was noted by Shango Solutions and a response was sent to Ms Liefferink.
Federation for a Sustainable Environment	E-mail	27 October 2018	<p>Dear Mpho and Zizo</p> <p>I refer to my previous correspondence and kindly request a response.</p> <p>With reference to the above notification, I hereby confirm my participation, with thanks.</p>	This was noted by Shango Solutions and a response was sent to Ms Liefferink.
Federation for a Sustainable Environment	E-mail	27 November 2018 (4:18PM)	<p>Dear Mr Mulaudzi</p> <p>The FSE hereby records that its comments during the public participation meeting have not neither been accurately recorded nor recorded in context by the EAP.</p> <p>We hereby request the EAP to supply the FSE, IAPs and the DMR with the authentic audio recording of the meeting in order to produce evidence of the alleged inaccuracies.</p>	This was noted by Shango Solutions.
Federation for a Sustainable Environment	E-mail	27 November 2018 (4:37PM)	<p>Dear Mr Mulaudzi</p> <p>I refer to my subjoined request. The audio-visual recording of the meeting was supplied by the EAP. I apologise for my oversight.</p> <p>I respectfully request that the DMR views and listens to the audio-visual recording of the meeting to ripen its judgment regarding the comments of IAPS and the responses of the EAP and its consultants.</p>	This was noted by Shango Solutions.


I&AP	Method	Date	Issue	Response
Federation for a Sustainable Environment	E-mail	03 December 2018 (1:41PM)	Dear Mmakoena I shall submit my comments shortly.	Noted, with thanks.
Federation for a Sustainable Environment	E-mail	03 December 2018 (6:09PM)	<p>Dear Mmakoena</p> <p>Please find the FSE's comments attached hereto. Please acknowledge receipt.</p> <p>Best Regards</p> <p>Mariette Liefferink</p> <p>COMMENTS ON THE DRAFT SCOPING REPORT OF PURE SOURCE MINE (FS 30/5/1/2/2/10048 MR) (FS 30/5/1/2/3/2/1/10048 EM)</p> <p>The following comments are submitted on behalf of the Federation for Sustainable Environment (FSE). The FSE is a federation of community based civil society organisations committed to the realisation of the constitutional right to an environment that is not harmful to health or well-being, and to having the environment sustainably managed and protected for future generations. Their mission is specifically focussed on addressing the adverse impacts of mining and industrial activities on the lives and livelihoods of vulnerable and disadvantaged communities who live and work near South Africa's mines and industries.</p> <p>The FSE requests that its oral comments during the Public Participation Meeting be recorded verbatim, that is, not as a transcript of the FSE's comments, but the audio visual recording of the FSE's comments, in the Comments and Response Report.</p> <p>We furthermore request that the subjoined written comments be included <i>in toto</i> and in context, and not abridged in the Comments and</p>	<p>Dear Mariette,</p> <p>Received.</p> <p>Dear Mariette,</p> <p>Thank you very much for your comments.</p> <p>Please find herewith attached your comments with our responses in red.</p> <p>COMMENTS ON THE DRAFT SCOPING REPORT OF PURE SOURCE MINE (FS 30/5/1/2/2/10048 MR) (FS 30/5/1/2/3/2/1/10048 EM)</p> <p>The following comments are submitted on behalf of the Federation for Sustainable Environment (FSE). The FSE is a federation of community based civil society organisations committed to the realisation of the constitutional right to an environment that is not harmful to health or well-being, and to having the environment sustainably managed and protected for future generations. Their mission is specifically focussed on addressing the adverse impacts of mining and industrial activities on the lives and livelihoods of vulnerable and disadvantaged communities who live and work near South Africa's mines and industries.</p> <p>The FSE requests that its oral comments during the Public Participation Meeting be recorded verbatim, that is, not as a transcript of the FSE's comments, but the audio visual recording of the FSE's comments, in the Comments and Response Report.</p> <p>Your request is noted. The notes for the record for the additional public consultation are a summarized version of the comments that were provided at the meeting. In order to ensure that Interested and Affected Parties receive the detailed comments, video recordings of the meeting have been made available on the Shango Solutions website.</p>

I&AP	Method	Date	Issue	Response
			<p>Response Report. PREFATORY The South African Human Rights Commission's (SAHRC) "Report on the National Hearings on the Underlying Socio-Economic Challenges of Mining-Affected Communities in South Africa" (2018), its findings and directives have relevance to the proposed project and relevance in particular to the competent authority in this matter, namely the Department of Mineral Resources (DMR). We consider the findings and recommendations/directives of the SAHRC of significant importance. We therefore find it appropriate to include the following findings in our submission on this Application. The SAHRC found that:</p> <ol style="list-style-type: none"> 1. The Department of Rural Development and Land Reform appear to systematically disregard key pieces of legislation, particularly the Municipal Systems Act 32 of 2000 and the Spatial Land use Management Act 16 of 2013 (SPLUMA). 2. The Department of Mineral Resources (DMR) appear to systematically disregard key pieces of legislation, particularly the Municipal Systems Act, 32 of 2000 and the Spatial Land Use Management Act, 16 of 2013 (SPLUMA). <p>Land use approvals must be secured from the applicable municipalities prior to the DMR granting the licenses or permits.</p>	<p>We furthermore request that the subjoined written comments be included <i>in toto</i> and in context, and not abridged in the Comments and Response Report. Please refer to response above.</p> <p>PREFATORY The South African Human Rights Commission's (SAHRC) "Report on the National Hearings on the Underlying Socio-Economic Challenges of Mining-Affected Communities in South Africa" (2018), its findings and directives have relevance to the proposed project and relevance in particular to the competent authority in this matter, namely the Department of Mineral Resources (DMR). We consider the findings and recommendations/directives of the SAHRC of significant importance. We therefore find it appropriate to include the following findings in our submission on this Application. The SAHRC found that:</p> <ol style="list-style-type: none"> 10. The Department of Rural Development and Land Reform appear to systematically disregard key pieces of legislation, particularly the Municipal Systems Act 32 of 2000 and the Spatial Land use Management Act 16 of 2013 (SPLUMA). 11. The Department of Mineral Resources (DMR) appear to systematically disregard key pieces of legislation, particularly the Municipal Systems Act, 32 of 2000 and the Spatial Land Use Management Act, 16 of 2013 (SPLUMA). Land use approvals must be secured from the applicable municipalities prior to the DMR granting the licenses or permits. 12. The DMR has not taken adequate steps to secure financial provision for rehabilitating damage to the environment and water resources and there is an immediate need for

I&AP	Method	Date	Issue	Response
			<p>3. The DMR has not taken adequate steps to secure financial provision for rehabilitating damage to the environment and water resources and there is an immediate need for all EIAs and EMPS to clearly detail land quality and potential post closure land use. Licences should not be granted where long term, sustainable land use cannot be guaranteed.</p> <p>The Report recommended that the DMR <u>must</u>, when considering applications for mining rights, ensure that alternative land uses for sustainable local development are identified and considered. It may include not to approve applications.</p> <p>4. The DMR is not the appropriate authority for granting and enforcing environmental authorisations with respect to mining.</p> <p>5. There is an immediate need to give effect to the precautionary principle in matters dealing with environmental protection and strongly cautions against prioritising the immediate economic benefit of mining activities over the protection of the environment, particularly in those areas that are crucial for sustaining ecological biodiversity, natural heritage, cultural</p>	<p>all EIAs and EMPS to clearly detail land quality and potential post closure land use. Licences should not be granted where long term, sustainable land use cannot be guaranteed.</p> <p>The Report recommended that the DMR <u>must</u>, when considering applications for mining rights, ensure that alternative land uses for sustainable local development are identified and considered. It may include not to approve applications.</p> <p>13. The DMR is not the appropriate authority for granting and enforcing environmental authorisations with respect to mining.</p> <p>14. There is an immediate need to give effect to the precautionary principle in matters dealing with environmental protection and strongly cautions against prioritising the immediate economic benefit of mining activities over the protection of the environment, particularly in those areas that are crucial for sustaining ecological biodiversity, natural heritage, cultural significance and life.</p> <p>15. The DMR in partnership with the Department of Health is directed to commission a study to assess the impact of mining activities on communities' health particularly respiratory health. The monitoring reports should be publicly accessible, particularly by affected communities.</p> <p>16. The DMR, in consultation with the DEA, is directed to develop clear policy and procedures for assessing the adequacy of consultations, including with respect to environmental authorisations.</p>

I&AP	Method	Date	Issue	Response
			<p>significance and life.</p> <p>6. The DMR in partnership with the Department of Health is directed to commission a study to assess the impact of mining activities on communities' health particularly respiratory health. The monitoring reports should be publicly accessible, particularly by affected communities.</p> <p>7. The DMR, in consultation with the DEA, is directed to develop clear policy and procedures for assessing the adequacy of consultations, including with respect to environmental authorisations.</p> <p>8. The DMR must ensure that all report and documents, with the exception of strictly confidential information as determined by the DMR, are immediately made available to the public and the DMR is directed to immediately give effect to its PAIA manual.</p> <p>9. The DMR must engage with the Information Protection Regulator for the enforcement of compliance with PAIA where mining companies are not in compliance with the statute.</p> <p><u>We express the sincere hope that the DMR, as the competent authority, will give assiduous attention to the above findings and recommendations/directives of the SAHRC in its decision-making pertaining to</u></p>	<p>17. The DMR must ensure that all report and documents, with the exception of strictly confidential information as determined by the DMR, are immediately made available to the public and the DMR is directed to immediately give effect to its PAIA manual.</p> <p>18. The DMR must engage with the Information Protection Regulator for the enforcement of compliance with PAIA where mining companies are not in compliance with the statute.</p> <p><u>We express the sincere hope that the DMR, as the competent authority, will give assiduous attention to the above findings and recommendations/directives of the SAHRC in its decision-making pertaining to the above Project.</u></p> <p>The FSE is a member of the Section 11 advisory committee of the SAHRC pertaining to the implementation of the recommendations/directives of the SAHRC.</p> <p>The prefatory is noted.</p> <p>APPLICANT IN NON-COMPLIANCE WITH S 43(4) OF MPRDA</p> <p>In terms of the attached Pre-Directive of the Department of Mineral Resources, dated the 14th of September, 2018, the Goosebay Farm (Pty) Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd "VLDC" Group) failed to - in terms of section 43(4) of the MPRDA - apply for a closure certificate within the prescribed 180 days of the lapsing of its mining permit.</p>  <p>PURE SOURCE - GOOSEBAY - DIRECT</p> <p>The same above-mentioned "VLDC" Group applied for a new Mining Right on the 24th of August 2018 as well as an</p>

I&AP	Method	Date	Issue	Response
			<p><u>the above Project.</u> The FSE is a member of the Section 11 advisory committee of the SAHRC pertaining to the implementation of the recommendations/directives of the SAHRC.</p> <p>APPLICANT IN NON-COMPLIANCE WITH S 43(4) OF MPRDA</p> <p>In terms of the attached Pre-Directive of the Department of Mineral Resources, dated the 14th of September, 2018, the Goosebay Farm (Pty) Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd “VLDC” Group) failed to - in terms of section 43(4) of the MPRDA - apply for a closure certificate within the prescribed 180 days of the lapsing of its mining permit.</p>  <p>PURE SOURCE - GOOSEBAY - DIRECT</p> <p>The same above-mentioned “VLDC” Group applied for a new Mining Right on the 24th of August 2018 as well as an Environmental Authorisation and has submitted its Draft Scoping Report for public comment. According to the DMR’s Pre-Directive, the owner, namely the VLDC Group, furthermore contravened the Environmental Authorisation by failing to:</p> <ol style="list-style-type: none"> 1. Submit a monitoring and performance assessment / environmental audit report to the Office of the DMR. 2. Apply for a closure certificate and submit a rehabilitation plan. 3. Conduct concurrent rehabilitation. Please see the subjoined authentic photographic evidence in substantiation. 	<p>Environmental Authorisation and has submitted its Draft Scoping Report for public comment. According to the DMR’s Pre-Directive, the owner, namely the VLDC Group, furthermore contravened the Environmental Authorisation by failing to:</p> <ol style="list-style-type: none"> 4. Submit a monitoring and performance assessment / environmental audit report to the Office of the DMR. 5. Apply for a closure certificate and submit a rehabilitation plan. 6. Conduct concurrent rehabilitation. Please see the subjoined authentic photographic evidence in substantiation.  <p>In terms of section 23(g) of the MPRDA “<i>the Minister must grant a mining right if the applicant is not in contravention of any provision of this Act</i>”. By analogous reasoning, the Minister must not grant a mining right if the applicant is in contravention of any provision of the Act. Since the owner of Pure Source Mine is the same owner of Goosebay Farm (Pty) Ltd., we are of the considered opinion that the above-mentioned contraventions by the owner ought to influence the decision by the DMR, that is, not to grant an environmental authorisation. The FSE, grounded upon the directive of the DMR, hereby requests a copy of the Applicant’s closure application or certificate and its rehabilitation plan pertaining to its mining permit for its Goosebay Farm (Pty) Ltd.</p> <p>This section is noted.</p>

I&AP	Method	Date	Issue	Response
			 <p>In terms of section 23(g) of the MPRDA “the Minister must grant a mining right if the applicant is not in contravention of any provision of this Act”. By analogous reasoning, the Minister must not grant a mining right if the applicant is in contravention of any provision of the Act. Since the owner of Pure Source Mine is the same owner of Goosebay Farm (Pty) Ltd., we are of the considered opinion that the above-mentioned contraventions by the owner ought to influence the decision by the DMR, that is, not to grant an environmental authorisation. The FSE, grounded upon the directive of the DMR, hereby requests a copy of the Applicant’s closure application or certificate and its rehabilitation plan pertaining to its mining permit for its Goosebay Farm (Pty) Ltd.</p> <p>ENVIRONMENTAL IMPACT ASSESSMENT PROCESS</p> <p>We consider it appropriate to proffer a few comments regarding the EIA Process and the “independency” of the EAP.</p> <p>As was established in the Earthlife Africa v Eskom and others (Case No 7653/03 in Cape High Court. Paragraph 70) case an Applicant’s consultants and the EAP are only notionally ‘independent’ in the sense that they are not institutionally part of the Applicant, but they are</p>	<p>ENVIRONMENTAL IMPACT ASSESSMENT PROCESS</p> <p>We consider it appropriate to proffer a few comments regarding the EIA Process and the “independency” of the EAP.</p> <p>As was established in the Earthlife Africa v Eskom and others (Case No 7653/03 in Cape High Court. Paragraph 70) case an Applicant’s consultants and the EAP are only notionally ‘independent’ in the sense that they are not institutionally part of the Applicant, but they are employed by the Applicant to act as its agent and the purpose of their engagement is to obtain the authorisation the Applicant seeks. The Applicant employed them, both to prepare the application for authorisation and to perform the functions of its consultants under the EIA Regulations. The consultants are, in other words, clearly aligned on the Applicant’s side and are not independent consultants employed by the decision-maker to assist him in making his decision.</p> <p>In the current system the public is usually, when confronted by an application, taken by surprise. A meeting is convened by the applicant and the public has to face a range of specialists, specialising in inter alia fauna and flora, geohydrology, aquatic biota, hydrology, groundwater, soil, air quality, geology, etc. supporting the applicant and being paid for by the applicant. Their objective is not only to fulfil their roles as specialists, but also ensure that the application is successful.</p> <p>The playing field is not level. The public has no confidence in the process. It results in confrontation and escalation of conflict.</p> <p>Currently all of the power lies with the applicant. The Applicant pays for the consultants and the Environmental Assessment Practitioner, whilst the public lacks knowledge of specialised areas of investigation, the ability to employ specialists and thus the ability to consult in a meaningful manner. In essence, the decision maker receives one informed side of the argument and one uninformed side of the opinion. It is our submission that in order to ensure a meaningful consultation process the levelling of the playing field should be engineered.</p> <p>This section is noted.</p>

I&AP	Method	Date	Issue	Response
			<p>employed by the Applicant to act as its agent and the purpose of their engagement is to obtain the authorisation the Applicant seeks. The Applicant employed them, both to prepare the application for authorisation and to perform the functions of its consultants under the EIA Regulations. The consultants are, in other words, clearly aligned on the Applicant's side and are not independent consultants employed by the decision-maker to assist him in making his decision.</p> <p>In the current system the public is usually, when confronted by an application, taken by surprise. A meeting is convened by the applicant and the public has to face a range of specialists, specialising in inter alia fauna and flora, geohydrology, aquatic biota, hydrology, groundwater, soil, air quality, geology, etc. supporting the applicant and being paid for by the applicant. Their objective is not only to fulfil their roles as specialists, but also ensure that the application is successful.</p> <p>The playing field is not level. The public has no confidence in the process. It results in confrontation and escalation of conflict. Currently all of the power lies with the applicant. The Applicant pays for the consultants and the Environmental Assessment Practitioner, whilst the public lacks knowledge of specialised areas of investigation, the ability to employ specialists and thus the ability to consult in a meaningful manner. In essence, the decision maker receives one informed side of the argument and one uninformed side of the opinion. It is our submission that in order to ensure a meaningful consultation process the levelling of the playing field should be engineered.</p> <p>SENSE OF PLACE The Visual Assessment Scoping Report</p>	<p>SENSE OF PLACE</p> <p>The Visual Assessment Scoping Report acknowledges that <i>"along the Vaal River a tranquil sense of place is evoked"</i> and that <i>"the sand mining areas evoke an open and barren sense of place."</i></p> <p>In our perusal of the Visual Assessment (Appendix F6) of the above Application, we noticed that the Consultant failed to assess the economic value of this loss of sense of place. It is part of our law that the potential impact of a development on the sense of place of an area must be considered. In the case of Director: Mineral Development Gauteng Region and another v. Save the Vaal Environment and others 1999 (2) SA 709 (SCA) at 715C, the Supreme Court of Appeals with regard to a <i>proposed mine on a wetland next to the Vaal river, identified as an environmental concern</i> the <i>"...predicted constant noise, light, dust and water pollution resulting from the proposed strip mine will totally destroy the 'sense of place' of the wetland and the associated Cloudy Creek. Thus the spiritual, aesthetic and therapeutic qualities associated with this area will also be eliminated."</i></p> <p>This finding by the court established sense of place, as an environmental concern that can be impacted upon by development and that should be considered accordingly. The court also defined some of the aspects that constitute the concept 'sense of place.'</p> <p>We strongly dissent from the unsubstantiated statement on page 135 of the DSR that <i>"the proposed project has some potential to result in increased tourism to the area as a result of increased business tourism."</i> We call for facts to substantiate this statement.</p> <p>It is our considered opinion that the project will destroy the spiritual, aesthetic and therapeutic qualities associated with this area and will have a significant adverse impact on the tourism and eco-tourism of the Vaaloewer and Vredefort Dome and adjacent tourist attractions. These impacts must be costed (cost/benefit analysis) in order to determine whether the project is the best practicable environmental option for the area.</p> <p>The economic report has considered sense of place to the</p>

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			<p>acknowledges that <i>“along the Vaal River a tranquil sense of place is evoked”</i> and that <i>“the sand mining areas evoke an open and barren sense of place.”</i></p> <p>In our perusal of the Visual Assessment (Appendix F6) of the above Application, we noticed that the Consultant failed to assess the economic value of this loss of sense of place. It is part of our law that the potential impact of a development on the sense of place of an area must be considered. In the case of Director: Mineral Development Gauteng Region and another v. Save the Vaal Environment and others 1999 (2) SA 709 (SCA) at 715C, the Supreme Court of Appeals with regard to a <i>proposed mine on a wetland next to the Vaal river, identified as an environmental concern the “...predicted constant noise, light, dust and water pollution resulting from the proposed strip mine will totally destroy the ‘sense of place’ of the wetland and the associated Cloudy Creek. Thus the spiritual, aesthetic and therapeutic qualities associated with this area will also be eliminated.”</i></p> <p>This finding by the court established sense of place, as an environmental concern that can be impacted upon by development and that should be considered accordingly. The court also defined some of the aspects that constitute the concept ‘sense of place.’</p> <p>We strongly dissent from the unsubstantiated statement on page 135 of the DSR that <i>“the proposed project has some potential to result in increased tourism to the area as a result of increased business tourism.”</i> We call for facts to substantiate this statement.</p> <p>It is our considered opinion that the project will destroy the spiritual, aesthetic and therapeutic qualities associated with this area and will have a significant adverse impact on the tourism and eco-tourism of the Vaaloewer and Vredefort</p>	<p>extent that it is relevant in assessing potential impacts on property values and tourism. There is no impact category called “economic value of the loss of sense of place” or something similar. The assessment of impacts on property values and tourism is highly reliant on the outputs of the other specialist studies (visual, social, air quality, noise, biodiversity, wetland and hydrology) in terms of content and level of detail. The economic report utilised these studies to determine the impacts on property values and tourism.</p> <p>NEED AND DESIRABILITY</p> <p>In terms of the Principles of the NEMA, the EAP should evaluate the Best Practicable Environmental Option (BPEO). The balancing of the negative environmental impacts versus the alleged short term social benefits (which have not accrued in the last period of mining to the local communities) and the economic advantages can only be assessed if the loss to the environment is evaluated.</p> <p>The EIA must take into account the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining as well as the potential strategic importance of the minerals to the country. We therefore call for a full economic evaluation of the proposed sand, gravel and alluvial diamond mining compared with other reasonable/feasible alternative land uses (such as tourism and eco-tourism), as a necessary component of the EIA, in order to demonstrate that mining would be the optimum sustainable land use in the Vaaloewer area.</p> <p>This should include an assessment of the opportunity costs, e.g.:</p> <ul style="list-style-type: none"> o Understanding the value of the foregone opportunities; o The achievement of the desired aim/goal for the specific area; o Optimising of positive impacts; o Minimising of negative impacts; o Equitable distribution of impacts; and o The maintenance of ecological integrity and environmental quality. <p>Regulation 50 (d) of the Mineral and Petroleum Resources Development Regulations states that a sustainable</p>

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			<p>Dome and adjacent tourist attractions. These impacts must be costed (cost/benefit analysis) in order to determine whether the project is the best practicable environmental option for the area.</p> <p>NEED AND DESIRABILITY</p> <p>In terms of the Principles of the NEMA, the EAP should evaluate the Best Practicable Environmental Option (BPEO).</p> <p>The balancing of the negative environmental impacts versus the alleged short term social benefits (which have not accrued in the last period of mining to the local communities) and the economic advantages can only be assessed if the loss to the environment is evaluated.</p> <p>The EIA must take into account the environmental sensitivity of the area, the overall environmental and socio-economic costs and benefits of mining as well as the potential strategic importance of the minerals to the country. We therefore call for a full economic evaluation of the proposed sand, gravel and alluvial diamond mining compared with other reasonable/feasible alternative land uses (such as tourism and eco-tourism), as a necessary component of the EIA, in order to demonstrate that mining would be the optimum sustainable land use in the Vaaloewer area.</p> <p>This should include an assessment of the opportunity costs, e.g.:</p> <ul style="list-style-type: none"> o Understanding the value of the foregone opportunities; o The achievement of the desired aim/goal for the specific area; o Optimising of positive impacts; o Minimising of negative impacts; o Equitable distribution of impacts; and o The maintenance of ecological integrity and environmental quality. 	<p>development cost-benefit analysis be conducted to determine the best use of alternative land options. To this end, all the sustainable development impacts (social, economic and environmental) need to be listed and equitably weighed up against one another to determine the best land-use for this and the next generation.</p> <p>As such, a sustainable development cost-benefit analysis will be conducted during the Environment Impact Assessment (EIA) phase of the project. Land uses that will be considered in the assessment include mining, agriculture and eco-tourism/tourism.</p> <p>CONSIDERATION OF ALTERNATIVES</p> <p>On page 30 of the Draft Scoping Report (DSR) reference are made to alternatives, which ought to be identified according to:</p> <p>Activity alternatives, location, alternatives, design or layout alternatives, technology alternatives, operational alternatives and the No Go alternative.</p> <p>Alternatives to the sites were considered in the DSR but we failed to find an assessment of alternative activities, such as eco-tourism, tourism or agricultural development or consideration of the No Go alternative.</p> <p>Alternative activities must be considered as well as the No Go alternative.</p> <p>For any alternative to be considered feasible, such an alternative must meet the need and purpose of the proposed activity without presenting significantly high associated impacts. The proposed activity is mining.</p> <p>Activity Alternative</p> <p>The geology is the primary driver in determining the location for mining. The application area has been selected based on historical and active mining operations in the immediate surroundings of the application area along with historical and current data that indicate the economic viability of the sand, aggregate/gravel and alluvial diamond minerals to occur. As such, no activity alternatives were considered.</p> <p>No-Go Alternative</p> <p>The “No Go” or “No Action” alternative refers to the</p>

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			<p>CONSIDERATION OF ALTERNATIVES On page 30 of the Draft Scoping Report (DSR) reference are made to alternatives, which ought to be identified according to: Activity alternatives, location, alternatives, design or layout alternatives, technology alternatives, operational alternatives and the No Go alternative. Alternatives to the sites were considered in the DSR but we failed to find an assessment of alternative activities, such as eco-tourism, tourism or agricultural development or consideration of the No Go alternative. Alternative activities must be considered as well as the No Go alternative.</p> <p>CUMULATIVE IMPACTS OF THE PROJECT ON WATER QUALITY AND QUANTITY OF THE INTEGRATED VAAL RIVER SYSTEM The FSE is a member of number of Governmental Project Steering Committees, Task Teams, Expert Steering Committees, Advisory Committees, Management Committees, etc. pertaining to mine water management and Integrated Vaal River system. Our comments in this regard is therefore not uninformed but well informed. The land use in the Upper Vaal Water Management Area (MWA) is characterised by the sprawling urban and industrial areas in the northern and western parts of the WMA. There is also extensive coal and gold mining activities located in the Upper Vaal WMA. These activities are generating substantial return flow volumes in the form of treated effluent from the urban areas and mine dewatering that are discharged into the river system. These discharges are having significant impacts on the water quality (in particular salinity) in the main stem of the Vaal River, throughout all three the WMAs.</p>	<p>alternative of not embarking on the proposed project at all. This alternative would denote the current status quo without the proposed project. The No Go alternative as a specific alternative is not considered feasible for the following reasons:</p> <ul style="list-style-type: none"> • The Applicant holds an Environmental Authorisation for the establishment of an Eco-Estate with residential, resort and conservation land uses. Certain areas of the application area are currently utilised for agricultural purposes in the form of game farming and maize crop production and eco-tourism. These two functions will continue to remain the primary land uses during the mining activities. If the project is rejected, the Applicant will progress with the establishment of the Eco-Estate (with some agriculture). As such, the status quo of the properties under application will ultimately change, irrespective of the mining activities. • Mining is important for economic development, to construct durable, modern structures, employment creation and revenue collection. • Extensive investigations have revealed that there is a shortage of alluvial silica sand in the PWV industrial complex. Alluvial silica sand has a greater utility than silica sand that is created by means of crushing processes. Furthermore, many of the previously existing abundant alluvial silica sand deposits located in the Vaal Triangle are on the verge of being exhausted, thus making the mining of the existing resource at the Pure Source Mine both necessary and desirable, with regards to economic considerations • Furthermore, if this project is approved, it will ensure that no economically viable mineral resources will be sterilised and that the benefits of the resources available in the area will be maximised. <p>For the purpose of this project, the need and justification for alternatives was specifically guided by the relatively low</p>

I&AP	Method	Date	Issue	Response
			<p>Of relevance is the recent SAHRC's inquiry into whether or not the State of the Vaal River violates or threatens human rights including environmental rights in terms of section 24 of the Constitution.</p> <p>In terms of the DWS' Vaal River System Reconciliation Strategy the Vaal is experiencing a growing deficit and it is rapidly growing worse due to dysfunctional waste water treatment plants, degradation of wetlands, water losses and a decrease in rainfall due to climate change. Analogous to the above statements, the Riverine Ecology Scoping Assessment of the DSR informs us that:</p> <ul style="list-style-type: none"> • The aquatic fauna of the Vaal River system, particularly in this zone, are threatened by extensive agriculture, urban development and industrial activities in Vanderbijlpark/Vereeniging. • This has resulted in the sedimentation and modification of instream and wetland habitats associated with the Vaal River. • In addition the Ermelo Coal field has resulted in several point source contaminants from coal mining and power generation activities. • There is excessive sewerage input. • The ecological sensitivity is high. • The Present Ecological Status (PES) of the water course is a class D. • The Assessment recommends that the management of land use must be conducted in a manner which aims to improve the PES class of the water course. • The Vaal River basin supports a critical commercial and industrial 	<p>sensitivity of the receiving socio-economic and biophysical environment as well as the geology. Three alternative sites are considered for the location of the supporting mining infrastructure within the application area.</p> <p>CUMULATIVE IMPACTS OF THE PROJECT ON WATER QUALITY AND QUANTITY OF THE INTEGRATED VAAL RIVER SYSTEM</p> <p>The FSE is a member of number of Governmental Project Steering Committees, Task Teams, Expert Steering Committees, Advisory Committees, Management Committees, etc. pertaining to mine water management and Integrated Vaal River system. Our comments in this regard is therefore not uninformed but well informed.</p> <p>The land use in the Upper Vaal Water Management Area (MWA) is characterised by the sprawling urban and industrial areas in the northern and western parts of the WMA. There is also extensive coal and gold mining activities located in the Upper Vaal WMA. These activities are generating substantial return flow volumes in the form of treated effluent from the urban areas and mine dewatering that are discharged into the river system. These discharges are having significant impacts on the water quality (in particular salinity) in the main stem of the Vaal River, throughout all three the WMAs.</p> <p>Of relevance is the recent SAHRC's inquiry into whether or not the State of the Vaal River violates or threatens human rights including environmental rights in terms of section 24 of the Constitution.</p> <p>In terms of the DWS' Vaal River System Reconciliation Strategy the Vaal is experiencing a growing deficit and it is rapidly growing worse due to dysfunctional waste water treatment plants, degradation of wetlands, water losses and a decrease in rainfall due to climate change. Analogous to the above statements, the Riverine Ecology Scoping Assessment of the DSR informs us that:</p> <ul style="list-style-type: none"> • The aquatic fauna of the Vaal River system, particularly in this zone, are threatened by extensive agriculture, urban development and industrial activities in Vanderbijlpark/Vereeniging.

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			<p>area in South Africa.</p> <ul style="list-style-type: none"> The Vredefort Dome World Heritage site is located approximately 33 km downstream of the proposed project area and presents unique instream habitat which supports high quality spawning sites for the various Cyprinid species (the Labeobarbus kimberleyensis is near threatened and the E. cf. palidus is a listed species – a precautionary approach is advised. Several indirect impacts can be expected as a result of the proposed project. The impacts associated with the proposed project are related to increased suspended solids and sedimentation and increased runoff velocities and subsequent erosion, sedimentation and increased suspended solids, and the alteration of the hydrology with in the considered river reach. <p>The Assessment Report identified a gap in that the volumes of water which are proposed to be extracted have not been provided and therefore the significance of this impact cannot be defined. The Assessment Report proposed mitigation measures to reduce the above impacts. We have little confidence, based on the historic performance of the Applicant, that these mitigation measures will be implemented. We submit that the cumulative impacts on the Vaal River may result in a tipping point for the Vaal River, which will result in major impacts of the environment and the economy since the Vaal River supplies water to 60% of the economy and 45% of the population.</p> <p>WETLANDS The Wetland Assessment for the proposed</p>	<ul style="list-style-type: none"> This has resulted in the sedimentation and modification of instream and wetland habitats associated with the Vaal River. In addition the Ermelo Coal field has resulted in several point source contaminants from coal mining and power generation activities. There is excessive sewerage input. The ecological sensitivity is high. The Present Ecological Status (PES) of the water course is a class D. The Assessment recommends that the management of land use must be conducted in a manner which aims to improve the PES class of the water course. The Vaal River basin supports a critical commercial and industrial area in South Africa. The Vredefort Dome World Heritage site is located approximately 33 km downstream of the proposed project area and presents unique instream habitat which supports high quality spawning sites for the various Cyprinid species (the Labeobarbus kimberleyensis is near threatened and the E. cf. palidus is a listed species – a precautionary approach is advised. Several indirect impacts can be expected as a result of the proposed project. The impacts associated with the proposed project are related to increased suspended solids and sedimentation and increased runoff velocities and subsequent erosion, sedimentation and increased suspended solids, and the alteration of the hydrology with in the considered river reach. <p>The Assessment Report identified a gap in that the volumes of water which are proposed to be extracted have not been provided and therefore the significance of this impact cannot be defined. The Assessment Report proposed mitigation measures to reduce the above impacts. We have little confidence, based on the historic performance of the Applicant, that these</p>

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			<p>project concluded that the potential loss of wetland areas is a potential fatal flaw for the proposed project.</p> <p>The impacts are described as:</p> <ul style="list-style-type: none"> • A direct loss of wetlands • Increase in sedimentation • Loss of vegetation • Alteration to the sub-surface hydrogeological flow paths • Loss of sub surfaced flows <p>These impacts have high and medium risk scores even after mitigation.</p>	<p>mitigation measures will be implemented.</p> <p>We submit that the cumulative impacts on the Vaal River may result in a tipping point for the Vaal River, which will result in major impacts of the environment and the economy since the Vaal River supplies water to 60% of the economy and 45% of the population.</p> <p>WETLANDS</p> <p>The Wetland Assessment for the proposed project concluded that the potential loss of wetland areas is a potential fatal flaw for the proposed project.</p> <p>The impacts are described as:</p> <ul style="list-style-type: none"> • A direct loss of wetlands • Increase in sedimentation • Loss of vegetation • Alteration to the sub-surface hydrogeological flow paths • Loss of sub surfaced flows <p>These impacts have high and medium risk scores even after mitigation.</p> <p>This section is noted.</p>
<p>Federation for a Sustainable Environment</p>	<p>E-mail</p>	<p>10 December 2018</p>	<p>Dear Mr Mulaudzi</p> <ol style="list-style-type: none"> 1. I thank you sincerely for the notification. Please accept my apology for my error in transmission. 2. Permit me please to use this opportunity to augment the Federation for a Sustainable Environment's (FSE) previous comments on the Draft Scoping Report of the above-mentioned Mine Project. The time for comment may have prescribed. It is for this reason that I am submitting the FSE's final comments on the Draft Scoping Report directly to you for consideration. I nonetheless copy the EAP on this submission. 3. Our comments in this submission are confined to the Economic Specialist 	<p>This was noted by Shango Solutions.</p>

I&AP	Method	Date	Issue	Response
			<p>Study for the Draft Scoping Report.</p> <p>4. The FSE recognises the importance of economic development. The South African mining industry is smaller than it was in 1994, despite global market dominance in some deposits, and there may be a sense of urgency prevailing around promoting mining investment. The question, which arises, however, is whether development is a Constitutional Right in terms of the Bill of Rights and whether it trumps the Constitutional Right to an environment that is not harmful to health and wellbeing (s 24 of the Bill of Rights). It logically follows from a reading of the Bill of Rights that while the right to an environment that is not harmful to health and well-being is enshrined in the Bill of Rights, the same status is not afforded to development. We find that the Bill of Rights is silent regarding the right to development except to state in s 24 that development must be ecologically sustainable and economically justifiable, and must give effect to inter-generational equity.</p> <p>5. In determining whether or not environmental authorisation of the above-mentioned project should be granted, the FSE respectfully requests the DMR to give careful consideration to the above-mentioned relationship between the right to environment and the right to development in the South African Constitution. S 24(a) imposes strong positive obligations on decision-makers, and an approach which must be consistent with the Constitutional Court's characterisation of this right.</p>	

I&AP	Method	Date	Issue	Response
			<p>6. In two recent decisions, the Constitutional Court provided guidance on the meaning of 'ecologically sustainable development', thereby informing on the nature of the state's obligations in terms of the right.</p> <p>6.1 Firstly, the court stated that sustainable development requires recognition of the inexorable links between socio-economic development and the environment: Development cannot subsist on a deteriorating environmental base – unlimited development is detrimental to the environment and the destruction of the environment is detrimental to development. All decision- and law-making processes therefore need to integrate economics and ecology – not just to protect the environment, but to protect and promote future development as well.</p> <p>6.2 Secondly, sustainable development requires the provision for all of an adequate livelihood base and equitable access to adequate resources, including future generations. In the Fuel Retailers' case, the Court stated: <i>'The importance of the protection of the environment cannot be gainsaid. Its protection is vital to the enjoyment of the other rights contained in the Bill of Rights; indeed it is vital to life itself. It must therefore be protected for the benefit of the present and future generations. The present generation holds the earth in trust for the next generation. This trusteeship position carries with it the responsibility to look after the environment'</i>.</p>	

I&AP	Method	Date	Issue	Response
			<p>7. Of relevance too is the fact that the National Development Programme, does not state that mining investment and production is “urgent”, but rather that “<i>it is urgent to stimulate mining investment and production in a way that is environmentally sound ...</i>”. (Emphasis added.)</p> <p>8. The Economic Specialist Study informs us that:</p> <p>8.1 The project area falls within areas with a high or moderately-high biodiversity value and that even with mitigation, the impacts are of moderate to high significance.</p> <p>8.2 Tourism plays an important role in the economy of the local area and wider region and has the potential to play an increasingly prominent role as a driver of economic development.</p> <p>8.3 Visual, air quality, noise and water quality impacts combined with a loss of conservation are likely to be the key concerns for tourism.</p> <p>8.4 The Vredefort Dome, UNESCO World Heritage Site is located in close proximity to the project area.</p> <p>8.5 Many of the riverside properties adjacent to the site have been developed into establishments which offer accommodation as well as fishing and other forms of riverside recreation.</p> <p>8.6 The Desktop research revealed that there are at least 18 tourism establishments situated within 2km of the project site boundaries.</p>	

I&AP	Method	Date	Issue	Response
			<p>9. Dr Hugo van Zyl, the specialist who compiled the Economic Specialist Study on behalf of the Applicant, made the following recommendations in the Specialist Study Report:</p> <p>9.1 <i>“Impacts on tourism are primarily dependent on how project operations are designed, constructed and executed to minimise negative biophysical and social impacts and enhance positive impacts.</i></p> <p>9.2 “Serious consideration should be given to funding tourism enhancement projects in collaboration with local tourism stakeholders as part of the mine’s future Social and Labour Plan (SLP) contributions. This is a particular need given limited concerted efforts in this regard in the local area. Assistance could, for example, encompass tourism planning, promotion, capacity building, enterprise development and the provision of tourist facilities.</p> <p>9.3 <i>“With regard to rehabilitation, if one takes a sample of mines throughout South Africa, it is clear that rehabilitation effort and success can be highly variable even if all mines are required to abide by the same regulations (see van Zyl et al., 2012). This variability can be seen when comparing both operating and closed mines. It therefore stands to minimising impacts, much will depend not only on how the applicant’s EMP is conceived but critically and how it is implemented in partnership with the relevant authorities and other stakeholders.</i></p>	

I&AP	Method	Date	Issue	Response
			<p>Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks”. (Emphasis added.)</p> <p>10. Grounded upon the Applicant’s historical performance, IAPs have little confidence that the Applicant will apply rehabilitation needs rigorously and adequately fund concurrent and closure rehabilitation.</p> <p>11. We express the hope that the DMR will give assiduous consideration to the abovementioned facts in its decision-making.</p>	
<p>Federation for a Sustainable Environment</p>	<p>E-mail</p>	<p>12 December 2018</p>	<p>Dear Mmakoena</p> <p>I thank you for your responses which the FSE will peruse.</p> <p>At a glance, however, I noted that some of the FSE’s comments received a response of “noted.” The FSE took great care, which incurred inconvenience and opportunity costs, to read the voluminous documentation pertaining to the Application and to endeavour to comment meaningfully and intelligently. We kindly request that you respond to the FSE’s comments in a reciprocal manner, namely meaningfully and intelligently, and not merely noting our comments.</p> <p>We respectfully reserve our rights to reply more fully on your responses.</p> <p>In conclusion, may I kindly remind you of your “independent” position as the EAP, that is, not to promote the interests of the Applicant but to honesty, independently and fairly respond to the</p>	<p>Dear Mariette,</p> <p>Please see our revised response below.</p> <p>PREFATORY We note the findings of the South African Human Right’s Commission, which in this case are directed to the DMR, including point 4, which states that “The DMR is not the appropriate authority for granting and enforcing environmental authorisations with respect to mining”.</p> <p>APPLICANT IN NON-COMPLIANCE WITH S 43(4) OF MPRDA Monte Cristo Commercial Park (Pty) Ltd (“MCCP”), has applied to the DMR, for a Mining Right in respect of three farm portions (Remaining Extent, Remaining Extent of Portion 1 and Portion 3 of the farm Woodlands 407), which are collectively known as Goosebay Farm. The mine, which it is hoped will be established at Goosebay Farm, will be known as Pure Source Mine. Shango Solutions have been appointed by Monte Cristo Commercial Park (Pty) Ltd) to undertake the environmental process in order to obtain a Mining Right for Pure Source Mine.</p>

I&AP	Method	Date	Issue	Response
			<p>comments by IAPs?</p>	<p>Your request relating to the closure application for previous mining operations conducted by Goosebay Farm (Pty) Ltd has been forwarded to the Applicant. The Applicant's response is provided below. Your request and the Applicant's response will be captured into the Issues and Responses Report (an appendix to the Final Scoping Report), for consideration by the DMR.</p> <ul style="list-style-type: none"> • Monte Cristo Commercial Park (Pty) Ltd ("MCCP") is the Legal Persona who has applied for the Mining Right; • Shango Solutions has been mandated to deal with the above Application on behalf of MCCP; • MCCP has to date conducted no Mining Operations, and is not at this time responsible for any rehabilitation as a result of past Mining Operations; • Goosebay Farm (Pty) Ltd confirms that Rehabilitation of the relevant previously mined areas, has: <ul style="list-style-type: none"> ✚ Achieved an advanced stage, in that: <ul style="list-style-type: none"> - Bulk Earthworks and Fine Grading are virtually complete; - Planting and re-seeding of affected areas is underway; - The entire process is being monitored by an independent consultant, and conducted in accordance with his advice; ✚ Been conducted in strict accordance with the directions of the DMR, in record time, pursuant to a visit to the Mine by DMR Officials (including the Regional Manager DMR Welkom - The Esteemed Mr A Mulaudzi), on the 12th of August 2018. <ul style="list-style-type: none"> • Should you require any further guidance with regards to this issue, please contact the DMR.

I&AP	Method	Date	Issue	Response
				<p>ENVIRONMENTAL IMPACT ASSESSMENT PROCESS We acknowledge and note the comments you provided under the EIA Process section of your correspondence. Could you kindly elaborate on the statement “the decision maker receives one informed side of the argument and one uninformed side of the opinion” as issues raised by I&APs have been recorded in the Issues and Responses Report to be submitted as an appendix to the Final Scoping Report, for consideration by the DMR?</p> <p>SENSE OF PLACE The economic report (Scoping Phase) has considered sense of place to the extent that it is relevant in assessing potential impacts on property values and tourism. There is no impact category called “economic value of the loss of sense of place” or something similar. The assessment of impacts on property values and tourism is highly reliant on the outputs of the other specialist studies (visual, social, air quality, noise, biodiversity, wetland and hydrology) in terms of content and level of detail. The economic report utilised these studies to determine the impacts on property values and tourism.</p> <p>NEED AND DESIRABILITY Regulation 50 (d) of the Mineral and Petroleum Resources Development Regulations states that a sustainable development cost-benefit analysis be conducted to determine the best use of alternative land options. To this end, all the sustainable development impacts (social, economic and environmental) need to be listed and equitably weighed up against one another to determine the best land-use for this and the next generation.</p> <p>As such, a sustainable development cost-benefit analysis will be conducted during the Environment Impact Assessment (EIA) phase of the project. Land uses that will be considered in the assessment include mining, agriculture and eco-tourism/tourism.</p>

I&AP	Method	Date	Issue	Response
				<p>CONSIDERATION OF ALTERNATIVES For any alternative to be considered feasible, such an alternative must meet the need and purpose of the proposed activity without presenting significantly high associated impacts. The proposed activity is mining.</p> <p>Activity Alternative The geology is the primary driver in determining the location for mining. The application area has been selected based on historical and active mining operations in the immediate surroundings of the application area along with historical and current data that indicate the economic viability of the sand, aggregate/gravel and alluvial diamond minerals to occur. As such, no activity alternatives were considered.</p> <p>No-Go Alternative The “No Go” or “No Action” alternative refers to the alternative of not embarking on the proposed project at all. This alternative would denote the current status quo without the proposed project. The No Go alternative as a specific alternative is not considered feasible for the following reasons:</p> <ul style="list-style-type: none"> • The Applicant holds an Environmental Authorisation for the establishment of an Eco-Estate with residential, resort and conservation land uses. Certain areas of the application area are currently utilised for agricultural purposes in the form of game farming and maize crop production and eco-tourism. These two functions will continue to remain the primary land uses during the mining activities. If the project is rejected, the Applicant will progress with the establishment of the Eco-Estate (with some agriculture). As such, the status quo of the properties under application will ultimately change, irrespective of the mining activities. • Mining is important for economic development, to construct durable, modern structures, employment creation and revenue collection. • Extensive investigations have revealed that there is a shortage of alluvial silica sand in the Pretoria

I&AP	Method	Date	Issue	Response
				<p>Witwatersrand-Vaal industrial complex. Alluvial silica sand has a greater utility than silica sand that is created by means of crushing processes. Furthermore, many of the previously existing abundant alluvial silica sand deposits located in the Vaal Triangle are on the verge of being exhausted, thus making the mining of the existing resource at the Pure Source Mine both necessary and desirable, with regards to economic considerations</p> <ul style="list-style-type: none"> • Furthermore, if this project is approved, it will ensure that no economically viable mineral resources will be sterilised and that the benefits of the resources available in the area will be maximised. <p>For the purpose of this project, the need and justification for alternatives was specifically guided by the relatively low sensitivity of the receiving socio-economic and biophysical environment as well as the geology. Three alternative sites are considered for the location of the supporting mining infrastructure within the application area.</p> <p>CUMULATIVE IMPACTS OF THE PROJECT ON WATER QUALITY AND QUANTITY OF THE INTEGRATED VAAL RIVER SYSTEM</p> <p>We acknowledged and note the comments you provided on the Riverine Ecology Scoping Assessment and the Wetland Assessment. According to the Scoping Report, the total quantity of water that will be required for the mining operations is as follows:</p> <ul style="list-style-type: none"> • 500 000 m³ for sand mining. • 300 000 m³ for aggregate and diamond mining. • 10 000 m³ for dust suppression. <p>Water will be sourced from underground or extracted from the Vaal River or a combination of both. Water supply studies to determine the level of extraction from the Vaal River and underground will be determined during the EIA Phase. The results of the water supply studies will also inform the Water Use License Application. The Applicant has a legal responsibility to comply with the conditions of the</p>

I&AP	Method	Date	Issue	Response
				EMPR. Enforcement of compliance is the responsibility of the DMR.
Federation for a Sustainable Environment	E-mail	13 December 2018	<p>Dear Chris</p> <p>I thank you for your correspondence.</p> <p>Allow me to respond as follows:</p> <p>The FSE was part of the Department of Environmental Affairs' task team tasked to advice on the amendments of the 2014 EIA Regulations. Notwithstanding our endeavours and labour, our recommendations, which were analogous to your sentiments, were not incorporated in the revised EIA Regulations. I attach hereto the FSE's comments at the time.</p> <p>The FSE will continue to lobby for the recommendations in the attached document.</p> <p>I, on behalf of the FSE, am a member of the Section 11 Advisory Committee of the South African Human Rights Commission on the Socio-Economic Impacts of Mining on the Mining Affected Communities. I attach the Report hereto. This Committee may be the relevant platform to raise these issues of concern.</p>	This mail was sent to Chris Campbell and noted by Shango Solutions.
Endangered Wildlife Trust - EWT			No comment received at this stage.	
Wildlife and Environment Society of South Africa -WESSA			No comment received at this stage.	
Protect Vaal Eden Committee			No comment received at this stage.	
Friends of Vredefort Dome World Heritage Site – Warrin Flores	E-mail	06 September 2018	Monte Cristo Commercial Park (Pty) Ltd is not yet listed on CIPRO yet the new application was submitted on 24 August 2018?	This correspondence is acknowledged.
Save the Vaal Environment			No comment received at this stage.	

I&AP	Method	Date	Issue	Response
Goose Bay Canyon Recreation and Power Boat Club			No comment received at this stage.	
Goose Bay Canyon Share Block (Pty) Ltd			No comment received at this stage.	
Porcupine Ridge Eco Estate Homeowners' Association			No comment received at this stage.	
The Save Committee			No comment received at this stage.	
Free State Dome Landowners Association/ Vredefort Dome Landowners Association			No comment received at this stage.	
North West Dome Landowners Association			No comment received at this stage.	
Dome Meteorite Park Conservancy			No comment received at this stage.	
Registered Interested and Affected Parties				
Donald Hanneman	E-mail	06 September 2018	<p>Good Day M/s Sizo Siwendu,</p> <p>This email below refers.</p> <p>It was not received by me originally but passed on by another concerned resident. I am also a resident of Lindequesdrift and am opposed to any mining in this area. The Vaal river is already badly polluted , dead fish and ducks are washed up on a regular basis, and we cannot afford any more disturbance to this areas water and eco systems. Please register me as an IAP and notify me when done. My contact details are included below.</p>	<p>Dear Donald,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>Your objection and reasons thereof are well noted. Kindly be informed that your concerns will be addressed in the Scoping Report. You will be informed of its availability in due course and you will be given an opportunity to review it and provide comment.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Donald Hanneman	E-mail	07 September 2018	Your email is acknowledged. Thank you for registering me.	This correspondence is acknowledged.
Reotshepile Tlhapane	E-mail	06 September 2018	<p>Good Morning all</p> <p>Will you kindly include me as I& A party? I reside at 848 Vaaloewer.</p> <p>My contact details reotlhapane@yahoo.com</p> <p>Regards</p> <p>Reotshepile Tlhapane</p>	<p>Dear Reotshepile,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Craig Johnson	E-mail	06 September 2018	<p>GOOD DAY</p> <p>AS I LIVE IN VAALOEWER, PLEASE REGISTER MYSELF AS A IAP</p> <p>Regards</p> <p>Craig Johnson</p>	<p>Dear Craig,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Daleen Temlett	E-mail	06 September 2018	<p>Good day</p> <p>I am a resident of Vaaloewer. Please register me as an IAP.</p> <p>Kind regards</p> <p>Daleen Temlety</p>	<p>Dear Daleen,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Daleen Temlett	E-mail	05 October 2018	Hello Mmakoena	Good day Daleen,

I&AP	Method	Date	Issue	Response
			<p>Please note that I am strongly objecting to the application. This will be destruction of our environment, river life and pollution.</p> <p>Kind regards</p> <p>Daleen Temlett</p> <p>Resident Vaaloewer</p>	<p>Thank you for your mail.</p> <p>Your objection to the proposed project and reasons thereof are well noted.</p> <p>Your comment will be recorded in the Issues and Responses Report and will be taken into consideration by the Department of Mineral Resources in their decision-making.</p> <p>If you have any further concerns in this regard, please do not hesitate to contact me.</p>
J Hennie Nel/Mary Nel	E-mail	06 September 2018	<p>Dear Madam,</p> <p>LACK OF NOTIFICATION OF LICENCE APPLICATION : Project Pure Source</p> <p>Kindly advise why, when I am a registered IAP, did I or my wife Mary Nel, not receive a notification from you regarding the the integrated Environmental and a water use licence application for Project Pure Source.</p> <p>Kindly rectify the matter urgently.</p> <p>Thanking you,</p> <p>Yours faithfully,</p> <p>1. MR J H NEL and</p> <p>2. MRS M M NEL VAALOEWERS 545</p>	<p>Dear Hennie,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you and your wife, Mary Nel have been registered as I&Aps using the contact information you have provided. As registered I&Aps, you will receive all future notification pertaining to this project.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Johannes Van Heerden	E-mail	06 September 2018	<p>Good day</p> <p>As a Vaaloewer property owner I find it unacceptable that not everybody in the area is notified of this application. Please register me as an IAP.</p> <p>Thanks</p> <p>Johannes</p>	<p>Dear Johannes,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Ilzé Henstock	E-mail	06 September 2018	<p>Good Day Zizo</p> <p>Can you please inform me why I did not receive this email as a previous registered IAP? Please register me as an IAP. Please also forward me written proof that I am registered.</p> <p>Regards</p> <p>Ilzé</p>	<p>Dear Ilze,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Ilzé Henstock	E-mail	07 September 2018	Thank you for your feedback.	This correspondence is acknowledged.
Chris Campbell	E-mail	06 September 2018	<p>Dear Zizo</p> <p>Your pre-notification is noted. You will have to note that as an I & AP I will be objecting to any such application as such pursuits, i.e. mining along the banks of what is a major water resource (with all the scarcity we have thereof) for Gauteng people and its economy is irresponsible and should not be allowed.</p> <p>Your company Shango Solutions may be well advised to consult with your predecessors, SLR Consulting on this project, who initially also in good faith embarked on the process you are hoping to. They probably could share some worthwhile experience with you in dealing with the same Client. The contact person there is Alex Pheiffer, apheiffer@slrconsulting.co.za</p> <p>Kind Regards</p> <p>Christopher (Chris) Campbell Pr. Eng.</p>	<p>Dear Chris,</p> <p>Thank you for your mail.</p> <p>Your objection is noted.</p>
Chris Campbell	E-mail	15 October 2018	<p>Dear Zizo</p> <p>Further to the concerns raised by Mariette and other IAP's, whilst we understand that it is the</p>	This was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
			<p>prerogative of the company Shango Solutions to accept and undertake business related to providing professional services to your Clients, it would be remiss of us not to remind you that individual competent registered Professional Practitioners with either the Council for Natural Sciences or the Engineering Council of South Africa who are commissioned to undertake such work are expected to provide such services based on independence and thorough adherence to codes of professional conduct and prevailing environmental legislation. Should such individuals not uphold such requirements, they do face the risk of transgressing the codes of conduct that are required of such Registered Professional Built Environment Practitioners.</p> <p>Kind Regards Chris Campbell Interested and affected Party</p>	
Chris Campbell	E-mail	02 November 2018	<p>Hi Paul</p> <p>I suspect yet again that the Law, in this case NEMA, has not been specific enough in respect of Professional Registration as none of these clauses talk about mandatory Professional Registration of the EAP, with either the Council for Natural Sciences as a Pr.NatSci or ECSA as a Pr. Tech or Pr. Eng. , hence no such registration is evident.</p>	This mail was directed to Paul Kgole and Shango Solutions took note of this mail.
Chris Campbell	E-mail	12 December 2018	<p>Hi Mariette</p> <p>The EIA process is unfortunately inherently flawed as NEMA simply calls for a competent person to be responsible fo running this process and not that such a person be registered with a professional council to whom one can report any unprofessional behavior. The notion of that</p>	This mail was directed to Mariette Lieferink and Shango Solutions took note of this mail.

I&AP	Method	Date	Issue	Response
			<p>person being independent is not possible as they are paid by the applicant so dare not come across as though there is any thoughts expended on the IAP's. The previous Service Provider had the same attitude until they did not get paid by their Client.</p> <p>I think that a separate lobby needs to be started with the Dept of Environment to increase the level of accountability that needs to be placed on EIA Service Providers as it is impossible to be impartial and independent (by the way this just means that the applicant cannot do this themselves), when that party you are supposed to be independent from has to pay your salary.</p>	
Pieter Hattingh	E-mail	06 September 2018	<p>Morning Zizo,</p> <p>I live in Vaaloewer and have been informed by others of this Mining Right Application notice which I strongly oppose. Why as a registered IAP was this not emailed to me? Please ensure that I am registered as an IAP on your records as it seems I am not registered anymore??</p> <p>Regards</p> <p>Pieter Hattingh</p>	<p>Dear Pieter,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Harold Nienaber	E-mail	06 September 2018	<p>Hi,</p> <p>AS I LIVE IN VAALOEWER, PLEASE REGISTER MYSELF AS A IAP</p> <p>Regards,</p> <p>Harold Nienaber</p>	<p>Dear Harold,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Linda Bouwer	E-mail	06 September 2018	<p>Good Day Siz</p> <p>It is with great concern that the mining is going ahead without property owners being notified. We did not receive prior notification to attend any meetings.</p> <p>Can you please register me as an IAP.</p> <p>Thanks</p> <p>Linda</p>	<p>Dear Linda,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Johannes Jacobus Burger/Theresa Burger	E-mail	06 September 2018	<p>Dear Mr. Siwendu,</p> <p>I would like to respond to your notification from Shango Solutions as follow. I noticed in your notification, that one of the reasons for the applicant's new application for mining rights as mentioned in your letter is "The unprecedented number of objections from Interested and Affected Parties due to the sensitivity of the mining footprint."</p> <p>What makes you and the applicant think that this has changed, I was and still am one of the Interested and Affected Parties and I will remain one.</p> <p>And it is expected that the list will grow.</p> <p>Please add myself and my wife the list of I and AP's</p> <p>Johannes Jacobus Burger cell 0836334838 and Theresa Burger cell 083 561 0680 of 118 Riviersig crescent, Vaalower to the list.</p> <p>E-mail as above.</p> <p>Kind regards</p> <p>Hannes Burger.</p>	<p>Dear Johannes,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you and Theresa Burger have been registered as I&APs using the contact information you have provided. As registered I&APs, you will receive all future notification pertaining to this project.</p> <p>The mining footprint for the project was reduced to exclude major environmental sensitivities following advice from relevant regulatory authorities and specialist studies undertaken to date.</p> <p>Your objection is noted. Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Martin P Steyn	E-mail	06 September 2018	<p>Good day</p> <p>As a Vaaloewer resident it's a concern that not everybody in the area is notified of this application. Please register me as an IAP.</p> <p>Thanks</p>	<p>Dear Martin,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Volker Eggert	E-mail	06 September 2018	<p>Dear Zizo,</p> <p>I have registered as an IAP with the previous EAP (see attached form).</p> <p>Kindly inform me why I haven't been copied on your below email?</p> <p>As a Vaaloewer resident, I strongly object to the Goosebay Farm water application and the intended mining of sand, gravel, diamonds or any other mining activities:</p> <p>Reasons as follows:</p> <ul style="list-style-type: none"> • The National Environmental Management Act places a high priority on maintaining ecosystems and related ecological processes, in particular those important for water supply, food production, health, tourism and sustainable development. • Vaaloewer and its neighbouring business are dependent on a healthy Vaal River ecosystem to promote: 1) tourism 2) recreational activities and to maintain its: 3) biodiversity 4) aesthetics and 5) tranquility. 	<p>Dear Volker,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>Your objection and reasons thereof are well noted. Kindly be informed that your concerns will be addressed in the Scoping Report. You will be informed of its availability in due course and you will be given an opportunity to review it and provide comment.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> • A decline in the Vaal River's ecosystem will have a negative effect on the microeconomic conditions of each Vaaloewer household or businesses due to declining property prices and declining tourism, which will have a negative effect on job creation and the development of Vaaloewer. • It is Vaaloewer's constitutional right to a healthy environment, clean air and safe drinking water. • According to Meeuws (2006), water pollution, biodiversity depletion, and waste generation are the main environmental problems encountered by mining activities. • Any spill or disposal of any pollutant could end up in the Vaal River. • Any seepage or spills from the intended slimes dams will have a deteriorating effect on water quality. • The effects of suspended solids (SS) on fish and aquatic life have been studied intensively throughout the world. It is now accepted that SS are an extremely important cause of water quality deterioration leading to aesthetic issues, higher costs of water treatment, a decline in the fish population, and serious ecological degradation of aquatic environments. • Vaaloewer extracts their drinking and household water from the Vaal River and the purification plant will need to be upgraded to purify the contaminated water from the river. 	

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> • Diamond mines are known for their excessive water use. • The Goosebay weir was built by a resident of Vaaloewer for Vaaloewer to provide a sustainable water resource and to promote recreational activities on the river, not to supply water to a mine. • The mine will be only meters away from the Vaaloewer's purification plant inlet. The mine will have a definite health impact on Vaaloewer's water, seeing that the plant is struggling as it is at the moment to adhere to the health specifications for Vaaloewer's drinking water. • The suspended solids (SS) in the water will increase, and the sand filters in Vaaloewer's purification plant are not designed to handle a bigger load of SS. They are struggling as it is because the sand filters' operational life has expired many years ago. • There will be noise pollution due to the continuous pumping of water to the Mine. The noise will also disturb the natural wildlife (e.g. Fish Eagles, Ducks, Swallows, Piet-my-Vrou, Kakelaars, Geese, Meerkat, Dassies, Likkewaan, Otters) and will drive them away. • The fish in the Vaal River is a critical food source for many of the above mentioned species and decline in the fish population will have a serious effect on them. 	

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> The natural drainage system of the river will be disturbed due to increase in Silica content in the water, thus also impacting the aquatic life in the river. In general, diamond-bearing gravels are extracted by means of dense medium separation (DMS) to reclaim alluvial diamonds, and ferrosilicon (FeSi) is used as the DMS material. Exposure of humans to manganese, which is a component of ferrosilicon, can have long term effects on their health (e.g. iron deficiency anaemia and kidney failure). The aesthetic and tranquil scenery is unique to Vaaloewer and critical to the survival and development of Vaaloewer. No rehabilitation of the current mined areas is observed on the Goosebay Farm!! Is there any rehabilitation plan in place as required by NEMA? <p>Kind Regards, Volker Eggert</p>	
Elsje Venter	E-mail	07 September 2018	<p>Good day</p> <p>As a Vaaloewer resident it's a major concern that not everybody in the area is notified of this application even after our information has been submitted as interested and affected parties. Please register me as an IAP.</p> <p>Thank you</p>	<p>Dear Elsje,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Gavin Aboud	E-mail	11 September 2018	<p>Good Day Zizo,</p> <p>I hope you are well?</p> <p>Please refer attachments.</p> <p>The names and contact details reflect registered IAP's. There are 1396 people that registered for the Goosebay Application. Please ensure that they are registered as IAP's for the recent application.</p> <p>Should there be any uncertainty please feel free to contact me, and copy in the addressee's of this mail.</p> <p>Kind Regards</p> <p>Gavin Aboud</p>	<p>Dear Gavin,</p> <p>Thank you very much for providing the two databases reflecting the names and contact information of I&APs who registered for this project under the previous application. They will be included as registered I&APs for the recent application.</p>
Gavin Aboud	E-mail	21 September 2018	<p>Good Day Zizo,</p> <p>I refer mail below of Martin.</p> <p>Why have we not been notified of this public meeting?</p> <p>Please advise urgently,</p> <p>Kind Regards</p> <p>Hi,</p> <p>I have seen a notice of a public meeting to be held in Parys.</p> <p>Please forward to me the notice and other relevant info as surely you have to send it out to all on your contact list.</p> <p>Await your reply to the above.</p>	<p>Dear Gavin,</p> <p>Thank you for your mail.</p> <p>At this stage, a Public Meeting has not been scheduled for this project.</p> <p>However, we will be holding an Open Day in Parys on the 10th October 2018 for one of our Prospecting Right projects.</p>
Gavin Aboud	E-mail	09 October 2018	<p>Good Day,</p> <p>I refer your mail below.</p>	<p>Dear Gavin,</p> <p>Thank you for your mail.</p>



I&AP	Method	Date	Issue	Response
			<p>Your client did not comply with the conditions of the first mining right that was granted to him.</p> <p>Why should he now?</p> <p>If you have any conscience in you, you will not represent a client that demonstrates this kind of respect to his neighbours?</p> <p>Kind Regards</p> <p>Gavin Aboud</p>	<p>It is understood that the decision making authority (DMR) is aware of the historical performance of the Applicant and will consider this in their consideration of this application.</p> <p>Your concerns regarding past performance will be included in the submission made to the DMR.</p>
Gavin Aboud	E-mail	10 October 2018	<p>Good Day,</p> <p>I refer your attachment.</p> <p>In copy DMR.</p> <p>The date scheduled for the open day is unacceptable. The 24th is a Wednesday. Please schedule the open day for a Saturday and give us at least 30 days' notice. We are a working community and cannot take off during the week to attend your meetings.</p> <p>I await the new date,</p> <p>Kind Regards</p> <p>Gavin Aboud</p> <p>Chairman</p>	<p>Dear Gavin,</p> <p>Thank you for your mail. I was out of the office between the 9th and 11th October 2018.</p> <p>We unfortunately cannot change the date. The project team (including relevant specialists) will be available for 8 hours (between 09H00 am and 17H00) on the 24th October 2018. During the Open Day, I&APs can walk in anytime between 09H00 and 17H00 and engage with the Project Team. They may leave as soon as they feel all their questions have been addressed by the Project Team. For your convenience, we may extend the Open Day by an hour (until 18H00) allowing your attendance after work.</p>
Gavin Aboud	E-mail	11 October 2018	<p>Good day,</p> <p>Please can I have a reply?</p> <p>Kind regards,</p> <p>Gavin Aboud</p>	<p>This was noted by Shango Solutions.</p>
Gavin Aboud	E-mail	12 October 2018	<p>Good Day,</p> <p>In copy DMR.</p>	<p>Dear Gavin,</p> <p>The NEMA EIA Regulation (GNR 326, 3(8)) states that any public participation process (PPP) must be conducted for a</p>

I&AP	Method	Date	Issue	Response
			<p>Your mail below refers.</p> <p>I am sorry, I do not accept this.</p> <p>Firstly I insist on a 30 day notice period.</p> <p>Change the date so that it is acceptable to all. The Project Team, the specialists, and 1396 registered IAP's.</p> <p>This is a tourist route, people work in Johannesburg, I for example leave at 5h30 in the morning and only get back after 18h00.</p> <p>Many residents do not live here and come on weekends only.</p> <p>So change the date to a Saturday. Failing which you leave me no option but to partition the DMR, and inform the Press i.e. Saturday Star, local newspapers and the Beeld, that you are being obstructive in the process, and are wilfully creating a situation where the public cannot participate,</p> <p>Kind Regards Gavin Aboud</p>	<p>period of at least 30 days. The PPP for the Scoping phase of this project will run for a period of at least 30 days, from the 8th October 2018 to the 9th November 2018, as was made public on the 5th October 2018. The Open Day has been scheduled within the 30 day period. Your request and reasons thereof are noted. However, we maintain that we cannot change the date. The reasons therefore are as follows:</p> <ul style="list-style-type: none"> • The environmental process is governed by legislated timeframes that we are required to adhere to. If we move the Open Day to a later date, we will not meet the deadlines. • Notifications that were sent out (site notices, adverts, registered letters, e-mails and faxes) indicate this date. If this date is changed, that means we will have to re-advertise, place new site notices within and around the application area and send out new registered letters, faxes and e-mails reflecting a new date. This will create confusion for I&APs. <p>Another Open Day will be scheduled during the EIA phase. Taking all your reasons into consideration, the Open Day for the EIA phase will be conducted on a Saturday, within 30 days of the PPP period.</p> <p>To accommodate you, the Environmental Assessment Practitioner (Shango Solutions) will be available until 8pm on the 24th October 2018 for your convenience. We are looking forward to meeting you at the Open Day.</p>
Gavin Aboud	E-mail	16 October 2018	<p>Good Day Zizo,</p> <p>I hope you are well?</p> <p>Your mail below refers.</p> <p>I am well aware that you have deadlines, but you cannot make us the balancing factor in your little equation. You see given your inefficiencies, and lack of planning, we must suffer. This is not</p>	<p>This correspondence is acknowledged.</p>

I&AP	Method	Date	Issue	Response
			<p>acceptable. This amounts to constructive obstruction of the process. I am sorry if this gives you more work but that is unfortunate. Do what you must do but change the date to a Saturday.</p> <p>Should you fail to do so I will go to the press and petition the DMR.</p> <p>I will note that you are actively obstructing the process, and using all means to negate and effectively neutralise the ability of 1396 objectors to voice their concerns, Please do not worry about confusing IAPS, I will handle that matter. That is a lame excuse.</p> <p>Kind Regards Gavin Aboud</p>	
Gavin Aboud	E-mail	17 October 2018 (6:58AM)	<p>Good Day,</p> <p>I refer mail below.</p> <p>You continue to ignore our plea.</p> <p>You are obstructing this process</p>	<p>Good morning,</p> <p>I trust this mail finds you well.</p> <p>The Open Day will go ahead on the 24th October 2018 to accommodate I&APs that can attend on the day.</p> <p>We can schedule a Focus Group meeting with the Vaaloewer Ratepayers Association on a Saturday (tentatively on the 10th November 2018) at a different venue. Kindly indicate who will attend the Focus Group meeting and provide their names and contact details so we can book a suitably sized venue.</p>
Gavin Aboud	E-mail	17 October 2018 (7:14 AM)	<p>Good Day ,</p> <p>I refer attached.</p> <p>This is the non-compliance that you support.</p> <p>Do not put in your reports that if your client does not conform that we can vent ourselves to the courts. It is a load of rubbish.</p> <p>Kind Regards</p>	This correspondence is acknowledged.

I&AP	Method	Date	Issue	Response
			Gavin Aboud	
Gavin Aboud	E-mail	17 October 2018 (7:20 AM)	Good Day, Please see mail below for further evidence on how you are obstructing the process. Gavin Aboud	This correspondence is acknowledged.
Gavin Aboud	E-mail	17 October 2018 (9:36 AM)	Good Day I refer your mail below. The content is noted. You may as well cancel the day on the 24 th as most IAP's have indicated they cannot attend. The 10 th November is fine at 10h00 in the morning. I have already sent you a list of 1396 IAP's that should be invited to attend the meeting. Past experience is that in the order of 300 to 400 people will attend. You can make provision for this number, For your information there are over 900 house and land owners represented by the Vaaloewer Rate Payers Association, i.e. members. I await the venue and confirmation of the time. Kind Regards Gavin Aboud	Dear Gavin, The focus group meeting will be specifically for the Vaaloewer Rate Payers Association, i.e. members. Hence we ask for the names and contact details of the attendees from the Vaaloewer Rate Payers Association. Based on your correspondence, we will book a venue that can accommodate up to 400 people, for the 10 th November 2018 at 10h00 in the morning. May you have a wonderful day further.
Gavin Aboud	E-mail	23 October 2018 (1:58PM)	Good Day, I refer correspondence below. Please advise what arrangements have been made? Time is now of the essence , and should you delay this matter any further, the 10 th of November will no longer be acceptable due to	This was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
			the short notice period. Please urgently advise? Gavin Aboud	
Gavin Aboud	E-mail	23 October 2018 (3:45PM)	Yes, we have received no notification, please advise? Gavin Aboud	This was noted by Shango Solutions.
Gavin Aboud	E-mail	25 October 2018	Good Day, I have not received a reply in this regard. Please urgently advise? Gavin Aboud	This was noted by Shango Solutions.
Gavin Aboud	E-mail	26 October 2018 (12:56PM)	Good Day , Can we please receive communication in this regard? Gavin Aboud	This was noted by Shango Solutions.
Gavin Aboud	E-mail	26 October 2018 (12:57PM)	Good Day, Can I please have a reply? Gavin Aboud	This was noted by Shango Solutions.
Gavin Aboud	E-mail	29 October 2018 (4: 05PM)	Good Day Zizo, I hope you are well? Attached are two shocking photos of the current status of where the proposed mine is to be. Please can you ensure they are put up for discussion, either with your presentation or on a board. This is for the meeting of the 10th. Thank you	Dear Gavin, Thank you for your mail. The status of the rehabilitation process will be discussed on the 10 th November 2018.

I&AP	Method	Date	Issue	Response
			<p>Gavin Aboud</p>  	
Gavin Aboud	E-mail	29 October 2018 (4:10PM)	<p>Good Day,</p> <p>Pursuant to my previous mail.</p> <p>Please ensure that the attached is also put up on the board, after the photos I sent you, or in your presentation.</p> <p>I would also like to discuss this on the 10th,</p> <p>Kind Regards</p> <p>Gavin Aboud</p>	This was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
Gavin Aboud	E-mail	20 November 2018	<p>Good Day Zizo,</p> <p>I hope you are well?</p> <p>Please see attached photos.</p> <p>This was as a result of yesterday's wind. In some instances babies had to be evacuated as they could not breathe.</p> <p>Please forward this to the consultant that is dealing with dust.</p> <p>At the meeting he said to me he wanted to talk to me, but this did not happen. Please send me his contact details,</p> <p>Kind Regards</p> <p>Gavin Aboud</p>	<p>Dear Gavin,</p> <p>I trust you are well.</p> <p>Kindly be advised that your e-mail has been forwarded to the air quality specialist.</p> <p>His contact details are provided below:</p> <p>Name: Nick Grobler</p> <p>Telephone no.: 011 805 1940</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Gavin Aboud	E-mail	21 November 2018	<p>Good Day,</p> <p>I refer my previous mail on this topic.</p> <p>I contacted Nick Grobler as instructed.</p> <p>He requested older photos.</p> <p>Please forward attached.</p> <p>These are about a year old,</p> <p>Kind Regards</p> <p>Gavin Aboud</p>	<p>Good day,</p> <p>I trust you are well.</p> <p>Your e-mail has been forwarded to Nick Grobler (see attachment).</p> <p>Dear Nick,</p> <p>Please see below e-mail from Gavin Aboud.</p>

I&AP	Method	Date	Issue	Response
Gavin Aboud	E-mail	26 November 2018	<p>Good Day Jochen,</p> <p>In copy DMR.</p> <p>I refer your mail below.</p> <p>I refer mail below from Carl Scholtz.</p> <p>I have gone out to our members to find out if they received your communication i.e. other IAP's.</p> <p>It is becoming abundantly clear not all IAP,s received your communication.</p> <p>You are requested to send this communication out again, ensure that all IAP's receive it and extend the time to comment.</p> <p>I will send you more examples shortly.</p> <p>Please treat as extremely urgent.</p> <p>Kind Regards</p> <p>Gavin Aboud</p> <hr/> <p>Good Day Jochen.</p> <p>Further to my mail this morning.</p> <p>I refer mail below.</p> <p>Another example of IAP's not receiving your mail.</p> <p>I will continue to send you examples.</p> <p>Please resend and extend deadline as requested.</p> <p>Kind Regards</p> <p>Gavin Aboud</p>	<p>Dear Gavin,</p> <p>I trust you are well.</p> <p>The notes for the record were sent out to attendees of the additional public consultation who (i) completed the attendance register and (ii) provided their e-mail addresses.</p> <p>Prior to sending out e-mails on Thursday the 22nd November 2018, efforts were made to contact I&APs with e-mail addresses that were illegible.</p> <p>E-mails that were not successfully delivered were resent on Friday the 23rd November 2018.</p> <p>Kindly refer to the attached proof of delivery notifications.</p> <p>Should you have any questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Gavin Aboud	E-mail	27 November 2018 (6:50AM)	<p>Good Day,</p> <p>I refer your mail below.</p> <p>Carl Scholtz attended the meeting and did not receive your mail. He is in copy. It appears he is not the only one.</p> <p>Thus you will need to address this matter.</p> <p>Please advise next steps,</p> <p>Gavin Aboud</p>	This was noted by Shango Solutions.
Gavin Aboud	E-mail	27 November 2018 (7:58AM)	<p>Good Day Shango,</p> <p>I refer your notes for the record attached.</p> <p>I refer our comments attached in red to your statements.</p> <p>I am afraid to say your record of events are shocking and will need to be reviewed and redistributed.</p> <p>Firstly you continuously misspell Monte Christo in your document, please advise on correct spelling.</p> <p>You refer to Mariette's organisation as the FSD. It is the FSE.</p> <p>Various attendees have been completely ignored in your record of events, I refer Warrin flores, Dianne Stevens et al.</p> <p>You need to revisit Mariette's comments; you have not accurately reflected these.</p> <p>You present comment and arguments which were not tendered at the meeting, please remove.</p> <p>Please work through our document and it will become abundantly clear that you have not</p>	This was noted by Shango Solutions. Comments provided have been incorporated into the notes for the record. The response to this mail is provided below.

I&AP	Method	Date	Issue	Response
			<p>captured the true essence on comments made. Please redo.</p> <p>There are still many outstanding issues where no response has been received – how can you 'finalise' the comments if they are still waiting for input from various players. You give us a deadline and not them. This is not acceptable. So get comments from those people that are outstanding and redistribute</p> <p>The maps should be redone on one per page so that they can be read and debated by the participants. We cannot make out what is going on here?</p> <p>The way Shango is trying to rush this through to the DMR makes us very concerned that there is an ulterior motive which benefits the applicant at the expense of the I&APs.</p> <p>The one week you have given to this matter is unacceptable, review your time lines.</p> <p>This matter is not being addressed with the attention it deserves and I will take this up with the DMR.</p> <p>Gavin Aboud</p> <p>COMMENTS ON NOTES FOR THE RECORD</p> <ol style="list-style-type: none"> 1. It would have been more professional to detail the panel members up front here and not have to wait until the end of the report where the answers are given: <p>Independent Chairman: Dr David de Waal</p> <p>Applicants representatives:</p> <ul style="list-style-type: none"> - Michael Cocks (accountant?) 	

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> - Robert Schimpers – Goosebay Farm Manager - Dr Terence McCarthy - No legal representative - Mr van Wyk was not present <p>Expert panel members:</p> <ul style="list-style-type: none"> - Nick Grobler - Russel Tate/Michael Adams - Stephen Meyer - Pamela Sidambe - Russel Tate on behalf of Andy Pirie - Mader van den Berg <p>Vaaloewer Rate Payers and Save Vaal Eden</p> <ul style="list-style-type: none"> - Mr Gavin Aboud <p>Vredefort Dome Tourism/Vredefort Conservancy/Various NGOs</p> <ul style="list-style-type: none"> - Mr Warrin Flores <p>Foundation for a Sustainable Environment</p> <ul style="list-style-type: none"> - Ms Mariette Lieferrink <p>Shango</p> <ul style="list-style-type: none"> - Ms Zizo Siwendu <p>2. Mr van Wyk has not attended any public participation meetings and the integrity of his representatives at these previous meetings has been questioned. This goes to the issue of trust.</p>	

I&AP	Method	Date	Issue	Response
			<p>3. Goosebay Mine, Pure Source Mine, Monte Cristo Commercial Park. Not only hiding money, but trying to get approval for illegal activities.</p> <p>4. We have not seen any evidence of this rehabilitation so cannot pass an opinion about what is involved.</p> <p>5. Many of the residents have been in Vaaloewer in excess of 20 years and up to now, the quality of the air had always been good.</p> <p>6. This report does not contain all the comments made during the meeting.</p> <p>7. The slides, which have four maps per slide are unclear and it is a question of whether Shango did not want the participants to be able to evaluate the maps in detail.</p> <p>8. There is no way that we are going to sit through another 5 hours of video to try and ascertain what has been left out of the recordings.</p> <p>9. Please ensure that the correct spelling of the applicant is used.</p> <p>10. Is this the correct spelling of the applicant? Monte Christo Commercial Park (Pty) Ltd versus Monte Cristo Commercial Park (Pty) Ltd. The mine will operate or trade as Pure Source Mine. Yet another name for the same operation.</p> <p>11. This point has not been clarified and the answers given to the questions raised are still not clear.</p>	

I&AP	Method	Date	Issue	Response
			<p>12. This has not been described fully – especially what has to be in place for the mining to commence.</p> <p>13. This was NOT discussed at all so the audience was not able to question the author of the study – Dr Tanja Marshall. This report is a result of desk research and is therefore totally inappropriate to include in such a document which purports to reflect question/answer session.</p> <p>14. This refers to the distrust that the audience has for Mr van Wyk and is just another example of how he behaves.</p> <p>15. This is critical as there have been so many company name changes but it would appear that directors are always the same.</p> <p>16. Integrated Water Use Licence Application – still not provided.</p> <p>17. The areas affected include Vaaloewer, Vaal Eden, Lindequesdrift and the informal settlement bordering Vaaloewer.</p> <p>18. This was not an additional public consultation meeting but was a rescheduling of the original meeting for the Wednesday.</p> <p>19. It is critical that I&APs read and understand the implications of what the Applicant is trying to achieve – relates back to the lack of trust in Mr van Wyk. The outcome of such an investigation will affect many</p>	

I&AP	Method	Date	Issue	Response
			<p>people for a prolonged length of time (could be up to 30 years if the applicant is successful) and Shango are telling us that we must adhere to their timetable and have one (1) week to do this!!</p> <p>20. The I&APs will definitely request an extension from the DMR as there are so many major discrepancies in the minutes of the Public Meeting.</p> <p>21. Documentation related to the Mining Permits – Still waiting for documentation. Once again this behaviour by the applicant makes the I&APs very uncomfortable and once again the issue of trust was raised.</p> <p>22. In this not a criminal offense? If this is how the applicant behaves before doing open cast mining (far more damaging to the environment than strip mining) there are serious doubts about the integrity of the applicants' assertion that rehabilitation will be done.</p> <p>23. The panel agreed with Ms Liefferink that even if mitigation measures were implemented (which there is a doubt about these being implemented) the risk profile is still high.</p> <p>24. Once again, the independence and impartiality of Shango was questioned.</p> <p>25. The I&APs are not convinced that this is actually the case.</p> <p>26. It was pointed out that this fund needs to be established prior to operations and the developer has to have</p>	

I&AP	Method	Date	Issue	Response
			<p>sufficient funds to be deposited into a trust account. This fund cannot be funded out of operations.</p> <p>27. There is a problem with reading the maps attached as Appendix 2 as Shango has included 4 maps per page and it is impossible to read these maps accurately. For example, the buffer zones indicated on one of the maps.</p> <p>28. It is recognized that silica is extremely dangerous and when these are mixed with the dust and there is a dust storm, residents do not have any protection against breathing in the silica particles.</p> <p>29. A road report for the S171 is still outstanding and this is still yet another example of data which is supposed to be provided to the I&APs.</p> <p>30. Advertising in The Star is totally inappropriate as the readership of such a publication does not extend to this area. Once again, was this done out of ignorance or is there an ulterior motive to ensure that opposition is limited (again the issue of trust was raised).</p> <p>31. The comment by Dr Hugo van Zyl is a result of desktop investigation and has no foundation in reality. This should not have been included as it was not part of the question/discussion aspect of the workshop.</p> <p>32. The land where the mining is</p>	

I&AP	Method	Date	Issue	Response
			<p>anticipated is presently zoned as agriculture and not for mining.</p> <p>33. Dust suppression has to be managed on a constant manner to ensure that it is effective. Spraying with water on an irregular basis is not acceptable as the ground dries out and dust will be created.</p> <p>34. Mr Warrin Flores gave a comprehensive discussion of the pros and cons of mining versus tourism and these comments have been excluded from this report.</p> <p>35. This is not acceptable.</p> <p>36. When evaluating the application from Monte Cristo, it is necessary to consider the fact there are already 3 mines in this area (Goosebay/Monte Cristo/Pure Source (1)/Tja Naledi (2)/ Sweet Sensations (3). The cumulative effect of all these mines must be taken into account. And, what happens when other mines apply to licences to operate?</p> <p>37. The following questions have not been answered by the applicant and therefore could not be debated. Until such time that the answers are received, this is incomplete.</p> <p>38. This was not discussed during the session and therefore no questions/comments/disagreement could be raised. This should be excluded from the proceedings.</p> <p>39. The following questions were put to the panel but have not been</p>	

I&AP	Method	Date	Issue	Response
			<p>recorded at all. This is totally unacceptable as it is to the end detriment of the I&APs and questions the integrity of Shango.</p> <p>40. <u>Time Frame for I & AP's to respond to the minutes of the meeting, and question raised as to whether the questions raised would be answered by the relevant expert consultants and amended in the scoping report.</u></p> <p>Shango Solutions said that the minutes of the meeting would be sent to the I&AP's and also to the DMR but only as addendum to the existing scoping report but that no changes would be made in the report.</p> <p>I feel this has negated the process of having a Public Participation Meeting if the questions raised by the affected public who attended the meeting are not thoroughly researched by the relevant consultant and a new scoping report is presented to the I&AP's.</p> <p>The I&AP's were informed by Shango that they had a deadline of 14th December 2018 to submit their report and could/would not deviate from this. A decision will be made by DMR on an issue that will affect people for the next 35 to 40 years and this should not be rushed. We feel Shango Solutions acting in the favour of the mine owner and to the detriment of the I & AP's.</p>	

I&AP	Method	Date	Issue	Response
			<p>In the interests of fairness towards our community, I appealed for additional time for lay people and for our committee members to peruse the minutes and responses from Shango to the numerous questions raised and for a new Scoping Report to be drawn up with a new Public Participation Meeting</p> <p>41. <u>Silica /Dust Levels.</u></p> <p>I am asthmatic and want to know what precautions are the mine going to put in place to prevent silica dust from reaching my house which is on the ridge directly opposite the mine. We have very high gusts of wind in our area and have already seen the dust storms generated by the mine. See attached photos.</p> <p>There are other residents with asthma or breathing related problems living here permanently.</p> <p>When the proposed open pit is established the dust storms will be much worse as the area exposed will be much bigger.</p> <p>How many kilometres can Silica travel on wind? I am already seeing sand and I presume silica dust collecting on my patio after a dust storm.</p> <p>42. <u>Noise pollution from mechanised equipment and vehicles.</u></p> <p>Baseline noise measure provided by manufacturers are dependent on</p>	

I&AP	Method	Date	Issue	Response
			<p>wind and distance from effected residences. Vaaloewer is a residential area but taking the aforementioned factors into account regarding wind and distance the air pollution and noise pollution would be greatly increased. Kingfisher Bend is situated directly opposite the proposed pump station.</p> <p>Mechanised wash plant noise levels?</p> <p>Mechanised rotary pan for alluvial diamond mining noise levels?</p> <p>Mechanised pump stations?</p> <p>Mechanised drying and screening plants?</p> <p>Mechanised conveyor systems?</p> <p>Trucks, Excavators and wheel loaders</p> <p>43. <u>Air Quality.</u></p> <p>Question was put to panel asking how many monitors had been put up in the study. The answer was one (1) as electricity was a requirement for the equipment. The monitor was situated at the Goosebay Canyon Eco and River Estate Camp and Chalet site, on the farm Woodlands 407, which is in an area with trees and vegetation, no monitors had been situated in Vaaloewer at all. There is no data in the scoping report measuring the air quality over a period of time to</p>	

I&AP	Method	Date	Issue	Response
			<p>establish a more accurate picture of the impact on air quality. I raised the issue that one (1) monitor) and where it was situated was not a true indication of the Air Quality over 30 years as eventually the mine would have no vegetation and my house and all the other effected parties properties are subject to winds from the mine.</p> <p>44. <u>Ground water run off/ Floods.</u></p> <p>Maps indicate 7 areas where water runs towards the Vaal river. We have thunderstorms where excessive rain falls over a short period and will the proposed dams and run off channels prevent silica and sand from washing into the Vaal river and destroying the aquatic life or silting up the river?</p> <p>45. <u>How close to the existing river bank will mining be permitted?</u></p> <p>These periods of high rainfall often result in flooding. The mine intends to mine 100 meters from the 100 year high flood line level. The Vaal River between Vaaloewer and Pure Source Mine runs in a natural canyon bordered at times by ridges on each side and therefore the 100 year flood line will be reflected in height rather than in distance and in effect the Pure Source will be mining 100 meters from the river bank and all of the above objections to Air Quality and Noise Pollution will be increased. The potential for soil erosion and</p>	

I&AP	Method	Date	Issue	Response
			<p>pollution of the river greatly increased.</p> <p>46. <u>Rehabilitation Stages.</u></p> <p>The maps provided in the scoping report show the proposed stages of mining and rehabilitation (Slide 2.2 on Page 12) They show the intention to mine for Sand/Silica and Aggregate between year 1-2 and at the same time the construction of the necessary building will be taking place. Rehabilitation will only start taking place of year 1-2 from year 3-5.</p> <p>No mention is made of when the existing open area which is already creating massive sand storm will be rehabilitated.</p> <p>We were told that there are four stages to the rehabilitation process (Page 39) and that once the topsoil had been put back it could take up to 3 years for the grasses to reseed themselves and cover the open soil. Therefore, as I understand it from the initial year 1 when mining starts to the final rehabilitation of one mined strip it would take 5 years or more to possible restore the environment to a level where the river regenerates and the flora and fauna are thriving again. The mine has a 30 year lifespan and we could then argue that the environment may be restored by 30 years working life plus 5 years for the final rehabilitation process, or by</p>	

I&AP	Method	Date	Issue	Response
			<p>the year 2053.</p> <p>Will Monte Christo Commercial Park/Pure Source still be here or have sufficient funds in a Trust account to complete the rehabilitation in 2053.</p>	
Gavin Aboud	E-mail	28 November 2018	<p>Good Day To All,</p> <p>I refer to Renee.</p> <p>Her comments were also completely ignored.</p> <p>Kind Regards</p> <p>Gavin Aboud</p>	<p>Dear Gavin,</p> <p>Thank you for your mail.</p> <p>Kindly note that the notes for the record distributed to attendees of the additional public consultation are preliminary. The purpose of distributing the notes was to provide I&APs the opportunity to review and provide comments regarding notes that may have been inaccurately recorded or any comments raised that may have been excluded. Comments provided during this review period will be incorporated into the final notes for the record, which will form an appendix to the Final Scoping Report.</p> <p>Given the above, may you kindly provide us with additional comments that we may have excluded?</p> <p>Please note that we have incorporated the comments you provided on the 27th November 2018 into the notes for the record.</p>
Gavin Aboud	E-mail	30 November 2018	<p>Good Day,</p> <p>I have not received a reply to my mail below?</p> <p>Please oblige?</p> <p>Gavin Aboud</p>	<p>Dear Gavin,</p> <p>Thank you for your mail and for providing comment on the notes for the record for the additional public consultation.</p> <p>Please see our responses in red.</p> <p>Good Day Shango,</p> <p>I refer your notes for the record attached.</p> <p>I refer our comments attached in red to your statements.</p> <p>I am afraid to say your record of events are shocking and will need to be reviewed and redistributed.</p>

I&AP	Method	Date	Issue	Response
				<p>Firstly you continuously misspell Monte Christo in your document, please advise on correct spelling. Noted. This has been changed as is reflected in the revised notes for the record, which were distributed to attendees on the 30th November 2018. The correct spelling is Monte Cristo Commercial Park (Pty) Ltd.</p> <p>You refer to Mariette's organisation as the FSD. It is the FSE. Noted. This has been changed as is reflected in the revised notes for the record, which were distributed to attendees on the 30th November 2018.</p> <p>Various attendees have been completely ignored in your record of events, I refer Warrin flores, Dianne Stevens et al. Noted. Additional comments by Mr Flores and Ms Stevens have been incorporated into the revised notes for the record, which we distributed to attendees on the 30th November 2018. However, if we have missed other comments, kindly advise so that they can be incorporated into the notes for the record.</p> <p>You need to revisit Mariette's comments, you have not accurately reflected these. It is our understanding that we have accurately recorded Mariette's comments. Kindly advise should you perceive that they were inaccurately recorded.</p> <p>You present comment and arguments which were not tendered at the meeting, please remove. During the additional public consultation, Shango Solutions stated that notes for the record will be circulated to I&APs prior to submission to the DMR. It was also stated that questions raised by the attendees that were not addressed during the additional public consultation, would be included in the notes for the record to be circulated to I&APs. As such, the notes for the record that were circulated on the 22nd November 2018 reflect answers to the questions raised during the additional public consultation. In addition, it was</p>

I&AP	Method	Date	Issue	Response
				<p>stated that the attendees will be given 10 days to review the notes for the record and provide comment prior to the submission of the Final Scoping Report. The notes for the record will be added as an appendix to the Final Scoping Report that will be submitted to the DMR on the 14th December 2018, for their review and decision-making.</p> <p>Please work through our document and it will become abundantly clear that you have not captured the true essence on comments made. Please redo.</p> <p>Additional comments provided by attendees during the review period have been incorporated into the revised notes for the record, which were distributed to attendees on Friday the 30th November 2018.</p> <p>There are still many outstanding issues where no response has been received – how can you ‘finalise’ the comments if they are still waiting for input from various players. You give us a deadline and not them. This is not acceptable. So get comments from those people that are outstanding and redistribute.</p> <p>Outstanding comments from specialists will be addressed during the EIA phase of this project. Comments from the Applicant and Legal Advisor will be distributed to attendees upon their availability.</p> <p>The maps should be redone on one per page so that they can be read and debated by the participants. We cannot make out what is going on here?</p> <p>Noted. The maps have been updated as reflected in the revised notes for the record.</p> <p>The way Shango is trying to rush this through to the DMR makes us very concerned that there is an ulterior motive which benefits the applicant at the expense of the I&As.</p> <p>Noted. Kindly be advised that applications are processed in terms of the EIA 2014 Regulations, as amended. As such, there are legislated timeframes which we have to adhere to.</p>

I&AP	Method	Date	Issue	Response
				<p>The one week you have given to this matter is unacceptable, review your time lines. Please refer to response above.</p> <p>This matter is not being addressed with the attention it deserves and I will take this up with the DMR. Noted.</p> <p>Should you have any further concerns in this regard, please do not hesitate to contact me.</p>
Gavin Aboud	E-mail	03 December 2018		<p>Good day, I trust you are well?</p> <p>We would like to place hard copies of the Final Scoping Report at public venues within the Gauteng, Free State and North West provinces.</p> <p>Could you kindly provide us with a list of venues (including the address and contact details of the relevant party to contact) within the three provinces where hard copies of the Final Scoping Report can be placed?</p> <p>Thank you and we look forward to your response.</p>
Gavin Aboud	E-mail	04 December 2018	<p>Good Day, For the Gauteng venue regarding the scoping report I suggest the following: Stonewall Café ; Vaaloewer Drive. Vaaloewer, Contact Person, Nicolette, 079 388 4514. Renee can you please suggest a venue for the Free State. Dina, can you please suggest avenue for the North West, Kind Regards Gavin Aboud</p>	<p>Dear Gavin and Dina, Thank you for providing us with venues to place the Final Scoping Report. Your assistance in this regard is much appreciated. May you enjoy the rest of the day.</p>

I&AP	Method	Date	Issue	Response
Gavin Aboud	E-mail	05 December 2018	<p>Good Day Shango,</p> <p>I refer to your comments in red below.</p> <p>It is our understanding that we have accurately recorded Mariette's comments. Kindly advise should you perceive that they were inaccurately recorded.</p> <p>You have received a very detailed document from Mariette highlighting the inaccuracies, please make sure they are incorporated verbatim, and redistribute the record for perusal.</p> <p>Noted. Kindly be advised that applications are processed in terms of the EIA 2014 Regulations, as amended. As such, there are legislated timeframes which we have to adhere to</p> <p>Not so, you can and have applied for extensions, do not impose your deadlines on us. I made this point very clear at the meeting!</p>	<p>Dear Gavin,</p> <p>Thank you for your mail. Please see our responses in red. You have received a very detailed document from Mariette highlighting the inaccuracies, please make sure they are incorporated verbatim, and redistribute the record for perusal.</p> <p>Kindly note that we have responded to Mariette's document titled "COMMENTS ON THE DRAFT SCOPING REPORT OF PURE SOURCE MINE (FS 30/5/1/2/2/10048 MR) (FS 30/5/1/2/3/2/1/10048 EM)".</p> <p>Not so, you can and have applied for extensions, do not impose your deadlines on us. I made this point very clear at the meeting! Your point is noted.</p>
Gavin Aboud	E-mail	12 December 2018	<p>Good Day Shango,</p> <p>Please see mail below.</p> <p>Please see attached.</p> <p>Please send this to your economic consultant who you says property values will increase.</p>	<p>Dear Hugo,</p> <p>Please see email below from one of the Interested and Affected Parties.</p> <p>(Attachments included under correspondence).</p>
Gavin Aboud	E-mail	13 December 2018 (6:56AM)	<p>Good Day,</p> <p>I believe you sent a mail out yesterday calling for comment.</p> <p>Please advise why I did not receive it?</p>	<p>Dear Gavin,</p> <p>I trust this mail finds you well.</p> <p>Kindly note that the notification was sent to you yesterday. Please see attached proof of mail sent.</p>
Gavin Aboud	E-mail	13 December 2018 (7:08AM)	<p>Good Day,</p> <p>Why did I not receive this?</p>	<p>May you have a lovely day further.</p>

I&AP	Method	Date	Issue	Response
			Gavin Aboud Chairman	
Gavin Aboud	E-mail	13 December 2018 (1:11PM)	Good Day, I did not receive it?	
Martinus Wilhelmus Struwig	E-mail	05 September 2018	Hi, Please forward relevant document to register as an interested and affected Party. Please advise us of any planned public meetings and can we have more info on the revised mining footprint. Do you have the info of the affected parties that previously registered with SLR the previous EAP? Regards Martin Struwig	Dear Martin, Thank you for your mail. You will receive a registration form and be provided with the details of any public meetings for this project in due course. We have tried to obtain contact information of the previously registered I&APS from SLR. To date, SLR has been unresponsive. Should you have any further questions in this regard, please do not hesitate to contact me.
		10 September 2018	Hi, Refer to my email of last week. I have not received any reply from you in this regard and will appreciate one. Regards Martin Struwig	
Martinus Wilhelmus Struwig	E-mail	05 October 2018	Hi, I would like to see a site plan indicating the mining areas or pits? Regards Martin Struwig	Good morning Martin, Please find attached the 30 year mine plan for the proposed project indicating the areas proposed to be mined. If you have any further questions or requests, please do not hesitate to contact me.

I&AP	Method	Date	Issue	Response
Martinus Wilhelmus Struwig	E-mail	09 October 2018	<p>Hi,</p> <p>Is it possible to send the registration form in a format where we can just type into relevant spaces instead of writing by hand?</p> <p>Regards</p> <p>Martin Struwig</p>	<p>Good morning Martin,</p> <p>My apologies for the late response.</p> <p>I was out of the office from Tuesday to Friday last week.</p> <p>As requested, please find attached Word Doc formats of the registration forms.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Martinus Wilhelmus Struwig	E-mail	09 October 2018	<p>ZIZO,</p> <p>Please find this email as my registration as an affected, concerned & objector party to the mining application to include sand, gravel and diamond mining.</p> <p>I write this as a normal person with no or very little knowledge relating to mining and the working of applications, objections, laws etc. relating to it. The problem as an individual is that although there are laws governing and prescribing how Mining Companies may operate and also protecting the public, it is just to complicate for the general public or person on the street to understand all these complicated issues and how to deal with it.</p> <p>I reside as the landowner on portion 80 Zeekoefontein on the river which is just directly opposite Woodlands farm portions and next to Vaaloewer (see some pictures for info). I have been living in Vaaloewer area since 1980 and selling property here since 1990.</p> <p>Due to the current political & economic climate and pollution of the Vaal River due to untreated sewerage discharged by Municipalities, it has</p>	<p>Dear Martin,</p> <p>Please see our responses in red.</p> <p>Please find this email as my registration as an affected, concerned & objector party to the mining application to include sand, gravel and diamond mining.</p> <p>Thank you for the signed registration form. Your registration as an affected, concerned party and an objector to the proposed project is duly noted.</p> <p>I write this as a normal person with no or very little knowledge relating to mining and the working of applications, objections, laws etc. relating to it. The problem as an individual is that although there are laws governing and prescribing how Mining Companies may operate and also protecting the public, it is just to complicate for the general public or person on the street to understand all these complicated issues and how to deal with it.</p> <p>According to Section 22 (1) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA), any person who wishes to apply for a Mining Right must simultaneously apply for an Environmental Authorisation. An application for Environmental Authorisation is lodged according to the requirements stipulated in the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA). Mining is a Listing 2 activity and as such</p>

I&AP	Method	Date	Issue	Response
			<p>already impacted negatively on property sales, tourism in the area, job losses etc. and with extensive mining in the area it will just make things worse. The only people to gain from mining will be government in form of taxes, the few parties involved, very few jobs and specialised people who will come from main towns/ cities anyway. So very little of the income derived from the mining of sand and diamonds will be spent locally.</p> <p>I am situated directly across the river from the planned mining area and due to the landscape we could hear and see the movement of heavy equipment from the previous sand mining activities which never operated according to set hours as one could hear them until very late at night and starting in the very early morning hours (I do not see any planned working hours indicated on your documents). There were also the use of either diesel generators or pumps that could be heard all day and night which was a disturbance in our tranquil environment.</p> <p>Vaaloewer including Goose Bay Canyon township and the Zeekoefontein farm portions represent a total market value of ±R456 679 000-00 representing well over 1000 properties on which owners are paying rates and taxes to Emfuleni Municipal Council. This does not include the values for Lindequesdrift, surrounding Woodlands and Vaal Eden properties. Large scale mining in the area will have a negative impact on property values, noise & air pollution, further future development and also impact on job creation and tourism in the area.</p> <p>These properties are used for permanent, retirement, leisure living and also investment purposes and owners purchase here to be in an</p>	<p>triggers an application for Environmental Authorisation. Listing 2 activities are subject to full scoping and environmental impact reporting. The Environmental Assessment Practitioner (EAP) is required to prepare a scoping report in accordance with Regulation 21 of the Environmental Impact Assessment (EIA) 2014 Regulations.</p> <p>The Scoping Report must include, but is not limited to, the following:</p> <ol style="list-style-type: none"> 1) a description of the activity, any feasible and reasonable alternatives, the need and desirability of the activity, the property on which the activity will take place and the environment that may be affected 2) a description of environmental issues, potential impacts and cumulative impacts 3) details of the public participation procedure and responses to representations, comments and views 4) a plan of study for an EIA <p>The Competent Authority must within 43 days of receiving the Final Scoping Report, accept or reject the report, and instruct the EAP to proceed with the EIA phase. The EIA phase considers: (1) the compilation of an Environmental Impact Report (EIR) and (2) the development of an Environmental Management Programme (EMPR,) in accordance with Regulation 23 of the NEMA 2014 EIA Regulations. In addition to the information in the Scoping Report, the EIA must also set out the methodology used in assessing the impact, detailed reporting on the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected, an assessment of each identified potential significant impact amongst other information.</p> <p>Upon submission of the Final EIR and EMPR, the Competent Authority must within 107 days of receipt of the EIR and EMPR, in writing – (i) grant Environmental</p>

I&AP	Method	Date	Issue	Response
			<p>unpolluted, non-industrial, tranquil peace and quiet area as most come from cities and want to get away of the hustle and bustle.</p> <p>The mining can also have an effect on the pollution of the river and as Vaaloewer extract their water from the river to purify for household consumption, this is a major concern.</p> <p>In Vaaloewer we have the “Vaaloewer Voluntary Association” which allows access to all property owners/ residents to the riverfront area for fishing, picnic etc. (of which I am also a member).</p> <p>We also have Goose Bay Canyon Recreation and Power Boat Club representing 210 boat members (of which I am a member) that use the damned up river area for boating, skiing, fishing etc. The club operates a “River Fund” funded by its members at an annual cost of R150 000 plus to keep the river clean. The river barge with two workers on a daily basis keep the river clear from fallen trees, floating logs, hyacinth, plastic & other rubbish that gets washed down river to create a safe boating environment for the users of the river. As the Free State bank is part of the current game farm, 90% of cleaning is done on that side due to no one there attending to it.</p> <p>The boat club also operates a Share Block Company with weekend housing units for their owners and boat storage which is currently insured for replacement cost of well over R36 million rand.</p> <p>All clubs and associations in the area are dependent on their members for payment of annual subs to maintain the facilities for its members. Non-use will mean no payment of annual fees which will affect jobs and upkeep of</p>	<p>Authorisation in respect of all or part of the activity applied for; or (ii) refuse Environmental Authorisation.</p> <p>Should the applications for an Environmental Authorisation and Mining Right be granted and you wish to appeal the decision, then you as an appellant must submit the appeal (the Appeal Questionnaire and Appeal and Response Form) to the appeal administrator. The Applicant must notify known interested and affected parties through the EAP, of the outcome of the application as well as their right to appeal the decision, within twenty (20) days from:</p> <ol style="list-style-type: none"> 1. the date that the decision for an application for an Environmental Authorisation was sent to the registered interested and affected parties, or 2. the date that the decision was sent to the Applicant <p>Figure 1 reflects the anticipated scope and time related to carrying out a full Scoping and EIA process in accordance with the NEMA 2014 EIA Regulations (as amended).</p>

I&AP	Method	Date	Issue	Response
			<p>facilities.</p> <p>Although the area is mainly an agricultural area and therefore there are noise factors such as tractors and farming equipment cannot be compared to the type of mining equipment including large tipper trucks, excavators, crushers or other diamond related machinery will make more noise than that of normal farming in the area.</p> <p>With the previous application of the applicant during November 2017 this was withdrawn due to various reasons including a very important point such as “unprecedented number of objections from I &AP’s due to the sensitivity of the mining footprint”</p> <p>In your own document you have listed 22 preliminary potential impacts vs. only 6 preliminary positive implications not even to mention impact on nature, bird and animal life.</p> <p>I cannot see how one could rehabilitate an area 100% where the intended plan is to cut into the ground up to 12 metres (that is as high as a three or four storey building) and remove sand and stone to be sold. Where will soil come from to close these excavations?</p> <p>Then to state as an closing objective “Is to develop the area into an eco-estate with residential and hospitality facilities on the banks of the Vaal River” does not make sense as this was the original intention of the applicant. It could only mean that after 30 years this will never happen as after the area has been mined out and mining scars left like in the surrounding area where previous mining was never rehabilitated due to mining operations going bankrupt and the land just left or abandoned. Due to this the whole surrounding areas will also</p>	<p>Figure 1: Integrated EIA and integrated WUL process.</p> <p>I reside as the landowner on portion 80 Zeekoefontein on the river which is just directly opposite Woodlands farm portions and next to Vaaloewer (see some pic's for info). I have been living in Vaaloewer area since 1980 and selling property here since 1990.</p> <p>Noted.</p> <p>Due to the current political & economic climate and pollution of the Vaal River due to untreated sewerage discharged by Municipalities, it has already impacted negatively on property sales, tourism in the area, job losses etc. and with extensive mining in the area it will just make things worse. The only people to gain from mining will be government in form of</p>

I&AP	Method	Date	Issue	Response
			<p>just become desolate as no one would want to live near or look onto a landscape which has been scarred for life.</p> <p>To state that mining is just an "interim land use" is untrue as 30 years is already a life time and that it will be conducted in a "sensitive manner" that will not have negative impact on the game. No man made operations could ever rehabilitate an area to original nature state. In this statement it does not mention the negative impact on the surrounding land and people living there but rather refer to impact on game.</p> <p>Regards Martin Struwig</p>	<p>taxes, the few parties involved, very few jobs and specialised people who will come from main towns/ cities anyway. So very little of the income derived from the mining of sand and diamonds will be spent locally.</p> <p>Your view in this regard is noted.</p> <p>I am situated directly across the river from the planned mining area and due to the landscape we could hear and see the movement of heavy equipment from the previous sand mining activities which never operated according to set hours as one could hear them until very late at night and starting in the very early morning hours (I do not see any planned working hours indicated on your documents). There were also the use of either diesel generators or pumps that could be heard all day and night which was a disturbance in our tranquil environment.</p> <p>In the Draft Scoping Report supporting the proposed Mining Right application (Page 14), the planned working hours are indicated as follows:</p> <ul style="list-style-type: none"> For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the Environmental Impact Assessment (EIA) phase. <p>Vaalower including Goose Bay Canyon township and the Zeekoefontein farm portions represent a total market value of ±R456 679 000-00 representing well over 1000 properties on which owners are paying rates and taxes to Emfuleni Municipal Council. This does not include the values for Lindequesdrift, surrounding Woodlands and Vaal Eden properties. Large scale mining in the area will have a negative impact on property values, noise & air pollution, further future development and also impact on job creation and tourism in the area. These properties are used for permanent, retirement, leisure living and also investment purposes and owners purchase here to be in an unpolluted,</p>

I&AP	Method	Date	Issue	Response
				<p>non-industrial, tranquil peace and quiet area as most come from cities and want to get away of the hustle and bustle</p> <p>Specialist studies have been undertaken in support of this application to assess the anticipated impacts. These studies include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Property values: <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> • Noise and air pollution: <p>According to the noise baseline assessment for this project (Appendix F9 of the draft Scoping Report), noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the</p>

I&AP	Method	Date	Issue	Response
				<p>throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. Additional mitigation measures have been proposed and these are included in the relevant specialist reports.</p> <ul style="list-style-type: none"> • Job creation: <p>According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area.</p> <ul style="list-style-type: none"> • Tourism: <p>According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks.</p> <p>Kindly note that the preliminary desktop studies were conducted on a scoping level and that the above mentioned impacts will be assessed in more details in the EIA phase. In addition, mitigation measures will be proposed in the Environmental Management Programme Report (legal binding document) to minimise impacts.</p> <p>The mining can also have an effect on the pollution of the river and as Vaaloewer extract their water from the river to purify for household consumption, this is a major concern.</p>

I&AP	Method	Date	Issue	Response
				<p>Noted. It is understood that no hazardous chemicals will be utilised during extraction and processing of the minerals. Based on the Hydrology desktop assessment (Appendix F3 of the draft Scoping Report), it is anticipated that contamination of surface water resources may occur due to fuelling and use of machines and vehicles as well as erosion of the cleared footprint areas. A detailed Surface Water Assessment will be undertaken for the EIA phase of the proposed project and mitigation measures will be recommended to minimise this impact.</p> <p>In Vaaloewer we have the "Vaaloewer Voluntary Association" which allows access to all property owners/ residents to the riverfront area for fishing, picnic etc. (of which I am also a member). We also have Goose Bay Canyon Recreation and Power Boat Club representing 210 boat members (of which I am a member) that use the dammed up river area for boating, skiing, fishing etc. The club operates a "River Fund" funded by its members at an annual cost of R150 000 plus to keep the river clean. The river barge with two workers on a daily basis keep the river clear from fallen trees, floating logs, hyacinth, plastic & other rubbish that gets washed down river to create a safe boating environment for the users of the river. As the Free State bank is part of the current game farm, 90% of cleaning is done on that side due to no one there attending to it. The boat club also operate a Share Block Company with weekend housing units for their owners and boat storage which is currently insured for replacement cost of well over R36 million rand. All clubs and associations in the area are dependent on their members for payment of annual subs to maintain the facilities for its members. Non-use will mean no payment of annual fees which will affect jobs and upkeep of facilities.</p> <p>Noted. At this stage, it has not been confirmed or determined that the mining activities will stop the public from making use of the boating facilities. There are two mining operations taking place in close proximity to the proposed application area and the boating activities still continue.</p>

I&AP	Method	Date	Issue	Response
				<p>Although the area is mainly an agricultural area and therefore there are noise factors such as tractors and farming equipment cannot be compared to the type of mining equipment including large tipper trucks, excavators, crushers or other diamond related machinery will make more noise than that of normal farming in the area.</p> <p>Refer to point on noise and air pollution above.</p> <p>With the previous application of the applicant during November 2017 this was withdrawn due to various reasons including a very important point such as “unprecedented number of objections from I &AP’s due to the sensitivity of the mining footprint” In your own document you have listed 22 preliminary potential impacts vs only 6 preliminary positive implications not even to mention impact on nature, bird and animal life. I cannot see how one could rehabilitate an area 100% where the intended plan is to cut into the ground up to 12 meters (that is as high as a three or four storey building) and remove sand and stone to be sold. Where will soil come from to close these excavations. Then to state as a closing objective “Is to develop the area into an eco-estate with residential and hospitality facilities on the banks of the Vaal River” does not make sense as this was the original intention of the applicant. It could only mean that after 30 years this will never happen as after the area has been mined out and mining scars left like in the surrounding area where previous mining was never rehabilitated due to mining operations going bankrupt and the land just left or abandoned. Due to this the whole surrounding areas will also just become desolate as no one would want to live near or look onto a landscape which has been scarred for life. To state that mining is just an “interim land use” is untrue as 30 years is already a life time and that it will be conducted in a “sensitive manner” that will not have negative impact on the game. No man made operations could ever rehabilitate an area to original nature state. In this statement it does not mention the negative impact on the surrounding land and people living there but rather refer to impact on game.</p> <p>Rehabilitation, from the mining industry perspective, means</p>

I&AP	Method	Date	Issue	Response
				<p>the disturbed areas will adhere to a pre-determined plan or fulfill a function that is sustainable and usable. It recognises that extraction of a resource will occur and that the original topography will be altered. The basic requirements for rehabilitation is to construct a stable, safe and functioning environment post mining. This can be achieved through various methods but in this case the end land use will be an eco and wildlife estate. The intention is not to restore the original topography, but to sculpt the mined areas to facilitate various ecological habitats. This may include dams and wetlands in the depressions that will be beneficial within the estate's vision. It is also worth mentioning that the current farm is managed as a game farm and that the eco and wildlife estate has been approved a while ago. Mining is seen as an interim land use and will be done sensitively as to not impact on the existing game.</p>
Danie van der Merwe	E-mail	09 September 2018	<p>Good day, I live in Vaaloewer and want to be registered as an IAP. Regards Danie vd Merwe</p>	<p>Dear Danie, Thank you for your mail and for showing interest on this project. As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project. Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Danie van der Merwe	E-mail	28 October 2018	<p>Mpho, I wish to oppose your choice of venue due to it being so far away from the affected area. There are excellent venues within a 5 km radius of the affected area and closer to your PRIMARY STAKEHOLDERS. You should move it closer to ensure maximum attendance. Or better, host us in a tent next to one of the rehabilitated pits of the operation.</p>	<p>This correspondence was noted by Shango Solutions.</p>

I&AP	Method	Date	Issue	Response
			Regards Danie vd Merwe Kingfisher Bend Vaaloewer	
Webber Wentzel/Vaaloewer Ratepayers Association	E-mail	07 September 2018	Dear Zizo Webber Wentzel is acting on behalf of Vaaloewer Ratepayers Association. We kindly request that we be registered as Interested and Affected Party's (I&Aps) on behalf of Vaaloewer Ratepayers Association regarding the Mining Right application, Intergrated Environmental Authorisation application and Water Use License Application.	Dear Nonkululeko, Thank you for your mail. As requested, Mr Webber Wentzel (acting on behalf of Vaaloewer Ratepayers Association) has been registered as an I&AP using the contact information provided. As a registered I&AP, Mr Wentzel will receive all future notification pertaining to this project. Should you have any further questions in this regard, please do not hesitate to contact me.
Aloma van der Merwe/ JG van der Merwe	E-mail	07 September 2018	Please register me and my husband, A and JG van der Merwe as IAP s. We stay with n Lindequesdrif. Thanks A van der Merwe	Dear Aloma, Thank you for your mail and for showing interest on this project. As requested, you and your husband JG van der Merwe have been registered as I&Aps using the contact information provided. As registered I&Aps, you will receive all future notification pertaining to this project. Should you have any further questions in this regard, please do not hesitate to contact me.
Bornman du Toit	E-mail	07 September 2018	Good afternoon I was informed of mining activity in the Vaaloewer area. I never received any communication regarding any pre-notification regarding your mining right application. Please register me as an IAP? Regards	Dear Bornman, Thank you for your mail and for showing interest on this project. As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project. Should you have any further questions in this regard, please

I&AP	Method	Date	Issue	Response
			Bornman du Toit	do not hesitate to contact me.
Susan E Malcomess	E-mail	27 September 2018	<p>Dear Mr Siwendu</p> <p>I refer to the above application on behalf of Monte Cristo Commercial Park (Pty) Limited for mining rights for the Project Pure Source Mine.</p> <p>We wish to register our objection to a mining license being issued for the relevant farm. It is an agricultural area that has a fast developing tourism industry. It also falls within the Vredefort Dome World Heritage Site.</p> <p>When I travel past the open cast coal mines by eMalahleni, I am appalled at how these operations have destroyed the area. I would not like to see it happen in the area in which I live.</p> <p>Please will you keep me advised of any public participation meetings that are planned?</p> <p>Yours sincerely</p> <p>Susan E Malcomess</p>	<p>Dear Susan,</p> <p>Thank you for your mail.</p> <p>You have been registered as an Interested and Affected Party and will be kept up to date of any developments regarding this project such as:</p> <ul style="list-style-type: none"> • Availability of the draft and final Scoping Report • Availability of the draft and final Environmental Impact Report • All public meetings that will be held during the course of the Environmental Impact Assessment process • Outcome of the application <p>Your objection and reasons thereof are well noted. Kindly be informed that your concerns will be addressed in the Scoping Report. You will be informed of its availability in due course and you will be given an opportunity to review it and provide comment.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Susan E Malcomess	E-mail	18 October 2018	<p>Dear Sirs</p> <p>Attached is my objection to the proposed mining application by Pure Source Mine.</p> <p>Yours faithfully</p> <p>Sue Malcomess</p> <p>Ms Malcomess completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • Our property looks right across the Vaal River on to the proposed mining property. The mining operation will 	<p>Dear Susan,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> • Please state you interest in the project. <p>Our property looks right across the Vaal River on to the proposed mining property. The mining operation will scar the land and make it unsightly. The noise will carry across the river and so will the dust when wind blows. The roads are</p>

I&AP	Method	Date	Issue	Response
			<p>scar the land and make it unsightly. The noise will carry across the river and so will the dust when wind blows. The roads are not made for heavy trucks. It is in a World Heritage Site and tourism is important in the area. Mining will make the area less attractive for tourism. It is also concern to me that I believe the previous company who started mining on this land has an order from the Department of Mineral Affairs because the conditions of the license were not met. Why should this not happen again?</p> <ul style="list-style-type: none"> • Communities which exist within the application area: there is an informal settlement, there are small holdings and the town of Parys is nearby. • Description of the receiving environment: It's in a World Heritage Site: The Vredefort Dome. The roads are not designed for heavy traffic. Who is going to rehabilitate them when they are destroyed by mining? <p>It is on the banks of the Vaal River and these proposed operations could pollute the river. The area is subject to heavy winds and the open cast mining will create dust storms.</p> <ul style="list-style-type: none"> • Aware of any land developments? No. • Cultural or heritage features within the application area and surrounds: THE VREDEFORT DOME. • Potential biophysical and socio-economic impacts: it will affect the 	<p>not made for heavy trucks. It is in a World Heritage Site and tourism is important in the area. Mining will make the area less attractive for tourism. It is also concern to me that I believe the previous company who started mining on this land has an order from the Department of Mineral Affairs because the conditions of the license were not met. Why should this not happen again?</p> <p>Your comments are noted.</p> <p>According to the noise baseline assessment for this project, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures have been recommended to reduce noise impacts. Additional mitigation measures will be proposed in the Environmental Management Programme (EMPR) during the EIA Phase of this project.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation measures such as dust suppression have been proposed to minimise dust emission.</p> <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area and other property owners in order</p>

I&AP	Method	Date	Issue	Response
			<p>tourism industry. Who wants to be near at mines? The unsightliness of Mpumalanga is living testimony to this.</p> <ul style="list-style-type: none"> Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: don't mine! And if you do adhere to the conditions and rehabilitate. Specific concerns: most concerned the rehabilitation will not be done. Already the owner of the land has not rehabilitated from the mining already done. 	<p>to initiate a long-term roads maintenance plan.</p> <p>Based on the specialist studies undertaken in support of this application, the proposed application area does not overlap with, nor will it impact upon any formally protected area. We are required by the relevant legislation to maintain a 5 km buffer from protected areas. The edge of the crater of the Vredefort Dome, a UNESCO World Heritage Site, is ~8 km to the south-west of the site. As such, it will not be negatively affected by this application.</p> <p>According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks.</p> <p>Kindly note that enforcement of compliance with the EMPR is the responsibility of the Department of Mineral Resources.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact detail. <p>There is an informal settlement, there are small holdings and the town of Parys is nearby.</p> <p>Noted.</p> <ul style="list-style-type: none"> Please can you provide us with a description of the receiving environment. <p>It's in a World Heritage Site: The Vredefort Dome. The roads are not designed for heavy traffic. Who is going to rehabilitate them when they are destroyed by mining? It is on</p>

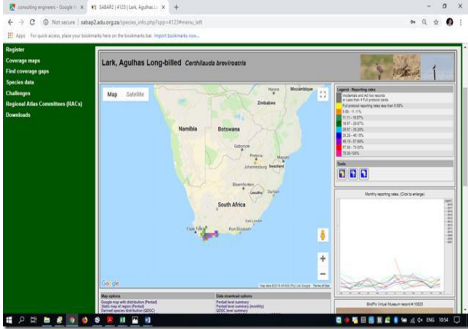
I&AP	Method	Date	Issue	Response
				<p>the banks of the Vaal River and these proposed operations could pollute the river. The area is subject to heavy winds and the open cast mining will create dust storms.</p> <p>We will reiterate that the Vredefort Dome is ~8 km to the south-west of the application area. Kindly refer to the first point for our responses on the issues you raised on heavy trucks and road rehabilitation. Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. Mitigation measures have been recommended to minimise impacts on air quality.</p> <ul style="list-style-type: none"> Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? <p>No.</p> <p>Noted.</p> <ul style="list-style-type: none"> Are you aware of any cultural or heritage features within the application area and surrounds, please provide details? <p>THE VREDEFORT DOME.</p> <p>Noted.</p> <ul style="list-style-type: none"> Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. <p>It will affect the tourism industry. Who wants to be near at mines? The unsightliness of Mpumalanga is living testimony to this.</p> <p>Your comment is noted. We will reiterate that the Economic Impact Assessment undertaken in support of this application indicated that, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be</p>

I&AP	Method	Date	Issue	Response
				<p>the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks.</p> <ul style="list-style-type: none"> Please describe any measures you believe should be implemented to mitigate, manage <p>Don't mine! And if you do adhere to the conditions and rehabilitate.</p> <p>Your suggestion is noted.</p> <ul style="list-style-type: none"> Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? <p>Most concerned the rehabilitation will not be done. Already the owner of the land has not rehabilitated from the mining already done.</p> <p>Your concern is duly noted. Kindly note that the Client is in the process of rehabilitating the Mining Permit areas.</p> <p>Should you have any further concerns in this regard, please do not hesitate to contact me.</p>
Environmental Management Group	E-mail	05 September 2018	<p>Thanks Zizo,</p> <p>I do suggest that you meet with myself, Gavin and Rene prior to commencement of the Mining Right Application. I do believe that there is a lot of important information about these mines that you are not yet aware of.</p> <p>I hope you will find the above in order.</p>	<p>Dear Sampie,</p> <p>Thank you for your mail.</p> <p>As requested, you as well as the rest of the I&As included in the mail have been registered as I&As for the project.</p> <p>In order to have meaningful engagement and a constructive consultation process with the public, we will hold an Open Day after the completion and submission of the Draft Scoping Report (inclusive of scoping level specialist reports)</p>

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			Regards, Sampie	to the DMR. The report will also be made available to the public for a period of at least 30 days for comment. During the 30 days Draft Scoping Report review period, the Open Day will held to present the findings of the Scoping Report. All comments received from the public during the Draft Scoping Report review period will be incorporated into the Final Scoping Report which will be submitted to the DMR, for their decision-making. Should you have any further comments in this regard, please do not hesitate to contact me.
Environmental Management Group	E-mail	09 October 2018	Good morning Mmakoena, I see that the Draft Scoping report is not yet loaded onto your website. Please advise when it will be available for public review? Thanks, Sampie	Good morning Sampie, My apologies for the late response. I was out of the office from Tuesday to Friday last week. I'm assuming you have already seen that the Draft Scoping Report has been uploaded onto the website for public review? May you have a lovely day further.
Environmental Management Group	E-mail	15 October 2018	Hi, I am struggling to locate the downloadable document. What is the name of the document?	Good morning, Please find below a link to the report. http://www.shango.co.za/public-documents/pure-source-mine/ The name of the document is Pure Source Mine Draft Scoping Report. If you have any further questions in this regard, please do not hesitate to contact me.
Environmental Management Group	E-mail	18 October 2018	Good morning Zizo, Please find attached my comments with regards to the above mentioned applications.	Dear Sampie, Thank you very much for your correspondence. Your objection to the above mentioned project is noted.

I&AP	Method	Date	Issue	Response
			<p>Regards, Sample</p> <p>Attention: Mmakoena Mmola and Zizo Siwendu</p> <p>APPLICATION FOR AN INTEGRATED ENVIRONMENTAL AUTHORISATION AND INTEGRATED WATER USE LICENSE IN SUPPORT OF A MINING RIGHT APPLICATION FOR SAND, AGGREGATE/GRAVEL AND DIAMOND (ALLUVIAL), IN THE FREE STATE PROVINCE OF SOUTH AFRICA (FS 30/5/1/2/2/10048 EM) ON THE REMAINING EXTENT, PORTION 1 AND 3 OF THE FARM WOODLANDS 407, SITUATED IN THE MAGISTERIAL DISTRICT OF PARYS, FREE STATE PROVINCE.</p> <p>Good day Mmakoena Mmola and Zizo Siwendu,</p> <p>This letter serves the purpose of my objection on behalf of Mr. Salmon van Rooyen (owner of Farm Damlaagte No. 229) with regards to the above-mentioned applications submitted to DMR and DWS.</p> <p>With reference to the letter from DMR, dated 12 September 2018 (Annexure A), I would like to raise some concerns and request clarity from your company with regards to:</p> <ul style="list-style-type: none"> The submission of the Final performance assessment report, environmental risk report and closure plan for the remaining extent, portion 1 and 3 of Woodlands, 407. Have these reports been submitted to DMR before 13 October 2018? Please provide copies of these reports for review. <p>With reference to the letter from DMR, dated 13 September 2018 (Annexure B), I would like to</p>	<p>The Client is in the process of applying for a Closure Certificate over the Mining Permit Areas.</p> <p>Kindly be advised that Sweet Sensation 168 (Pty) Ltd is a neighbouring mine which is not related to Monte Cristo Commercial Park (Pty) Ltd (see map attached).</p> <p>Your comments on the Terrestrial Biodiversity specialist report will be addressed by the relevant specialist. The specialist will correspond directly with you and we will be cc'ed in the mail. The recommendations you provided regarding the Heritage Impact Assessment are well noted and will be included as conditions in the Environmental Management Programme (EMPR) to be drafted at a later stage (during the EIA phase of the project). Furthermore, your views on the socio-economic impacts associated with the proposed mining activities are duly noted and will be included in the Issues and Responses Report to be submitted to the Competent Authority for consideration in their decision-making. Carl</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<p>know if Sweet Sensation 168 (Pty) Ltd. is by any means related to Monte Cristo Commercial Park (Pty) Ltd?</p> <p>With reference to the Draft Scoping report and supporting specialist studies (Pure Source Mine)</p> <p>Appendix F2 - TERRESTRIAL BIODIVERSITY</p> <ul style="list-style-type: none"> • It is quite evident that the majority of the proposed mining area falls inside either an ESA 1 & 2 (Ecological Support Area) or CBA (Critical Biodiversity Area), thus making this area highly sensitive. • On page 13: 'However, due to the international importance of the Vredefort World Heritage Site and that it is situated downstream of the proposed project area there is a minor chance that any severe impacts caused to the Vaal River system by the proposed development, if any, may have an impact on this site.' I would suggest that monitoring points upstream and downstream from the proposed mining area be included into the EMP. • On Page 27 and 28, Table 3: The interpretation of the species occurrence is incorrect. The Pentads assessed is not located near the study area. The study area is located in Pentads: 2640_2730; 2640_2735; 2645_2730; 2645_2735. <p>The likelihood of occurrence of species is also totally misinterpreted. For example, the Lark, Agulhas Long-</p>	

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			<p>billed has never been observed near the study area. It only occurs in the Overberg area; thus, you state that the occurrence of this species is high.</p> <p>This observation puts the rest of the biodiversity assessment under question. I do request that an in-depth biodiversity assessment be conducted on site and included into the draft EIA.</p>  <ul style="list-style-type: none"> <li>• On Page 38, Table 6. I do appreciate that the majority of the Table is highlighted in red, which supports the ecological sensitivity status of the proposed mining area. <li>• On Page 41, you also mention that: 'Further field surveys will increase the robustness of the results, and a summer survey will need to be conducted in order to complete a comprehensive floral survey. However, further investigation will be made during the Environmental Impact Assessment process'. When will this follow-up studies be conducted? <li>• On Page 41, I would like to highlight 	

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			<p>the closing sentence to the client, DMR and Shango Solutions: 'The outcomes of this scoping assessment have identified the potential loss of SCC and sensitive areas as a potential fatal flaw for the proposed project.</p> <p>I do believe that 'potential' will be replaced by 'definite'.</p> <p>Appendix F5 - WETLAND ASSESSMENT</p> <ul style="list-style-type: none"> On Page 13 it is mentioned that: 'The outcomes of this scoping assessment have identified the potential loss of wetland areas as a potential fatal flaw for the proposed project. However, further investigation will be made during the Environmental Impact Assessment process.' <p>I do believe that 'potential' will be replaced by 'definite'.</p> <p>Appendix F7 - HERITAGE IMPACT ASSESSMENT</p> <ul style="list-style-type: none"> On Page 30, it is mentioned that: 'Of importance is Site 1 which is a strategic entrenchment (redoubt) that probably dates to the South African War (Anglo-Boer War) of 1899 – 1902. The structure is therefore older than 60 years and as a result protected under the NHRA (Act 25 of 1999). Any impact on the site will have to be mitigated by a Phase 2 investigation.' It is highly recommended that this site be excluded from the proposed mine footprint. On Page 30, it is mentioned that: 'A 	

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			<p>cemetery with 48 graves was recorded. Although some of the graves do have inscriptions on the headstones, some of them do not and as a result are also protected under the NHRA (Act 25 of 1999).’ It is highly recommended that this site be excluded from the proposed mine footprint.</p> <ul style="list-style-type: none"> On Page 31, it is mentioned that: ‘It should be kept in mind that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during construction activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (cf. NHRA (Act No. 25 of 1999), Section 36 (6)).’ <p>Monitoring throughout the lifetime of the mine should be implemented.</p> <p>Appendix F14 - SOCIO-ECONOMIC IMPACT ASSESSMENT & Appendix F16-ECONOMIC IMPACT ASSESSMENT</p> <ul style="list-style-type: none"> I believe that the current agricultural and tourism practices in the area will be negatively influenced, and eventually ruined by the proposed mining activities for the area. Unfortunately, mining and tourism and agriculture highly unlikely occur in the same area, as the influence of mining remains detrimental to the other two sectors. When comparing job opportunities in the area, the amount of current jobs maintained in the 	

I&AP	Method	Date	Issue	Response
			<p>tourism and agricultural industries will be lost by implementing mining practices in the area. Thus, job opportunities in the area will not increase through mining practices, as the agricultural and tourism sectors will be lost.</p> <ul style="list-style-type: none"> • Food security is a major concern for South Africa. Agricultural land remains highly sensitive and is a huge contributor to our economy. That is why re-zoning must occur prior to commencement of the proposed mining practices. • South African farms live in fear on their farms, due to the current politics, threats and violent farm attacks. Theft of livestock is a going concern amounts the farmers in the area. By introducing mining in the area, foreigners settle and populate the area. As soon as township establishment is implemented, crime starts to increase. The Vaal Eden area, that is currently operating as an agricultural and tourism sector, will be transformed into a mining, industrial and township area. • No benefits other than financial profits to the stakeholders will be generated through the proposed mining operations. <p style="text-align: center;">Conclusion</p> <p>During the Scoping phase it already becomes evident that several fatal flaws appear for the proposed mining operations. It is also clear that the existing community does not welcome the</p>	

I&AP	Method	Date	Issue	Response
			mining industry into their agricultural and tourism area, and will continue to fight for their own safety, the safety of their livestock and crops, and the integrity of their sensitive Vaal River environment.	
Environmental Management Group	E-mail	02 November 2018	Thank you for the reply Mmakoena. I am looking forward to meeting you and the team on the 10 th . Regards, Sampie	This correspondence was acknowledged.
Environmental Management Group	E-mail	06 November 2018 (10:20AM)		Dear Mr van Rooyen, Thank you for your correspondence and comments regarding the above matter. I am the lead for the terrestrial biodiversity component of this project. Please note my response (below) to the terrestrial biodiversity comments raised in your objection letter to Shango (specifically Appendix F2 – Terrestrial Biodiversity): <ol style="list-style-type: none"> 1. We agree (as per our spatial map work included in the report) that much of the mining area falls within areas recognised as either ESA 1 and 2, and/or CBA areas. 2. Regarding monitoring points upstream and downstream along the Vaal river: this will be covered in the aquatic assessment and monitoring is one of the recommendations already made in this assessment. 3. Regarding the avifaunal pentads: you are correct that the pentads listed (in text) were incorrect. This has been rectified. Nonetheless the correct pentads were used for the assessment and the correct names of these pentads were listed above the relevant avifaunal table.

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				<p>a) Agulhas Long-billed Lark: you are correct that this species typically occurs in the Overberg of the Western Cape. However, there are two confirmed records of this species occurring within the pentad of the study area and therefore we have included it in the report.</p> <p>4. Further field studies: yes, we will definitely be conducting further field surveys for this project. This is particularly important in regards to the botanical aspects, as many of the floral species only flower during the wet season. We believe the area has had sufficient rainfall over the past few weeks and the terrestrial biodiversity team will be heading to site again next week. Surveys to be conducted will include botany, herpetology, avifauna and mammals.</p> <p>5. Our concluding remarks for the Scoping assessment will be re-evaluated on conclusion of the final field surveys.</p> <p>Please let me know if there is anything else we can assist with at this point.</p>
Environmental Management Group	E-mail	06 November 2018 (10:36AM)	<p>Good day Mike,</p> <p>Thanks for the reply.</p> <p>I look forward to your final assessments.</p>	This was noted by Shango Solutions.
Marianne Bisland	E-mail	06 September 2018	<p>Good day</p> <p>As a Vaaloever resident it's a concern that not everybody in the area is notified of this application. Kindly register me as an IAP.</p> <p>Regards</p> <p>Marianne Bisland</p>	<p>Dear Marianne,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>If you have any further questions in this regard, please do</p>

I&AP	Method	Date	Issue	Response
				not hesitate to contact me.
Marianne Bisland	E-mail	09 October 2018	<p>Good day</p> <p>Kindly forward the relevant “Interested and Affected Part Registration Form” in a format in order for it to be completed on my PC.</p> <p>Thank you.</p>	<p>Dear Marianne,</p> <p>My apologies for the late response.</p> <p>I was out of the office from Tuesday to Friday last week.</p> <p>As requested, please find attached the Word Doc formats of the registration forms.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Marianne Bisland	E-mail	12 October 2018	<p>Good day</p> <p>Registration as an I&AP attached.</p> <p>Kindly confirm receipt</p> <p>Regards</p> <p>M Bisland (Ms)</p> <p>Ms Bisland completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • I am an owner in Vaaloewer and will be directly impacted in many negative instances by any mining activities that are proposed with this application. • Communities existing within the application area. Provide detail and possible contact details: there are many communities that will be affected. Details and contact details are available as per previous applications. • Any tribal authorities within, or affected by, the proposed application: I am not qualified to comment on this and this should form part of the due diligence 	<p>Dear Marianne,</p> <p>Thank you for your mail.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ol style="list-style-type: none"> 1. I am an owner in Vaaloewer and will be directly impacted in many negative instances by any mining activities that are proposed with this application. Noted. 2. Are you aware of any communities existing within the application area? Provide detail and possible contact details. There are many communities that will be affected. Details and contact details are available as per previous applications. Noted. 3. Are you aware of any tribal authorities within, or affected by, the proposed application? I am not qualified to comment on this and this should form part of the due diligence by Shango Solutions.

I&AP	Method	Date	Issue	Response
			<p>by Shango Solutions.</p> <ul style="list-style-type: none"> • Other I&APs who need to be notified: this should form part of the due diligence by Shango Solutions. • Description of receiving environment: this should form part of the due diligence by Shango Solutions. • Land developments (current or proposed) within the application area: Not qualified to comment. This should form part of the due diligence by Shango Solutions. • Any cultural or heritage features within the application area and surrounds: this should form part of the due diligence by Shango Solutions as I am not qualified to comment. • Description of biophysical and/or socio-economic impacts: including by not limited to: <ul style="list-style-type: none"> ○ Environment that will be harmful to my health and well-being. ○ Depreciation of my property value. ○ Negative influence on tourism. • Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: as I am a home owner that will be affected negatively by nay mining activity due to the close proximity of my home. The only measure that should be taken is 	<p>Noted.</p> <p>4. Are you aware of any other I&APs who need to be notified? Please provide their contact details. This should form part of the due diligence by Shango Solutions.</p> <p>Noted.</p> <p>5. Please provide a description of receiving environment. This should form part of the due diligence by Shango Solutions. Noted.</p> <p>6. Are you aware of any and developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Not qualified to comment. This should form part of the due diligence by Shango Solutions.</p> <p>Noted.</p> <p>7. Are you aware of any cultural or heritage features within the application area and surrounds: This should form part of the due diligence by Shango Solutions as I am not qualified to comment.</p> <p>Noted.</p> <p>8. Please describe any biophysical and/or socio-economic impact that you believe should be considered during the study. Including by not limited to:</p> <ul style="list-style-type: none"> ○ Environment that will be harmful to my health and well-being. ○ Depreciation of my property value.

I&AP	Method	Date	Issue	Response
			<p>no mining activity whatsoever.</p> <ul style="list-style-type: none"> I have multiple concerns, least of which is that a pump house will be operational, creating unacceptable noise pollution approximately 200 m from my property. <p>General comments:</p> <p>Addendum to 'Interested and Affected Party Registration Form'</p> <p>FS 30/5/1/2/2/10048 EM</p> <p>I refer to information received from Shango Solutions via email on 09/10/2019. I am not able to comment or verify a large portion of the document as it refers to legalese, acts and mining rights that, as a layman, I am not in a position to interpret or confirm.</p> <p>My property and my wellbeing will be directly affected by the proposed mining operation with regard to, but not limited to, the following information taken from the background information document:</p> <p>'Application reference number: FS 30/5/1/2/2/10042 MR Goosebay Farm (Pty) Ltd Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd "VLDC" Group was withdrawn and then resubmitted as Monte Cristo Commercial Park (Pty) Ltd (wholly owned by the VLDC Group – to be empowered according to BEE requirements) reference number: FS 30/5/1/2/2/10048 MR.'</p> <p>My personal view is that the above smacks of window dressing and I view the new application with utmost suspicion.</p> <p>A reason for the previous application being withdrawn is noted in the BID as:</p>	<ul style="list-style-type: none"> Negative influence on tourism. In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. <p>9. Please describe any measures you believe should</p>


I&AP	Method	Date	Issue	Response
			<p>'Unprecedented number of objections from I&APs due to the sensitivity of the mining footprint.' I fail to see what has significantly changed in the mining footprint which could possibly warrant a new application.</p> <p>My property is situated on the Vaal River and was purchased solely for the peace and tranquility that the area offered. This particular stretch of the river allows me to enjoy the quietness of country living and experience the abundant birdlife, fish and animal life of the habitat that is associated with the river. Water sport activity on the river is controlled and infrequent and I was fully aware that there would be water activity on the river when my property was purchased. Traffic noise is less than minimal. At the time of purchasing my property, there was no sign of mining activity. The proposed mining activity will cause noise pollution through the presence of noise generating infrastructure and activities. Due to the non-urban configuration of the area, noise travels far distances and will not be contained in the area demarcated for mining.</p> <p>I object to the amount of time and effort to which I am subjected, in order to protect my rights.</p> <p>Section 2(h) of the MPRDA, refers to the over-riding requirement for the application to be consistent with Section 24 of the Constitution, and which states: "Everyone has the right –(a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural</p>	<p>be implemented to mitigate, manage, avoid or remedy the anticipated biophysical and socio-economic impacts of the proposed activity.</p> <p>As I am a home owner that will be affected negatively by any mining activity due to the close proximity of my home. The only measure that should be taken is no mining activity whatsoever.</p> <p>Your suggestion is noted.</p> <p>10. Do you have any specific concerns or objections to the proposed project?</p> <p>I have multiple concerns, least of which is that a pump house will be operational, creating unacceptable noise pollution approximately 200 m from my property.</p> <p>According to the Noise Baseline Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>General comments: Addendum to 'Interested and Affected Party Registration Form' FS 30/5/1/2/2/10048 EM</p> <p>I refer to information received from Shango Solutions via email on 09/10/2019. I am not able to comment or verify a large portion of the document as it refers to legalese, acts and mining rights that, as a layman, I am not in a position to interpret or confirm. My property and my wellbeing will be directly affected by the proposed mining operation with regard to, but not limited to, the following information taken from the background information document:</p>

I&AP	Method	Date	Issue	Response
			<p>resources while promoting justifiable economic and social development.”</p> <p>I am of the opinion that in terms of the above, my rights are being violated and I am therefore opposing the mining application in the strongest possible manner.</p>	<p>‘Application reference number: FS 30/5/1/2/2/10042 MR Goosebay Farm (Pty) Ltd Ltd (wholly owned by the Van Wyk Land Development Corporation (Pty) Ltd “VLDC” Group was withdrawn and then resubmitted as Monte Cristo Commercial Park (Pty) Ltd (wholly owned by the VLDC Group – to be empowered according to BEE requirements) reference number: FS 30/5/1/2/2/10048 MR.’</p> <p>My personal view is that the above smacks of window dressing and I view the new application with utmost suspicion. A reason for the previous application being withdrawn is noted in the BID as: ‘Unprecedented number of objections from I&APs due to the sensitivity of the mining footprint.’ I fail to see what has significantly changed in the mining footprint which could possibly warrant a new application.</p> <p>In addition to the above, a new application was warranted due to the (i) change of the Applicant in order to fulfil the Broad-Based Black Economic Empowerment requirements, (ii) change of the Environmental Assessment Practitioner, (iii) pre-application meeting with the Department of Water and Sanitation to determine a new mining footprint with minimal risks to water resources and (iv) meeting with the Local Municipality to align the associated Social and Labour Plan with the relevant Local Economic Development projects. The mining footprint has been reduced significantly due to the environmental sensitivities that were identified on site during the Scoping phase. Additional and more in-depth specialist studies will be carried out during the EIA phase. Depending on the outcome of these detailed studies, the mining footprint may be further reduced to avoid any additional environmental sensitivities, which may be identified on-site.</p> <p>My property is situated on the Vaal River and was purchased solely for the peace and tranquility that the area offered. This particular stretch of the river allows me to enjoy the quietness of country living and experience the abundant birdlife, fish and animal life of the habitat that is associated with the river. Water sport activity on the river is controlled</p>

I&AP	Method	Date	Issue	Response
				<p>and infrequent and I was fully aware that there would be water activity on the river when my property was purchased. Traffic noise is less than minimal. At the time of purchasing my property, there was no sign of mining activity. The proposed mining activity will cause noise pollution through the presence of noise generating infrastructure and activities. Due to the non-urban configuration of the area, noise travels far distances and will not be contained in the area demarcated for mining.</p> <p>Kindly refer to point 10.</p> <p>I object to the amount of time and effort to which I am subjected, in order to protect my rights.</p> <p>Noted.</p> <p>Section 2(h) of the MPRDA, refers to the over-riding requirement for the application to be consistent with Section 24 of the Constitution, and which states: "Everyone has the right –(a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."</p> <p>I am of the opinion that in terms of the above, my rights are being violated and I am therefore opposing the mining application in the strongest possible manner.</p> <p>Your opinion and objection to the above mentioned project are noted.</p> <p>Mining is important for economic development, to construct durable, modern structures, employment creation and revenue collection. The proposed site has previous sand mining activities, known to provide good quality silica sand to the local building industry. This type of sand is commonly utilised for cement and concrete in the construction of roads and buildings. Sand is also used for mortar and rendering of</p>

I&AP	Method	Date	Issue	Response
				<p>plastered walls. The project site is located in the Ngwathe Local Municipality, and according to the municipality's Integrated Development Plan (2018-19), mining activities in the region are restricted, but are not limited, to the following:</p> <ul style="list-style-type: none"> ○ Gravel obtained from open cast pits for construction or road building purposes. ○ Sand winning along the Vaal River (Parys vicinity). ○ Alluvial diamonds in isolated locations of the Vaal River riparian. <p>Mining these products will ensure that no valuable mineral resources are sterilised and that the benefits of the resources available in the area are maximised.</p> <p>Should you have any further queries in this regard, please do not hesitate to contact me.</p>
Marianne Bilsland	E-mail	09 November 2018	<p>Good day Mmakoena</p> <p>My response to your replies is noted below: [MB]</p> <p>I will be attending the public participation meeting tomorrow, 10th November 2018, and trust that the objections resulting from the meeting will be incorporated even though you have stated that comments are to be received no later than 9th November 2018.</p> <p>I also take note that in your notification dated 5th October 2018, you have not supplied an email address or for contact at the Department of Mineral Resources for submissions of comments and concerns.</p> <p>I trust that my concerns and objections will therefore be forwarded in their entirety to the relevant contact at the department.</p> <p>Regards</p> <p>Marianne Bilsland</p>	<p>Dear Marianne,</p> <p>Thank you for your mail.</p> <p>Oral comments acquired during the additional public consultation as well as written comments received from Interested and Affected Parties (I&APs) prior to the finalisation of the Final Scoping Report will be incorporated into the Issues and Response Report (an appendix to the Final Scoping Report,) which will be submitted to the Department of Mineral Resources.</p> <p>The Department of Mineral Resource's telephone number was included in the initial notification sent out to I&APs. A case officer had not been assigned for this project at the time of distribution of the initial notification to I&APs. The contact details of the case officer for this project are provided the below:</p> <p>Mashudu Mulaudzi Mineral Regulation Tel : 057 391 1386 Email : Mashudu.Mulaudzi@dmr.gov.za Please see our responses in red.</p>

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. [MB] This statement is unacceptable and not valid. The community of Vaaloewer is situated on the opposite bank of the Vaal River with no direct access to the proposed mine. The informal housing settlement adjacent to Vaaloewer also has no direct access to the mine. I can therefore see no improved economic value to the residents of Vaaloewer and the residents of the informal housing settlement. As I am not been privy to the Economic Impact Assessment, I question whether the study has actually taken the negative economic aspects into consideration. <p>[MB] Point 9.1 of your report estimates a maximum of 48-50 full time employees. I cannot see how this can offer 'economic opportunities and jobs in the area' if the residents of</p>	<p>This statement is unacceptable and not valid. The community of Vaaloewer is situated on the opposite bank of the Vaal River with no direct access to the proposed mine. The informal housing settlement adjacent to Vaaloewer also has no direct access to the mine. I can therefore see no improved economic value to the residents of Vaaloewer and the residents of the informal housing settlement. As I am not been privy to the Economic Impact Assessment, I question whether the study has actually taken the negative economic aspects into consideration.</p> <p>Please find attached the Economic Impact Assessment undertaken in support of this application. In my previous mail to you I specified that the key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. These negative impacts are discussed in the report attached. Furthermore, a more detailed assessment will be undertaken during the Environmental Impact Assessment (EIA) Phase.</p> <p>Should the Mining Right be granted by the Department of Mineral Resources (DMR), the Applicant and contractors will source local labour. May you kindly elaborate how not having direct access to the mine will not result in improved economic value to the residents of Vaaloewer and the informal housing settlement?</p> <p>Point 9.1 of your report estimates a maximum of 48-50 full time employees; I cannot see how this can offer 'economic opportunities and jobs in the area' if the residents of Vaaloewer and the informal housing settlement have no direct access to the mine.</p> <p>It is our understanding that people who will have access to the mine will be the staff. May you kindly elaborate on why residents of Vaaloewer and residents of the informal housing settlement who do not constitute the labour force, would want to have access to the mine? Nonetheless, the mine can be accessed from Vaaloewer via Potchefstroom Road, onto the unnamed road (indicated on the map below), onto Boundary Road (locally known as Barrage Road), travelling west on the S171.</p>

I&AP	Method	Date	Issue	Response
			<p>Vaaloewer and the informal housing settlement have no direct access to the mine.</p> <p>[MB] Point 9.2 states that “Pure Source Mine will facilitate suitable employee accommodation that will allow employees to reside in a stable, healthy and secure environment within commuting distance from their place of work’. What details, if any, are available re this point?</p> <ul style="list-style-type: none"> <li>○ The project therefore has the potential to increase demand and associated values for housing and property. [MB] This comment is untrue. Property values have decreased and a major contribution to this is the imminent prospect of mining activities in close proximity to Vaaloewer albeit across the river. The village of Vaaloewer is not situated close to the Vanderbylpark, Sasolburg or Parys metropolis and the majority of residents owning property in Vaaloewer have chosen Vaaloewer to enjoy the quiet country living currently on offer. No one in their right mind is going to purchase property in Vaaloewer knowing that the current equilibrium will change because of mining activity. <li>○ The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values 	 <p>Point 9.2 states that “Pure Source Mine will facilitate suitable employee accommodation that will allow employees to reside in a stable, healthy and secure environment within commuting distance from their place of work’. What details, if any, are available re this point?</p> <p>No further details are available at this point. Details will be made available during the Environmental Impact Assessment (EIA) Phase of this project.</p> <p>This comment is untrue. Property values have decreased and a major contribution to this is the imminent prospect of mining activities in close proximity to Vaaloewer albeit across the river. The village of Vaaloewer is not situated close to the Vanderbylpark, Sasolburg or Parys metropolis and the majority of residents owning property in Vaaloewer have chosen Vaaloewer to enjoy the quiet country living currently on offer. No one in their right mind is going to purchase property in Vaaloewer knowing that the current equilibrium will change because of mining activity.</p> <p>This is the assessment of a qualified Economic specialist. May you kindly furnish us with proof indicating the decrease in property values?</p> <p>The visual landscape has already changed negatively with no effort being shown to rehabilitate. Rehabilitation needs to</p>

I&AP	Method	Date	Issue	Response
			<p>[MB] The visual landscape has already changed negatively.</p> <ul style="list-style-type: none"> ○ According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. [MB] The visual landscape has already changed negatively with no effort being shown to rehabilitate. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. [MB] how will this be policed and ensured? ○ According to the Noise Baseline Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. [MB] The current owner has previously pumped water from the river resulting in unacceptable noise. I reiterate that currently I have minimal noise levels 	<p>be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. How will this be policed and ensured?</p> <p>According to Goosebay Farm (Pty) Ltd, rehabilitation of the relevant previously mined areas, has:</p> <ul style="list-style-type: none"> ● Achieved an advanced stage, in that: <ul style="list-style-type: none"> - Bulk Earthworks and Fine Grading are virtually complete. - Planting and re-seeding of affected areas is underway. - The entire process is being monitored by an independent consultant, and conducted in accordance with his advice. - Been conducted in strict accordance with the directions of the DMR, in record time, pursuant to a visit to the Mine by DMR Officials (including the Regional Manager DMR Welkom - Mr A Mulaudzi), on the 12th of August 2018. <p>Should you require any further guidance with regards to this issue, please contact the DMR.</p> <p>Based on the Financial Provision Regulations, an Applicant or Holder of a permit or right must determine and make financial provision to guarantee the availability of sufficient funds for the rehabilitation and remediation of adverse environmental impacts to the satisfaction of the Minister responsible for Mineral Resources. As such, an amount will be set aside for rehabilitation and closure for this project. A permit or right can only be granted once the Applicant makes the legal financial deposit. Kindly note that this legal financial deposit will be retained by the Competent Authority as guarantee as opposed to being utilised for rehabilitation. Should the Applicant successfully rehabilitate the land and obtain a Closure Certificate over the Mining Right area, then the Applicant will reclaim the legal financial deposit made prior to granting of the right by the Competent Authority. However, should the Applicant not rehabilitate the Mining</p>

I&AP	Method	Date	Issue	Response
			<p>and the combined noise from excavating equipment, earthmoving equipment, crushing and screening plants, pump station, transport trucks, etc will increase noise levels exponentially.</p> <ul style="list-style-type: none"> ○ Mitigation measures were recommended to reduce noise impacts. [MB] how will this be policed and ensured? <p>[MB] Your application makes no reference to the working hours of the mine.</p> <p>[MB] Excavators, Loaders and Trucks will operate and idle continuously and the resultant pollution and smell of fuel fumes will have a negative impact on ambient air quality and in turn will affect me.</p> <p>[MB] The very nature of the mining proposed will incur dust, yet no mention is made in your application of how this will be controlled and minimised.</p> <ul style="list-style-type: none"> ○ My property is situated on the Vaal River and was purchased solely for the peace and tranquility that the area offered. This particular stretch of the river allows me to enjoy the quietness of country living and experience the abundant birdlife, fish and animal life of the habitat that is associated with the river. Water sport activity on the river is controlled and infrequent and I was fully aware that there would be water activity on the river when my property was purchased. Traffic noise 	<p>Right area, then the Applicant stands to forfeit this legal financial deposit.</p> <p>Kindly note that enforcement is the responsibility of the DMR.</p> <p>The visual landscape has already changed negatively. Your comment is noted.</p> <p>According to the Noise Baseline Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range.</p> <p>[MB] The current owner has previously pumped water from the river resulting in unacceptable noise. I reiterate that currently I have minimal noise levels and the combined noise from excavating equipment, earthmoving equipment, crushing and screening plants, pump station, transport trucks, etc will increase noise levels exponentially. Mitigation measures were recommended to reduce noise impacts. [MB] how will this be policed and ensured?</p> <p>Mitigation measures have been recommended to minimise noise impacts. Additional mitigation measures will be provided in the Environmental Management Programme during the EIA Phase of this project. Enforcement is the responsibility of the DMR.</p> <p>Your application makes no reference to the working hours of the mine.</p> <p>Section 8.2.2 of the draft Scoping Report refers:</p> <p>For mining activities, a 5.5 day work week with a 2 shift system. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the EIA phase.</p> <p>Excavators, Loaders and Trucks will operate and idle continuously and the resultant pollution and smell of fuel fumes will have a negative impact on ambient air quality and in turn will affect me. The very nature of the mining proposed will incur dust, yet no mention is made in your application of how this will be controlled and minimised.</p>

I&AP	Method	Date	Issue	Response
			<p>is less than minimal. At the time of purchasing my property, there was no sign of mining activity. The proposed mining activity will cause noise pollution through the presence of noise generating infrastructure and activities. Due to the non-urban configuration of the area, noise travels far distances and will not be contained in the area demarcated for mining.</p> <p>Kindly refer to point 10. [MB] Your response has flippantly ignored the human aspect of my objection. In addition, the owner of the land planned an eco-estate in 2008 and I find it incongruous that the land is now being mooted for mining as opposed to an eco-estate. My question is what factors were used to market an eco-estate which are now being disregarded in favour of mining?</p> <p>Mining is important for economic development, to construct durable, modern structures, employment creation and revenue collection. The proposed site has previous sand mining activities, known to provide good quality silica sand to the local building industry. This type of sand is commonly utilised for cement and concrete in the construction of roads and buildings. Sand is also used for mortar and rendering of plastered walls. [MB] The well-being of the human psyche is more important for economic development as it has far reaching effects on all aspects of economic development for the country</p>	<p>Ambient particulate and gaseous concentrations due to the proposed mining operations will be assessed in the Air Quality Impact Assessment, during the EIA Phase of this project in order to determine their impacts in human health.</p> <p>In order to minimise impacts due to dust, mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed. Additional mitigation measures will be recommended in the Environmental Management Programme during the EIA Phase of this project.</p> <p>Your response has flippantly ignored the human aspect of my objection. In addition, the owner of the land planned an eco-estate in 2008 and I find it incongruous that the land is now being mooted for mining as opposed to an eco estate. My question is what factors were used to market an eco estate which are now being disregarded in favour of mining? The process to obtain the necessary Environmental Authorisation was initiated more than a decade ago (thus confirming the landowner's intentions in this regard). The environmental authorities were approached in terms of the relevant legislation. The Record of Decision (RoD) confirming the Environmental Authorisation was accordingly issued in 2011. Mining is an interim land use.</p> <p>The well-being of the human psyche is more important for economic development as it has far reaching effects on all aspects of economic development for the country. Your view is noted.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

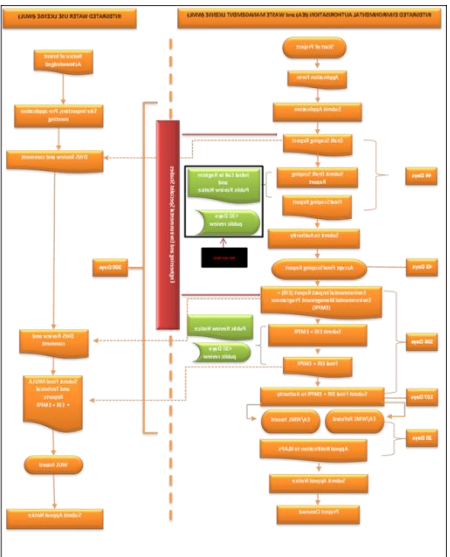
I&AP	Method	Date	Issue	Response
Diederik du Plessis	Telephone	07 September 2018	Requested to be registered as an I&AP.	<p>Dear Diederik,</p> <p>The attached document refers.</p> <p>Thank you for the telephone call and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>You made provide me with your objection as reasons thereof, in writing by responding to this mail. Kindly be informed that your concerns will be addressed in the Scoping Report. You will be informed of its availability in due course and you will be given an opportunity to review it and provide comment.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Clinton Thorpe	E-mail	13 September 2018	<p>Good day,</p> <p>I reside in VAALOEWER, please register me as an IAP.</p> <p>Thank you</p> <p>Kind regards,</p> <p>Clinton Thorpe</p>	<p>Dear Clinton,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Dianne and Geoff Stevens	E-mail	14 September 2018	<p>Good day,</p> <p>I live in Vaaloewer and will be directly impacted by any mining mentioned in the Mining Right Application by Pure Source Mine or any other mine which may take place on the Free State side of the river opposite Vaaloewer.</p>	<p>Dear Diane,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this</p>

I&AP	Method	Date	Issue	Response
			<p>Please register me as an I&AP.</p> <p>Regards</p> <p>Diane Stevens</p>	<p>project.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Dianne and Geoff Stevens	E-mail	26 November 2018	<p>Good Day,</p> <p>Please see attached email noting my questions that I raised at the meeting. Included this mail are photographs that have been taken from my house showing the extent of the dust storms.</p> <p>We had another severe wind which blew up on 19th November 2018 at 15:35 and I have attached these photos which we took from our patio. I feel the in all fairness these photos should be sent to the DMR and additional air quality monitoring should be done over a longer term before proceeding.</p> <p>I am still of the opinion that there should be another meeting with I&AP with feedback on the questions we raised.</p> <p>Yours faithfully</p> <p>Mrs ED Stevens</p> <hr/> <p>Hi Liz,</p> <p>As requested, my questions raised at the Pure Source Public Participation Meeting 10/11/2018.'</p> <p>1. <u>Time Frame for I & AP's to respond to the minutes of the meeting, and question raised as to whether the questions raised would be answered by the relevant expert consultants and amended in the scoping report.</u></p> <p>Shango Solutions said that the minutes of the meeting would be sent to the I&AP's and also to the DMR but only as addendum to the existing</p>	<p>Good day,</p> <p>Thank you for your mail.</p> <p>Please see our responses in red.</p> <p>1. <u>Time Frame for I & AP's to respond to the minutes of the meeting, and question raised as to whether the questions raised would be answered by the relevant expert consultants and amended in the scoping report.</u></p> <p>Shango Solutions said that the minutes of the meeting would be sent to the I & AP's and also to the DMR but only as addendum to the existing scoping report but that no changes would be made in the report.</p> <p>I feel this has negated the process of having a Public Participation Meeting if the questions raised by the affected public who attended the meeting are not thoroughly researched by the relevant consultant and a new scoping report is presented to the I & AP's.</p> <p>The I & AE's were informed by Shango that they had a deadline of 14th December 2018 to submit their report and could/would not deviate from this. A decision will be made by DMR on an issue that will affect people for the next 35 to 40 years and this should not be rushed. We feel Shango Solutions acting in the favour of the mine owner and to the detriment of the I & AP's.</p> <p>In the interests of fairness towards our community, I appealed for additional time for lay people and for our committee members to peruse the minutes and responses from Shango to the numerous questions raised and for a new Scoping Report to be drawn up with a new Public Participation Meeting</p>

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			<p>scoping report but that no changes would be made in the report.</p> <p>I feel this has negated the process of having a Public Participation Meeting if the questions raised by the affected public who attended the meeting are not thoroughly researched by the relevant consultant and a new scoping report is presented to the I&AP's.</p> <p>The I&AP's were informed by Shango that they had a deadline of 14th December 2018 to submit their report and could/would not deviate from this. A decision will be made by DMR on an issue that will affect people for the next 35 to 40 years and this should not be rushed. We feel Shango Solutions acting in the favour of the mine owner and to the detriment of the I & AP's.</p> <p>In the interests of fairness towards our community, I appealed for additional time for lay people and for our committee members to peruse the minutes and responses from Shango to the numerous questions raised and for a new Scoping Report to be drawn up with a new Public Participation Meeting</p> <p>2. <u>Silica /Dust Levels.</u></p> <p>I am asthmatic and want to know what precautions are the mine going to put in place to prevent silica dust from reaching my house which is on the ridge directly opposite the mine. We have very high gusts of wind in our area and have already seen the dust storms generated by the mine. See attached photos.</p> <p>There are other residents with asthma or breathing related problems living here permanently.</p> <p>When the proposed open pit is established the dust storms will be much worse as the area</p>	<p>Firstly, we would like to reiterate that Shango Solutions is an independent Environmental Assessment Practitioner (EAP). Shango Solutions does not have any monetary interest in this project or shares in the company applying for the Mining Right. Shango Solutions was appointed by the Applicant to undertake the environmental process in support of this Mining Right application. Payment for the services rendered to the Applicant is not subject to the approval of the project. Shango Solutions does not guarantee that licenses or permits/rights will be obtained from regulatory/governing bodies. The primary role of the EAP is to inform the decision-making process to be undertaken by the relevant environmental authorities. Ultimate responsibility for granting or rejecting the application rests with the relevant environmental authorities (and other government bodies where relevant).</p> <p>During the additional public consultation, Shango Solutions stated that notes for the record will be circulated to I&APs prior to submission to the DMR. It was also stated that questions raised by the attendees that were not addressed during the additional public consultation, would be included in the notes for the record to be circulated to I&APs. As such, the notes for the record that were circulated on the 22nd November 2018 reflect answers to the questions raised during the additional public consultation. In addition, it was stated that the attendees will be given 10 days to review the notes for the record and provide comment prior to the submission of the Final Scoping Report. The notes for the record will be added as an appendix to the Final Scoping Report that will be submitted to the DMR on the 14th December 2018, for their review and decision making. The Final Scoping Report will also be made available to the public for review and comment for a period of at least 30 days. The public will be encouraged to submit their comments directly to the DMR and to copy the EAP in the correspondence.</p> <p>The Final Scoping Report will reflect changes in the specialist reports as a result of the input that has been received from the public. These specialist reports will also be</p>

I&AP	Method	Date	Issue	Response
			<p>exposed will be much bigger.</p> <p>How many kilometres can Silica travel on wind? I am already seeing sand and I presume silica dust collecting on my patio after a dust storm.</p> <p>3. <u>Noise pollution from mechanised equipment and vehicles.</u></p> <p>Baseline noise measure provided by manufacturers are dependent on wind and distance from effected residences. Vaaloewer is a residential area but taking the aforementioned factors into account regarding wind and distance the air pollution and noise pollution would be greatly increased. Kingfisher Bend is situated directly opposite the proposed pump station.</p> <p>Mechanised wash plant noise levels?</p> <p>Mechanised rotary pan for alluvial diamond mining noise levels?</p> <p>Mechanised pump stations?</p> <p>Mechanised drying and screening plants?</p> <p>Mechanised conveyor systems?</p> <p>Trucks, Excavators and wheel loaders</p> <p>4. <u>Air Quality.</u></p> <p>Question was put to panel asking how many monitors had been put up in the study. The answer was one (1) as electricity was a requirement for the equipment. The monitor was situated at the Goosebay Canyon Eco and River Estate Camp and Chalet site, on the farm Woodlands 407, which is in an area with trees and vegetation, no monitors had been situated in Vaaloewer at all. There is no data in the scoping report measuring the air quality over a period of time to establish a more accurate picture of the impact on air quality. I raised the issue that one</p>	<p>attached as an addendum to the Final Scoping Report. It is important to note that the Scoping Report is mainly a desktop study aimed at providing baseline information of the receiving environment. The baseline information provides a point of reference for assessing impacts in the future. The Scoping Phase specialist reports will include the limitations of the study and outline the plan of study for the Environmental Impact Assessment (EIA) phase, in order to address the identified limitations. Subject to the acceptance of the Scoping Report by the DMR, detailed specialist studies will be undertaken during the EIA phase of the project.</p> <p>Kindly note that the DMR will not make a decision to grant to reject the application for the Mining Right based on the Scoping Report. The decision to grant or reject the application for the Mining Right will be based on the review of the EIA studies, which constitute the next phase of the project. For ease of reference, kindly see below the environmental process that is being followed for this application:</p> <ul style="list-style-type: none"> According to Section 22 (1) of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA), any person who wishes to apply for a Mining Right must simultaneously apply for an Environmental Authorisation. An application for Environmental Authorisation is lodged according to the requirements stipulated in the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA). Mining is a Listing 2 activity, and as such triggers an application for Environmental Authorisation. Listing 2 activities are subject to full scoping and environmental impact reporting. The EAP is required to prepare a scoping report in accordance with Regulation 21 of the Environmental Impact Assessment (EIA) 2014 Regulations. The Scoping Report must include, but is not limited to, the following:

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			<p>(1) monitor) and where it was situated was not a true indication of the Air Quality over 30 years as eventually the mine would have no vegetation and my house and all the other effected parties properties are subject to winds from the mine.</p> <p>5. <u>Ground water run off/ Floods.</u></p> <p>Maps indicate 7 areas where water runs towards the Vaal river. We have thunderstorms where excessive rain falls over a short period and will the proposed dams and run off channels prevent silica and sand from washing into the Vaal river and destroying the aquatic life or silting up the river?</p> <p>6. <u>How close to the existing river bank will mining be permitted?</u></p> <p>These periods of high rainfall often result in flooding. The mine intends to mine 100 meters from the 100 year high flood line level. The Vaal River between Vaaloewer and Pure Source Mine runs in a natural canyon bordered at times by ridges on each side and therefore the 100 year flood line will be reflected in height rather than in distance and in effect the Pure Source will be mining 100 meters from the river bank and all of the above objections to Air Quality and Noise Pollution will be increased. The potential for soil erosion and pollution of the river greatly increased.</p> <p>7. <u>Rehabilitation Stages.</u></p> <p>The maps provided in the scoping report show the proposed stages of mining and rehabilitation (Slide 2.2 on Page 12) They show the intention to mine for Sand/Silica and Aggregate between year 1-2 and at the same time the construction of the necessary building will be taking place. Rehabilitation will only start taking place of year</p>	<ul style="list-style-type: none"> - Baseline information on the receiving environment. - Identification of environmental sensitivities. - Assessment of impacts associated with project activities. - Recommendation of mitigation measures. - Details of the public participation process. - A plan of study for an EIA. • The Competent Authority must within 43 days of receiving the Final Scoping Report, accept or reject the report, and instruct the EAP to proceed with the EIA phase. The Applicant must within a 106 days of the acceptance of the Scoping Report submit to the Competent Authority an Environmental Impact Report (EIR) inclusive of specialist studies and an EMPR, which must have been subjected to a public participation process of at least 30 days. The EIA phase considers: (1) the compilation of an EIR and (2) the development of an Environmental Management Programme (EMPR,) in accordance with Regulation 23 of the NEMA 2014 EIA Regulations. In addition to the information in the Scoping Report, the EIA must also set out the methodology used in assessing the impact, detailed reporting on the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected, an assessment of each identified potential significant impact amongst other information. • Upon submission of the Final EIR and EMPR, the Competent Authority must within 107 days of receipt of the EIR and EMPR, in writing – (i) grant Environmental Authorisation in respect of all or part of the activity applied for; or (ii) refuse Environmental Authorisation.

I&AP	Method	Date	Issue	Response
			<p>1-2 from year 3-5.</p> <p>No mention is made of when the existing open area which is already creating massive sand storm will be rehabilitated.</p> <p>We were told that there are four stages to the rehabilitation process (Page 39) and that once the topsoil had been put back it could take up to 3 years for the grasses to reseed themselves and cover the open soil. Therefore, as I understand it from the initial year 1 when mining starts to the final rehabilitation of one mined strip it would take 5 years or more to possibly restore the environment to a level where the river regenerates and the flora and fauna are thriving again. The mine has a 30 year lifespan and we could then argue that the environment may be restored by 30 years working life plus 5 years for the final rehabilitation process, or by the year 2053.</p> <p>Will Monte Christo Commercial Park/Pure Source still be here or have sufficient funds in a Trust account to complete the rehabilitation in 2053.</p> <p>Kind regards Diane Stevens</p>	<p>Should the application for an Environmental Authorisation be granted and an appellant wish to appeal the decision, the appellant must submit the appeal (the Appeal Questionnaire and Appeal and Response Form) to the appeal administrator. The Applicant must notify known interested and affected parties through the EAP, of the outcome of the application as well as their right to appeal the decision, within twenty (20) days from:</p> <ul style="list-style-type: none"> - The date that the decision for an application for an Environmental Authorisation was sent to the registered interested and affected parties or - The date that the decision was sent to the Applicant <p>Figure 1 reflects the anticipated scope and time related to carrying out a full Scoping and EIA process in accordance with the NEMA 2014 EIA Regulations (as amended).</p> 

I&AP	Method	Date	Issue	Response
				<p>Granting of the Mining Right is subject to granting of the Environmental Authorisation. If the application for an Environmental Authorisation is rejected, the application for the Mining Right will be rejected simultaneously.</p> <p>2. <u>Silica /Dust Levels.</u></p> <p>I am asthmatic and want to know what precautions are the mine going to put in place to prevent silica dust from reaching my house which is on the ridge directly opposite the mine. We have very high gusts of wind in our area and have already seen the dust storms generated by the mine. See attached photos.</p> <p>There are other residents with asthma or breathing related problems living here permanently.</p> <p>When the proposed open pit is established the dust storms will be much worse as the area exposed will be much bigger.</p> <p>How many kilometres can Silica travel on wind? I am already seeing sand and I presume silica dust collecting on my patio after a dust storm.</p> <p>During the air quality impact assessment, dust fallout, inhalable particulate concentrations as well as inhalable silica concentrations will be quantified and dispersion modelling simulations undertaken to estimate ambient pollutant concentrations and dust fallout. Ambient pollutant concentrations will depend on the area being mined, the wind direction and the level of activity.</p> <p>3. <u>Noise pollution from mechanised equipment and vehicles.</u></p> <p>Baseline noise measure provided by manufacturers are dependent on wind and distance from effected residences. Vaalower is a residential area but taking the aforementioned factors into account regarding wind and distance the air pollution and noise pollution would be greatly increased. Kingfisher Bend is situated directly opposite the proposed pump station.</p>

I&AP	Method	Date	Issue	Response
				<p>Mechanised wash plant noise levels?</p> <p>Mechanised rotary pan for alluvial diamond mining noise levels?</p> <p>Mechanised pump stations?</p> <p>Mechanised drying and screening plants?</p> <p>Mechanised conveyor systems?</p> <p>Trucks, Excavators and wheel loaders</p> <p>All of these sources will be quantified and included in the noise source inventory and noise propagation simulations during the noise impact assessment phase of the study.</p> <p>4. <u>Air Quality.</u></p> <p>Question was put to panel asking how many monitors had been put up in the study. The answer was one (1) as electricity was a requirement for the equipment. The monitor was situated at the Goosebay Canyon Eco and River Estate Camp and Chalet site, on the farm Woodlands 407, which is in an area with trees and vegetation, no monitors had been situated in Vaaloewer at all. There is no data in the scoping report measuring the air quality over a period of time to establish a more accurate picture of the impact on air quality. I raised the issue that one (1) monitor) and where it was situated was not a true indication of the Air Quality over 30 years as eventually the mine would have no vegetation and my house and all the other effected parties properties are subject to winds from the mine.</p> <p>The one monitor was deployed to get a rough indication of baseline air quality in the study area compared to sampling results at the closest permanent monitoring stations (in Vanderbijlpark, Sebokeng, Orange Farm and Zamdela). Recommendations for the siting of permanent monitoring locations will be made based on the results of the air quality impact assessment and dispersion modelling simulations. These recommendations will then feed into EMP for the mine.</p>

I&AP	Method	Date	Issue	Response
				<p>5. <u>Ground water run off/ Floods</u></p> <p>Maps indicate 7 areas where water runs towards the Vaal river. We have thunderstorms where excessive rain falls over a short period and will the proposed dams and run off channels prevent silica and sand from washing into the Vaal river and destroying the aquatic life or silting up the river?</p> <p>The design of the surface water management infrastructure will be such that large flood events (1:100 year events) are catered for. All dirty water is planned to be captured and managed such that no contaminated runoff enters into the Vaal River.</p> <p>6. <u>How close to the existing river bank will mining be permitted?</u></p> <p>These periods of high rainfall often result in flooding. The mine intends to mine 100 meters from the 100 year high flood line level. The Vaal River between Vaaloewer and Pure Source Mine runs in a natural canyon bordered at times by ridges on each side and therefore the 100 year flood line will be reflected in height rather than in distance and in effect the Pure Source will be mining 100 meters from the river bank and all of the above objections to Air Quality and Noise Pollution will be increased. The potential for soil erosion and pollution of the river greatly increased.</p> <p>The proposed mining activities will be 100m from the 100 year floodline as the statement reflects. The results of the exact distance away from the river-edge have not yet been calculated, this will be completed in the final report.</p> <p>7. <u>Rehabilitation Stages</u></p> <p>The maps provided in the scoping report show the proposed stages of mining and rehabilitation (Slide 2.2 on Page 12) They show the intention to mine for Sand/Silica and Aggregate between year 1-2 and at the same time the construction of the necessary building will be taking place. Rehabilitation will only start taking place of year 1-2 from year 3-5.</p>

I&AP	Method	Date	Issue	Response
				<p>No mention is made of when the existing open area which is already creating massive sand storm will be rehabilitated.</p> <p>According to Goosebay Farm (Pty) Ltd, rehabilitation of the relevant previously mined areas, has:</p> <ul style="list-style-type: none"> • Achieved an advanced stage, in that: <ul style="list-style-type: none"> - Bulk Earthworks and Fine Grading are virtually complete. - Planting and re-seeding of affected areas is underway. - The entire process is being monitored by an independent consultant, and conducted in accordance with his advice. - Been conducted in strict accordance with the directions of the DMR, in record time, pursuant to a visit to the Mine by DMR Officials (including the Regional Manager DMR Welkom - Mr A Mulaudzi), on the 12th of August 2018. <p>Should you require any further guidance with regards to this issue, please contact the DMR.</p> <p>We were told that there are four stages to the rehabilitation process (Page 39) and that once the topsoil had been put back it could take up to 3 years for the grasses to reseed themselves and cover the open soil. Therefore, as I understand it from the initial year 1 when mining starts to the final rehabilitation of one mined strip it would take 5 years or more to possibly restore the environment to a level where the river regenerates and the flora and fauna are thriving again. The mine has a 30 year lifespan and we could then argue that the environment may be restored by 30 years working life plus 5 years for the final rehabilitation process, or by the year 2053. Will Monte Christo Commercial Park/Pure Source still be here or have sufficient funds in a Trust account to complete the rehabilitation in 2053.</p> <p>According to the Financial Provision Regulations, an Applicant or Holder of a permit or right must determine and</p>

I&AP	Method	Date	Issue	Response
				<p>make financial provision to guarantee the availability of sufficient funds for the rehabilitation and remediation of adverse environmental impacts to the satisfaction of the Minister responsible for Mineral Resources. As such, an amount will be set aside for rehabilitation and closure for this project. A permit or right can only be granted once the Applicant makes the legal financial deposit. Kindly note that this legal financial deposit will be retained by the Competent Authority as guarantee as opposed to being utilised for rehabilitation. Should the Applicant successfully rehabilitate the land and obtain a Closure Certificate over the Mining Right area, then the Applicant will reclaim the legal financial deposit made prior to granting of the right by the Competent Authority. However, should the Applicant not rehabilitate the Mining Right area, then the Applicant stands to forfeit this legal financial deposit.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Anne Wilson	E-mail	20 September 2018	<p>Dear Zizo</p> <p>The letter below refers, and was brought to my attention by the chairman of our VRA for Vaaloefer. As an interested and affected party, and having handed in my registration of such to SLR consulting in the past (see attached), I would like to know why I have not been informed.</p> <p>Please send me the relevant paperwork asap, so that I can reapply.</p> <p>Kind Regards, Anne Wilson</p>	<p>Dear Anne,</p> <p>Thank you for your mail.</p> <p>Please be advised that you will be sent the relevant paperwork when we send out notification to all Interested and Affected Parties on Friday the 5th of October 2018.</p> <p>May you have a lovely day further.</p>
Debbie Potgieter	E-mail	06 September 2018	<p>Good day,</p> <p>With reference to the FS 30/5/1/2/5/2/10048 MR mining application I want to put it on record that I have not been informed. As an owner and</p>	<p>Dear Debbie,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using</p>

I&AP	Method	Date	Issue	Response
			<p>resident of one of the Vaaloewer properties (Riviersig) I insist to be registered as an Interested and Affected Party.</p>	<p>the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Nolan Vernon	E-mail	06 September 2018	<p>Att: Shango</p> <p>I am surprised I did not receive the enclosed notice.</p> <p>Please register me as an IAP. I own property in the affected area.</p> <p>Kind regards,</p> <p>Nolan Vernon</p>	<p>Dear Vernon,</p> <p>Thank you for your mail and for showing interest on this project.</p> <p>As requested, you have been registered as an I&AP using the contact information you have provided. As a registered I&AP, you will receive all future notification pertaining to this project.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Paul Kgole	E-mail	06 October 2018	<p>Dear Mmakoena</p> <p>Thank you for the notice much appreciated Mme.</p> <p>It is common cause that mining has caused chaos and destruction to communities and society at large including killing indigenous people in this country and indeed many countries especially in Africa.</p> <p>It is common cause that notwithstanding the ridiculously massive profits, mining has raped all financial benefits which have and continue to be repatriated to other continents whilst Africa remains poor, riddled with diseases etc caused by the same mining companies.</p> <p>It is common cause that people like you and your company have in the past been used as fronts and decimators of African lives who strategically impoverished communities and society.</p>	<p>Good day Paul,</p> <p>Thank you for your mail.</p> <p>Your comments are well noted.</p> <p>As requested, please find attached mine and Zizo Siwendu's Curricula Vitae indicating our qualifications and experience.</p> <p>It is our job as environmental consultants to provide expert independent assessments and advisory services for our clients.</p> <p>Shango Solutions have been appointed by the Applicant (Monte Cristo Commercial Park (Pty) Ltd) as the independent Environmental Assessment Practitioner (EAP) to undertake an environmental process (Scoping and Environmental Impact Assessment) in support of the Mining Right application, as per the requirements in the National Environmental Management Act, 1998 (NEMA, Act 107 of 1998) (as amended) and its associated Environmental Impact Assessment (EIA) Regulations (as amended) and the Mining and Petroleum Resources Development Act</p>

I&AP	Method	Date	Issue	Response
			<p>There are many examples all over the country and indeed the continent where such malice took place in the past and continue unabated even today.</p> <p>I would therefore want an unqualified commitment that you and your company will not be complicit in future socio economic problems that will eventuate resulting from this proposed mine that you are so passion to get going.</p> <p>Please let me know your qualifications and professional registration with the relevant Statutory Councils and professional bodies which has Code of Conduct.</p> <p>I need to be comfortable that you and your company are real professionals who has due regard for promotion, development and protection of public interest by continuously exercising DUTY OF CARE.</p> <p>I thank you Mme 215ae k.</p> <p>Ke nna PAUL KGOLE PrQS</p>	<p>(MPRDA). As an independent EAP, Shango Solutions is obliged to perform the work relating to this application in an objective manner. It is our duty to adhere to the requirements of the applicable legislation and to compile an Environmental Management Programme Report (EMPR) that will ensure that any potential impacts that may arise as a result of this project are identified and mitigated.</p> <p>Should the Mining Right be granted by the Department of Mineral Resources (DMR), you as an Interested and Affected Party (I&AP) have the right to appeal the DMR's decision. In addition, should the Applicant not comply with the conditions specified in the Mining Right and EMPR, you as an Interested and Affected Party have the right to report any non-compliances to the DMR as the regulatory authority.</p> <p>Kindly note that it is the Applicant's responsibility to ensure the promotion, development and protection of public interest by continuously exercising DUTY OF CARE for their operations.</p> <p>Should you have any further questions or comments in this regard, please do not hesitate to contact me.</p>
Paul Kgole	E-mail	15 October 2018	<p>Dear Mmakoena</p> <p>Thank you for yours and Sizo CV's.</p> <p>You have not included your professional membership and registration with the relevant professional bodies and statutory councils.</p> <p>Please note this information is critical as it provide guarantee and public comfort that you are bound by professional Code of Conduct and Duty of Care.</p> <p>In as much as contractors are registered with CIDB and NHBRC in this country professionals must also be registered with the relevant bodies</p>	<p>Dear Paul,</p> <p>Thank you for your mail.</p> <p>Kindly note that according to Regulation 13 (1) of the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) Environmental Impact Assessment (EIA) (2014) Regulations, the general requirements of an Environmental Assessment Practitioner (EAP) are as follows:</p> <p>14. (1) An EAP and a specialist, appointed in terms of Regulation 12(1) or 12(2), must—</p> <p>a. be independent;</p>

I&AP	Method	Date	Issue	Response
			<p>and councils.</p> <p>Kind regards</p> <p>PAUL KGOLE PrQS</p>	<ul style="list-style-type: none"> b. have expertise in conducting environmental impact assessments or undertaking specialist work as required, including knowledge of the Act, these Regulations and any guidelines that have relevance to the proposed activity; c. ensure compliance with these Regulations; d. perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the application; e. take into account, to the extent possible, the matters referred to in Regulation 18 when preparing the application and any report, plan or document relating to the application; and f. disclose to the proponent or applicant, registered interested and affected parties and the competent authority all material information in the possession of the EAP and, where applicable, the specialist, that reasonably has or may have the potential of influencing— g. any decision to be taken with respect to the application by the competent authority in terms of these Regulations; or h. the objectivity of any report, plan or document to be prepared by the EAP or specialist, in terms of these Regulations for submission to the competent authority; unless access to that information is protected by law, in which case it must be indicated that such protected information exists and is only

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				<p>provided to the competent authority.</p> <p>Should the EAP fail to comply with the above mentioned requirements, then the Competent Authority may disqualify the EAP according to Regulation 14 of the NEMA EIA (2014) Regulations.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Paul Kgole	E-mail	05 November 2018	<p>Dear Chris</p> <p>Thank you for clarification, much appreciated.</p>	<p>This mail was directed to Chris Campbell and Shango Solutions took note of this mail.</p>
Wayne van Heerden	E-mail	06 October 2018	<p>Good evening Mmakoena,</p> <p>Could you refer me when the time is right for job openings on the mine. I am a resident of Vaaloeuw and would like to apply.</p> <p>Thank you.</p> <p>Wayne van Heerden</p>	<p>Dear Wayne,</p> <p>Thank you for your correspondence and for showing interest in the proposed project.</p> <p>According to legislation, the Environment Impact Assessment process takes approximately 300 days to complete.</p> <p>Should the Mining Right and Integrated Environmental Authorisation applications be granted by the Department of Mineral Resources, Shango Solutions will not be involved in the appointment process for this project. However, you may forward your CV to the Applicant (Monte Cristo Commercial Park (Pty) Ltd) for their consideration once you have been notified of the outcome of this application.</p> <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Johan Smit	E-mail	06 October 2018	<p>Good day, Mmakoena,</p> <p>I have been forwarded the I& AP notification for Goosebay on the Vaal.</p> <p>I am a hydrogeologist from Parys and would like to quote for the groundwater specialist study should it be required for the IWULA.</p>	<p>Good day Johan,</p> <p>Thank you for your correspondence and for showing interest in the proposed project.</p> <p>Kindly be advised that a groundwater specialist has already been appointed for this project. However, we will keep you in mind should other opportunities arise in future.</p>

I&AP	Method	Date	Issue	Response
			Kind regards, Johan Smit (Pr.Sci.Nat)	
Johan Smit	E-mail	09 October 2018	Thanks for the reply, Mmakoena Yes I would love to quote on any groundwater impact assessment. Looking forward to hearing from you. Kind regards, Johan Smit (Pr.Sci.Nat)	This correspondence is acknowledged.
LT Matshadi	Telephone	09 October 2018	Would like to know about employment opportunities at Pure Source Mine. He will send his e-mail address on the 10 th October 2018 in order for the information documents to be sent to him.	Acknowledged.
Graham Rogers	E-mail	09 October 2018	Kindly register me as an I&AP. Regards Graham Rogers Mr Rogers completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> Part of the organization Sweet Sensations Vaal Sand (Pty) Ltd and interested in the process. 	Dear Graham, Thank you for showing interest in the proposed Pure Source Mine project. As requested, you have been registered as an Interested and Affected Party and will be kept up to date on any developments regarding this project. If you have any further questions in this regard, please do not hesitate to contact me.
Bob Hartsief	E-mail	12 October 2018 (11:19AM)	Zizo Considering your responses — are you saying that COMPLIANCE is the responsibility of the DMR>? Thanks BobH	Dear Bob, Thank you for your mail. Compliance is the responsibility of the Applicant and License Holder. Enforcement of compliance is the responsibility of the DMR.

I&AP	Method	Date	Issue	Response
Bob Hartsief	E-mail	12 October 2018 (2:15PM)	<p>So Zizo—if we can show (which we can) that the DMR are INCAPABLE —(they simply don't have the resources) –of enforcing COMPLIANCE</p> <p>—could SHANGO---as the neutral party to all this— expand of your position on this aspect?</p> <p>Further —how can SHANGO begin to process a mining license application —knowing full well that the land is presently zoned for Agricultural and that the NGWATE Development plan SPECIFICALLY “bans” mining in this DESIGNATED Tourist area and the Mac Sands</p> <p>Constitutional Court ruling on this issue? Would SHANGO not be complicit in aiding the applicant in breaking the law?</p> <p>Regards</p> <p>BobH</p>	<p>Dear Bob,</p> <p>Thank you for your mail.</p> <p>We are independent environmental consultants.</p> <p>The client is in the process of applying for a Mining Right. At this stage, it is not known if the application will be successful. If the application is successful and the Mining Right is granted, the client will initiate the process of changing the zonation (which he has a right to), prior to commencing with mining under the Mining Right.</p>
Bob Hartsief	E-mail	14 October 2018	<p>Zizo</p> <p>Hi</p> <p>We intend reminding you of your (Shango's) position as INDEPENDENT consultants on a regular basis></p> <p>We are independent environmental consultants.</p> <p>Please just remember our Constitutional Rights with regards to the ENVIRONMENT.</p> <p>We all have longstanding legitimate concerns — that are well documented —these concerns that are simply either ignored or the DMR are incapable of addressing and/or rectifying them —despite numerous meetings with them about their undertakings to address the transgressions.</p> <p>All we ask is that as INDEPENDENT consultants</p>	<p>Dear Bob,</p> <p>Your mail is acknowledged, thank you.</p>

I&AP	Method	Date	Issue	Response
			<p>you appraise yourselves of the history of the mines in the area and their lack of adherence to their mining plans and the lack of ability- of the DMR to address existing issues— and that you report as such.</p> <p>We would suggest it would be both pointless and a reckless of SHANGO and a dereliction of that independent role you have</p> <p>if you hand MORE responsibility to an entity that has demonstrated that they cannot manage the responsibilities they already have in the area. We expect this from Shango.</p> <p>Thank you</p> <p>BobH</p>	
Bob Hartsliel	E-mail	19 October 2018	<p>Morning Zizo</p> <p>On a point of clarity please:</p> <p>Are SHANGO saying the meeting scheduled for November 10th IS ONLY —for members of the Vaaloewer Rate Payers Association?</p> <p>I ask this —because by way of an example—my 20 odd staff —(and I dare say all other workers in the impacted area) –</p> <p>all of whom are certainly interested and affected persons, as they ALL stand to lose their jobs — will not be able to attend your meeting on the 24th without taking a day's leave?</p> <p>Please clarify</p> <p>Thanks</p> <p>BobH</p>	<p>Dear Bob,</p> <p>Thank you for your mail.</p> <p>The public consultation scheduled for the 10th November 2018 is not ONLY for members of the Vaaloewer Rate Payers Association. Notification regarding this additional public consultation was sent out to ALL stakeholders on the project database. In addition, any member of the public who wishes to attend this event is welcome.</p> <p>May you kindly provide us with contact details of your staff members so we may add them onto the project database and send them direct notification regarding this project?</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Bob Hartsliel	E-mail	24 October 2018	Morning Zizo	This was noted by Shango Solutions and Mr Hartsliel received clarification on the matter.

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			<p>Please provide clarification on my query below.</p> <p>Thanks</p> <p>BobH</p>	
Bob Hartsliel	E-mail	26 October 2018	This is URGENT!	This was noted by Shango Solutions and Mr Hartsliel received clarification on the matter.
Bob Hartsliel	E-mail	02 November 2018 (09:22AM)	<p>Super news</p> <p>Thanks Mmakoena</p> <p>Can you SMS or WhatsApp them as they are not on email?</p>	See response below.
Bob Hartsliel	E-mail	02 November 2018 (09:48AM)	<p>Mmakoena</p> <p>My Housekeeping manager is Dimakatso Mokoena —I HAVE JUST told her of your offer to send her and all my other staff notifications, which she likes.</p> <p>Just an FYI</p> <p>Dimakatso tells me she has family working at premises on the Gauteng side of the Vaal River - -directly opposite your client's property-- and their employers say they have NOT been advised of the public meeting by SHANGO. The employees certainly have NOT been advised.</p> <p>It may be an idea for SHANGO to include all affected employees as I&APs as its their jobs that are in jeopardy?? !</p> <p>Regards</p> <p>BobH</p>	<p>Dear Bob,</p> <p>Attached herewith is the registration form that was sent to you. The registration form asked if you were aware of any other interested parties who need to be notified and to kindly provide detail and possible contact details. You did not provide this information.</p> <p>In this regard, kindly complete the registration form and include your housekeeping manager's contact information (name, surname, telephone, cellphone, postal address and/or e-mail) and contact information of the 20 odd people you mentioned in your correspondence, so that we may send them notification.</p> <p>We will send them SMSes if they do not have e-mail addresses.</p> <p>Thank you and we look forward to your feedback.</p>
Bob Hartsliel	E-mail	02 November 2018 (10:33AM)	<p>Great Mmakoena</p> <p>I am sure other people copied on this email can</p>	<p>Dear Bob,</p> <p>Thank you for your mail.</p>

I&AP	Method	Date	Issue	Response
			<p>do the same thing.</p> <p>I note (and have shown my staff) the covering letter which they can read as you set it out in Sotho. This is good. Thanks.</p> <p>As to pages 22 and 23 —can I simply attach all their names on one sheet?</p> <p>Thanks</p> <p>BobH</p>	<p>Yes, you may attach all their names on one sheet.</p>
<p>Bob Hartslief</p>	<p>E-mail</p>	<p>13 December 2018 (6:57AM)</p>	<p>Dear Shango</p> <p>In light of all that has been set out previously and your responses thereto please advise us ALL by close of business today as to what your intentions are with regard to the minutes and also specifically what your timelines are going forward.</p> <p>From what I have read, you have not responded to the any requests to extend the timelines you have set-neither have you addressed many of the issues raised by IAPS- Renee’s message below being a case in point other than to “NOTE” them.</p> <p>Please note that I have copied Mr. Garyn Rapson Partner of the legal firm Webber Wentzel in on this email.</p> <p>Reason for copying Mr. Rapson, is that we take these issues extremely seriously, as mining will affect all our lives adversely.</p> <p>If necessary we may have too seek the URGENT assistance of the Courts with regard to ALL our concerns regarding the manner in which we are being treated by SHANGO and what we see as your “steamroller/bullying” approach towards the legitimate concerns and issues raised by ourselves and seemingly</p>	<p>Dear Bob,</p> <p>I trust you are well?</p> <p>Please see our responses in red.</p> <p>In light of all that has been set out previously and your responses thereto please advise us ALL by close of business today as to what your intentions are with regard to the minutes and also specifically what your timelines are going forward.</p> <p>The Notes for the Record for the additional public consultation were distributed to I&APs, for their perusal and comment, on the 22nd of November 2018. Revision 2 of the notes for the record were distributed on the 30th November 2018. Comments provided by I&APs during the two review periods have been incorporated in Version 3 Notes of the Record, which will form an appendix to the Final Scoping Report. The Notes for the Record for the Scoping Phase Open Day will be made available to I&APs on the 14th December 2018, as part of the Final Scoping Report, for review and comment by I&APs, as well as for consideration by the Department of Mineral Resources, the Competent Authority.</p> <p>As per notification sent out to I&APs yesterday (12 December 2018), the Final Scoping Report, inclusive of (i) Version 3 of the Notes for the Record of the Additional Public Consultation (which took place on 10th November 2018) and (ii) Notes for the Record of the Open Day (which took place</p>

I&AP	Method	Date	Issue	Response
			<p>ignored by Shango!</p> <p>We had hoped to be able to "work with you" in a calm and professional manner with regards to the issues raised by ALL IAPS.</p>	<p>on the 24th October 2018), will be available for review and comment by I&APs, from the 14th December 2018 to the 7th February 2019. Furthermore, as indicated in the notification, all comments pertaining to the Final Scoping Report (including appendices) must be sent directly to the DMR and Shango must be copied in all correspondence.</p> <p>Following submission of the Final Scoping Report to the Competent Authority, the Competent Authority must, within 43 days of receipt of the Scoping Report make a decision regarding the Scoping Report by either (i) accepting the Scoping Report, with or without conditions or (ii) rejecting the Scoping Report. I&APs will be notified of the DMR's decision regarding the Scoping Phase in due course.</p> <p>From what I have read, you have not responded to the any requests to extend the timelines you have set-neither have you addressed many of the issues raised by IAPS- Renee's message below being a case in point other than to "NOTE" them.</p> <p>We acknowledge that we do not have all the answers to issues raised by I&APs due to the limited scope of the Scoping Phase (which mainly constitutes desktop studies). We have stated in our responses to I&APs that more detailed responses will be provided during the Environmental Impact Assessment (EIA) Phase of the project, following detailed assessments by the relevant specialists.</p> <p>Kindly note that timeframes are prescribed in the NEMA Regulations. As per the Regulations (GNR 326, 3(7)), the Applicant requested an extension from the DMR to submit the Final Scoping Report on the 14th December 2018.</p> <p>Please note that I have copied Mr. Garyn Rapson Partner of the legal firm Webber Wentzel in on this email.</p> <p>Reason for copying Mr. Rapson, is that we take these issues extremely seriously, as mining will affect all our lives adversely.</p> <p>If necessary we may have too seek the URGENT assistance of the Courts with regard to ALL our concerns regarding the</p>

I&AP	Method	Date	Issue	Response
				manner in which we are being treated by SHANGO and what we see as your “steamroller/bullying” approach towards the legitimate concerns and issues raised by ourselves and seemingly ignored by Shango! We had hoped to be able to “work with you” in a calm and professional manner with regards to the issues raised by ALL IAPS. Your comment in this regard is acknowledged.
Bob Hartsief	E-mail	13 December 2018 (1:42PM)	Thank you for your prompt response Mmakoena. In essence--what you are saying--- is that SHANGO have NO INTEREST in addressing our concerns and/or requests and are proceeding regardlessly? Am i correct in that assessment of your response?	Dear Bob, Please refer to our responses below.
Bob Hartsief	E-mail	13 December 2018 (3:15PM)	What are you saying Mmakoena? we asked SHANGO a simple unambiguous question : SHANGO have NO INTEREST in addressing our concerns and/or requests and are proceeding regardlessly? IS THIS CORRECT? This a simple YES or NO answer with significant implications either way. What you have set out below is as confusing as it is meaningless given our reponses. Our only interest HERE is SHANGOS's position	This was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
			towards US —not the APPLICANT or the DMR.	
Carl Scholtz	E-mail	16 October 2018	<p>Mr Scholtz completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> I object to any mining activity that is planned in an area of high-ecotourism and located in close proximity to a UNESCO World Heritage Site and a National Water resource, namely the Vaal River. Communities that exist within the application area: Vaal Oewer, Lidequesdrift, Parys. Other I&APs who need to be notified: Vaal Oewer Rate Payers Association. Description of receiving environment: That's your job. In principle it's residential, farming and high ecotourism establishments along the banks of the Vaal River. Concerns: Notwithstanding the above mentioned objection, I also have serious concerns on how the consultant and through specialist studies will assess and evaluate the potential direct, indirect, cumulative impacts and opportunity costs of this application on the natural environment, tourism and ecotourism in the area and that how will the EMP guarantee the elimination and or minimising of these impacts. <p>Furthermore, the previous EAP appointed by the proponent could not reasonably defend nor motivate the response to the above objection and</p>	<p>Dear Carl,</p> <p>Thank you for your mail.</p> <p>Please see our responses in red.</p> <p>I object to any mining activity that is planned in an area of high-ecotourism and located in close proximity to a UNESCO World Heritage Site and a National Water resource, namely the Vaal River.</p> <p>Your objection to the above mentioned project is noted. Based on the specialist studies undertaken in support of this application, the proposed application area does not overlap with, nor will it impact upon any formally protected area. We are required by the relevant legislation to maintain a 5 km buffer from protected areas. The edge of the crater of the Vredefort Dome, a UNESCO World Heritage Site, is ~8 km to the south-west of the site. As such, it will not be negatively affected by this application. In addition, a 100 m buffer, as per legislation, has been delineated from watercourses within the application area, including the Vaal River.</p> <p>Notwithstanding the above mentioned objection, I also have serious concerns on how the consultant and through specialist studies will assess and evaluate the potential direct, indirect, cumulative impacts and opportunity costs of this application on the natural environment, tourism and ecotourism in the area and that how will the EMP guarantee the elimination and or minimising of these impacts.</p> <p>The impact assessment methodology utilised to assess and evaluate the potential direct, indirect, cumulative impacts on the natural environment, tourism and ecotourism, is guided by the requirements of the NEMA 2014 EIA Regulations (as amended). The broad approach to the significance rating methodology is to determine the environmental risk (ER) by considering the consequence (C) of each impact (comprising Nature, Extent, Duration, Magnitude, and Reversibility) and relate this to the probability/likelihood (P) of the impact</p>

I&AP	Method	Date	Issue	Response
			concerns-what will make Shango Solutions' contribution any different?	<p>occurring. This determines the environmental risk. In addition, other factors including cumulative impacts, public concern, and potential for irreplaceable loss of resources, are used to determine a prioritisation factor (PF) which is applied to the ER to determine the overall significance (S). The EAP and specialists appointed for this project have experience in carrying out similar studies in support of Mining Right applications.</p> <p>Furthermore, the previous EAP appointed by the proponent could not reasonably defend nor motivate the response to the above objection and concerns-what will make Shango Solutions' contribution any different?</p> <p>We cannot comment on the previous EAP. We have provided you with responses to your concerns and we take note of your objection. Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Christo Lang	E-mail	16 October 2018	<p>Mnr Lang het die B & GP-registrasievorm voltooi en die volgende kommentaar verskaf:</p> <ul style="list-style-type: none"> • Ek is geïnteresseerd in die projek. • Grondeienaar en wettige bewoner. • Ons sit wet die skaars "Groot bek Geelvis" wat besig is om uit te sterf. Ons het Vis Arende in ons omgewing. Die aktiwiteite sal die spesies wat uitsterf nog verder skade aan doen. Ons het ook 'n groot aantal toeriste wat die vakansie oorde besoek met die aktiwiteite (geraas en water besoedeling) sal die bedrywe groot skade am gedoen word. Meeste mense het op die plote kom bly as gevolg van siektes die groot persentasie stof wat die myne al reeds vrystel het al baie mense siek begin maak. Indien dit reën gaan die afspoel 	<p>Liewe Christo,</p> <p>Dankie vir u pos en vir die invul van die Registrasie vorm van die Belanghebbende en Geaffekteerde Party (B&GP).</p> <p>Sien asseblief ons antwoorde (in rooi) op die kommentaar wat u verskaf het in die registrasievorm</p> <ul style="list-style-type: none"> • Ek is geïnteresseerd in die projek. Opgemerkt. • Grondeienaar en wettige bewoner. Opgemerkt. • Ons sit wet die skaars "Groot bek Geelvis" wat besig is om uit te sterf. Ons het Vis Arende in ons omgewing. Die aktiwiteite sal die spesies wat uitsterf nog verder skade aan doen. Ons het ook 'n groot aantal toeriste wat die vakansie oorde besoek met die aktiwiteite (geraas en water besoedeling) sal die bedrywe groot skade am gedoen word. Meeste mense het op die plote kom bly as gevolg van siektes die groot persentasie stof wat die myne al reeds vrystel het al baie mense siek begin maak. Indien dit reën gaan die afspoel in die rivier in soveel chemiese en

I&AP	Method	Date	Issue	Response
			<p>in die rivier in soveel chemicaliee en sediment in ons rivier in sit.</p> <ul style="list-style-type: none"> • Ons le op die grens van die Vredefort koepel, a.g.v. dit het ons 'n groot aantal toeriste wat in ons area by vakansie oorde kom bly om die natuur verskynsel te kom besoek. En die myn sal graat skade daar aan doen. • Ons sit met 'n groot informele nedersetting in die area as gevolg van die besighede in die area. Die myne sal groot skade aan die besighede doen as gevolg van die besighede wat meestal van die natuur afhandlik is. Wat 'n groot impak op die informele vestiging sal he wat op die ou eiende misdaad ook sal bevorder a.g.v. die naaste polisie stasis wat so ver weg is. • Moet nie die myn toe laat nie. • 227ae k het beswaar teen die voorgestelde myn want dit sal 'n negatiewe impak op ons area; natuurskoon, rivier en lug besoediling. Dit sal ook die mens en dier se gesondheid beïnvloed. <p>ENGLISH TRANSLATION</p> <ul style="list-style-type: none"> • I am interested in the project. • Land owner and legal occupant. • We have the rare Big mouthed Yellowfish, which is on the brink of extinction. We have Fish Eagles in the area. The activities will lead to their extinction, which will lead to further damage. We also have a large amount of tourists that visit the holiday resorts. 	<p>sediment in ons rivier in sit.</p> <p>Daar word opgemerk dat die voorgestelde projek 'n negatiewe uitwerking op die akwatiese lewe kan hê. As sodanig is die volgende versagtingsmaatreëls voorgestel om negatiewe impakte op riviersekologie te verminder:</p> <ul style="list-style-type: none"> ○ Onderhoud van buffersones na vleilande en oewersone. ○ Ontwerp en implementering van stormwaterbestuursplanne en passiewe vuilwaterretensieprosesse. <p>Let asseblief daarop dat alfa-kwarts (silika) konsentrasies gemodelleer en geassesseer sal word teen internasionale gesondheidsondersoekkriteria tydens die volledige luggehalte-impakbepaling, wat tydens die Omgewingsimpakstudie-fase van hierdie projek onderneem sal word. Beperkingsmaatreëls soos (i) beperking van versteurde gebiede en (ii) effektiewe stofonderdrukking is voorgestel om stof te verminder. Bykomende versagtingsmaatreëls sal tydens die omgewingsimpakstudie (OIE) -fase van hierdie projek aanbeveel word in die Omgewingsbestuursprogram (OBPR).</p> <p>Volgens die lugkwaliteitspesialis sal die rivier ingesluit word in die beoordeling van stofafval-impak. Daar moet kennis geneem word dat silika-stof stegs skadelik is wanneer dit ingeam word en nie skadelik is as dit in die rivier opkom nie.</p> <ul style="list-style-type: none"> • Ons le op die grens van die Vredefort koepel, a.g.v. dit het ons 'n groot aantal toeriste wat in ons area by vakansie oorde kom bly om die natuur verskynsel te kom besoek. En die myn sal graat skade daar aan doen. <p>U kommer word opgemerk.</p> <ul style="list-style-type: none"> • Ons sit met 'n groot informele nedersetting in die area as gevolg van die besighede in die area. Die myne sal groot skade aan die besighede doen as gevolg van die besighede wat meestal van die

I&AP	Method	Date	Issue	Response
			<p>Noise and pollution and will damage the industry. Most of the people who came to live on the plots became ill due to the large amounts of dust, which the mines caused and caused people to get sick. Should it rain, it will be washed down the river and put so many chemicals and sediments in the river.</p> <ul style="list-style-type: none"> We lay on the border of the Vredefort dome and because of this, we have a lot of tourists that come to our area to observe nature and the mine will cause great damage. We are sitting with a big informal settlement in the area due to businesses in the area. The mine will damage the businesses because they are dependent on nature. What a big impact it will have on the informal settlement and in the end it will bring crime because the closest police station is so very far away. Do not let the mine happen. Yes, I oppose the suggested mine because it will have a negative impact on the area, scenery, river and air pollution. It will also impact human and animal health. 	<p>natuur afhanlik is. Wat 'n groot impak op die informele vestiging sal he wat op die ou eiende misdaad ook sal bevorder a.g.v. die naaste polisie stasis wat so ver weg is.</p> <p>Opgemerkt. Op grond van die Sosio-ekonomiese Impakstudie word verstaan dat 'n instroming van werkers en werksoekers na 'n gebied (of die inwoners in diens is, of buitestaanders in diens is) die veiligheidsrisiko's in die plaaslike omgewing kan verhoog en 'n impak kan hê op die plaaslike maatskaplike dinamika. Waar moontlik sal die Aansoeker plaaslike arbeid binne die omliggende dorpe opspoor. As sodanig sal daar nie 'n behoefte wees vir arbeiders om na die terrein te verskuif nie. Arbeiders sal daagliks na en van die perseel vervoer word. Indien inwoners in diens geneem word, kan dit die waargenome en werklike risiko in hierdie verband verminder. Volgens die Maatskaplike en Arbeidsplan sal die Pure Source Mine toepaslike werknemersverblyf fasiliteer wat werknemers sal toelaat om in 'n stabiele, gesonde en veilige omgewing binne pendelafstand van hul werkplek te woon.</p> <ul style="list-style-type: none"> Moet nie die myn toe laat nie. U voorstel is opgemerk. ae k het beswaar teen die voorgestelde myn want dit sal 'n negatiewe impak op ons area; natuurskoon, rivier en lug besoediling. Dit sal ook die mens en dier se gesondheid beïnvloed. U beswaar teen die voorgestelde projek en die redes daarvoor is goed opgemerk. <p>ENGLISH TRANSLATION</p> <p>Dear Christo,</p> <p>Thank you for your mail and for completing the Interested and Affected Party (I&AP) registration form.</p> <p>Please see our responses (in red) to the comments you provided in the registration form.</p>

I&AP	Method	Date	Issue	Response
				<ul style="list-style-type: none"> • I am interested in the project. Noted. • Land owner and legal occupant. Noted. • We have the rare Big mouthed Yellowfish, which is on the brink of extinction. We have Fish Eagles in the area. The activities will lead to their extinction, which will lead to further damage. We also have a large amount of tourists that visit the holiday resorts. Noise and pollution and will damage the industry. Most of the people who came to live on the plots became ill due to the large amounts of dust, which the mines caused and caused people to get sick. Should it rain, it will be washed down the river and put so many chemicals and sediments in the river. It is noted that the proposed project may have a negative impact on aquatic life. As such, The following mitigation measures have been proposed in order to minimise negative impacts on riverine ecology: <ul style="list-style-type: none"> ○ Maintaining buffer zones to wetlands and riparian zones. ○ Designing and implementing storm-water management plans and passive dirty water retention processes. <p>Kindly note that alpha quartz (silica) concentrations will be modelled and assessed against international health screening criteria during the full air quality impact assessment, which will be undertaken during the Environmental Impact Assessment (EIA) phase of this project. Mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project. According to the air quality specialist, the river will</p>

I&AP	Method	Date	Issue	Response
				<p>be included in the assessment of dust fallout impacts. It should be noted that silica dust is only harmful when inhaled and is not harmful if it lands up in the river.</p> <ul style="list-style-type: none"> We lay on the border of the Vredefort dome and because of this, we have a lot of tourists that come to our area to observe nature and the mine will cause great damage. Your concern is noted. We are sitting with a big informal settlement in the area due to businesses in the area. The mine will damage the businesses because they are dependent on nature. What a big impact it will have on the informal settlement and in the end it will bring crime because the closest police station is so very far away. Noted. Based on the Socio-Economic Impact Assessment, it is understood that an influx of workers and jobseekers to an area (whether locals are employed, or outsiders are employed) could increase the safety risks in the local area and have an impact on the local social dynamics. Where possible, the Applicant will source local labour within the surrounding townships. As such, there won't be a need for labourers to relocate to site. Labourers will be transported to and from site on a daily basis. Should locals be employed, it could minimise the perceived and actual risk in this regard. According to the Social and Labour Plan, Pure Source Mine will facilitate suitable employee accommodation that will allow employees to reside in a stable, healthy and secure environment within commuting distance from their place of work. Do not let the mine happen. Your suggestion is noted. Yes, I oppose the suggested mine because it will have a negative impact on the area, scenery, river and air pollution. It will also impact human and animal health.

I&AP	Method	Date	Issue	Response
Ansie Juul Grobler	E-mail	16 October 2018	Mr Juul completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> • I am concerned about pollution, water and air, destruction of fauna and flora and rehabilitation of the site. • I am an average citizen and not an expert in the above matters. However, I can definitely predict that this operation will affect the natural habitat of many bird, plant and animal species resulting in a massive drop of tourist numbers. Areas like these are decreasing tremendously and should rather be used for educational purposes, walking trails, etc. 	<p style="color: red;">Your objection to the proposed project and reasons thereof are well noted.</p> <p>Dear Ansie,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red.</p> <p>I am concerned about pollution, water and air, destruction of fauna and flora and rehabilitation of the site.</p> <ol style="list-style-type: none"> 1) Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the Environmental Management Programme (EMPR) will categorically state that no untreated waste water must be pumped into the Vaal River. 2) According to the Groundwater assessment undertaken in support of this application, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations. 3) The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed.

I&AP	Method	Date	Issue	Response
				<p>To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. Additional mitigation measures have been proposed and these are included in the relevant specialist reports.</p> <p>4) The Terrestrial Biodiversity assessment identified the potential loss of habitat for Species of Conservation Concern (SCC) (based on the National Biodiversity Areas Plan) and the loss of areas of high biodiversity (based on the Free State Critical Biodiversity Areas Plan). However, further investigation will be made during the Environmental Impact Assessment phase.</p> <p>5) Rehabilitation, from the mining industry perspective, means the disturbed areas will adhere to a pre-determined plan or fulfill a function that is sustainable and usable. It recognises that extraction of a resource will occur and that the original topography will be altered. The basic requirements for rehabilitation is to construct a stable, safe and functioning environment post mining. This can be achieved through various methods but in this case the end land use will be an eco and wildlife estate. The intention is not to restore the original topography, but to sculpt the mined areas to facilitate various ecological habitats. This may include dams and wetlands in the depressions that will be beneficial within the estate's vision. In order to ensure rehabilitation of the site upon completion of the mining activities, an estimated amount of R 14 821 429 (LoM) Excl. VAT will be set aside for rehabilitation</p>

I&AP	Method	Date	Issue	Response
				<p style="text-align: center;">and closure.</p> <p>I am an average citizen and not an expert in the above matters. However, I can definitely predict that this operation will affect the natural habitat of many bird, plant and animal species resulting in a massive drop of tourist numbers. Areas like these are decreasing tremendously and should rather be used for educational purposes, walking trails, etc.</p> <p>Noted. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks.</p> <p>The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p>
Ansie Juul Grobler	Additional Public Consultation	10 November 2018	Mr Grobler completed the comments and responses form and stated that he is interested in the proposed project due to its potential negative impact on tourism and the fact that the proposed site is already barren and any eyesore. Mr Grobler further went on to provide the following comment: <ul style="list-style-type: none"> • Rather focus on education i.e. a veld school, walking trails and rehabilitation of fauna and flora. 	This was noted by Shango Solutions and the issues raised by Mr Grobler were addressed in the response above.
Lynne Temlett	E-mail	16 October 2018	Hi Zizo	Dear Lynne, Thank you for your mail and for completing the Interested

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			<p>Herewith my registration form in this regard.</p> <p>Should you require any further information please do not hesitate to call.</p> <p>Kind Regards</p> <p>Lynne</p> <p>HEAVEN ON VAAL</p> <p>Ms Temlett completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> The rehabilitation is of utmost importance and we need to have sight of the legal financial deposit required for the process as well as confirmation that this will be held in trust for this purpose. I am very concerned about the negative impact this will have on the surrounding areas eg. Job losses which will not be made up by the company employing all the local staff who will lose their jobs in these areas due to this, water pollution, air pollution and more crime. Tourism will definitely be affected and thus all activities and businesses linked to tourism and jobs in this industry will be hugely negatively affected. It is without question that the fauna & flora will be a huge issue too. 	<p>and Affected Party registration form.</p> <p>Please see our response in red. The comment you provided in the registration form is highlighted in yellow.</p> <p>The rehabilitation is of utmost importance and we need to have sight of the legal financial deposit required for the process as well as confirmation that this will be held in trust for this purpose. I am very concerned about the negative impact this will have on the surrounding areas eg. Job losses which will not be made up by the company employing all the local staff who will lose their jobs in these areas due to this, water pollution, air pollution and more crime. Tourism will definitely be affected and thus all activities and businesses linked to tourism and jobs in this industry will be hugely negatively affected. It is without question that the fauna & flora will be a huge issue too.</p> <p>Your comment is noted. Rehabilitation, from the mining industry perspective, means the disturbed areas will adhere to a pre-determined plan or fulfill a function that is sustainable and usable. It recognises that extraction of a resource will occur and that the original topography will be altered. The basic requirements for rehabilitation are to construct a stable, safe and functioning environment post mining. This can be achieved through various methods but in this case, the end land use will be an eco-and wildlife estate. The intention is not to restore the original topography, but to sculpt the mined areas to facilitate various ecological habitats.</p> <p>According to the Financial Provision Regulations, an Applicant or Holder of a permit or right must determine and make financial provision to guarantee the availability of sufficient funds for the rehabilitation and remediation of adverse environmental impacts to the satisfaction of the Minister responsible for Mineral Resources. As such, an amount will be set aside for rehabilitation and closure for this project. A permit or right can only be granted once the Applicant makes the legal financial deposit. Kindly note that this legal financial deposit will be retained by the Competent Authority as guarantee as opposed to being utilised for</p>

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				<p>rehabilitation. Should the Applicant successfully rehabilitate the land and successfully obtain a Closure Certificate over the Mining Right area, then the Applicant will reclaim the legal financial deposit made prior to granting of the right by the Competent Authority. However, should the Applicant not rehabilitate the Mining Right area, then the Applicant stands to forfeit this legal financial deposit.</p> <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the watercourses within the application area, including the Vaal River. In addition, the Environmental Management Programme (EMPR) will categorically state that no untreated waste water must be pumped into the Vaal River. According to the Groundwater assessment undertaken in support of this application, potential impacts on groundwater anticipated during the operational phase include, inter alia, a decline in water quality. The groundwater sampled on-site currently shows that there are no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations.</p> <p>It is understood that an influx of workers and jobseekers to an area (whether locals are employed, or outsiders are employed) could increase the safety risks in the local area and have an impact on the local social dynamics. Should locals be employed, it could minimise the perceived and actual risk in this regard. Pure Source Mine will facilitate suitable employee accommodation that will allow employees to reside in a stable, healthy and secure environment within commuting distance from their place of work.</p> <p>According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social</p>

I&AP	Method	Date	Issue	Response
				<p>measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p> <p>Based on the terrestrial biodiversity assessment undertaken in support of this application, open pit mining and site clearance for infrastructure and associated access roads may result in the loss of habitat for species of conservation concern as well as the displacement, direct mortalities and disturbance of the faunal community. The biodiversity specialist has recommended mitigation measures to minimise impacts on fauna, which include, but are not limited to, (i) avoiding high biodiversity sensitivity areas and complying with prescribed buffer zones as well as (ii) implementing training to ensure that all staff are aware of faunal sensitivity. Impacts on flora may include the loss of plant species of conservation importance and the encroachment of alien invasive plant species. Mitigation measures have been proposed by the relevant specialist and are included in the terrestrial biodiversity assessment and draft Scoping Report.</p> <p>Should you have further questions in this regard, please do not hesitate to contact me.</p>
Lynne Temlett	Additional Public Consultation	10 November 2018	<p>Lynne completed the comments and responses form and stated that she is interested in the proposed project as she is an affected party. She further went on to provide the following comments:</p> <ul style="list-style-type: none"> • Rehabilitation is very important if the project goes ahead. • Tourism will be negatively affected. • Fauna and flora will be negatively 	<p>Dear Lynne,</p> <p>I trust our response below has addressed some of the comments (in red) you provided in the comments and responses form you completed at the additional public consultation. Below is our response to your question.</p> <ul style="list-style-type: none"> • Why are they already busy??? <p>It is understood that rehabilitation activities are currently taking place on-site.</p> <ul style="list-style-type: none"> • Rehabilitation is very important if the project goes

I&AP	Method	Date	Issue	Response
			<p>affected.</p> <ul style="list-style-type: none"> Environment will be negatively affected. Why are they already busy??? 	<p>ahead.</p> <ul style="list-style-type: none"> Tourism will be negatively affected. Fauna and flora will be negatively affected. Environment will be negatively affected. <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Jacques van Rensburg	E-mail	16 October 2018	<p>Dear Shango Solutions</p> <p>Please register my objections to the prosed mine anywhere close to the Vaal river.</p> <p>Please note that I will not be able to attend the next meeting as set out in previous mail, however as an affected party and a representative of other affected parties,</p> <p>I request that all correspondence (including meeting agenda's and minutes) in this regard be forwarded to me.</p> <p>Regards</p> <p>Jacques van Rensburg</p> <p>Mr van Rensburg completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Any communities which exist within the application area: yes. I am part of the Vaaloewer community (all residence) as well as the surrounding communities. Description of the receiving environment: the environment includes the following: farming and game grazing areas, various topographical features and developed 	<p>Dear Jacques,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ol style="list-style-type: none"> Are you aware of any communities existing within the application area? Provide detail and possible contact details. <p>Yes. I am part of the Vaaloewer community (all residence) as well as the surrounding communities.</p> <p>Noted.</p> Please provide a description of receiving environment. <p>The environment includes the following: farming and game grazing areas, various topographical features and developed infrastructures.</p> <p>Noted.</p> Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? <p>Yes. Numerous new housing and business developments are currently being planned and built in the Vaaloewer residential area.</p>

I&AP	Method	Date	Issue	Response
			<p>infrastructures.</p> <ul style="list-style-type: none"> • Any land developments (current or proposed) within the application area: yes. Numerous new housing and business developments are currently being planned and built in the Vaaloewer residential area. • Measures that should be taken to mitigate the anticipated biophysical and socio-economic impacts: this area that includes all land, residential properties and farms in close proximity to the Vaal liver water resource is to be protected. Water and the use of it should be protected as it remains one of most valuable life giving resource we don't have enough of. • Specific concerns: <ul style="list-style-type: none"> ○ The dust will be a problem for all in Vaaloewer. We have strong winds here. It has long ago been proved that silica dust can cause lung problems and lung cancer. ○ Our beautiful view over the river will be spoilt. ○ The noise, of the machinery will be disturbing the calm environment and chase all bird life away. ○ The polluted water they have used will probably end up in the river, the very place we .get our drinking water from. It may also 	<p>Noted.</p> <p>4. Please describe any measures you believe should be implemented to mitigate, manage, avoid or remedy the anticipated biophysical and socio-economic impacts of the proposed activity.</p> <p>This area that includes all land, residential properties and farms in close proximity to the Vaal liver water resource is to be protected. Water and the use of it should be protected as it remains one of most valuable life giving resource we don't have enough of.</p> <p>Your suggestion is noted.</p> <p>5. Specific concerns:</p> <ul style="list-style-type: none"> ○ The dust will be a problem for all in Vaaloewer. We have strong winds here. It has long ago been proved that silica dust can cause lung problems and lung cancer. <p>Noted. Alpha quartz (silica) concentrations will be modelled and assessed against international health screening criteria during the full air quality impact assessment to be undertaken during the Environmental Impact Assessment (EIA) phase of this project. In addition, dust fallout, inhalable particulate concentrations as well as inhalable silica concentrations will be quantified and dispersion modelling simulations undertaken to estimate ambient pollutant concentrations and dust fallout. Ambient pollutant concentrations will depend on the area being mined, the wind direction and level of activity.</p> <ul style="list-style-type: none"> ○ Our beautiful view over the river will be spoilt. <p>Your comment is noted.</p> <ul style="list-style-type: none"> ○ The noise, of the machinery will be disturbing the calm environment and chase all bird life away. <p>Potential sources of noise (such as machinery) will be quantified and included in the noise source inventory and noise propagation simulations during the noise impact</p>

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			<p>affect the underground water for those who have boreholes.</p> <ul style="list-style-type: none"> ○ The values of our properties will fall, especially those with views over the farm. ○ Workers in Vaaloewer may lose their jobs if their employers close their businesses. ○ The sand must be kept wet 24 hours a day, and there will be noise pollution due to the continuous pumping of the Pump Station. This noise will also disturb the natural wildlife and birds. ○ The mine will be only metres away from the Water Plant purification inlet, which is already struggling to supply clean water to Vaaloewer as well as the adjoining informal settlement. ○ The tourist industry is a major source of revenue for the area and ensures jobs. This will have a negative effect should the aesthetic view as well as the quality of the river water negatively impact on the fish life. 	<p>assessment phase of the study.</p> <ul style="list-style-type: none"> ○ The polluted water they have used will probably end up in the river, the very place we get our drinking water from. It may also affect the underground water for those who have boreholes. <p>Noted. Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the Environmental Management Programme (EMPR) will categorically state that no untreated waste water must be pumped into the Vaal River. According to the Groundwater assessment undertaken in support of this application, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations.</p> <ul style="list-style-type: none"> ○ The values of our properties will fall, especially those with views over the farm. <p>Your comment is duly noted. In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to</p>

I&AP	Method	Date	Issue	Response
				<p>minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> o Workers in Vaaloewer may lose their jobs if their employers close their businesses. <p>According to the Social Impact Assessment, it is understood that the proposed project will promote job creation within the local area.</p> <ul style="list-style-type: none"> o The sand must be kept wet 24 hours a day, and there will be noise pollution due to the continuous pumping of the Pump Station. This noise will also disturb the natural wildlife and birds. <p>Your suggestion is duly noted. Kindly refer to the third bullet point for our response on noise pollution.</p> <ul style="list-style-type: none"> o The mine will be only metres away from the Water Plant purification inlet, which is already struggling to supply clean water to Vaaloewer as well as the adjoining informal settlement. <p>Could you kindly provide us with the GPS co-ordinates or location of the water plant purification inlet?</p> <p>The tourist industry is a major source of revenue for the area and ensures jobs. This will have a negative effect should the aesthetic view as well as the quality of the river water negatively impact on the fish life.</p> <p>Noted. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at</p>

I&AP	Method	Date	Issue	Response
				<p>closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River. As previously stated, no waste water will be pumped into the Vaal River, thus minimising potential impacts on fish life.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Willie de Beer	E-mail	16 October 2018	<p>Good day Zizo,</p> <p>Please see attached INTERESTED AND AFFECTED PARTY REGISTRATION FORM</p> <p>Thank you</p> <p>Regards</p> <p>Willie de Beer</p> <p>Mr de Beer completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • Owner of a house/property in Vaaloewer. • I and my family have huge concerns on the impacts this new project will have on the environment and the surrounding areas, the Vaal River is already under massive pressure due to pollution and environmental problems. This project will have a negative impact on the individuals living in the area. • Existing communities within the application area: Vaaloewer, Lindequesdrift, informal settlements. • Description of the receiving environment: sections of this area are grasslands with natural bushveld. We 	<p>Dear Willie,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ol style="list-style-type: none"> 1. I and my family have huge concerns on the impacts this new project will have on the environment and the surrounding areas, the Vaal River is already under massive pressure due to pollution and environmental problems. This project will have a negative impact on the individuals living in the area. Your concerns are duly noted. 2. Are you aware of any communities existing within the application area? Provide detail and possible contact details. Vaaloewer, Lindequesdrift, informal settlements. Noted. 3. Please provide a description of receiving environment. Sections of this area are grasslands with natural bushveld. We then have the rivers areas with huge trees and very sensitive river banks. Sections have old massive trees and rocky areas, very unique environment. Noted. 4. Please describe any biophysical and/or socio-

I&AP	Method	Date	Issue	Response
			<p>then have the rivers areas with huge trees and very sensitive river banks. Sections have old massive trees and rocky areas, very unique environment.</p> <ul style="list-style-type: none"> • Potential biophysical and socio-economic impacts: there are variance communities living in the area. We live in Vaaloewer which will completely change should a mining license be granted. This will have an impact on health and wellness due to pollution from the mining activities-the pollution will be air, water, land and noise. There will be a huge impact on property value as well. With mining activities in our area, this impact will be negative on the value and popularity of our houses and property. • Measures that should be implemented to mitigate anticipated impacts: the project has to be stopped. Current examples have shown that mining will have a huge negative impact on the environment and the people living in that area will have to pay the price. This area should be protected in its current form with NO mining activities. • Specific concerns or comments: this project will add massive additional pressure on the environment; especially on the Vaal River which is already have huge problems. The dust, area, land and noise pollution will be massive and this will have a negative impact on the environment and people's health. Again, this will also impact negatively on our property values, the mining company will 	<p>economic impacts that you believe should be considered during the study.</p> <p>There are variance communities living in the area. We live in Vaaloewer which will completely change should a mining license be granted. This will have an impact on health and wellness due to pollution from the mining activities-the pollution will be air, water, land and noise. There will be a huge impact on property value as well. With mining activities in our area, this impact will be negative on the value and popularity of our houses and property.</p> <p>Your comments are noted.</p> <ul style="list-style-type: none"> • Health and wellness Ambient particulate and gaseous concentrations due the mining operations will be assessed in the air quality assessment during the Environmental Impact Assessment (EIA) phase of the project in order to determine impacts on human health. • Air pollution The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. Additional mitigation measures have been proposed and these are included in the relevant specialist reports. • Water pollution According to the Groundwater assessment undertaken in support of this application, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination

I&AP	Method	Date	Issue	Response
			<p>become rich and we will have to suffer for it, from the animals in the area to the people living there.</p> <ul style="list-style-type: none"> General comments: if this project is approved, the people and the environment will be negatively impacted and the damage will not be fixed in our lifetime. 	<p>of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations.</p> <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. No untreated waste water and/or effluent will be discharged into the Vaal River as it will be managed in a closed system wherein contact water will be separated from non-contact water as per the Requirements of the National Environmental Management Act (NEMA). Water utilised during the sand washing process will be recycled back to the wash plant for re-use.</p> <ul style="list-style-type: none"> Land pollution In order to minimise general pollution of the environment, good housekeeping will be included as a condition in the Environmental Management Programme Report. Noise pollution Based on the Noise Baseline Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. The following mitigation measures have been recommended in order to minimise noise impacts: <ul style="list-style-type: none"> Maintain vehicles and equipment in good working order. Provide noise berms where possible between activities and receptors. Conduct noise monitoring in response to noise complaints.

I&AP	Method	Date	Issue	Response
				<ul style="list-style-type: none"> <p>Property values</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <p>5. Please describe any measures you believe should be implemented to mitigate, manage, avoid or remedy the anticipated biophysical and socio-economic impacts of the proposed activity.</p> <p>The project has to be stopped. Current examples have shown that mining will have a huge negative impact on the environment and the people living in that area will have to pay the price. This area should be protected in its current form with NO mining activities.</p> <p>Your suggestion is noted.</p> <p>6. Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information?</p> <p>This project will add massive additional pressure on the environment; especially on the Vaal River</p>

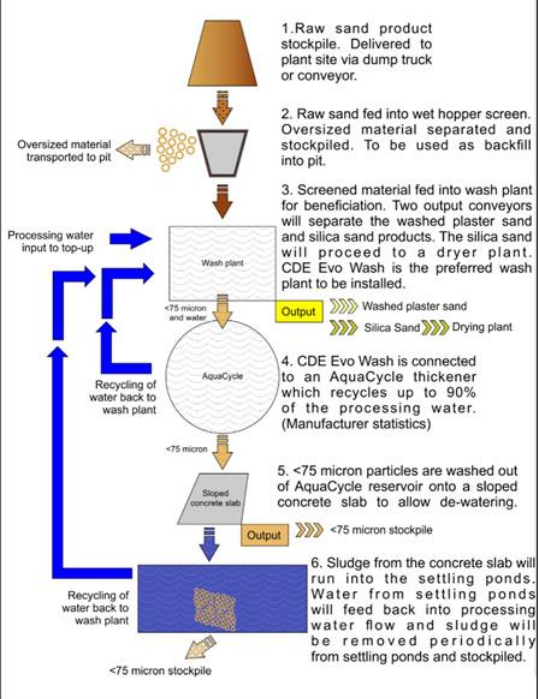
I&AP	Method	Date	Issue	Response
				<p>which is already have huge problems. The dust, area, land and noise pollution will be massive and this will have a negative impact on the environment and people's health. Again, this will also impact negatively on our property values, the mining company will become rich and we will have to suffer for it, from the animals in the area to the people living there.</p> <p>Your comments are noted. Kindly refer to point 4 as it addresses the concerns you raised above. We will reiterate that no untreated waste water and/or effluent will be discharged into the Vaal River.</p> <p>7. General comments: If this project is approved, the people and the environment will be negatively impacted and the damage will not be fixed in our lifetime. Your comment is duly noted.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Errol White	E-mail	16 October 2018	<p>Good Day,</p> <p>I hope you are well</p> <p>Please see attached documentation.</p> <p>Mr White completed the I&AP registration form and provided the fents:</p> <ul style="list-style-type: none"> I am opposed to any defacing of ground in our vicinity causing unsightly dust, noise and water pollution. Please go and do your mining where it doesn't affect the neighbouring communities. 	<p>Good morning,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red.</p> <p>I am opposed to any defacing of ground in our vicinity causing unsightly dust, noise and water pollution.</p> <p>Your objection is noted.</p> <p>The mining activities will alter the topography of the mining area. Thereafter, rehabilitation of the disturbed environment will take place. Rehabilitation will be conducted in a progressive manner. Progressive rehabilitation involves a phased approach in which bulk earthworks, fine grading and re-vegetation will directly follow the pit mining activity, based on a year-on-year mining plan. Mining under this Mining Right will involve the excavation of open pit areas, of varying</p>

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				<p>sizes and depths. Prior to commencement of mining, topsoil will be removed from the area demarcated for mining and stockpiled next to the pit for the purpose of rehabilitation. Once the resources in a certain pit have been mined-out, over-and undersized material will be utilised for backfilling, followed by topsoil spreading, and subsequent seedbed preparation and re-vegetation. Some of the excavated pits or depressions will be developed into artificial wetlands, as the intention isn't to restore the original topography, but to sculpt the mined areas to construct various ecological habitats.</p> <p>The post-mining end land use will be an eco-and wildlife estate, ranging in various functions from resort and entertainment facilities, housing, agriculture as well as conservation.</p> <div> </div> <p>Based on the Air Quality Baseline Assessment, the impact on air quality due to mining is usually up to a distance of 5 km from the emitting source. However, without measures being implemented, the impacts from mines can reach further depending on the terrain, wind speed and properties of the material mined. The impact also depends largely on what sources of emissions are present at the mine site and the throughput of material. For example, if material is transported via haul roads there will be greater emissions than if it were conveyed. Mitigation measures have been proposed to minimise impacts on air quality.</p> <p>The extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. The following mitigation measures have</p>

I&AP	Method	Date	Issue	Response
				<p>been proposed to minimise noise impacts:</p> <ul style="list-style-type: none"> - Maintain vehicles and equipment in good working order. - Provide noise berms where possible between activities and receptors. - Conduct noise monitoring in response to noise complaints. - Operators of mobile machinery and truck drivers should be reminded not to speed, to limit noise generation. <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the Environmental Management Programme (EMPR) will categorically state that no untreated waste water must be pumped into the Vaal River. According to the Groundwater assessment undertaken in support of this application, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations.</p> <p>Please go and do your mining where it doesn't affect the neighbouring communities.</p> <p>Your statement is noted.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Dennis Holler	E-mail	17 October 2018	Dear Mr Mmakoena and Ms Zizo, Attached please find my Registration	Dear Dennis, Thank you for your mail and for completing the Interested and Affected Party registration form.

I&AP	Method	Date	Issue	Response
			<p>OBJECTING the proposed mining activities.</p> <p>Rgds,</p> <p>Dennis Holler</p> <p>Mr Holler completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> I object to the proposed mining activities. Existing communities: Vaaloewer, right opposite the mine on the Gauteng side. Other I&APs who need to be notified: everybody downstream from Vaaloewer on the North West side of the river. Description of the receiving environment: My family and I stay on a river front property, Plot 90, Lindequesdrift approximately 500 m downstream from Vaaloewer's weir on the North Western side of the river. The proposed mining activities will take place right in front of our family home and that is a very big concern to me and my family. This is a relatively big mining operation for this area since I am in the mining engineering trade I know exactly what negatives to expect. Noise pollution is already a concern. At this stage it is a constant noise of trucks and excavators and it is very annoying. Washing and screening of sand will impose downstream river water pollution. Underground water will most certainly be negatively affected by this operation. Air pollution will be a 	<p>Please see our responses in read. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> I object to the proposed mining activities. <i>Your objection is noted.</i> Are you aware of any communities existing within the application area? Provide detail and possible contact details. Yes, Vaaloewer, right opposite the mine on the Gauteng side. <i>Noted.</i> Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Yes, everybody downstream from Vaaloewer on the North West side of the river. <i>Noted.</i> Please provide us with a description of the receiving environment. My family and I stay on a river front property, Plot 90, Lindequesdrift approximately 500 m downstream from Vaaloewer's weir on the North Western side of the river. The proposed mining activities will take place right in front of our family home and that is a very big concern to me and my family. This is a relatively big mining operation for this area since I am in the mining engineering trade I know exactly what negatives to expect. Noise pollution is already a concern. At this stage it is a constant noise of trucks and excavators and it is very annoying. Washing and screening of sand will impose downstream river water pollution. Underground water will most certainly be negatively affected by this operation. Air pollution will be a concern especially on winding days due to loosed earth and blowing around. This operation stretches along the river front and will have a negative impact on wildlife in the area and what will be left for us and for nature in and along the river after this operation?

I&AP	Method	Date	Issue	Response
			<p>concern especially on winding days due to loosed earth and blowing around. This operation stretches along the river front and will have a negative impact on wildlife in the area and what will be left for us and for nature in and along the river after this operation?</p> <ul style="list-style-type: none"> • Land developments (current or proposed) within the application area that may be relevant to the proposed mining operation: no development activities but other negative mining operations yes! • Cultural and heritage features within the application area and surrounds: As far as I am concerned, the whole river is part of our heritage. There is already a shortage of water. Why try to destroy what's left deliberately? • Potential biophysical and/or socio-economic impacts: the whole of Lindequesdrif area has been rezoned to Residential 1. Vaaloewer is a Residential 1 community. How can the government consider approval of such a mining activity that borders directly to a residential area? Noise pollution, air pollution, water pollution and the total destruction of the Vaal River's ecosystem will be the major negative effects!!! • Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: the answer is quite simple. STOP THE MINING ACTIVITIES!! • Specific concerns, comments or 	<p>Your concerns are duly noted.</p> <p>The extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures have been recommended to reduce noise impacts relating to this project.</p> <p>The diagram below depicts the sand washing process. It is evident from the diagram that no untreated waste water and/or effluent will be discharged into the Vaal River. The sludge, which comprises silt and clay particles, will be deposited into settling ponds. Thereafter, the sludge will be removed from the settling ponds and stockpiled. Depending on its suitability as a product, the sludge may be sold (as clay and silt particles have commercial value) or used to backfill the pits.</p>

I&AP	Method	Date	Issue	Response
			<p>objections: Noise pollution is already a concern. At this stage it is a constant noise of trucks and excavators and it is very annoying. Washing and screening of sand will impose downstream river water pollution. Underground water will most certainly be negatively affected by this operation. Air pollution will be a concern especially on windy days due to loosed earth and blowing around. This operation stretches along the river front and will have a negative impact on wildlife in the area and what will be left for us and for nature in and along the river after this operation?</p> <ul style="list-style-type: none"> General comments: Noise pollution is already a concern. At this stage it is a constant noise of trucks and excavators and it is very annoying. Washing and screening of sand will impose downstream river water pollution. Underground water will most certainly be negatively affected by this operation. Air pollution will be a concern especially on windy days due to loosed earth and blowing around. This operation stretches along the river front and will have a negative impact on wildlife in the area and what will be left for us and for nature in and along the river after this operation? <p>Everyone in South Africa has the right to a healthy environment that does not harm their health or well-being. The Constitution says that the environment must be protected for current and future generations. If a mining company wants to mine, it must do so</p>	<p>WASH PLANT PROCESS DIAGRAM</p>  <p>The diagram illustrates the wash plant process in six steps:</p> <ol style="list-style-type: none"> Raw sand product stockpile. Delivered to plant site via dump truck or conveyor. Raw sand fed into wet hopper screen. Oversized material separated and stockpiled. To be used as backfill into pit. Screened material fed into wash plant for beneficiation. Two output conveyors will separate the washed plaster sand and silica sand products. The silica sand will proceed to a dryer plant. CDE Evo Wash is the preferred wash plant to be installed. CDE Evo Wash is connected to an AquaCycle thickener which recycles up to 90% of the processing water. (Manufacturer statistics) <75 micron particles are washed out of AquaCycle reservoir onto a sloped concrete slab to allow de-watering. Sludge from the concrete slab will run into the settling ponds. Water from settling ponds will feed back into processing water flow and sludge will be removed periodically from settling ponds and stockpiled. <p>Water recycling is shown as follows: Processing water input to top-up the wash plant; Recycling of water back to wash plant from the AquaCycle thickener; and Recycling of water back to wash plant from the settling ponds.</p>

According to the Groundwater assessment undertaken in support of this application, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations.

The impact on air quality will depend largely on

I&AP	Method	Date	Issue	Response
			<p>in a way that is sustainable and ensures that future generations can also benefit from South Africa's resources.</p>	<p>sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. Additional mitigation measures have been proposed and these are included in the relevant specialist reports.</p> <p>The Terrestrial Biodiversity Assessment identified the potential loss of habitat for Species of Conservation Concern (SCC) (based on the National Biodiversity Areas Plan) and the loss of areas of high biodiversity (based on the Free State Critical Biodiversity Areas Plan). However, further investigations will be made during the Environmental Impact Assessment phase.</p> <ul style="list-style-type: none"> • Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? No development activities but other negative mining operations yes! Noted. • Are you aware of any cultural or heritage features within the application area and surrounds, please provide details? As far as I am concerned, the whole river is part of our heritage. There is already a shortage of water. Why try to destroy what's left deliberately? Your comment is noted. • Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. The whole of Lindequesdrif area has been rezoned to Residential 1. Vaaloewer is a Residential 1 community. How can the government consider approval of such a mining

I&AP	Method	Date	Issue	Response
				<p>activity that borders directly to a residential area? Noise pollution, air pollution, water pollution and the total destruction of the Vaal River's ecosystem will be the major negative effects!!!</p> <p>Your comment is noted. Kindly note that according to the Section 6 (a) of the Mining Health and Safety Act, 1996 (Act 29 of 1996), no mining operations may be carried out under or within a horizontal distance of 100 m from buildings, roads, railways, reserves, mine boundaries, any structure whatsoever or any surface. The Applicant has adhered to the 100 m buffer. Mitigation measures have been proposed to minimise noise, air and water pollution as well as impacts on biodiversity.</p> <ul style="list-style-type: none"> Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. The answer is quite simple. STOP THE MINING ACTIVITIES!! Your suggestion is noted. Everyone in South Africa has the right to a healthy environment that does not harm their health or well-being. The Constitution says that the environment must be protected for current and future generations. If a mining company wants to mine, it must do so in a way that is sustainable and ensures that future generations can also benefit from South Africa's resources. Your comment is duly noted. <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Dennis Holler	E-mail	03 December 2018		<p>Good day,</p> <p>I trust you are well?</p> <p>We would like to place hard copies of the Final Scoping Report at public venues within the Gauteng, Free State and</p>

I&AP	Method	Date	Issue	Response
				<p>North West provinces.</p> <p>Could you kindly provide us with a list of venues (including the address and contact details of the relevant party to contact) within the three provinces where hard copies of the Final Scoping Report can be placed?</p> <p>Thank you and we look forward to your response.</p>
FJ Waite	E-mail	17 October 2018	<p>Hi</p> <p>Please find attached my registration form as requested.</p> <p>Regards.</p> <p>F.J.Waite</p> <p>Mr Waite completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • My property is across the river from the proposed project. • Other I&APs who need to be notified: the Vaaloewer community. • Potential biophysical and/or socio-economic impacts: Noise, dust and probable silting of the river adjacent to the boat will diminish the value of all the properties in the boat club. • Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: We have previously had mining operations on this site on a much smaller scale and all the above impacts were observed. No measures were implemented to mitigate or manage these problems. • Concerns: I am concerned that too much water will be pumped from the 	<p>Dear Jackie,</p> <p>Thank you for completing the Interested and Affected Party (I&AP) registration form and for providing comment.</p> <p>Please see our responses in read. The answers you provided in the registration form are highlighted in yellow.</p> <ol style="list-style-type: none"> 1. Please state your interest in the proposed project. <p>My property is across the river from the proposed project. Noted.</p> 2. Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. <p>The Vaaloewer community. Noted.</p> 3. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. <p>Noise, dust and probable silting of the river adjacent to the boat will diminish the value of all the properties in the boat club. In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn,</p>

I&AP	Method	Date	Issue	Response
			<p>river, and the washing process will silt up the river that the club as in the past had to dredge at a great cost to the members.</p>	<p>is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <p>4. Please describe any measures you believe should be implemented to mitigate, manage, avoid or remedy the anticipated biophysical and socio-economic impacts of the proposed activity.</p> <p>We have previously had mining operations on this site on a much smaller scale and all the above impacts were observed. No measures were implemented to mitigate or manage these problems.</p> <p>Enforcement of mitigation measures, as detailed in an Environmental Management Programme, is the responsibility of the Department of Mineral Resources.</p> <p>5. Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information?</p> <p>I am concerned that too much water will be pumped from the river, and the washing process will silt up the river that the club as in the past had to dredge at a great cost to the members.</p> <p>The use of groundwater will be investigated during the Environmental Impact Assessment (EIA) phase in order to minimise the quantity of water that will be extracted from the Vaal River.</p> <p>The diagram below depicts the sand washing process. It is evident from the diagram that no untreated waste water and/or effluent will be discharged into the Vaal River. The sludge, which comprises silt and clay particles, will be deposited into settling ponds. Thereafter, the sludge will be removed from the settling ponds and stockpiled. Depending on its suitability as a product, the sludge may be sold (as clay and silt particles have commercial value) or used to</p>

I&AP	Method	Date	Issue	Response
				<p>backfill the pits.</p> <div> <h3 style="text-align: center;">WASH PLANT PROCESS DIAGRAM</h3> <p>The diagram illustrates the wash plant process in six steps:</p> <ol style="list-style-type: none"> Raw sand product stockpile. Delivered to plant site via dump truck or conveyor. Raw sand fed into wet hopper screen. Oversized material separated and stockpiled. To be used as backfill into pit. Screened material fed into wash plant for beneficiation. Two output conveyors will separate the washed plaster sand and silica sand products. The silica sand will proceed to a dryer plant. CDE Evo Wash is the preferred wash plant to be installed. CDE Evo Wash is connected to an AquaCycle thickener which recycles up to 90% of the processing water. (Manufacturer statistics) <75 micron particles are washed out of AquaCycle reservoir onto a sloped concrete slab to allow de-watering. Sludge from the concrete slab will run into the settling ponds. Water from settling ponds will feed back into processing water flow and sludge will be removed periodically from settling ponds and stockpiled. <p>Water recycling is shown as follows: Processing water input to top-up the wash plant; Recycling of water back to wash plant from the AquaCycle thickener; and Recycling of water back to wash plant from the settling ponds.</p> </div> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Bruce Strong	E-mail	18 October 2018	<p>Dear Zizo</p> <p>Please register me as an interested and affected party for the above project.</p> <p>We are the owners of a property downstream at</p>	<p>Dear Bruce,</p> <p>This e-mail serves to notify you that you have been registered as an Interested and Affected Party and will be kept up to date with any developments regarding this project.</p> <p>Kindly find herewith attached notification regarding the</p>

I&AP	Method	Date	Issue	Response
			Lapa Manzi. Thank you.	additional public consultation scheduled for the 10 th November 2018. Should you have any further questions in this regard, please do not hesitate to contact me.
Tertius Wehmeyer	E-mail	23 October 2018	Dear Zizo. In support of Chris's words below, I also want to remind you that both NEMA and EIA Regulations require EAPs to act independently. Although you are paid by the applicant, the EIA Report/s should be objective and not focused on ensuring that the applicant obtains a mining right at the expense of I&APs. For mining to be economically sustainable for the whole community, the full economic and environmental impact on other businesses, property owners and residents in the surrounding area and that use the same infrastructure like roads, should be investigated and be included in reports. We have not seen such a report on the economic sustainability, which needs to take environmental sustainability into account, for all involved by e.g. a development economist in any of the applications for mining in our areas. We trust that such an investigation will be undertaken with this current application. We look forward to hearing what Shango's intention is in this regard. Please respond. Tertius Wehmeyer	Dear Tertius, Thank you for your mail. Your comments are duly noted. Regulation 50 (d) of the Mineral and Petroleum Resources Development Regulations states that a sustainable development cost-benefit analysis be conducted to determine the best use of alternative land options. To this end, all the sustainable development impacts (social, economic and environmental) need to be listed and equitably weighed up against one another to determine the best land-use for this and the next generation. Furthermore, in terms of the principles of the National Environmental Management Act (NEMA), the Environmental Assessment Practitioner (EAP) should evaluate the Best Practicable Environmental Option (BPEO). The BPEO, as defined in NEMA, means the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term. As such, a sustainable development cost-benefit analysis will be conducted during the Environment Impact Assessment (EIA) phase of the project. Land uses that will be considered in the assessment are mining, agriculture and eco-tourism/tourism. Should you have any further questions in this regard, please do not hesitate to contact me.
Frikkie Botha	E-mail	29 October 2018	Good day Thanks for asking... Yes I have concerns... STOP YOUR MINING.... You will destroy the	This correspondence was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
			environment, not to mention destroy the little bit of tourism in the area... What you do is messy, and we simply don't need your mining in our area. PLEASE JUST GO!! Thanks Frikkie Botha	
Nico Botha	E-mail	29 October 2018	Dear Mpho We are dead against the proposed development. A class action will be brought against the developer should he continue with this. Yours sincerely Nico Botha	This correspondence was noted by Shango Solutions.
Tseki Lucky	E-mail	20 October 2018	Mr Tseki completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> • Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. • Tribal authorities within the application area: township and primary school. • Other I&APs who need to be notified: holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. • Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. • Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. 	Good day, Thank you for your mail and for completing the Interested and Affected Party registration form. Please see our responses in red. The answers you provided in the registration form are highlighted in yellow. <ul style="list-style-type: none"> • Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Noted. • Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. Township and primary school. Noted. • Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Noted. • Please can you provide us with a description of

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> • Cultural or heritage features within the application area and surrounds: graveyard, cave in Vaaloewer area. • Potential biophysical and/or socio-economic impacts: loss of tourism area, job losses due to decrease in tourism, depreciation of property values. • Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. • Concerns: job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. • General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<p>the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life. Noted.</p> <ul style="list-style-type: none"> • Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Noted. • Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Noted. • Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Loss of tourism area, job losses due to decrease in tourism, depreciation of property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River. According to the Social Impact Assessment, it is

I&AP	Method	Date	Issue	Response
				<p>understood that the proposed project will promote employment creation within the local area. Nonetheless, loss of employment due to the mining operations will be assessed in the Socio-Economic Impact Assessment during the Environmental Impact Assessment (EIA) phase of this project.</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted. • Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust

I&AP	Method	Date	Issue	Response
				<p>and noise pollution.</p> <p>Your concerns are duly noted. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will result in an increased potential for business-related visitors who will require accommodation in local guest houses.</p> <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area and other property owners in order to initiate a long-term roads maintenance plan.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project.</p> <p>According to the noise baseline assessment for this project, noise impacts are expected to be</p>

I&AP	Method	Date	Issue	Response
				<p>slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>Kindly refer to point 7 for our response on property values.</p> <ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR. <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Molebogeng Tseki	E-mail	15 October 2018	<p>Mrs Tseki completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/-1 600 people. Tribal authorities within the application area: township and primary school. Other I&APs who need to be notified: 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people.

I&AP	Method	Date	Issue	Response
			<p>holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks.</p> <ul style="list-style-type: none"> Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Cultural or heritage features within the application area and surrounds: graveyard, cave in Vaaloewer area. Potential biophysical and/or socio-economic impacts: loss of tourism area, job losses due to decrease in tourism, depreciation of property values. Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. Concerns: job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<p>Noted.</p> <ul style="list-style-type: none"> Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. Township and primary school. Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Please can you provide us with a description of the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life. Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Loss of tourism area, job losses due to decrease in tourism, depreciation of property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist

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				<p>studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p> <p>According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Nonetheless, loss of employment due to the mining operations will be assessed in the Socio-Economic Impact Assessment during the Environmental Impact Assessment (EIA) phase of this project.</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce</p>

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				<p>impacts on property values.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted. • Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. Your concerns are duly noted. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will result in an increased potential for business-related visitors who will require accommodation in local guest houses. <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area and other property owners in order to initiate a long-term roads maintenance plan.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via</p>

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				<p>conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project.</p> <p>According to the noise baseline assessment for this project, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>Kindly refer to point 7 for our response on property values.</p> <ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

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Joyce Nthabiseng Tseki	E-mail	15 October 2018	<p>Mrs Tseki completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Tribal authorities within the application area: township and primary school. Other I&APs who need to be notified: holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Cultural or heritage features within the application area and surrounds: graveyard, cave in Vaaloewer area. Potential biophysical and/or socio-economic impacts: loss of tourism area, job losses due to decrease in tourism, depreciation of property values. Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. Concerns: job losses, closure of businesses, property values, tar roads 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Noted. Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. Township and primary school. Noted. Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Noted. Please can you provide us with a description of the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life. Noted. Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Noted. Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Noted.

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			<p>not built for heavy vehicles, dust and noise pollution.</p> <ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<ul style="list-style-type: none"> Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Loss of tourism area, job losses due to decrease in tourism, depreciation of property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Nonetheless, loss of employment due to the mining operations will be assessed in the Socio-Economic Impact Assessment during the Environmental Impact Assessment (EIA) phase of this project. In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property

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				<p>values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted. • Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. Your concerns are duly noted. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will result in an increased potential for business-related visitors who will require accommodation in local guest houses. <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in</p>

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				<p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Sandra Mostert	E-mail	14 October 2018	<p>MsMostert completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Tribal authorities within the application area: township and primary school. Other I&APs who need to be notified: holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Cultural or heritage features within the application area and surrounds: 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Noted. Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. Township and primary school. Noted. Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Noted. Please can you provide us with a description of the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life.

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			<p>graveyard, cave in Vaaloewer area.</p> <ul style="list-style-type: none"> Potential biophysical and/or socio-economic impacts: loss of tourism area, job losses due to decrease in tourism, depreciation of property values. Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. Concerns: job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<p>Noted.</p> <ul style="list-style-type: none"> Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Noted. Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Noted. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Loss of tourism area, job losses due to decrease in tourism, depreciation of property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River. <p>According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Nonetheless, loss of employment due to the</p>

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				<p>mining operations will be assessed in the Socio-Economic Impact Assessment during the Environmental Impact Assessment (EIA) phase of this project.</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted. • Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. Your concerns are duly noted. According to the Social Impact Assessment, it is understood that

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				<p>the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will result in an increased potential for business-related visitors who will require accommodation in local guest houses.</p> <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area and other property owners in order to initiate a long-term roads maintenance plan.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project.</p> <p>According to the noise baseline assessment for this project, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on</p>

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				<p>existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>Kindly refer to point 7 for our response on property values.</p> <ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
PM Mostert	E-mail	14 October 2018	<p>Mr Mostert completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Tribal authorities within the application area: township and primary school. Other I&APs who need to be notified: holiday resort, wedding venues, game farms and bird sanctuaries next to and 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Are you aware of any tribal authorities within, or affected by, the proposed application? Please

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			<p>caravan parks.</p> <ul style="list-style-type: none"> Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Cultural or heritage features within the application area and surrounds: graveyard, cave in Vaaloewer area. Potential biophysical and/or socio-economic impacts: loss of tourism area, job losses due to decrease in tourism, depreciation of property values. Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. Concerns: job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<p>provide detail and possible contact details. Township and primary school. Noted.</p> <ul style="list-style-type: none"> Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Noted. Please can you provide us with a description of the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life. Noted. Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Noted. Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Noted. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Loss of tourism area, job losses due to decrease in tourism, depreciation of property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance

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				<p>remedy the anticipated biophysical and socio-economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted.</p> <ul style="list-style-type: none"> Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. <p>Your concerns are duly noted. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will result in an increased potential for business-related visitors who will require accommodation in local guest houses.</p> <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area and other property owners in order to initiate a long-term roads maintenance plan.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation</p>

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Alinah Molefe	E-mail	15 October 2018	Ms Molefe completed the I&AP registration form and provided the following comments:	Good day, Thank you for your mail and for completing the Interested

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			<ul style="list-style-type: none"> Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Tribal authorities within the application area: township and primary school. Other I&APs who need to be notified: holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Cultural or heritage features within the application area and surrounds: graveyard, cave in Vaaloewer area. Potential biophysical and/or socio-economic impacts: loss of tourism area, job losses due to decrease in tourism, depreciation of property values. Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. Concerns: job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. 	<p>and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Noted. Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. Township and primary school. Noted. Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Noted. Please can you provide us with a description of the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life. Noted. Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Noted. Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Noted. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study.

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			<ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<p>Loss of tourism area, job losses due to decrease in tourism, depreciation of property values.</p> <p>According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p> <p>According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Nonetheless, loss of employment due to the mining operations will be assessed in the Socio-Economic Impact Assessment during the Environmental Impact Assessment (EIA) phase of this project.</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are</p>

I&AP	Method	Date	Issue	Response
				<p>significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted. • Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. Your concerns are duly noted. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will result in an increased potential for business-related visitors who will require accommodation in local guest houses. <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area</p>

I&AP	Method	Date	Issue	Response
				<p>and other property owners in order to initiate a long-term roads maintenance plan.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project.</p> <p>According to the noise baseline assessment for this project, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>Kindly refer to point 7 for our response on property values.</p> <ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts

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				<p>on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Joseph Ramonanu	E-mail	13 October 2018	<p>Mr Ramonanu completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Existing communities within the application area: Vaal Eden, Vaaloewer and Plaas de Pont area, +/-1 600 people. Tribal authorities within the application area: township and primary school. Other I&APs who need to be notified: holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Description of the receiving environment: flora and fauna, grazing, natural water table, fish and bird life. Land developments (current or proposed) within the application area: Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Cultural or heritage features within the application area and surrounds: graveyard, cave in Vaaloewer area. Potential biophysical and/or socio-economic impacts: loss of tourism 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Vaal Eden, Vaaloewer and Plaas de Pont area, +/- 1 600 people. Noted. Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. Township and primary school. Noted. Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Holiday resort, wedding venues, game farms and bird sanctuaries next to and caravan parks. Noted. Please can you provide us with a description of the receiving environment. Flora and fauna, grazing, natural water table, fish and bird life. Noted. Are you aware of any land developments (current or proposed) within the application area that may

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			<p>area, job losses due to decrease in tourism, depreciation of property values.</p> <ul style="list-style-type: none"> Measures that should be implemented to mitigate the anticipated biophysical and socio-economic impacts: stop mining completely. Concerns: job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. 	<p>be relevant to the proposed mining operation? Vaal Eden Township, townhouse development, Vaal Eden Caravan Park and guesthouse. Noted.</p> <ul style="list-style-type: none"> Please describe any cultural or heritage features within the application area and surrounds, please provide detail? Graveyard, cave in Vaaloewer area. Noted. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Loss of tourism area, job losses due to decrease in tourism, depreciation of property values. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River. <p>According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Nonetheless, loss of employment due to the mining operations will be assessed in the Socio-Economic Impact Assessment during the Environmental Impact Assessment (EIA) phase of</p>

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				<p>this project.</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. Stop mining completely. Your suggestion is noted. • Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Job losses, closure of businesses, property values, tar roads not built for heavy vehicles, dust and noise pollution. Your concerns are duly noted. According to the Social Impact Assessment, it is understood that the proposed project will promote employment creation within the local area. Furthermore, the project will contribute to local business as it will

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				<p>result in an increased potential for business-related visitors who will require accommodation in local guest houses.</p> <p>It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network, particularly road S171, which is currently in a poor state. It is understood that the additional anticipated heavy vehicle trips would result in further deterioration of this road. It is therefore recommended to collaborate with the relevant roads authority, other developments in the area and other property owners in order to initiate a long-term roads maintenance plan.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality as well as noise impacts. In addition, mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project.</p> <p>According to the noise baseline assessment for this project, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are</p>

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				<p>within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>Kindly refer to point 7 for our response on property values.</p> <ul style="list-style-type: none"> General comments: NO MINING! Only one person will benefit from the mining due to hundreds of job losses. Water pollution of the Vaal River. The mining site is not zoned for mining, but agriculture. <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Anna-Marie Strauss	Public Meeting	24 October 2018	<p>Anna-maries Strauss completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Interested in the proposed project due to impacts on environment, community and infrastructure. 	<p>Dear Anna-Marie,</p> <p>Thank you for attending the Open Day and for completing the Interested and Affected Party (I&AP) registration form. Your comments are duly noted.</p> <p>You have been registered as an I&AP and will be kept up to date with any developments regarding this project.</p> <p>Should you have any questions in this regard, please do not hesitate to contact me.</p>
Renee de Jong Hartslief	E-mail	09 October 2018	<p>Good evening Zizo et al,</p> <p>I am an ordinary RSA citizen. In 1994, I bought and currently operate a FS-gazetted Private Nature Reserve, The Savannah Africa, in the Vaal Eden area.</p>	<p>Dear Renee,</p> <p>Thank you for your mail.</p> <p>Your objection and reasons thereof are noted.</p> <p>Please see below our responses in red.</p>

I&AP	Method	Date	Issue	Response
			<p>Due to a medical crisis in my family, I have been in KZN for almost 5 months.</p> <p>In my private capacity, I hereby object, in the strongest terms, to each and every mining and water application, renewal or amendment in my area.</p> <p>You will forgive me please if I cannot cite all the reference numbers or applicant names: they keep changing. Here are those that come to mind: Pure Source, Sweet Sensations, Woodlands Eco-Estate, Tja Naledi, Barrage Bulk Sand – and now, Monte Christo.</p> <p>I object for, among others, the following reasons:</p> <ol style="list-style-type: none"> 1. Rezoning has not taken place 2. Public Participation has been ignored 3. Rehabilitation is non-existent 4. Compliance with working hours is flagrantly disregarded 5. Roads in the area have been destroyed 6. The critically-endangered Vaal River is under enormous threat 7. The Gauteng gateway to the Vredefort Dome World Heritage Site is severely compromised 8. In terms of the Mining Charter, communities are suffering, not benefiting from the mines 9. Our Sense Of Place is being destroyed 10.Noise, dust and water pollution are rife 11.Mining does not comply with the IDP, budget, SDP, or Bylaws of Fezile Dabi 	<ol style="list-style-type: none"> 1. Rezoning has not taken place <p>The client will initiate the process of applying for consent to include mining as an additional permitted land use on the three properties, in the event that the Mining Right is granted by the DMR.</p> <ol style="list-style-type: none"> 2. Public Participation has been ignored <p>May you kindly elaborate on how the Public Participation has been ignored?</p> <ol style="list-style-type: none"> 3. Rehabilitation is non-existent <p>The client is in the process of applying for the closure of the 3 existing Mining Permits over the application area.</p> <ol style="list-style-type: none"> 4. Compliance with working hours is flagrantly disregarded <p>The Environmental Management Programme Report (EMPR, which is legally binding to the Applicant) that will be compiled for this project, during the EIA phase, will specify working hours and days for the operation of the mine. Interested and Affected Parties have the right to report any areas of non-compliance to the decision- making authority (the DMR) if the mine does not operate according to the conditions of the EMPR.</p> <ol style="list-style-type: none"> 5. Roads in the area have been destroyed <p>A traffic impact assessment has been undertaken in support of the Mining Right Application and the findings will be included in the final Scoping Report that will be made available to the public for review, in due course. In addition, consultation with the Free State Department of Police, Roads and Transport will be undertaken during the EIA phase of the project in order to initiate a long-term road maintenance plan, to ensure the availability of a road network to transport workers and mined product, should the Mining Right be granted by the DMR.</p> <ol style="list-style-type: none"> 6. The critically-endangered Vaal River is under enormous threat

I&AP	Method	Date	Issue	Response
			<p>or Ngwathe Municipalities</p> <p>Please lodge my objections with all of the mines in the Vaal Eden area.</p>	<p>Following consultation with the DWS, buffer zones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River.</p> <p>7. The Gauteng gateway to the Vredefort Dome World Heritage Site is severely compromised</p> <p>Noted.</p> <p>8. In terms of the Mining Charter, communities are suffering, not benefiting from the mines</p> <p>The anticipated contributions to the communities surrounding Pure Source Mine were discussed with the Ngwathe Local Municipality representatives during the compilation of the Social and Labour Plan (SLP) for the project.</p> <p>9. Our Sense Of Place is being destroyed</p> <p>Noted. Sense of place has been identified as a potential impact on the receiving environment during the Scoping phase of the project. This impact will be discussed in detail during the EIA phase and mitigation measures will be recommended.</p> <p>10. Noise, dust and water pollution are rife</p> <p>Noted. Noise, dust and water pollution have been identified as potential impacts on the receiving environment during the Scoping phase of the project. This impact will be discussed in detail during the EIA phase and mitigation measures will be recommended.</p> <p>11. Mining does not comply with the IDP, budget, SDP, or Bylaws of Fezile Dabi or Ngwathe Municipalities</p> <p>The Ngwathe Local Municipality IDP does not go into much detail in terms of the types of development which are supported by government and there does not appear to be a SDF for the municipality. Based on consultation with the Ngwathe Local Municipality representatives during the compilation of the SLP for this project, the Local Municipality</p>

I&AP	Method	Date	Issue	Response
				<p>LED criteria focuses on agriculture, SMMes, and tourism. However, the main economic activities in the Fezile Dabi District Municipality (of which the Ngwathe Local Municipality forms part of) are agriculture, manufacturing, mining and tourism.</p> <p>As requested, we have registered the following I&APs to the project database:</p> <ul style="list-style-type: none"> • Renee Hartsliel renee@bundunet.com • Vredefort Dome Tourism Association VredefortDomeInfo@gmail.com • The Savannah Africa TheSavannaaAfrica@gmail.com • Wild Water Conservancy coach@lifeadventures.co.za • LGV veilig@parys.co.za <p>If you have any further questions in this regard, please do not hesitate to contact me.</p>
Renee de Jong Hartsliel	E-mail	07 November 2018	<p>Dear Zizo,</p> <p>Thank you very much for this email and thanks Michael for your detailed response.</p> <p>Regarding the public meeting held on 24th October: where will the oral comments by attendees like myself, Arnold and Sampie be recorded and incorporated? It seems that they should be available to all IAPs at the upcoming 10th November meeting? You took copious notes and I was fully expecting that some form of written documentation would be forthcoming from you.</p> <p>Here are bullet points of my report to Gavin:</p> <p>“Things I found interesting:</p> <ol style="list-style-type: none"> 1. This was a Public Participation 	<p>Dear Renee,</p> <p>Thank you for your mail.</p> <p>The oral comments acquired at the public meeting held on the 24th October 2018 will be incorporated into the Final Scoping Report, which will be made available to the public at a public venue and on the Shango Solutions website for download, in due course.</p> <p>Kindly forward me the link to the recording you made at the meeting.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<p>meeting, in their eyes</p> <ol style="list-style-type: none"> 2. The road is problematic to ALL and Shango is going to have a hard time dealing with the report I will forward them 3. Zoning – they seem to think it can be done AFTER rights have been approved 4. “Sense of Place” is problematic for them 5. Mining Charter – because they APPLIED on 24 August, the Charter was Gazetted on 27 September, their report was published 8 November: Therefore, the only provision in the Charter they do NOT have to comply with is mine ownership 6. At first they said there was a Social and Labour Plan available on their website. But then they said it was with DMR and not available to the public 7. Still non-compliant re rehab – other contractors to blame” <p>I would be happy to send you a link to the recording we made at the meeting. And attached please find the road report that must SURELY be addressed and made public...</p> <p>Please consider, at the very least, putting our oral comments and your answers from the last meeting on your web site, prior to this Saturday's meeting.</p> <p>Best regards,</p> <p>Renee</p>	

I&AP	Method	Date	Issue	Response
Renee de Jong Hartslief	E-mail	07 November 2018	Dear Zizo, Please can you confirm if these pictures are POSSIBLY of Goosebay?? They were sent to me on Sunday... Thanks! Renee	This correspondence was noted by Shango Solutions.
Renee de Jong Hartslief	E-mail	08 November 2018	Dear Zizo, please confirm that you did receive the report from FS Roads. It was rather large. I will attempt to send you the audio recording of 24 th October meeting – also rather large files. Thanks, Renee	Dear Renee, Our telephonic discussion refers. I have received the FS Roads report. Thank you very much. The oral comments acquired (i) during the initial public consultation and (ii) the additional consultation scheduled for Saturday the 10 th November 2018, will both be incorporated into the Final Scoping Report and made available on the Shango Solutions website for download, in due course, as specified in my previous mail. Thank you and may you enjoy the weekend ahead.
Renee de Jong Hartslief	Telephone	09 November 2018	Shango Solutions received a phone call from Ms Hartslief enquiring about whether we had received the FS Road report she sent via e-mail on the 08 th November 2018. Ms Hartslief wanted clarification on whether the oral comments acquired during the initial public consultation and the additional public consultation will be made available to I&APs. She requested the oral comments acquired during the initial public consultation be made available to I&APs on the Shango Solutions website, for download prior to the additional public consultation.	Shango Solutions confirmed receipt of the FS Road report and notified Ms Hartslief that the oral comments acquired during both public consultations will be incorporated into the Final Scoping Report which will be made available to I&APs for review and comment in due course.
Renee de Jong Hartslief	Additional Public Consultation	10 November 2018	Renee completed the comments and responses form and wherein she stated that she is interested in preserving the environment (land, air and water) and socio-economic upliftment in	This was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
			the Vaal Eden area.	
Renee de Jong Hartslief	E-mail	19 November 2018		Dear Renee, I trust you are well. Could you kindly provide us with the recording you made at the Public Open Day held on the 24 th October 2018? Thank you and we look forward to your response.
Renee de Jong Hartslief	E-mail	21 November 2018	Dear ladies, I thought I had sent the link? Please let me know if you do not have it. Please send me a draft of my questions and your answers before you send them to DMR. Kind regards, Renee	This was noted by Shango Solutions.
Renee de Jong Hartslief	E-mail	27 November 2018	Dear Shango, I second Mariette's comments below and request access to your audio / visual recordings urgently, please. Sincerely, Renee	Dear Renee, I trust you are well. The notes for the record for the additional public consultation held on the 10 th November 2018 were distributed to attendees on the 22 nd November 2018 for their review and comment. Page 2 of the document states that video recordings of the meeting can be accessed on the Shango Solutions website. A link to the recordings has also been provided. However, for your convenience the link is included in this e-mail. http://www.shango.co.za/public-documents/pure-source-mine/ Mr Gavin Aboud indicated that your comments were completely ignored. May you kindly advise? Should you have any further questions in this regard, please do not hesitate to contact me.

I&AP	Method	Date	Issue	Response
Renee de Jong Hartslief	E-mail	30 November 2018 (12:28PM)	Dear Mmakoena, I am well thank you and hope you are too? <ol style="list-style-type: none"> 1. Mr About is correct; my oral submissions during the recent public participation meeting are not minuted at all? 2. Of greater concern - there are no minutes of our previous meeting at Vintage Wedding Yard and the 50-minute recording I made of the question-and-answer session with the Shango team... 	Dear Renee, Thank you for your mail. <ol style="list-style-type: none"> 1. It is understood that we have captured your comments. However, if we have missed some of your comments, kindly advise so that they can be incorporated into the notes for the record. 2. The oral comments acquired during the initial public consultation will be incorporated into the Final Scoping Report. The Final Scoping Report will be made available on the Shango Solutions website, for download on the 14th December 2018. Should you have any further concerns in this regard, please do not hesitate to contact me.
Renee de Jong Hartslief	E-mail	30 November 2018 (4:59PM)	Dear Shango, Surely, you cannot be serious? Regards, Renee	This was noted by Shango Solutions.
Renee de Jong Hartslief	E-mail	03 December 2018 (1:56PM)		Good day, I trust you are well? We would like to place hard copies of the Final Scoping Report at public venues within the Gauteng, Free State and North West provinces. Could you kindly provide us with a list of venues (including the address and contact details of the relevant party to contact) within the three provinces where hard copies of the Final Scoping Report can be placed? Thank you and we look forward to your response.
Renee de Jong Hartslief	E-mail	03 December 2018 (8:38PM)	Thank you very much Mariette - I fully endorse your comments and requests!	Dear Renee, Please see our responses (in red) to your mail below.

I&AP	Method	Date	Issue	Response
			<p>Dear Mmakoena,</p> <p>Shango continues to ignore my submissions and questions, both oral and written:</p> <p>1a) " It is understood that we have captured your comments. However, if we have missed some of your comments, kindly advise so that they can be incorporated into the notes for the record". No, this is completely incorrect - not only have you "missed some comments", you have excluded them all entirely. In the attached extract from your recording of the last meeting, Gavin's introduction of me was lost altogether, as was everything else I said...</p> <p>1b) ...including my explanation of your "strategy" behind rushed time frames and schedules, which Gavin questioned you about during the meeting</p> <p>1c) You will notice that, when the meeting Chair Dr David de Waal calls upon me to introduce myself for the record (which I did), there is a break in the video recording, which I construe as extremely sinister. And my comment about avoiding compliance with the Mining Charter has never been placed "on the record"</p> <p>To rule out the possibility of foul play, I therefore support Mariette and call for you to stop bulldozing your way through the public participation process without providing:</p> <p>"The FSE requests that its oral comments during the Public Participation Meeting be recorded verbatim, that is, not as a transcript of the FSE's comments, but the audio visual recording of the FSE's comments, in the Comments and Response Report.</p> <p>We furthermore request that the subjoined written comments be included in toto and in context, and not abridged in the Comments and</p>	<p>Dear Mmakoena,</p> <p>Shango continues to ignore my submissions and questions, both oral and written:</p> <p>1a) " It is understood that we have captured your comments. However, if we have missed some of your comments, kindly advise so that they can be incorporated into the notes for the record". No, this is completely incorrect - not only have you "missed some comments", you have excluded them all entirely. In the attached extract from your recording of the last meeting, Gavin's introduction of me was lost altogether, as was everything else I said...</p> <p>1b) ...including my explanation of your "strategy" behind rushed time frames and schedules, which Gavin questioned you about during the meeting</p> <p>1c) You will notice that, when the meeting Chair Dr David de Waal calls upon me to introduce myself for the record (which I did), there is a break in the video recording, which I construe as extremely sinister. And my comment about avoiding compliance with the Mining Charter has never been placed "on the record"</p> <p>To rule out the possibility of foul play, I therefore support Mariette and call for you to stop bulldozing your way through the public participation process without providing:</p> <p>"The FSE requests that its oral comments during the Public Participation Meeting be recorded verbatim, that is, not as a transcript of the FSE's comments, but the audio visual recording of the FSE's comments, in the Comments and Response Report.</p> <p>We furthermore request that the subjoined written comments be included in toto and in context, and not abridged in the Comments and Response Report."</p> <p>Thank you for your mail and for providing us with the comments you made during the additional public consultation meeting. Kindly note that your comments have been incorporated into Version 3 of the notes for the record. Version 3 of the Notes for the Record will be included as an appendix to the Final Scoping Report, which will be</p>

I&AP	Method	Date	Issue	Response
			<p>Response Report."</p> <p>2. Your function is to provide complete and accurate minutes, not only of the Public Participation meeting, but also of the Open Day, which you have audio recordings of. For the record, here, once again are my notes from the Open Day and here are the links</p> <p>https://drive.google.com/file/d/1-d1AR2JJUsDm8ULTsMPiYtcQ2okgzPEe/view?usp=sharing</p> <p>https://drive.google.com/file/d/1EAQyhdAxGG89KuT8wO1ql1m9-oCMSbl4/view?usp=sharing</p> <p>Here are bullet points of my report to Gavin:</p> <p>"Things I found interesting:</p> <ol style="list-style-type: none"> 1. This was a Public Participation meeting, in their eyes 2. The road is problematic to ALL and Shango is going to have a hard time dealing with the report I will forward them 3. Zoning - they seem to think it can be done AFTER rights have been approved 4. "Sense of Place" is problematic for them 5. Mining Charter - because they APPLIED on 24 August, the Charter was Gazetted on 27 September, their report was published 8 November: Therefore, the only provision in the Charter they do NOT have to comply with is mine ownership 6. At first they said there was a Social and Labour Plan available on their website. But then they said it was with DMR and not available to the public 7. Still non-compliant re rehab - other contractors 	<p>submitted to the DMR and will be made available to the public from the 14th December 2018.</p> <p>Your suggestion is noted. The notes for the record for the additional public consultation are a summarized version of the comments that were provided at the meeting. In order to ensure that Interested and Affected Parties receive the detailed comments, video recordings of the meeting have been made available on the Shango Solutions website.</p> <p>2. Your function is to provide complete and accurate minutes, not only of the Public Participation meeting, but also of the Open Day, which you have audio recordings of. For the record, here, once again are my notes from the Open Day and here are the links</p> <p>https://drive.google.com/file/d/1-d1AR2JJUsDm8ULTsMPiYtcQ2okgzPEe/view?usp=sharing</p> <p>https://drive.google.com/file/d/1EAQyhdAxGG89KuT8wO1ql1m9-oCMSbl4/view?usp=sharing</p> <p>Here are bullet points of my report to Gavin:</p> <p>"Things I found interesting:</p> <ol style="list-style-type: none"> 1. This was a Public Participation meeting, in their eyes 2. The road is problematic to ALL and Shango is going to have a hard time dealing with the report I will forward them 3. Zoning - they seem to think it can be done AFTER rights have been approved 4. "Sense of Place" is problematic for them 5. Mining Charter - because they APPLIED on 24 August, the Charter was Gazetted on 27 September, their report was published 8 November: Therefore, the only provision in the Charter they do NOT have to comply with is mine ownership 6. At first they said there was a Social and Labour Plan available on their website. But then they said it was with DMR and not available to the public 7. Still non-compliant re rehab - other contractors to blame" <p>Stop rushing us and provide all IAPs - and the DMR - with all the facts, not garbled, selected extracts of notes. We are entitled to MINUTES. If you find yourselves running up against regulated time frames, please do apply to the DMR for extensions.</p>

I&AP	Method	Date	Issue	Response
			<p>to blame"</p> <p>Stop rushing us and provide all IAPs - and the DMR - with all the facts, not garbled, selected extracts of notes. We are entitled to MINUTES. If you find yourselves running up against regulated time frames, please do apply to the DMR for extensions.</p> <p>3. Please put the Free State Roads Department's damning report about the condition of the S171 (Ngwathe's "scenic route" and entrance to the UNESCO Vredefort Dome World Heritage Site) - as a result of unplanned, unmitigated, cumulative mine traffic - into the public domain and let us know what financial provision your client will make to mitigate against this escalating and extremely hazardous situation</p> <p>4. From the Open Day recordings, it is clear that your Social and Labour Plan should also be subject to public scrutiny and that the DMR is not the competent authority to determine whether it is suitable for our communities</p> <p>I look forward to seeing your minutes of both meetings very soon and will be glad to comment upon those in due course.</p> <p>Kind regards, Renee</p>	<p>Thank you for providing us with the links to the audio recordings you made at the Open Day. Your recordings will form part of the CD back pocket of the Final Scoping Report and they will also be uploaded on the Shango Solutions website. Kindly be advised that the comments you provided during the Open Day have been incorporated into notes for the record of the Open Day and these notes will form part of the Final Scoping Report submission to the DMR, for their consideration.</p> <p>3. Please put the Free State Roads Department's damning report about the condition of the S171 (Ngwathe's "scenic route" and entrance to the UNESCO Vredefort Dome World Heritage Site) - as a result of unplanned, unmitigated, cumulative mine traffic - into the public domain and let us know what financial provision your client will make to mitigate against this escalating and extremely hazardous situation</p> <p>The Free State Roads Department's Report does not form part of the environmental studies that were undertaken in support of this Mining Right application. However, it will be included as an appendix (Correspondence) to the Issues and Responses Report. Furthermore, this report was forwarded to the Traffic Specialist for consideration.</p> <p>4. From the Open Day recordings, it is clear that your Social and Labour Plan should also be subject to public scrutiny and that the DMR is not the competent authority to determine whether it is suitable for our communities</p> <p>The Social and Labour Plan is not an environmental report. Hence it was not made available as an appendix to the Draft Scoping Report. The Social and Labour Plan was submitted to the DMR as it forms part of the Mining Right application submission. In addition, the report has been submitted to the Ngwathe Local Municipality for sign off on the Local Economic Development project that is proposed in the Social and Labour Plan. The Social and Labour Plan will be</p>

I&AP	Method	Date	Issue	Response
				<p>provided to Interested and Affected Parties on request, following approval by the DMR. It is worthwhile to note that the Social and Labour Plan is updated every 5 years.</p>
Renee de Jong Hartslief	E-mail	03 December 2018 (8:52PM)	<p>All good, thank you Mmakoena. Please see prior email. I will be glad to assist with suggestions about where to place hard copies of a Final Scoping Report as soon as you have complied with our numerous requests for complete and accurate information to inform the report.</p> <p>Best regards, Renee</p>	<p>This was noted by Shango Solutions and a response was sent to Renee (see response above).</p>
Renee de Jong Hartslief	E-mail	05 December 2018	<p>Yes sure Gavin. The traditional places for such documents in Ngwathe are the Parys and Tumahole libraries, Fezile Dabi District and Ngwathe Local municipal offices.</p>	<p>This was noted by Shango Solutions.</p>
Renee de Jong Hartslief	E-mail	12 December 2018	<p>Dear all,</p> <p>When I realised that Shango had no intention of transcribing and/or releasing the minutes of our two public meetings, I contacted Dr David de Waal, their appointed Chair for 10 November. He responded to me today. Unfortunately, he will be on leave until early January.</p> <p>He confirmed what I have stated: it is unacceptable for Shango to proceed without providing minutes. The public has made submissions (written and oral), which should have been factually ATTTIBUTED and RESPONDED TO by Shango - that hasn't happened. According to him, it is not reasonable for the public to listen to (at least) four hours' of video tape before they can comment on the "minutes" or their submissions in the "report".</p> <p>Furthermore, it is my contention that the video recording of the 10 November meeting has been</p>	<p>This was noted by Shango Solutions.</p>

I&AP	Method	Date	Issue	Response
			<p>edited. See attached, as one example...</p> <p>I cannot comment on anyone else's experience: only my own. To anyone reading the 'report', it will appear as if I did not attend the meeting. Nor was there a recorded meeting at Vintage Yard.</p> <p>I / we continue to be hounded by consultants doing desktop surveys from their Cape Town offices. I, for one, am fatigued by these seemingly endless and futile endeavours. Perhaps that is the purpose...</p> <p>Shango, please apply for the relevant extensions to your application - you have not met the basic requirements in the Public Participation phase. Minutes first please...</p>	
Renee de Jong Hartsliet	E-mail	13 December 2018 (2:59PM)	<p>Dear Mmakoena,</p> <p>Once again, I have been ignored by Shango. Please will you respond with the same urgency you have afforded others to my questions from 3 December?</p>	This was noted by Shango Solutions.
Renee de Jong Hartsliet	E-mail	13 December 2018 (3:06PM)	<p>Dear Mmakoena,</p> <p>Please do me the courtesy of responding to my email below.</p> <ol style="list-style-type: none"> 1. Please send a transcript of the minutes from your open day - you have your recordings and I have supplied you with mine 2. Please put unedited and unabridged video recordings of the 10 November meeting on your website or provide a link 3. PLEASE SUPPLY MINUTES, not reports, of the Public Participation meetings 	
JP van Vuuren	E-mail	16 October 2018	Mr van Vuuren completed the I&AP registration	Good day,

I&AP	Method	Date	Issue	Response
			form and provided the following comments: <ul style="list-style-type: none"> • Communities which exist within the application area: Vaaloewer, Lindequesdrift, Vaal Eden. • Specific concerns: pollution, noise, air, water! Our property value will decrease. 	Thank you for completing the Interested and Affected Party registration form. Your comments are duly noted. Should you have any questions in this regard, please do not hesitate to contact me.
Brandon Gess	E-mail	22 October 2018	Mr Gess completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> • I object! • Communities which exist within the application area: Vaaloewer, Lindequesdrift, Vaal Eden, Vredefort Dome. • Specific concerns: air and noise pollution, health, water pollution. • General comments: No 	Dear Brandon, Thank you for completing the Interested and Affected Party registration form. Your objection to the above mentioned project and reasons thereof are well noted. Should you have any questions in this regard, please do not hesitate to contact me.
Freddy and Landi Van Vuuren	E-mail	19 October 2018	Mr and Mrs van Vuuren completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> • Communities which exist within the application area: Vaaloewer, Lindequesdrift, Vaal Eden, Vredefort Dome, informal settlement next to Vaaloewer. Contact Gavin Aboud (VRA) chairman 083 281 5045. • Specific concerns regarding the project: pollution, noise, air, water, property values, destruction of current view, wildlife, roads, nature and peace. • We object! 	Dear Freddie and Yolande, Thank you for completing the Interested and Affected Party registration form. Your objection to the above mentioned project and reasons thereof are well noted. Should you have any questions in this regard, please do not hesitate to contact me.

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> We support the Vaaloewer Rate Payers Association. Chairman – Gavin Aboud, email – gavinaboud@vodamail.co.za 	
Paul and Dianne Foulkes	E-mail	22 October 2018	<p>Please find attached REGISTRATION FORMS as IAP's against PURE SOURCE MINING APPLICATION.</p> <p>Please also take note of other IAP's listed on my registration form.</p> <p>Thanks.</p> <p>PAUL FOULKES</p> <p>Mr and Mrs Foulkes completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Concerned home owners in Vaaloewer. Any other I&APs who need to be notified: yes. Please see names and contact details in general comments box below. General comments: Other I&APs to contact: <ul style="list-style-type: none"> Lydia Matsaneng. 13 Korhaan Street. Vaaloewer. Cell: 0630200845. E-mail: afspe@mweb.co.za Eva Matsaneng. Korhaan Street. Vaaloewer. Cell: 0839939962. E-mail: afspe@mweb.co.za M.B. Kabe. 7 Meerkat Street. Vaaloewer. Cell: 0810962090. E-mail: 	<p>Dear Paul and Diane,</p> <p>Thank you for completing the Interested and Affected Party (I&AP) registration form.</p> <p>You have been registered as an I&AP and will be kept up to date with any developments regarding this project.</p> <p>As requested, we have registered the following I&APs to the project database:</p> <ul style="list-style-type: none"> Lydia Matsaneng Eva Matsaneng M.B. Kabe Rosinah Magugudi <p>Should you have any questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			afspe@mweb.co.za ○ Rosinah Magugudi. 11 Koorhaan Street. Vaaloewer. Cell: 0797358342. E-mail: afspe@mweb.co.za	
Jan Smit	E-mail	17 October 2018	Mnr Smit het die B & GP-registrasievorm voltooi en die volgende kommentaar verskaf: <ul style="list-style-type: none"> Die beplande werksaam hede hey 'n direkte negatiewe in working op die oord voort bestaan + impak op die omgewing. Alle aangronde giendomme moet skriftelik in kennis gestel word. Toerisme word baie gayief yeraak. Rivier + water newe. Geraas. Misdaad + influx van groot hoeveel hede work soekers. Oord voort bestaan nie moontlik klank in die yebied trek ver. Groot omgewings in pak. Informele nedersetting baie ongesond. Elke moontlike deel word beïnvloed – lug, water, grond, wildlewe, gemenskappe ekonomie and land bou. Eiendom waardg val drasties herverkoop onmoontlik. Word op elke vlak beïnvloed. ENGLISH TRANSLATION <ul style="list-style-type: none"> The proposed activities will have a 	Liewe Jan, Dankie vir u pos en vir die invul van die Registrasie vorm van die Belanghebbende en Geaffekteerde Party. Sien asseblief ons antwoorde (in rooi) op die kommentaar wat u verskaf het in die registrasievorm. <ul style="list-style-type: none"> Die beplande werksaam hede hey 'n direkte negatiewe in working op die oord voort bestaan + impak op die omgewing. Opgemerkt. Alle aangronde giendomme moet skriftelik in kennis gestel word. U voorstel is opgemerk. Let asseblief daarop dat die kennisgewings vir aangrensende grondeienaars aangaande hierdie projek per geregistreerde pos, e-pos en faks gestuur is. Daarbenewens is Correx-kennisgewings en A3-plakkate rondom die aansoekgebied geplaas. Toerisme word baie gayief yeraak. Rivier + water newe. Geraas. Misdaad + influx van groot hoeveel hede work soekers. Volgens die Ekonomiese Impak Bepaling, is die visuele, luggehalte, geraas- en watergehalte-impak gekombineer met die verlies aan biodiversiteit waarskynlik die belangrikste vir toerisme. Bronne van positiewe impak sal voortspruit uit verhoogde potensiaal vir besigheidsverwante besoekers. Die maatreëls wat in ander spesialisstudies aanbeveel word om negatiewe impakte (veral visuele, luggehalte,

I&AP	Method	Date	Issue	Response
			<p>direct negative impact on the lodge as well as an impact on the area.</p> <ul style="list-style-type: none"> • All bordering properties should be notified in writing. • Tourism will be affected negatively as well as the river and water life. There will be an increase in noise, crime and great influx of job seekers. • Lodge future will be impossible. <p>Noise in the area travels far.</p> <p>Big environmental impact.</p> <p>Informal settlement is very unhealthy.</p> <ul style="list-style-type: none"> • Every possible part is affected – Air, water, ground, wildlife, communities, economy and agriculture. • Property values will drop dramatically. Resale impossible. Affected on every level. 	<p>geraas, watergehalte, biodiversiteit, rehabilitasie en maatskaplike maatreëls) te verminder en positiewe impakte te verhoog, sal ook die impak op toerisme verminder. Rehabilitasie moet streng toegepas word en toereikend befonds word beide gelyktydig en by sluiting, veral om visuele letsels en ander toerismesrisiko's te verminder. Die beoogde eindgrondgebruik is om die plaasgedeeltes as 'n eko-landgoed te ontwikkel met residensiële en gasvryheidsfasiliteite aan die oewer van die Vaalrivier.</p> <p>Na oorlegpleging met die Departement van Water en Sanitasie is buffersones in die mynplanuitleg ingesluit om die impak op die nabygeleë waterlope, insluitende die Vaalrivier, te verminder. Daarbenewens sal die omgewingsbestuursprogram (OBPR) kategorieë meld dat geen onbehandelde afvalwater in die Vaalrivier gepomp mag word nie. Daar word opgemerk dat die voorgestelde projek 'n negatiewe uitwerking op die akwatiese lewe kan hê. As sodanig is die volgende versagtingsmaatreëls voorgestel om negatiewe impakte op rivierekologie te verminder:</p> <ul style="list-style-type: none"> ○ Onderhoud van buffersones van vleilande en oewersone. ○ Ontwerp en implementering van stormwaterbestuursplanne en passiewe vuilwaterretensieprosesse. <p>Volgens die Noise Baseline Assessment sal die geraasimpakte na die suide van die projekaktiwiteit effens meer opmerklik wees. Verder is die omvang van die geraas impak as gevolg van 'n indringende geraas afhanklik van bestaande vlakke in 'n gebied en ter plaatse meteorologie. Gesimuleerde MM5 weer data stel is gebruik op die terrein en die resultate toon dat die geraasvlakke binne 'n toelaatbare reeks. Potensiële geraasbronne sal gekwantifiseer word</p>

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				<p>en ingesluit word in die geraasbronnivoorraad en geraasverspreidingsimulasies tydens die geraasimpak-assesseringsfase van die studie.</p> <p>Op grond van die Sosio-ekonomiese Impakstudie word verstaan dat 'n instroming van werkers en werksoekers na 'n gebied (of die inwoners in diens is, of buitestaanders in diens is) die veiligheidsrisiko's in die plaaslike omgewing kan verhoog en 'n impak kan hê op die plaaslike maatskaplike dinamika. Waar moontlik sal die Aansoeker plaaslike arbeid binne die omliggende dorpe opspoor. As sodanig sal daar nie 'n behoefte wees vir arbeiders om na die terrein te verskuif nie. Arbeiders sal daagliks na en van die perseel vervoer word. Indien inwoners in diens geneem word, kan dit die waargenome en werklike risiko in hierdie verband verminder. Volgens die Maatskaplike en Arbeidsplan sal die Pure Source Mine toepaslike werknemersverblyf fasiliteer wat werknemers sal toelaat om in 'n stabiele, gesonde en veilige omgewing binne pendelafstand van hul werkplek te woon.</p> <ul style="list-style-type: none"> • Oord voort bestaan nie moontlik klank in die gebied trek ver. Groot omgewings in pak. Informele nedersetting baie ongesond. Opgemerkt. Verwys asseblief na punt hierbo vir ons reaksie op geraasimpakte. • Elke moontlike deel word beïnvloed – lug, water, grond, wildlewe, gemenskaplike ekonomie and land bou. Opgemerkt. • Eiendom waardig val drasties herverkoop onmoontlik. Word op elke vlak beïnvloed. Dit word verstaan dat die projek se omgewings- en sosiale impak die potensiaal het om op eiendomswaardes te beïnvloed. Gebaseer op die werkskerm se ekonomiese impakbepaling, kan die individuele faktore wat die eiendomswaardes in die omgewing negatief beïnvloed, visuele,

I&AP	Method	Date	Issue	Response
				<p>luggehalte, geraas en terrestriële en rivier biodiversiteit impakte wees. Positiewe impakte kan voortspruit uit die toenemende kommersiële aktiwiteit en werkskepping wat verband hou met die projek, wat 'n rol kan speel in die bevordering van die vraag na huise met moontlike impak op eiendomswaardes. Die versagtingsmaatreëls wat in ander spesialisverslae aanbeveel word om negatiewe impakte (hoofsaaklik visuele, luggehalte, watergehalte, verkeer en maatskaplike maatreëls) te verminder en positiewe impakte te verbeter, kan dus die impak op eiendomswaardes verminder.</p> <p>ENGLISH TRANSLATION Dear Jan,</p> <p>Thank you for your mail and for completing the Interested and Affected Party (I&AP) registration form.</p> <p>Please see our responses (in red) to the comments you provided in the registration form.</p> <ul style="list-style-type: none"> • The proposed activities will have a direct negative impact on the lodge as well as an impact on the area. Noted. • All bordering properties should be notified in writing. Your suggestion is noted. Kindly noted that adjacent landowners have been sent notification regarding this project via registered mail, e-mail and faxes. In addition, correx board site notices and A3 posters were placed around the application area. • Tourism will be affected negatively as well as the river and water life. There will be an increase in noise, crime and great influx of job seekers. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to

I&AP	Method	Date	Issue	Response
				<p>be the key concerns for tourism. Sources of positive impacts would stem from increased potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p> <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. It is noted that the proposed project may have a negative impact on aquatic life. As such, The following mitigation measures have been proposed in order to minimise negative impacts on riverine ecology:</p> <ul style="list-style-type: none"> o Maintaining buffer zones to wetlands and riparian zones. o Designing and implementing storm-water management plans and passive dirty water retention processes. <p>According to the Noise Baseline Assessment, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are</p>

I&AP	Method	Date	Issue	Response
				<p>within a permissible range. Potential noise sources will be quantified and included in the noise source inventory and noise propagation simulations during the noise impact assessment phase of the study.</p> <p>Based on the Socio-Economic Impact Assessment, it is understood that an influx of workers and jobseekers to an area (whether locals are employed, or outsiders are employed) could increase the safety risks in the local area and have an impact on the local social dynamics. Where possible, the Applicant will source local labour within the surrounding townships. As such, there won't be a need for labourers to relocate to site. Labourers will be transported to and from site on a daily basis. Should locals be employed, it could minimise the perceived and actual risk in this regard. According to the Social and Labour Plan, Pure Source Mine will facilitate suitable employee accommodation that will allow employees to reside in a stable, healthy and secure environment within commuting distance from their place of work.</p> <ul style="list-style-type: none"> • Lodge future will be impossible. Noise in the area travels far. Big environmental impact. Informal settlement is very unhealthy. Noted. Please refer to point above for our response on noise impacts. • Every possible part is affected – Air, water, ground, wildlife, communities, economy and agriculture. Noted. • Property values will drop dramatically. Resale impossible. Affected on every level. It is understood that the project's environmental and social impacts have the potential to impact on property values. Based on the desktop Economic Impact Assessment, the individual factors that could impact negatively on property values in the

I&AP	Method	Date	Issue	Response
				<p>area are visual, air quality, noise and terrestrial and riverine biodiversity impacts. Positive impacts could stem from the increased commercial activity and job creation associated with the project which could play a role in boosting demand for houses with potential impacts on property values. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, water quality, traffic and social measures) and enhance positive impacts could thus reduce impacts on property values.</p>
V J and H J de Bruyn	E-mail	16 October 2018	<p>V J and H J de Bruyn completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> This mine needs to be stopped. The dust in the environment is going to be a problem. They are going to ruin Vaal River and pollute the area. It is a disgrace. Communities that exist within the application area: there is a camp in the area. Tribal authorities within, or affected by, the proposed application: the squatter camp. Description of the receiving environment: it is a beautiful area with flora and fauna, wild animals, etc. It is grazing land. Potential biophysical and socio-economic impacts that should be considered during the study: land, fauna, flora. The Vaal River will be polluted. The noise and dust pollution. Measures that should be implemented 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> Please state your interest in the proposed project. This mine needs to be stopped. The dust in the environment is going to be a problem. They are going to ruin Vaal River and pollute the area. It is a disgrace. Your comments are duly noted. Based on the Air Quality Baseline Assessment, the impact on air quality due to mining is usually up to a distance of 5 km from the emitting source. However, without measures being implemented, the impacts from mines can reach further depending on the terrain, wind speed and properties of the material mined. The impact also depends largely on what sources of emissions are present at the mine site and the throughput of material. For example, if material is transported via haul roads there will be greater emissions than if it were conveyed. The following mitigation measures have been proposed to minimise impacts on air quality: <ul style="list-style-type: none"> Utilise water car to keep the road damp

I&AP	Method	Date	Issue	Response
			<p>to mitigate the anticipated biophysical and socio-economic impacts: the mine should not be allowed to go ahead.</p> <ul style="list-style-type: none"> • Specific concerns: environmental issues, certainly. • General comments: this should be stopped. It is not right. We have rights to a peaceful life without dust, noise and terrible pollution. 	<p>and assist in dust suppression.</p> <ul style="list-style-type: none"> - Provide speed-reduction structure positioned in the dirt access road to ensure maximum effectiveness at slowing down vehicles utilising dirt roads. - Maintain sprinkler system alongside dirt roads. - Operators of mobile machinery and truck drivers should be reminded not to speed, to limit dust generation. <p>Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. No untreated waste water and/or effluent will be discharged into the Vaal River as it will be managed in a closed system wherein contact water will be separated from non-contact water as per the Requirements of the National Environmental Management Act (NEMA). Water utilised during the sand washing process will be recycled back to the wash plant for re-use.</p> <p>In order to minimise general pollution of the environment, good housekeeping will be included as a condition in the EMPR.</p> <ul style="list-style-type: none"> • Are you aware of any communities which exist within the application area? Please provide detail and possible contact details. Yes. There is a camp in the area. Noted. • Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. Yes. The squatter camp. Noted. • Are you aware of other I&APs who need to be notified? Please provide detail and possible

I&AP	Method	Date	Issue	Response
				<p>contact details. No. Noted.</p> <ul style="list-style-type: none"> • Please can you provide a description of the receiving environment? It is a beautiful area with flora and fauna, wild animals, etc. It is grazing land. Noted. • Are you aware of any land developments (current or proposed) within the application area that may be relevant to the proposed mining operation? Yes. Noted. Could you kindly elaborate on what other land developments are currently underway or proposed within the application area? • Are you aware of any cultural or heritage features within the application area and surrounds, please provide detail? Yes. Noted. Could you kindly provide detail regarding the cultural and heritage features occurring within the application area and surrounds? • Please describe any biophysical and socio-economic impacts that you believe should be considered during the study. Land, fauna, flora. The Vaal River will be polluted. The noise and dust pollution. Noted. As stated in the first point above, no untreated waste water and/or effluent will be discharged into the Vaal River. The first point also addresses your concern regarding dust pollution. Based on the Noise Baseline Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. The following mitigation measures have been recommended in order to minimise noise impacts:

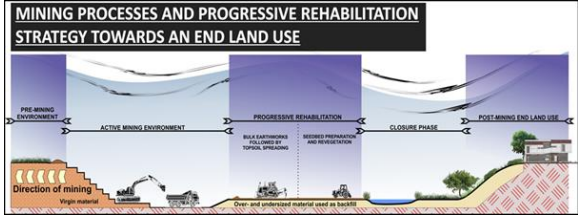
I&AP	Method	Date	Issue	Response
				<ul style="list-style-type: none"> - Maintain vehicles and equipment in good working order. - Provide noise berms where possible between activities and receptors. - Conduct noise monitoring in response to noise complaints. <p>According to the terrestrial biodiversity assessment undertaken in support of this application, open pit mining and site clearance for infrastructure and associated access roads may result in the loss of habitat for species of conservation concern as well as the displacement, direct mortalities and disturbance of the faunal community. The biodiversity specialist has recommended mitigation measures to minimise impacts on fauna, which include, but a not limited to, (i) avoiding high biodiversity sensitivity areas and complying with prescribed buffer zones as well as (ii) implementing training to ensure that all staff are aware of faunal sensitivity.</p> <p>Impacts on flora may include the loss of plant species of conservation importance and the encroachment of alien invasive plant species. Mitigation measures have been proposed by the relevant specialist and are included in the in the terrestrial biodiversity assessment and draft Scoping Report.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. The mine should not be allowed to go ahead. Your suggestion is noted. • Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? Environmental issues, certainly. Noted. • General comments:

I&AP	Method	Date	Issue	Response
				<p>This should be stopped. It is not right. We have rights to a peaceful life without dust, noise and terrible pollution.</p> <p>Your comment is noted and will be included in the Issues and Responses Report to be submitted to the Competent Authority for their decision-making.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
James Ludick/ Lapa Manzi Home Owner's Association	E-mail	06 November 2018	<p>Lapa Manzi Home owners Association registration of objection against the application of mining rights on and against the Vaal river which will impact on the environment by Monte Cristo Comercial Park (Goosebay Farm).</p> <p>Plot 31 – 54</p> <p>31 Frazer Quinn (sharonquinn@vodamail.co.za); 32 Bertie de Wal <bertie@marissanel.co.za>; 33 Rudi Liebenberg <rudil@reutech.co.za>; 34 Erich Smith <erichsmith@gmail.com>; 35 Pieter Nortje <petrus.jnortje@yahoo.com>; 36 Adriaan de Lange <at@sddiam.co.za>; 36a Ursela Roch <ursela@idllab.co.za>; 37 Dewaldt de Klerk <dewaldtde@nedbank.co.za>; 38 George Koen <gmakoen@gmail.com>; 39 Andre Pienaar <andre@solidbuild.co.za>; 40 Stephan Fick <ronel.cp.fick@gmail.com>; 40 Stephan Fick (stephanf@absa.co.za); 41 Egbert Okkely <outafric@mweb.co.za>; 42 Debbie Seinch <prosecurity@mweb.co.za>; 43 Jacek Fastyn <fastynjmw@absamail.co.za>; 44 Piet Uys (uys@puys.co.za); 45 Rory Gallocher <roryg@shra.org.za>; 46 Kenneth Hayes <admin@ahvaal.co.za>; 47 Harko Mulder <harko.mulder@polka.co.za>; 48 James Ludick <jludick@edcon.co.za>; 49 Wayne Botes <boteswayne@gmail.com>; 50 DJ Vosloo <dj.vosloo@pepsico.com>; 51 Joseph Keywood <lebag.00139@ymail.com>; 52 Eugene Keys <312eugene.keys@mactube.co.za>; 53 Wim</p>	<p>Dear James,</p> <p>Thank you for your mail.</p> <p>Your objection to the above mentioned project is noted.</p> <p>As requested, you have been registered as an Interested and Affected Party (I&AP) for this project. In addition, we have registered the I&APs you provided in your correspondence to the project database.</p> <p>As registered I&APs, you will be kept up to date with any developments regarding this project.</p> <p>Kindly find attached correspondence providing details on an additional public consultation scheduled for the 10th November 2018 wherein key issues raised by I&APs will be addressed.</p> <p>Should you have any questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
			<p><wim.segotta@mediclinic.co.za>; 54 Ian Hunter <ian.hunter35@yahoo.com></p> <p>Regards</p> <p>James Ludick</p>	
Roelf Pretorius	E-mail	06 November 2018	<p>Please find attached objection to mining</p> <p>Mr Roelf completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • My concern is the environment. Since mining started I hear the machines starting up at 06H00 in the morning. Most of the birdlife Owls, Fish Eagle, Guinea Fowl, Bleshoender, Blue Crane disappeared. Vivid monkeys moved on. The dust from mining – evidence in my swimming pool every morning depending on wind direction. • Are you a landowner or legal land occupier within the application area: not within the area but close farm owners bordering the area. • I&APs who need to be notified: the informal settlement. • Description of the receiving environment: farming. Directly opposite the proposed site is Lindequesdrif where there are a small number of small scale farmers as well as a number of land owners who make a living out of the holiday, fishing resorts. • Potential biophysical impacts and/or socio-economic impacts that should be considered during the study: socio-economic - people who earn their 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration form.</p> <p>Please see our responses in read. The answers you provided in the registration form are highlighted in yellow.</p> <ol style="list-style-type: none"> 1. Please state your interest in the proposed project. My concern is the environment. Since mining started I hear the machines starting up at 06H00 in the morning. Most of the birdlife Owls, Fish Eagle, Guinea Fowl, Bleshoender, Blue Crane disappeared. Vivid monkeys moved on. The dust from mining – evidence in my swimming pool every morning depending on wind direction. <p>You concern is noted. The planned working hours for the proposed Pure Source Mine are as follows: For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the Environmental Impact Assessment (EIA) phase.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality impacts. In addition, mitigation measures such as dust suppression have been suggested by the</p>

I&AP	Method	Date	Issue	Response
			<p>livelihood in Lindequesdrif.</p> <ul style="list-style-type: none"> I pay taxes as if in an affluent society. Specific concerns: according to JB Marks municipality, my property is zoned residential 1 and I pay taxes accordingly. Are there any areas where mining is allowed within metres from a residential area? General comments: there are photos available of what the area presently looks like. Please if anyone can tell me how they intend on rehabilitating? It took more than 20 years to rehabilitate the diamond mine directly across the river where I stay – and they had rocks and stones to do so. How do you do it if all the sand is mined out? 	<p>relevant specialist.</p> <ol style="list-style-type: none"> Are you a landowner or legal land occupier within the application area? Not within the area but close farm owners bordering the area. Noted. Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. The informal settlement. Noted. Please can you provide us with a description of the receiving environment. Farming. Directly opposite the proposed site is Lindequesdrif where there are a small number of small scale farmers as well as a number of land owners who make a living out of the holiday, fishing resorts. Noted. Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Socio-economic - people who earn their livelihood in Lindequesdrif. Noted. Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-economic impacts of the proposed activity. I pay taxes as if in an affluent society. Your comment in noted. Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? According to JB Marks municipality, my property is zoned residential 1 and I pay taxes accordingly. Are there any areas where mining is allowed within metres from a residential area? Your comment is noted. Kindly note that according

I&AP	Method	Date	Issue	Response
				<p>to the Section 6 (a) of the Mining Health and Safety Act, 1996 (Act 29 of 1996), no mining operations may be carried out under or within a horizontal distance of 100 m from buildings, roads, railways, reserves, mine boundaries, any structure whatsoever or any surface. The Applicant has adhered to the 100 m buffer.</p> <p>8. General comments: There are photos available of what the area presently looks like. Please if anyone can tell me how they intend on rehabilitating? It took more than 20 years to rehabilitate the diamond mine directly across the river where I stay – and they had rocks and stones to do so. How do you do it if all the sand is mined out? Rehabilitation, from the mining industry perspective, means the disturbed areas will adhere to a pre-determined plan or fulfill a post-closure function that is sustainable and usable. It recognizes that extraction of a resource will occur and that the original topography will be altered. The basic requirements for rehabilitation are to construct a stable, safe and functioning environment post-mining. This can be achieved through various methods.</p> <p>Rehabilitation is not restoration. Therefore, the mining area will not have the same topography as the pre-mining environment. Rehabilitation in this case will be conducted in a progressive manner. Progressive rehabilitation involves a phased approach in which bulk earthworks, fine grading and re-vegetation will directly follow the pit mining activity, based on a year-on-year mining plan. Mining under this Mining Right will involve the excavation of open pit areas, of varying sizes and depths. Prior to commencement of mining, topsoil will be removed from the area demarcated for mining and stockpiled next to the pit for the</p>

I&AP	Method	Date	Issue	Response
				<p>purpose of rehabilitation. Once the resources in a certain pit have been mined-out, over-and undersized material will be utilised for backfilling, followed by topsoil spreading, and subsequent seedbed preparation and re-vegetation. Some of the excavated pits or depressions will be developed into artificial wetlands, as the intention isn't to restore the original topography, but to sculpt the mined areas to construct various ecological habitats.</p> <p>The post-mining end land use will be an eco-and wildlife estate, ranging in various functions from resort and entertainment facilities, housing, agriculture as well as conservation (see diagram below).</p>  <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Roelf Pretorius	E-mail	03 December 2018	<p>I sincerely hope someone send you photos of what it looked like when the wind blew</p> <p>If not I can forward</p> <p>Regards</p> <p>Roelf Pretorius</p>	<p>Dear Roelf,</p> <p>I trust you are well.</p> <p>Mr Gavin About provided us with such pictures on the 21st November 2018, which have been forwarded to the air quality specialist.</p>
Sete Mgeina	E-mail	08 November 2018	<p>Sete Mgeina completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> Mining should not take place. 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration forms.</p> <p>Your comments and objection to the above mentioned</p>

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> • I stay and work on my 2.2 hectare plot during the week. • Communities which exist within the application area are Mr and Mrs Phytides. Santana, Burger, Hannekom and all living on farm de Pont. • Not aware of any tribal authorities within, or affected by the proposed application. • Other I&APs who need to be notified are the Department of Environmental Affairs and Fauna and Flora. • Mielies and vegetables are planted each year. Farmers have cattle and sheep. Many animals and birds live in this environment. • Properties around the area where I work are for sale. • A heritage feature within the surrounds of the application area is the Vredefort Dome. • Many animals live on this environment. Crop farming (mielies and vegetables) and livestock farming (cattle) also occur in this area. • The sand is too much. When the wind blows my chest pains. I don't want to be near the mines. • Noise starts before 05:00 as a result of the many trucks on the roads. In addition, heavy duty machines make lots of noise. Where must all the animals and birds go? Dust from the mines poses a risk to my health. 	<p>project are duly noted.</p> <p>According to the specialist studies undertaken in support of this application, the proposed application area does not overlap with, nor will it impact upon any formally protected area. We are required by the relevant legislation to maintain a 5 km buffer from protected areas. The edge of the crater of the Vredefort Dome, a UNESCO World Heritage Site, is ~8 km to the south-west of the site. As such, the Vredefort Dome will not be impacted upon by the proposed mining activities.</p> <p>Ambient particulate and gaseous concentrations resulting from mining operations will be assessed in the air quality assessment during the Environmental Impact Assessment (EIA) phase of the project, in order to determine their impact on human health.</p> <p>Your concerns regarding road safety and the poor state of the roads are noted. Based on the Traffic Impact Assessment, the proposed Pure Source Mine will be accessed by means of an existing farm access road from road S171. A visual investigation of the relevant section of the road S171 was undertaken as part of the traffic assessment. According to the investigation, the road surface of S171 is in a poor condition with multiple potholes. In order to avoid further deterioration of this road, it is recommended that (i) a Roads Maintenance Plan, inclusive of upgrades, be prepared and that (ii) a pavement design specialist be commissioned to investigate the condition of the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <p>The following mitigation measures have been recommended to ensure road safety:</p> <ul style="list-style-type: none"> ✓ Construct safe access points/intersections. ✓ Educate employees (temporary and permanent) about road safety. ✓ Enforce strict vehicle speeds.

I&AP	Method	Date	Issue	Response
				<p>✓ If a person or animal is injured by traffic activities, an emergency response procedure must be implemented.</p> <p>Based on the Noise Impact Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures have been recommended to reduce noise impacts relating to this project. The planned working hours for the proposed Pure Source Mine are as follows:</p> <p>✓ For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the EIA phase.</p> <p>The Terrestrial Biodiversity Assessment identified the potential loss of habitat for Species of Conservation Concern (SCC) (based on the National Biodiversity Areas Plan) and the loss of areas of high biodiversity (based on the Free State Critical Biodiversity Areas Plan). Further investigations will be made during the EIA phase.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality impacts. In addition, mitigation measures such as dust suppression have been proposed to minimise dust emission.</p> <p>Should you have any further concerns or questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Maria Mkhwanazi	E-mail	08 November 2018	<p>Ms Mkhwanazi completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • The mining should not take place. • Not a land owner or legal land occupier. I work from Monday to Friday on subdivision 3 of the farm de Pont 228. • Communities which exist within the application area include Mr and Mrs Phytides, Santana, Burger and Hannekom and all who live on the farm de Pont and Vaal Eden. • Not aware of any tribal authorities within, or affected by, the proposed application. • Another I&AP that needs to be notified is the Department of Environmental Affairs. • The receiving environment comprises mielies, cattle and sheep. Many beautiful animals reside in this area. This is the country side. • Properties around us are for sale. • A heritage feature within the surrounds of the application area is the Vredefort Dome. • Mining must not take place. STOP any mining. • The cloud of sand is terrible when the wind blows. The trucks around the area pose a great danger to humans. • The noise is terrible. When Goose Bay 	<p>Good day,</p> <p>Thank you for your mail and for completing the Interested and Affected Party registration forms.</p> <p>Your comments and objection to the above mentioned project are duly noted.</p> <p>According to the specialist studies undertaken in support of this application, the proposed application area does not overlap with, nor will it impact upon any formally protected area. We are required by the relevant legislation to maintain a 5 km buffer from protected areas. The edge of the crater of the Vredefort Dome, a UNESCO World Heritage Site, is ~8 km to the south-west of the site. As such, the Vredefort Dome will not be impacted upon by the proposed mining activities.</p> <p>Ambient particulate and gaseous concentrations resulting from mining operations will be assessed in the air quality assessment during the Environmental Impact Assessment (EIA) phase of the project, in order to determine their impact on human health.</p> <p>Your concerns regarding road safety and the poor state of the roads are noted. Based on the Traffic Impact Assessment, the proposed Pure Source Mine will be accessed by means of an existing farm access road from road S171. A visual investigation of the relevant section of the road S171 was undertaken as part of the traffic assessment. According to the investigation, the road surface of S171 is in a poor condition with multiple potholes. In order to avoid further deterioration of this road, it is recommended that (i) a Roads Maintenance Plan, inclusive of upgrades, be prepared and that (ii) a pavement design specialist be commissioned to investigate the condition of the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <p>The following mitigation measures have been recommended to ensure road safety:</p>

I&AP	Method	Date	Issue	Response
			<p>mined the sand, the sound was loud. I cannot breathe properly on windy days. My chest pains. We see less birds and animals. The grasslands are also gone.</p>	<ul style="list-style-type: none"> ✓ Construct safe access points/intersections. ✓ Educate employees (temporary and permanent) about road safety. ✓ Enforce strict vehicle speeds. ✓ If a person or animal is injured by traffic activities, an emergency response procedure must be implemented. <p>Based on the Noise Impact Assessment, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures have been recommended to reduce noise impacts relating to this project. The planned working hours for the proposed Pure Source Mine are as follows:</p> <ul style="list-style-type: none"> ✓ For mining activities, a 5.5 day work week with a 2 shift system is proposed. Operating hours would be from 06:00 to 18:00. For diamond sorting, a 6 day work week with a 2 shift system, operating 24 hours a day. However, the 24 hour shift for diamond sorting will be reconsidered during the EIA phase. <p>The Terrestrial Biodiversity Assessment identified the potential loss of habitat for Species of Conservation Concern (SCC) (based on the National Biodiversity Areas Plan) and the loss of areas of high biodiversity (based on the Free State Critical Biodiversity Areas Plan). Further investigations will be made during the EIA phase.</p> <p>The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and product stockpiles, in order to minimise air quality impacts. In</p>

I&AP	Method	Date	Issue	Response
				addition, mitigation measures such as dust suppression have been proposed to minimise dust emission. Should you have any further concerns or questions in this regard, please do not hesitate to contact me.
Gert and Dawn Schepers	Additional Public Consultation	10 November 2018	Mr and Mrs Schepers completed the I&AP registration form and provided the following comments: <ul style="list-style-type: none"> • I am opposed to mining because of the damage to land, water and silica dust which will affect our health and wellbeing. Value of our property will decrease. • I&APs who need to be notified are the residents of Vaaloewer. • There are currently property developments in Vaaloewer. • Our water, air, flora and fauna will be negatively affected by the proposed mining. Our health will also will also be negatively affected by silica dust. • No mining as restoration of land will probably not take place. Noise factor will be a problem. How will dust storms from mining dust be managed? How will water be protected? • Value of property will decrease. Dust (silica) will cause disease and lung cancer. Fauna and flora will be negatively affected. Jobs will be lost as businesses will be forced to close down. • Mining will generally have nothing but a negative effect on people, fauna, flora, value of property and health. 	Dear Dawn, Thank you for completing the Interested and Affected Party registration form. Please see our responses in red. The answers you provided in the registration form are highlighted in yellow. <ul style="list-style-type: none"> • Please state your interest in the proposed project. I am opposed to mining because of the damage to land, water and silica dust which will affect our health and wellbeing. Value of our property will decrease. Your objection to the proposed project and reasons thereof are noted. • Are you a landowner or legal land occupier within the application area? Yes. Noted. • Are you aware of any communities which exist within the application area? Please provide detail and possible contact details. Yes. Noted. • Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. No (possibly informal settlement). Noted. • Are you aware of any other I&APs who need to be notified? Please provide detail and possible contact details. Vaaloewer residents. Noted. • Are you aware of any land developments (current or proposed) within the application area that may

I&AP	Method	Date	Issue	Response
			Jobs will be lost due to businesses closing down.	<p>be relevant to the proposed mining operation? Property development in Vaaloewer. Noted.</p> <ul style="list-style-type: none"> Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study. Our water, air, flora and fauna will be negatively affected by the proposed mining. Our health will also will also be negatively affected by silica dust. <p>1. Water Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the Environmental Management Programme (EMPR) will categorically state that no untreated waste water must be pumped into the Vaal River. According to the Groundwater assessment undertaken in support of this application, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the neighbouring sand mine operations.</p> <p>2. Air The impact on air quality will depend largely on sources of emissions present on a mine at any given time and the throughput of material. For example, if material is transported via haul roads, there will be greater emissions than if it were conveyed. To a large extent, the mined products for this project are expected to be transported via conveyor systems from the pits to the plant and</p>

I&AP	Method	Date	Issue	Response
				<p>product stockpiles, in order to minimise air quality as well as noise impacts. Additional mitigation measures have been proposed and these are included in the relevant specialist reports.</p> <p>3. Flora and fauna According to the terrestrial biodiversity assessment undertaken in support of this application, open pit mining and site clearance for infrastructure and associated access roads may result in the loss of habitat for species of conservation concern as well as the displacement, direct mortalities and disturbance of the faunal community. The biodiversity specialist has recommended mitigation measures to minimise impacts on fauna, which include, but a not limited to, (i) avoiding high biodiversity sensitivity areas and complying with prescribed buffer zones as well as (ii) implementing training to ensure that all staff are aware of faunal sensitivity.</p> <p>Impacts on flora may include the loss of plant species of conservation importance and the encroachment of alien invasive plant species. Mitigation measures have been proposed by the relevant specialist and are included in the in the terrestrial biodiversity assessment and draft Scoping Report.</p> <p>4. Health risks Ambient particulate and gaseous concentrations due to the mining operations will be assessed in the air quality assessment during the Environmental Impact Assessment (EIA) phase of the project in order to determine their impact on human health.</p> <ul style="list-style-type: none"> • Please describe any measures you believe should be implemented to mitigate, manage, avoid, or remedy the anticipated biophysical and socio-

I&AP	Method	Date	Issue	Response
				<p>economic impacts of the proposed activity. No mining as restoration of land will probably not take place. Noise factor will be a problem. How will dust storms from mining dust be managed? How will water be protected?</p> <p>Your suggestion is noted. According to the noise baseline assessment for this project, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Mitigation measures were recommended to reduce noise impacts.</p> <p>Dust suppression has been proposed as a mitigation measure to minimise dust emissions. In the case of surface water, no untreated waste water and/or effluent will be discharged into the Vaal River as it will be managed in a closed system wherein contact water will be separated from non-contact water as per the Requirements of the National Environmental Management Act (NEMA). Water utilised during the sand washing process will be recycled back to the wash plant for re-use.</p> <p>The following mitigation measures have been recommended to reduce impacts on groundwater quality:</p> <ul style="list-style-type: none"> ○ Design and implement contamination containment measures. ○ Effective equipment and vehicle maintenance. ○ Fast and effective clean-up of spills. ○ Conducting groundwater monitoring and implementing remedial actions where required.

I&AP	Method	Date	Issue	Response
				<ul style="list-style-type: none"> Do you have any specific concerns, comments or objections to the proposed project, if so could you please provide us with information? <p>Value of property will decrease. Dust (silica) will cause disease and lung cancer. Fauna and flora will be negatively affected. Jobs will be lost as businesses will be forced to close down.</p> <p>In order to assess the potential impacts on existing property values, the property context surrounding the site was first considered by the economic specialist. Secondly, the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The key potential sources of negative impacts on property values are visual, air quality, noise and biodiversity impacts. The Economic Impact Assessment states that property values in any given area are significantly driven by demand for housing, which in turn, is directly linked to economic opportunities and jobs in the area. The project therefore has the potential to increase demand and associated values for housing and property. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality and social measures) and enhance positive impacts would reduce impacts on property values.</p> <p>According to the Social Impact Assessment, it is understood that the proposed project will promote job creation within the local area.</p> <p>Refer to point 7 for our responses regarding fauna, flora and health risks.</p> General comments: <p>Mining will generally have nothing but a negative effect on people, fauna, flora, value of property</p>

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				<p>and health. Jobs will be lost due to businesses closing down.</p> <p>Kindly refer to the above points addressing the issues you specified under general comments.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Gert and Dawn Schepers	E-mail	10 November 2018	<p>Please see my replies below.</p> <p>I do not believe that the proposed mining will have no negative impacts on our water as silica dust CANNOT be contained and will be blown into the water, flora and fauna and air.</p>	<p>Dear Dawn,</p> <p>Thank you for your mail.</p> <p>Please see our response in red.</p> <p>I do not believe that the proposed mining will have no negative impacts on our water as silica dust CANNOT be contained and will be blown into the water, flora and fauna and air.</p> <p>The Vaal River will be included in the assessment of dust fallout impacts. According to the Air Quality Specialist, silica is only harmful when inhaled and is not harmful if it lands up in the river. During the air quality impact assessment, dust fallout, inhalable particulate concentrations as well as inhalable silica concentrations will be quantified and dispersion modelling simulations undertaken to estimate ambient pollutant concentrations and dust fallout. Ambient pollutant concentrations will depend on the area being mined, the wind direction and the level of activity.</p> <p>According to the Surface Hydrology Specialist, the current drainage lines and wetland areas have been excluded from the mine works programme. It is envisaged that no significant levels of silica (above normal levels) will enter the Vaal River. In addition, the effect of silica on freshwater organisms, based on toxicity exposures, is considered to be a low order of toxicity and therefore classified as having a low hazard profile. Effect concentrations have only been observed between 210 mg/l and 1 700 mg/l. These are considered to be very high concentrations of silica and the proposed project will likely not result in the formation of these artificially high concentration solutions.</p>

I&AP	Method	Date	Issue	Response
				<p>Excessive levels of dust may have potential negative direct and/or indirect impacts on fauna and flora. Dust fallout on fauna and flora will be quantitatively assessed in the Final Scoping Report. It should be noted that alpha quartz (silica) is only harmful when inhaled and is not considered harmful through ingestion or dermal contact.</p> <p>Mitigation measures have been proposed to minimise impacts on air quality. Additional mitigation measures will be proposed in the Environmental Management Programme (EMPR) during the Environmental Impact Assessment (EIA) Phase of this project.</p> <p>d Should you have any further concerns in this regard, please do not hesitate to contact me.</p>
John and Petruska Annandale	Additional Public Consultation	10 November 2018	<p>Mr and Mrs Annandale completed the comments and responses form wherein they stated that they are interested in the Pure Source Mine project due to (i) the financial value of their properties, (ii) health concerns and (iii) environmental concerns. Further to the above, they provided the following comments:</p> <ol style="list-style-type: none"> 1. The value of our properties has already started to decline. What value will the mine add to the area? 2. Did the relevant parties (environmental etc.) consider/study what impact the weather will have on the area in the preliminary studies that were conducted? 3. Is your study regarding job creation only related to the mine? 4. What are the mine's development and localisation contributions going to be? 	<p>Good day,</p> <p>Thank you for completing the comments and responses form provided to you at the additional public consultation held on the 10th November 2018.</p> <p>Kindly be advised that you have been registered as Interested and Affected Parties and will be kept up to date with any developments regarding this project.</p> <p>Below (in red) are our responses to the concerns you raised.</p> <ol style="list-style-type: none"> 1. The value of our properties has already started to decline. Your comment is noted. It is understood that the project's environmental and social impacts have the potential to impact on property values. Based on the desktop Economic Impact Assessment, the individual factors that could impact negatively on property values in the area are visual, air quality, noise and terrestrial and riverine biodiversity impacts. Positive impacts could stem from the increased commercial activity and job creation associated with the project which could play a role in boosting demand for houses with potential impacts on property values. The mitigation measures recommended in other specialist reports

I&AP	Method	Date	Issue	Response
				<p>to minimise negative impacts (primarily visual, air quality, water quality, traffic and social measures) and enhance positive impacts would thus reduce impacts on property values.</p> <p>What value will the mine add to the area? According to the Socio-economic Impact Assessment, the potential positive impacts, which may be associated with the mining operations include, but are not limited to, the following:</p> <ul style="list-style-type: none"> • Increase in job opportunities for skilled and unskilled labourers. • Opportunities for the local economy and business in the area due to the injection of income in the area in the form of wages. • Capacity building and skills development. • Generation of resources such as sand, gravel and diamonds would boost South Africa's economy. <p>In addition, extensive investigations have revealed that there is a shortage of alluvial silica sand in the PWV industrial complex. Alluvial silica sand has a greater utility than silica sand that is created by means of crushing processes. Furthermore, many of the previously existing abundant alluvial silica sand mines located in the Vaal Triangle (Copper Sunset, Skysand and Mission Point mines) are on the verge of being exhausted, thus making the mining of the existing resource at the Pure Source Mine both necessary and desirable, with regards to economic considerations.</p> <p>2. Did the relevant parties (environmental etc.) consider/study what impact the weather will have on the area in the preliminary studies that were conducted? Yes. Modelled MM5 data was obtained for the period January 2015 to December 2017 to</p>

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				<p>describe atmospheric dispersion potential and for future use in the dispersion model as there is no on-site meteorological station.</p> <p>3. Is your study regarding job creation only related to the mine? This project is for mining. As such, the study only outlines jobs that will be created directly by the mining operations.</p> <p>4. What are the mine's development and localisation contributions going to be? In accordance with the requirements of the Mineral and Petroleum Resources Development Act (MPRDA) and the Mining Charter, the Applicant is required to formulate a five year Social and Labour Plan which includes a Local Economic Development Programme. The Local Economic Development project in this regard is a Road Maintenance Income Generating project.</p> <p>5. Health concerns Alpha quartz (silica) concentrations will be modelled and assessed against international health screening criteria during the full air quality impact assessment. In addition, ambient particulate and gaseous concentrations due to the mining operations will also be assessed during the Environmental Impact Assessment (EIA) phase in order to determine their impact on human health.</p>
Rudi Liebenberg	Additional Public Consultation	10 November 2018	<p>Ms Liebenberg completed the comments and responses form wherein she stated that she is interested in the proposed project due to (i) environmental impact, (ii) destruction of roads and (iii) danger travelling on narrow road or night driving. She further went on to provide the following comment:</p> <ul style="list-style-type: none"> The Applicant has proven not to care for rules and regulations. Currently continuing with work, no equal 	<p>Good day, Thank you for completing the comments and responses form provided to you at the additional public consultation held on the 10th November 2018.</p> <p>Kindly be advised that you have been registered as Interested and Affected Parties and will be kept up to date with any developments regarding this project.</p> <p>Below (in red) are our responses to the concerns you raised.</p> <ul style="list-style-type: none"> Environmental impact, destruction of roads and danger travelling on narrow road or night driving.

I&AP	Method	Date	Issue	Response
			<p>opportunity for prospecting rights, eco-estate doing mining.</p>	<p>Noted. A visual investigation of the relevant section of the road S171 was conducted as part of the Traffic Impact Assessment. It was noted that the road surface is in a poor condition with multiple potholes and it is possibly deteriorating. As such, it is recommended that a Roads Maintenance Plan be prepared, in collaboration with other landowners, developments and relevant roads authority, to ensure the availability of a road network to transport workers and mined product. In addition, a pavement design specialist should be commissioned to investigate the roadway layers in order to identify any collapsing and deterioration of the roadway layers.</p> <ul style="list-style-type: none"> The Applicant has proven not to care for rules and regulations. Currently continuing with work, no equal opportunity for prospecting rights, eco-estate doing mining. <p>It is understood that rehabilitation activities are currently taking place on-site. The process to obtain the necessary Environmental Authorisation for establishing the eco-estate was initiated more than a decade ago (thus confirming the landowner's intentions in this regard). The environmental authorities were approached in terms of the relevant legislation. The Record of Decision (RoD) confirming the Environmental Authorisation was accordingly issued in 2011. Mining is an interim land use. Could you kindly elaborate on what your mean by 'no equal opportunity for prospecting rights'?</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Rudi Liebenberg	E-mail	06 December 2018 (11:34AM)	<p>For a start see the items in RED</p> <p>This never happened</p> <p>2.2 What rights are required to conduct exploration?</p>	<p>Dear Rudi,</p> <p>Your correspondence is acknowledged. Thank you.</p>

I&AP	Method	Date	Issue	Response
			<p>In South African law there is a distinction between prospecting and exploration. Prospecting relates to searching for minerals other than petroleum and exploration relates to searching for petroleum. Petroleum relates to liquid, solid hydrocarbons or combustible gas but excludes coal and bituminous shale. In order to conduct prospecting for minerals (other than petroleum), an applicant has to apply for and be granted a prospecting right. In order to procure the grant, The Minister is obliged to grant the prospecting right if the applicant has access to financial resources and technical ability, can conduct the prospecting in accordance with the prospecting work programme and if the prospecting will not result in unacceptable pollution, degradation or damage to the environment. Prospecting rights are granted for a maximum period of five years and are renewable once for period of up to three years.</p> <p>The holding of a prospecting right grants exclusivity to the holder in regard to an application for a mining right. In regard to petroleum, an applicant has to apply for an exploration right in terms of the petroleum chapter of the MPRDA.</p>	
Rudi Liebenberg	E-mail	06 December 2018 (12:09PM)	<p>See Text highlighted in RED</p> <p>3.3 Are there requirements for ownership by indigenous persons or entities?</p> <p>There are no requirements for foreign ownership by indigenous persons or entities in entities holding prospecting rights or mining rights in South Africa. However, there is a requirement that at least 26% of the attributable units of production of prospecting or mining projects should be held by historically disadvantaged South Africans. A mining charter dealing with the transformation of</p>	<p>Dear Rudi,</p> <p>Your correspondence is acknowledged. Thank you.</p>

I&AP	Method	Date	Issue	Response
			the mining industry to assist the entrance of historically disadvantaged South Africans into the minerals and mining industry applies to all holders of prospecting rights and mining rights . A mining charter was published in 2004 when the MPRDA came into effect but has been substituted by an amended mining charter in 2010.	
Rudi Liebenberg	E-mail	06 December 2018 (12:20PM)	<p>Could you please note Text highlighted in RED below.</p> <p>This action needs to be attended too.</p> <p>4.1 Are there special regulatory provisions relating to processing and further beneficiation of mined minerals?</p> <p>The MPRDA provides that before any person intends to beneficiate any mineral mined in the Republic of South Africa outside the Republic, the holder may only do so after written notice and in consultation with the Minister. The holder of a mining right is entitled to process minerals mined under the auspices of a mining right as the holder of a mining right. However, there are further statutory provisions that are applicable to the processing of precious metals and diamonds and these requirements are regulated by the Precious Metals Act, 2005 and the Diamonds Act, 1986, respectively.</p> <p>The Amendment Bill referred to in question 3.2 above provides that every producer of designated minerals must offer local beneficiators a prescribed percentage of its production of minerals or mineral products in prescribed quantities, qualities and timelines at the mine gate price or agreed priced.</p>	Dear Rudi, Your correspondence is acknowledged. Thank you.
Elize de Jong	Additional Public	10 November 2018	Elize completed the I&AP registration form and provided the following comments:	Dear Elize, Thank you for completing the Interested and Affected Party

I&AP	Method	Date	Issue	Response
	Consultation		<ul style="list-style-type: none"> • Landowner in the Vaaloewer area. • Vaaloewer property development is in progress. • Biophysical and socio-economic impacts that should be considered during the study include dust and silica, water pollution, noise levels and animal life. • One measure that should be taken to mitigate potential impacts is close monitoring. • Concerned about tourism to Vaaloewer. 	<p>registration form provided to you at the additional public consultation held on the 10th November 2018.</p> <p>Kindly be advised that you have been registered as an Interested and Affected Party and will be kept up to date with any developments regarding this project.</p> <p>Your comment that dust and silica, water pollution, noise levels and animal life should be considered during the study is noted.</p> <p>DUST AND SILICA</p> <ol style="list-style-type: none"> 1. Kindly note that alpha quartz (silica) concentrations will be modelled and assessed against international health screening criteria during the full air quality impact assessment, which will be undertaken during the Environmental Impact Assessment (EIA) phase of this project. Mitigation measures such as (i) limiting disturbed areas and (ii) effective dust suppression have been proposed to minimise dust. Additional mitigation measures will be recommended in the Environmental Management Programme (EMPR) during the EIA Phase of this project. <p>WATER POLLUTION</p> <ol style="list-style-type: none"> 2. Following consultation with the Department of Water and Sanitation, bufferzones have been included in the Mine Plan layout to reduce impacts on the nearby watercourses, including the Vaal River. In addition, the EMPR will categorically state that no untreated waste water must be pumped into the Vaal River. According to the Groundwater Assessment, potential impacts on groundwater anticipated during the operational phase include (i) a decline in water quality due to excavation of the sand and the wash plant facility as well as (ii) potential contamination of aquifers as a result of hydrocarbon spillage. The groundwater sampled on-site currently shows no negative impacts associated with the historical mining activities on the Farm Goosebay or at the

I&AP	Method	Date	Issue	Response
				<p>neighbouring sand mine operations.</p> <p>NOISE LEVELS</p> <p>3. According to the Noise Baseline Assessment, noise impacts are expected to be slightly more notable to the south of the project activities. Furthermore, the extent of noise impacts as a result of an intruding noise depends on existing levels in an area and on-site meteorology. Simulated MM5 weather data set was utilised on-site and the results show that the noise levels are within a permissible range. Potential noise sources will be quantified and included in the noise source inventory and noise propagation simulations during the noise impact assessment phase of the study.</p> <p>ANIMAL LIFE</p> <p>4. Based on the terrestrial biodiversity assessment undertaken in support of this application, open pit mining and site clearance for infrastructure and associated access roads may result in the loss of habitat for species of conservation concern as well as the displacement, direct mortalities and disturbance of the faunal community. The biodiversity specialist has recommended mitigation measures to minimise impacts on fauna, which include, but are not limited to, (i) avoiding high biodiversity sensitivity areas and complying with prescribed buffer zones as well as (ii) implementing training to ensure that all staff are aware of faunal sensitivity.</p> <p>Your comment that close monitoring should be undertaken in order to mitigate potential impacts, which may be associated with the proposed mining operation is also noted.</p> <p>TOURISM</p> <p>5. According to the Economic Impact Assessment, visual, air quality, noise and water quality impacts combined with the loss of biodiversity are likely to be the key concerns for tourism. Sources of positive impacts would stem from increased</p>

I&AP	Method	Date	Issue	Response
				<p>potential for business-related visitors. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, biodiversity, rehabilitation and social measures) and enhance positive impacts would also reduce impacts on tourism. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. The envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Veronica Withers	Additional Public Consultation	10 November 2018	<p>Ms Withers completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • Please state you interest in the proposed project: the noise, dust, pollution, impact on river water will negatively affect my business and damage to roads and bridges by heavy vehicles. • Are you a landowner or legal land occupier within the application area: yes. • Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: everyone with properties or residing within a 20 km radius of the proposed site. • Please can you provide us with a description of the receiving environment: farming of crops, grazing, fishing activities, birdlife. 	Issues raised have been addressed in response below.

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> Please describe any biophysical and/or socio-economic impacts that you believe should be considered during the study: the negative impacts as attached in report speak for themselves – 22 as opposed to 6 positive. Please describe any measures you believe should be implemented to mitigate, manage, avoid or remedy the anticipated biophysical and socio-economic impacts of the proposed activity: license should not be approved. 	
Veronica Withers	E-mail	12 November 2018	<p>Good morning Zizo,</p> <p>Further to the meeting on Saturday please can you ensure that I receive minutes of the meeting at your soonest convenience.</p> <p>I read with interest Item 11 of you background information document. I note that you have listed 22 potential negative impacts and only 6 potential positive implications. That clearly speaks for itself.</p> <ol style="list-style-type: none"> I would like you to outline the benefits that I, as a property owner in Lindequesdrif – with business interests in eco-tourism, well-being retreats and the marketing of organic foods, might expect to receive should this project go ahead? Please can you explain to me that despite legislation being in place that requires the land used for mining to be rehabilitated, Mr van Wyk has not met his responsibilities in this regard? Even better would be if Mr van Wyk 	<p>Dear Nicki,</p> <p>I hope this mail finds you well.</p> <p>Please see our responses in red.</p> <p>Further to the meeting on Saturday please can you ensure that I receive minutes of the meeting at your soonest convenience.</p> <p>Noted. I&APs who attended the public meeting were provided with the minutes on the 22nd November 2018.</p> <p>I read with interest Item 11 of you background information document. I note that you have listed 22 potential negative impacts and only 6 potential positive implications. That clearly speaks for itself.</p> <p>The nature of any new development will likely result in negative impacts on the environment. Positive impacts are mainly limited to socio-economic gains. The EIA process entails the identification of all potential impacts (negative and positive) as well as recommending mitigation measures in order to minimise the significance of the negative impacts and maximise the significance of the positive impacts.</p> <ol style="list-style-type: none"> I would like you to outline the benefits that I, as a property owner in Lindequesdrif – with business

I&AP	Method	Date	Issue	Response
			<p>could attend future meetings so he can explain himself in person. Please do extend an invitation to him. There are many who will be interested in his response to this and other questions.</p> <p>3. I would like to suggest that subsequent meetings be held closer to the location of the proposed mine and that in order to enable the meeting to begin promptly the registration process begin at least 30 minutes prior to the start time.</p> <p>As was pointed out at the meeting, Shango Solutions are being paid for time spent at these meetings. We as Interested and Affected parties are not.</p> <p>I await your response to my questions above.</p> <p>Yours sincerely Nicki Withers For Keraweb Investments</p>	<p>interests in eco-tourism, well-being retreats and the marketing of organic foods, might expect to receive should this project go ahead?</p> <p>This is a mining project. As such, direct socio-economic benefits will include the following:</p> <ul style="list-style-type: none"> • Job creation (largely limited to low-skilled construction workers and a small number of skilled workers). • Skills development for low-skilled labourers. • Increase in business opportunities for the construction, industrial and jewellery industries. • Gross Domestic Product (GDP) improvement and wealth generation. • Contribution to royalties and tax revenues. <p>With regards to tourism, sources of positive impacts would stem from increased potential for business-related visitors due to the use of local guest houses/accommodation.</p> <p>2. Please can you explain to me that despite legislation being in place that requires the land used for mining to be rehabilitated, Mr van Wyk has not met his responsibilities in this regard? Even better would be if Mr van Wyk could attend future meetings so he can explain himself in person. Please do extend an invitation to him. There are many who be interested in his response to this and other questions.</p> <p>Thank you for your question.</p> <p>Monte Cristo Commercial Park (Pty) Ltd ("MCCP"), has applied to the DMR, for a Mining Right in respect of three farm portions (Remaining Extent, Remaining Extent of Portion 1 and Portion 3 of the farm Woodlands 407), which are collectively known as Goosebay Farm. The mine, which it is hoped will be established at Goosebay Farm, will be known as Pure Source Mine. Shango Solutions have been appointed by Monte Cristo Commercial Park (Pty) Ltd) to</p>

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				<p>undertake the environmental process in order to obtain a Mining Right for Pure Source Mine.</p> <p>Your question relating to previous mining operations by Goosebay Farm (Pty) Ltd was forwarded to the Applicant and their response is provided below. Your question and the Applicant's response will be captured into the Issues and Responses Report (an appendix to the Scoping Report), for consideration by the DMR.</p> <ul style="list-style-type: none"> a. Monte Cristo Commercial Park (Pty) Ltd ("MCCP") is the Legal Persona who has applied for the Mining Right; b. Shango Solutions has been mandated to deal with the above Application on behalf of MCCP; c. 2.3 MCCP has to date conducted no Mining Operations, and is not at this time responsible for any rehabilitation as a result of past Mining Operations; d. As a courtesy to you however, Goosebay Farm (Pty) Ltd, confirms that Rehabilitation of the relevant previously mined areas, has: <ul style="list-style-type: none"> i. Achieved an advanced stage, in that: <ul style="list-style-type: none"> 1. Bulk Earthworks and Fine Grading are virtually complete; 2. Planting and re-seeding of affected areas is underway; 3. The entire process is being monitored by an independent consultant, and conducted in accordance with his advice; ii. Been conducted in strict accordance with the directions of the DMR, in record time, pursuant to a visit to the Mine by DMR Officials (including the Regional Manager DMR Welkom - The Esteemed Mr A Mulaudzi), on the 12th of August 2018.

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				<p>e. Should you require any further guidance with regards to this issue, please contact the DMR.</p> <p>f. Mr van Wyk advises that:</p> <p>i. The Board of the Mining Right Applicant (MCCP), has authorised one of the Officers, acting on behalf of MCCP, Mr Michael Sam Cocks, to deal with all interaction with the Public, relating to this matter;</p> <p>ii. The Board of MCCP, and the Board of Directors of the Controlling Group, is well satisfied with Mr Cocks's highly competent and proficient handling of the matter to date, and sees no reason to deploy other personnel.</p> <p>I would like to suggest that subsequent meetings be held closer to the location of the proposed mine and that in order to enable the meeting to begin promptly the registration process begin at least 30 minutes prior to the start time.</p> <p>Your suggestion will be considered.</p> <p>As was pointed out at the meeting. Shango Solutions are being paid for time spent at these meetings. We as Interested and Affected parties are not.</p> <p>Your point is noted.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Veronica Withers	E-mail	26 November 2018	<p>Thank you for this, I am still awaiting a response to the questions in my previous mail to Zizo</p> <p>Kind regards</p> <p>Veronica Withers</p> <p>For Keraweb Investments</p>	<p>This was noted by Shango Solutions and a response was sent on the 27th November 2018 (see response above).</p>

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Arnold de Beer	E-mail	17 October 2018	<p>Hi Zizo</p> <p>Regarding last mentioned I&APs list.</p> <p>Please make sure to add me as well to your list of I&APs</p> <p>Regards Arnold de Beer</p>	<p>Dear Arnold,</p> <p>Thank you for your mail.</p> <p>As requested, you have been registered as an I&AP and will be kept up to date on any developments regarding this project.</p> <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>

I&AP	Method	Date	Issue	Response
Penny Ludorf	Additional Public Consultation	10 November 2018	<p>Mr Ludorf completed the I&AP registration form and provided the following comments:</p> <ul style="list-style-type: none"> • Please state your interest in the proposed project: this anticipated development will destroy the area over the river and will probably destroy the value of my property in Vaaloewer. • Are you a landowner or legal land occupier within the application area: yes. • Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: yes – the informal settlement bordering Vaaloewer. • Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details: no. • Please can you provide us with a description of the receiving environment: the area bordering the Vaal River is supposed to be an Eco area – especially affects eco-tourism. The wildlife e.g. fish eagle, owls etc. will be chased away by the mining activity. 	<p>Good day,</p> <p>Thank you for completing the Interested and Affected Party registration form provided to you at the additional public consultation held on the 10th November 2018.</p> <p>Kindly be advised that you have been registered as an Interested and Affected Party and will be kept up to date with any developments regarding this project.</p> <p>Please see our responses in red. The answers you provided in the registration form are highlighted in yellow.</p> <ul style="list-style-type: none"> • Please state your interest in the proposed project. This anticipated development will destroy the area over the river and will probably destroy the value of my property in Vaaloewer. Your comment is noted. It is understood that the project's environmental and social impacts have the potential to impact on property values. Based on the desktop Economic Impact Assessment, the individual factors that could impact negatively on property values in the area are visual, air quality, noise and terrestrial and riverine biodiversity impacts. Positive impacts could stem from the increased commercial activity and job creation associated with the project which could play a role in boosting demand for houses with potential impacts on property values. The mitigation measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, water quality, traffic and social measures) and enhance positive impacts could thus reduce impacts on property values. <p>Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring of the area. Kindly note that the envisaged end land use is to develop the farm portions as an eco-estate with residential and hospitality facilities on the banks of the Vaal River.</p> • Are you a landowner or legal land occupier within

I&AP	Method	Date	Issue	Response
				<p>the application area? Yes. Noted.</p> <ul style="list-style-type: none"> Are you aware of any communities which exist within the application area? Please provide detail and possible contact details: Yes – the informal settlement bordering Vaaloewer. Noted. Are you aware of any tribal authorities within, or affected by, the proposed application? Please provide detail and possible contact details. No. Noted. Please can you provide us with a description of the receiving environment. The area bordering the Vaal River is supposed to be an Eco area – especially affects eco-tourism. The wildlife e.g. fish eagle, owls etc. will be chased away by the mining activity. Based on the Terrestrial Biodiversity Assessment undertaken in support of this application, open pit mining and site clearance for infrastructure and associated access roads may result in the loss of habitat for species of conservation concern as well as the displacement, direct mortalities and disturbance of the faunal community. The biodiversity specialist has recommended mitigation measures to minimise impacts on fauna, which include, but are not limited to, (i) avoiding high biodiversity sensitivity areas and complying with prescribed buffer zones as well as (ii) implementing training to ensure that all staff are aware of faunal sensitivity. <p>Should you have any further questions in this regard, please do not hesitate to contact me.</p>
Lorraine Coetzee	Telephone	19 November 2018 (9:45AM)	Ms Coetzee wanted to know when and to whom she can submit her CV for job opportunities at the Pure Source Mine.	Shango Solutions thanked Lorraine for showing interest in the project and informed her that the Mining Right has not been granted at this stage as Shango Solutions is still in the

I&AP	Method	Date	Issue	Response
				process of undertaking the Public Participation Process. Shango Solutions informed Loraine that the Environmental Impact Assessment takes approximately 300 days. Shango Solutions requested Ms Coetzee's contact details in order to keep her updated on any developments regarding the proposed project. Shango Solutions also specified that they will not be involved in the appointment process, should the Mining Right be granted by the Competent Authority.
Loraine Coetzee	E-mail	19 November 2018 (9:56AM)		Dear Loraine, Our telephonic discussion refers. Thank you for showing interest in the above mentioned project. You have been registered as an Interested and Affected Party and will be kept up to date with any developments regarding this project. Our client, Monte Cristo Commercial Park (Pty) Ltd has submitted an application for a Mining Right and an Integrated Environmental Authorisation (IEA). Shango Solutions have been appointed as the independent Environmental Assessment Practitioner (EAP) to assist in conducting and facilitating the Public Participation Process (PPP) for these applications. The PPP is still on-going. According to legislation, the Environment Impact Assessment process takes approximately 300 days to complete. Should the Mining Right and IEA applications be granted by the Department of Mineral Resources, Shango Solutions will not be involved in the appointment process for this project. However, you may forward your CV to the Applicant (Monte Cristo Commercial Park (Pty) Ltd) for their consideration once you have been notified of the outcome of this application. Should you have any further questions in this regard, please do not hesitate to contact me.
Loraine Coetzee	E-mail	19 November 2018	Hi thanks so much. Will forward you CV through	This was noted by Shango Solutions.

I&AP	Method	Date	Issue	Response
		(10:08AM)	as soon as possible. Regards Lorraine	
Lorraine Coetzee	E-mail	10 November 2018 (6:41PM)	Moelie662@gmail.com	This was noted by Shango Solutions and added onto the Interested and Affected Party database.
Ronny	Telephone and E-mail	20 November 2018 (11:15AM)	Ronny is interested in the proposed project and would like to be registered as an Interested and Affected Party and so he can receive regular updates about the project.	Dear Ronny, Your telephonic discussion with Zizo refers. Thank you for showing interest in the proposed Pure Source Mine project. You have been registered as an Interested and Affected Party (I&AP) and will be kept up to date with any developments regarding this project. Please find herewith attached the Background Information Document which will give you more insight on this project. Should you have any questions in this regard, please do not hesitate to contact me.
Dennis Mcbeath	E-mail	03 December 2018	Mr Mcbeath completed the comments and responses form and provided the following comments: <ul style="list-style-type: none"> • Living in Vaaloewer. • Noise pollution. • Dust pollution. • Damage to bird, wildlife and nature. • Value of our property going down. 	Good day, Your e-mail received on the 3rd December 2018 is acknowledged. Comments provided in the attachment have been included in the Issues and Responses Report (an appendix to the Final Scoping Report), to be submitted to the Department of Mineral Resources, for their review and decision-making. Should you have any concerns in this regard, please do not hesitate to contact me.
Cl Kuhhirt	E-mail	03 December 2018	Mr Kuhhirt completed the comments and responses form and provided the following comments: <ul style="list-style-type: none"> • Living in Vaaloewer. 	Good day, Your e-mail received on the 3rd December 2018 is acknowledged. Comments provided in the attachment have been included in

I&AP	Method	Date	Issue	Response
			<ul style="list-style-type: none"> • Devaluation of our property. • Noise and pollution. • Dust pollution = danger = cancer, asthma etc. • Water contamination. 	<p>the Issues and Responses Report (an appendix to the Final Scoping Report), to be submitted to the Department of Mineral Resources, for their review and decision-making.</p> <p>Should you have any concerns in this regard, please do not hesitate to contact me.</p>
Anna M van Deventer	E-mail	03 December 2018	I, Anna M van Deventer, residing at 30 Mozart Str, Vanderbijlpark, Gauteng, hereby designate Gallie Janse van Rensburg residing at 200 Visarend Vaaloewer to act as my proxy for the purpose of casting my vote and making comments and recording me present at the Public Participation meeting regarding Pure Source Mine to be held on 15 November, 2018.	<p>Good day,</p> <p>Your e-mail received on the 3rd December 2018 is acknowledged.</p> <p>Comments provided in the attachment have been included in the Issues and Responses Report (an appendix to the Final Scoping Report), to be submitted to the Department of Mineral Resources, for their review and decision-making.</p> <p>Should you have any concerns in this regard, please do not hesitate to contact me.</p>
Lucas Swanepoel	E-mail	03 December 2018	I, Lucas Swanepoel, residing at 30 Mozart Str, Vanderbijlpark, Gauteng, hereby designate Gallie Janse van Rensburg residing at 200 Visarend Vaaloewer to act as my proxy for the purpose of casting my vote and making comments and recording me present at the Public Participation meeting regarding Pure Source Mine to be held on 15 November, 2018.	<p>Good day,</p> <p>Your e-mail received on the 3rd December 2018 is acknowledged.</p> <p>Comments provided in the attachment have been included in the Issues and Responses Report (an appendix to the Final Scoping Report), to be submitted to the Department of Mineral Resources, for their review and decision-making.</p> <p>Should you have any concerns in this regard, please do not hesitate to contact me.</p>
Eugene Swanepoel	E-mail	03 December 2018	I, Eugene Swanepoel, residing at 30 Mozart Str, Vanderbijlpark, Gauteng, hereby designate Gallie Janse van Rensburg residing at 200 Visarend Vaaloewer to act as my proxy for the purpose of casting my vote and making comments and recording me present at the Public Participation meeting regarding Pure Source Mine to be held on 15 November, 2018.	<p>Good day,</p> <p>Your e-mail received on the 3rd December 2018 is acknowledged.</p> <p>Comments provided in the attachment have been included in the Issues and Responses Report (an appendix to the Final Scoping Report), to be submitted to the Department of Mineral Resources, for their review and decision-making.</p> <p>Should you have any concerns in this regard, please do not</p>

I&AP	Method	Date	Issue	Response
				hesitate to contact me.
Dina Henstock	E-mail	05 December 2018	<p>Good day</p> <p>For the North West venue regarding the scoping report I suggest the following:</p> <p>Hardware Store at FKA, Main Street, Lindequesdrif. Contact person: Bettie. Phone number: +27729300831</p> <p>Dina</p>	<p>Dear Gavin and Dina,</p> <p>Thank you for providing us with venues to place the Final Scoping Report.</p> <p>Your assistance in this regard is much appreciated.</p> <p>May you enjoy the rest of the day.</p>

14. ENVIRONMENTAL ATTRIBUTES AND ASSOCIATED ALTERNATIVES

14.1 Baseline Receiving Environment

This section describes the baseline receiving environment of the application area. Information in this section was sourced from the specialist scoping studies which are included as Appendix F to this Final Scoping Report.

14.1.1 Social-economic

The application area is located in the Free State Province approximately 15 km northwest of the town of Sasolburg. It can be found in Ward 7 of the Ngwathe Local Municipality which forms part of the Fezile Dabi District Municipality. Ngwathe Local Municipality (NLM) is 7 055 km² (Table 8) in aerial extent and has an estimated population of 120 520 according to the 2011 census results. The majority of the local population belong to the Black African group (88% of the population) and the most spoken language is Sesotho (68.6% of the population). The high proportion of Sesotho speaking people implies that, for any development strategies within the Local Municipality to succeed, they must be sensitive to the predominant cultural systems and social dynamics related to the Sesotho culture.

Table 8: Population Statistics of the Free State Province, Fezile Dabi District and Ngwathe Local Municipalities.

Area	Area (km ²)	Total Population	Population density /km ²	Population growth rate % (2001 - 2011)
Free State Province	129 825	2 745 590	21	1.4
Fezile Dabi District Municipality	20 668	488 036	22.3	0.6
Ngwathe Local Municipality	7 055	120 520	13.5	0.1

Four main economic activities are agriculture, manufacturing, mining and tourism. Agriculture is the dominant activity. According to the NLM Integrated Development Plan (2018-19), mining activities in the region are restricted, but not limited, to the following:

- Gravel obtained from open cast pits for construction or road building purposes.
- Sand winning along the Vaal River (Parys vicinity).
- Alluvial diamonds in isolated locations of the Vaal River riparian.

62.4% of the Ngwathe Local Municipality population comprise the Economically Active Population. The dependency ratio is high at 60.2% (half of the overall local population) which puts pressure on the EAP and local municipality. The skills profile of the area indicates that the availability of local labour for the proposed project is largely limited to low-skilled construction workers and a small number of skilled workers.

There is a high unemployment rate in the NLM (35.2%) with a large economically active population seeking employment opportunities (Table 9). Local workers should be utilised as much as possible for the proposed development in order to alleviate local unemployment. 75% of household income falls within the poverty level (Figure 14). The high poverty level has social consequences such as not being able to pay for basic needs and services. High unemployment and low-income levels in the study area demonstrates the need for job opportunities

Table 9: Unemployment rate.

Labour Market	Fezile Dabi District Municipality %	Ngwathe Local Municipality %
Unemployment rate	33.9	35.2
Youth unemployment rate	44.9	45.1

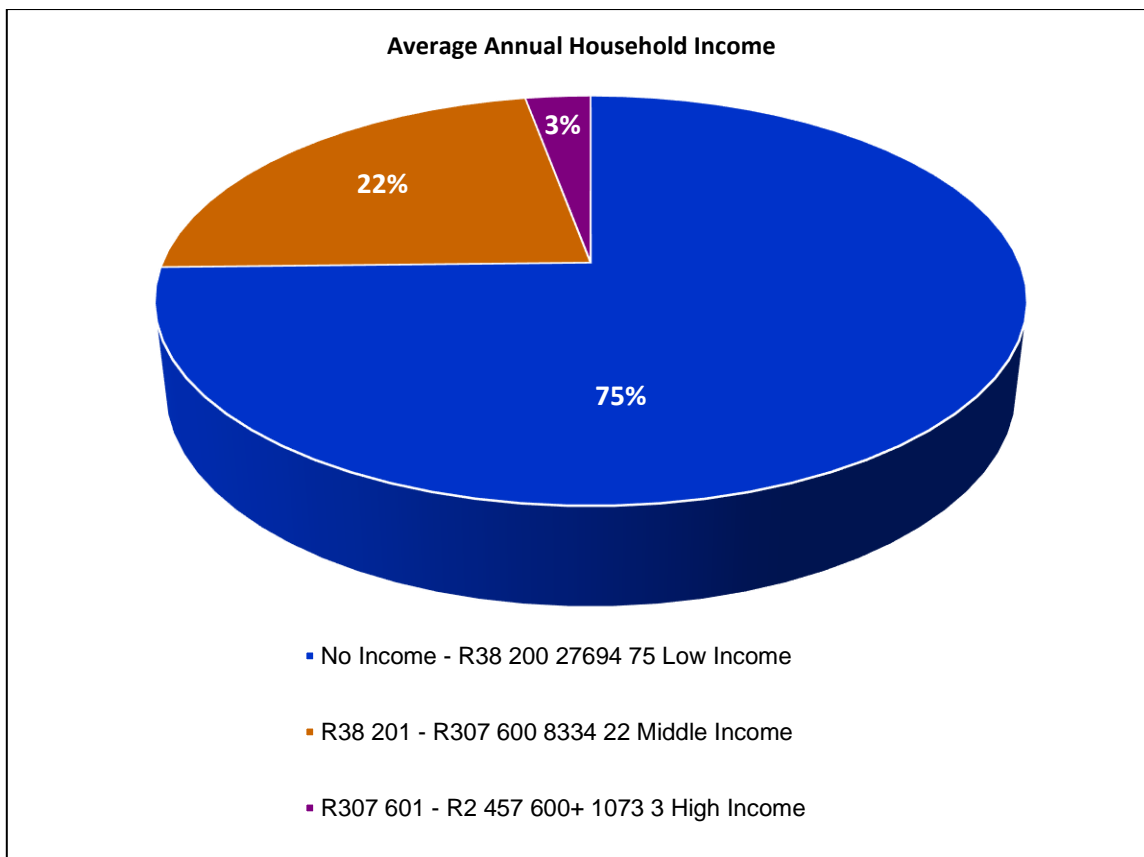


Figure 14: Ngwathe Local Municipality average household income.

The proposed development supports the social and economic development through enabling skills development and training in order to empower individuals and promote employment creation within the local area. The development would mainly focus on economic benefits to the area and boost the mining industry in the region.

14.1.2 Cultural and Heritage

Eight cultural and heritage sites were identified on site as described in Table 10 and Figure 15.

Table 10: Cultural and heritage sites identified on site.

Site	Coordinates	Type	Significance
1	26°44.386'S 27°36.652'E	SA War redoubt	High
2	26°44.487'S 27°36.813'E	Two circular enclosure	Low
3	26°44.476'S 27°36.770'E	Circular enclosure	Low
4	26°44.885'S 27°37.270'E	Cemetery	High
5	26°44.133'S 27°37.000'E	Square enclosure	Low
6	26°44.129'S 27°36.948'E	Circular enclosure	Low
7	26°44.098'S 27°36.775'E	Circular enclosure	Low
8	26°45.001'S 27°37.898'E	Modern house	Low

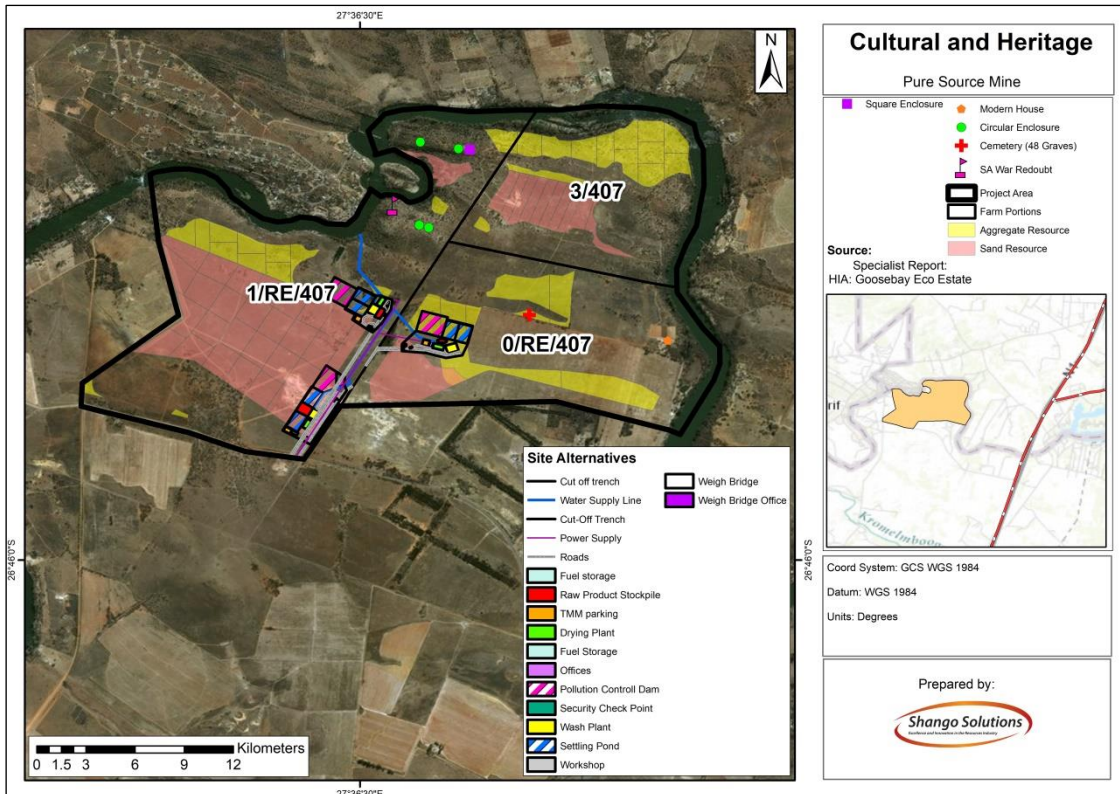


Figure 15: Heritage sites identified on site (refer to Appendix D for enlarged map).

Site 1: South African War redoubt

The site consists of stone-walled enclosures and terraces overlooking the Vaal River. Several terraces (Figures 16 and 17) were recorded as well as a small enclosure (3 metres in diameter). The site is probably a strategic entrenchment (redoubt) dating to the South African War (1899 – 1902). No surface finds (insignia) were recorded. The structures are older than 60 years and therefore protected by the NHRA, 1999 (Act 25 of 1999).



Figure 16: One of the stone-walled enclosures.



Figure 17: Sign erected at site.

Site 2: Stone wall enclosures

The site consists of two attached stone-walled circular enclosures that were probably used to keep livestock (Figure 18). The walls are approximately 0.5 metres high (in some places the foundations only) and packed with large boulders. The two enclosures are 18 metres and 10 metres in diameter, respectively. Deposit was recorded in the larger enclosure. No other cultural material was noted on the surface. The enclosures are

probably associated with recent farming activities by workers living in the area. The structures are probably not older than 60 years and therefore not protected under the NHRA, 1999 (Act 25 of 1999).

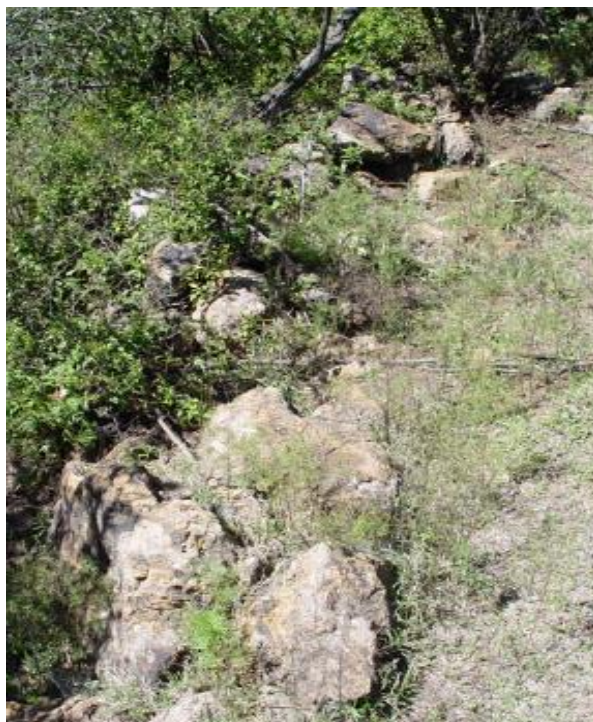


Figure 18: A section of the wall one of the enclosures.

Site 3: Circular enclosure

The site consists of a stone-walled circular enclosure that was probably used to keep livestock (Figure 19). The walls are approximately 0.5 metres high and the enclosure is approximately 13 metres in diameter. No deposit was recorded in the enclosure. No other cultural material was noted on the surface. The enclosures are probably associated with recent farming activities by workers living in the area. The structures are probably not older than 60 years.



Figure 19: A section of the circular enclosure.

Site 4: Cemetery

A cemetery with 48 graves was recorded on site (Figure 20). The graves have an east-west orientation, with the headstones on the western side. Some of the graves are demarcated by packed rock and heaps of sand while others have a cement/brick base and headstone (one with granite). The following inscriptions were recorded:

- Paulinah Lebeko Mmamoya: 19/05/1919 – 06/06/1969.
- Name not discernable: Died: 1968.
- Abel Motsetse Ntsoelengoe: Died: 23/12/1967 (Age: 69).
- April Radebe: Died: 27/09/1972.
- Paulinah Mmamohau: No date.
- Abram Tsholo Qai: Died: 11/05/1961.
- ?? Kadi: Died: 28/10/1983.



Figure 20: Cemetery with 48 graves.

Most of the graves do not have inscriptions on their headstones and are therefore regarded as older than 60 years. As such, these graves are protected under Section 36 the NHRA, 1999 (Act 25 of 1999). No other structures or features were recorded in association with the cemetery.

Site 5: Square enclosure

The site consists of a small stone-walled square enclosure. The dimensions of the structure are 5x12 metres and the walls are 0.5 high (Figure 21). Some deposit was recorded in the enclosure. No other cultural material was noted on the surface. The enclosures are probably associated with recent farming activities by workers living in the area. The structures are probably not older than 60 years and therefore not protected under the NHRA, 1999 (Act 25 of 1999).



Figure 21: Section of the square foundation.

Site 6: Circular enclosure

The site consists of a small stone-walled circular enclosure. The structure is 12 metres in diameter and the walls are 0.5 high. No deposit was recorded in the enclosure. No other cultural material was noted on the surface. The enclosures are probably associated with recent farming activities by workers living in the area. The structures are probably not older than 60 years.

Site 7: Circular enclosure

The site consists of a small stone-walled circular enclosure. The structure is 10 metres in diameter and the walls are 0.3 high. No deposit was recorded in the enclosure. No other cultural material was noted on the surface. The enclosures are probably associated with recent farming activities by workers living in the area. The structures are probably not older than 60 years and therefore not protected under the NHRA, 1999 (Act 25 of 1999).

Site 8: Modern house

The site consists of a multi-room, brick house with corrugated iron roof. A few associated outbuildings were also recorded (Figure 22). The structure is not older than 60 years and therefore not protected under the NHRA, 1999 (Act 25 of 1999).



Figure 22: Multi-room stone house.

14.1.3 Temperature

The climate of the area is characterised by mild to hot summers and extremely cold winter temperatures. According to the Fifth-Generation NCAR/Penn State Mesoscale Model (MM5), the mean, maximum and minimum temperatures for the application area were 17°C, 33°C and 0°C respectively between the period January 2015 and December 2017. The months with the highest average temperatures are November, December, January and February. The months with the lowest average temperatures are June and August. Figure 23 indicates the minimum, average and maximum temperatures for the application area.

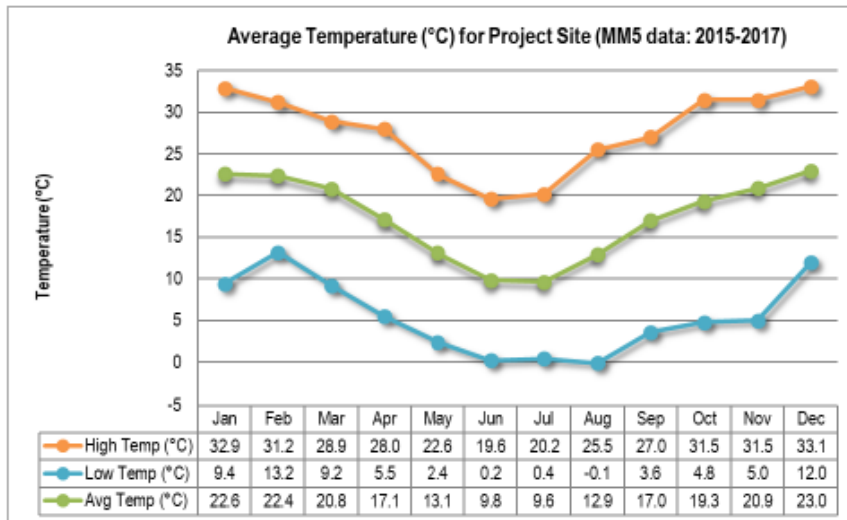


Figure 23: Monthly temperature profile based on modelled MM5 data for the study site (January 2015 to December 2017).

14.1.4 Precipitation

Rain typically occurs as storms. Based on the MM5 data for the period 2015 to 2017, the application area has a Mean Annual Precipitation (MAP) of 680 mm. The total average monthly rainfall is indicated in Figure 24. The wettest months occur from October through to March, with the driest months occurring over the period of June to August. Rainfall is mostly in the form of convective thunderstorms, which are often brief, but regularly high in intensity. Tropical and frontal rainfall systems also occur in the region, but are not as common.

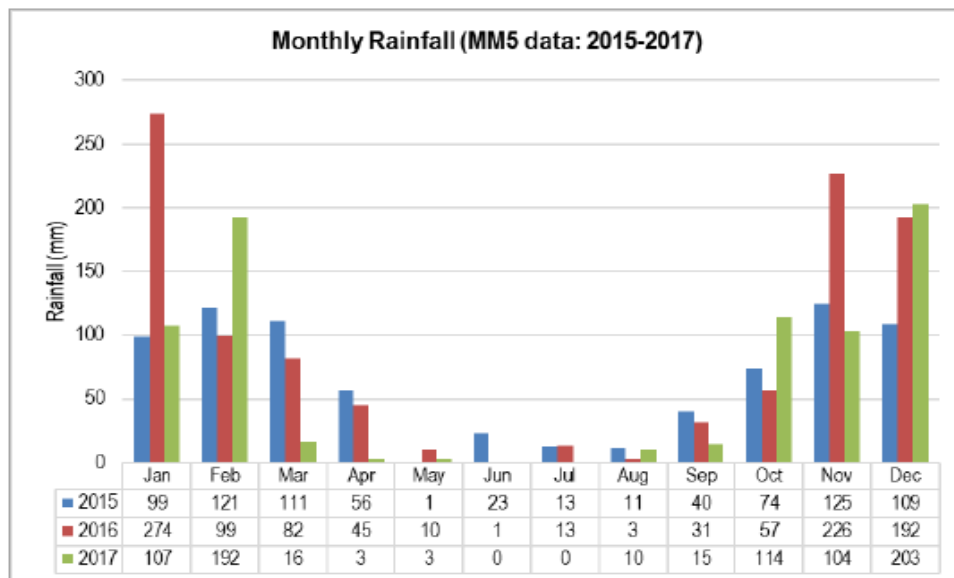


Figure 24: Average monthly rainfall.

14.1.5 Land Cover and Use

Current land use on the site is varied, consisting mainly of agriculture, game farming and one tourist accommodation establishment. Game farming occurs on the central and northern portions of the property. On the eastern border, next to the river, there is an accommodation establishment called Goosebay Canyon Cabin, consisting of cabins and a camp site. There are also several farm dams on the property, some houses and a transmission line which crosses the three properties under application. Land use in the wider area consists largely of a mixture of agricultural and residential properties as well as mining on the two adjacent properties surrounding the application area. Residential properties are particularly concentrated along the riverside, as well as smallholdings which are characterised by a combination of agriculture, residential and tourism uses.

According to the Land use cover map, the land cover of the application area consists mostly of grassland, with agricultural fields occurring towards the south of the site. Thicker riverine vegetation occurs along the banks of the Vaal River (Figure 25). The land uses surrounding the application area consist of agricultural land, natural areas, sand mining operations on the two neighbouring properties (Figure (26), the urban area of Vaal Oewer with associated houses, livestock and game farming. Infrastructure such as secondary tar roads, gravel roads and homesteads, occur within the proximity of the application area. The Vaal River forms the northern boundary of the proposed project area.

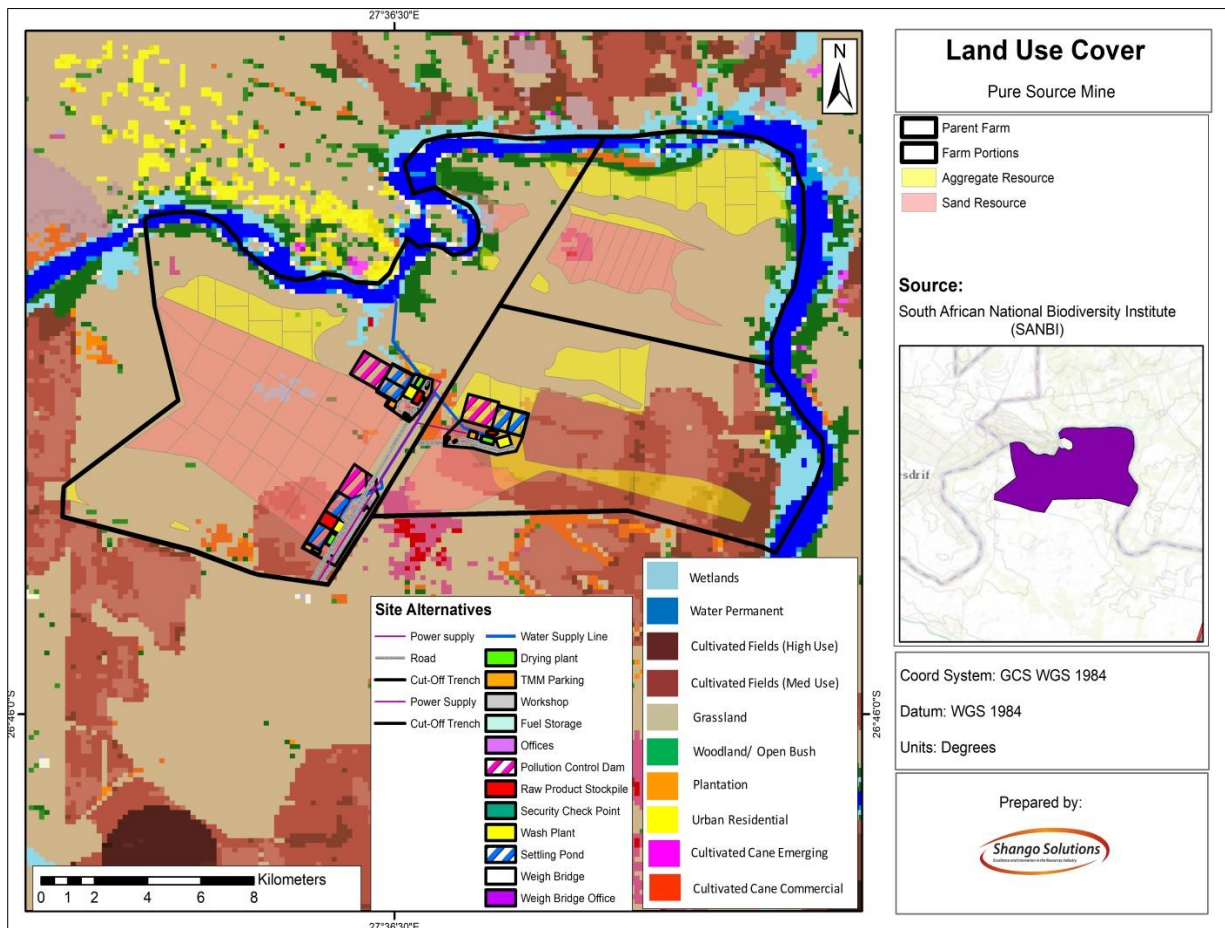


Figure 25: Land cover and use (refer to Appendix D for enlarged map).

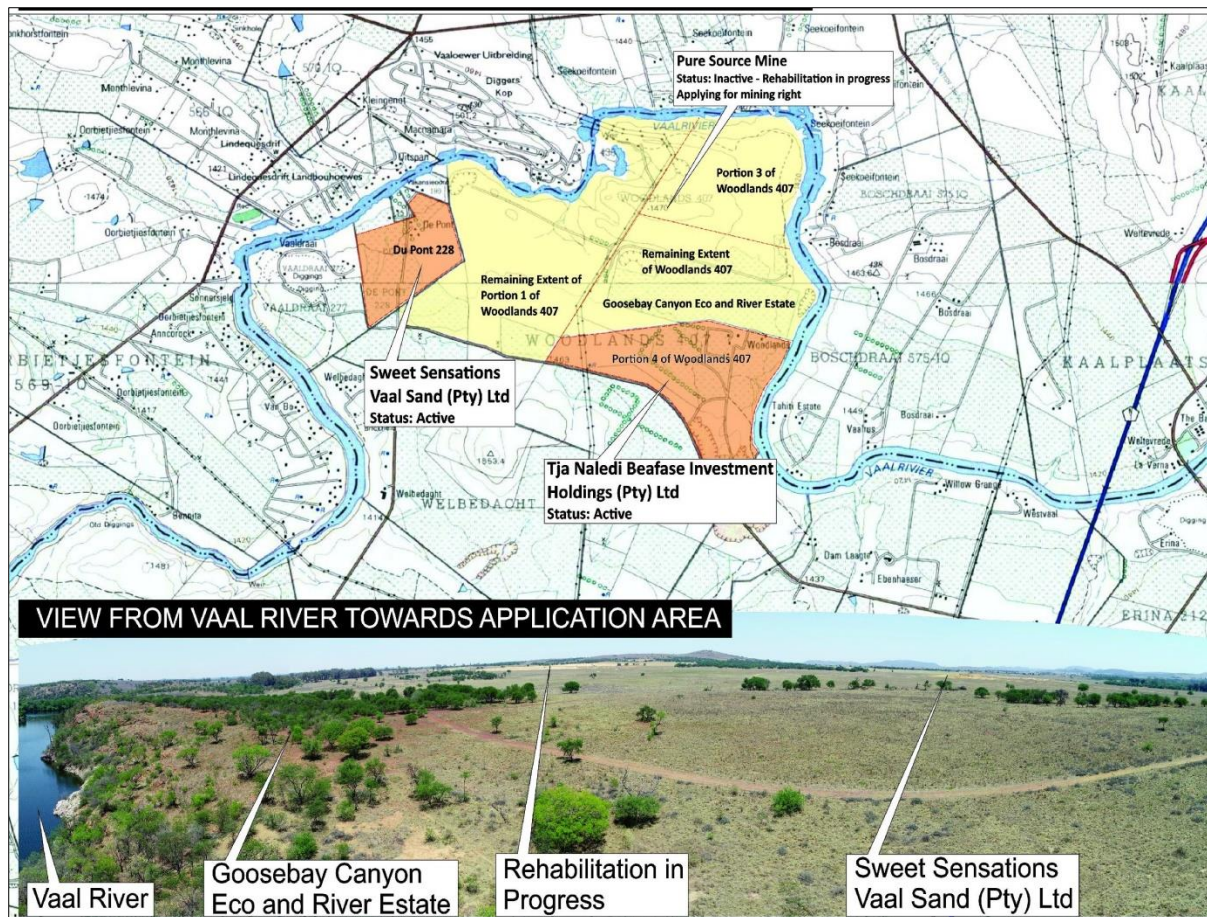


Figure 26: Existing mining activity surrounding the application area (refer to Appendix D for enlarged map).

14.1.6 Visual/Landscape Characterisation

From the above description, and within a 5 km radius of the application area, the region can be broadly divided into three categories:

- Agricultural areas: crop and livestock agriculture are the dominant land use in the area.
- Residential areas: housing developments occur mostly along the Vaal River. Many of these houses are weekend and holiday homes.
- Sand mining activities.

14.1.7 Topography

The topography of the region can be described as undulating. Elevation within the application area varies from 1 471 Metres Above Mean Sea Level (MAMSL), along an elevated ridge which runs in a north-west to south-east direction through the site, to 1 420 MAMSL along the banks of the Vaal River. A smaller ridge that is approximately 5 m in height, is located directly north and runs in the same direction as the above mentioned ridge.

The project area was assessed by using 5m contour terrain data. The contours were used to create a digital elevation model (DEM). The DEM was then used to create a relief map (Figure 27), a slope percentage map (Figure 28), and a slope aspect map (Figure 29). The southern portion of the project area is relatively flat with slopes less than 4%. The northern portion has slopes ranging from 3% to greater than 35%.

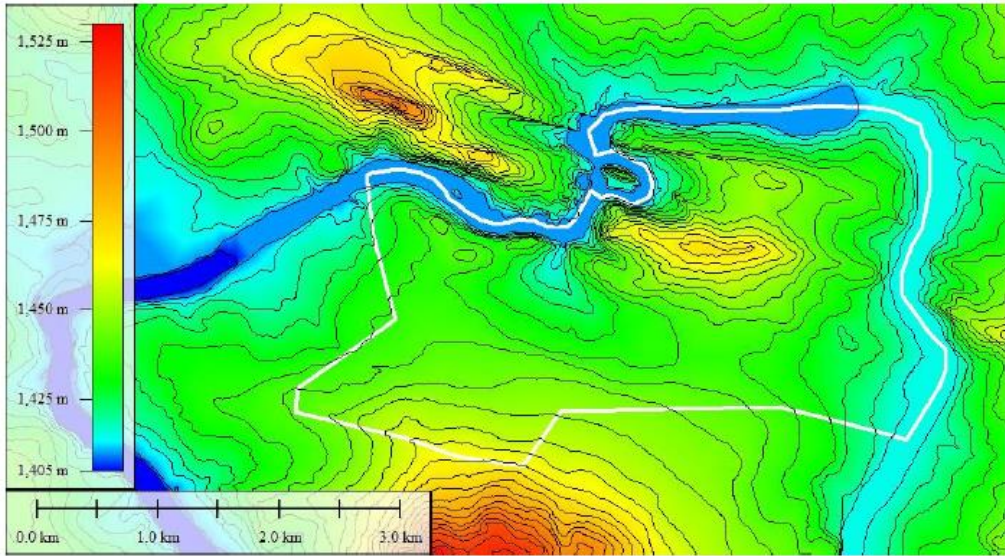


Figure 27: The relief map for the project area.

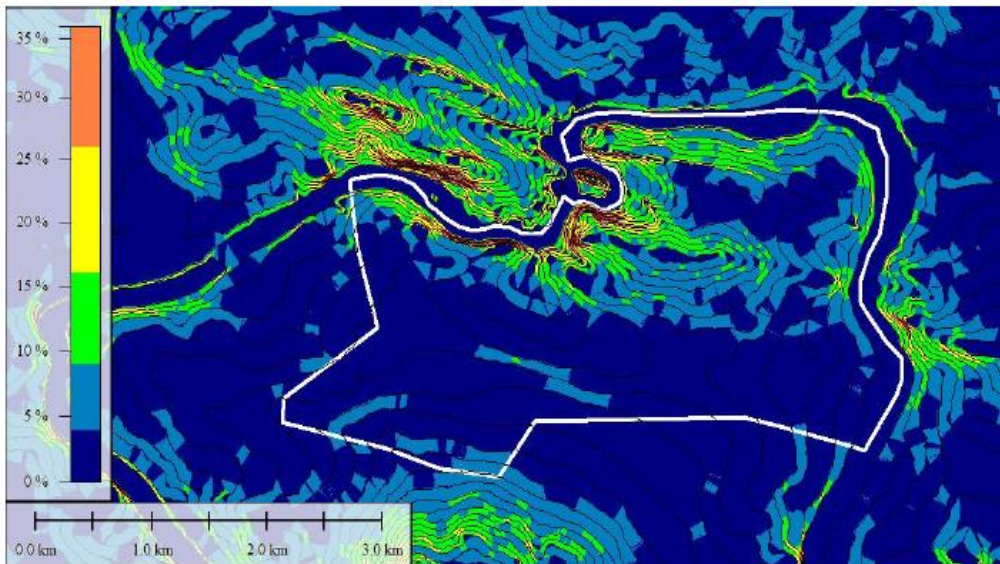


Figure 28: The slope percentage map for project area.

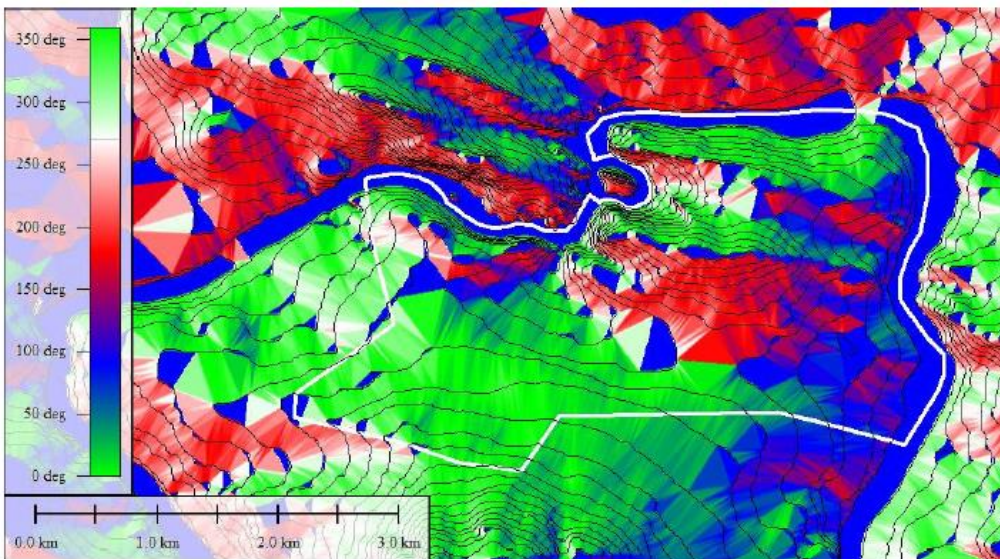


Figure 29: The slope aspect map for project area.

14.1.8 Geology

The Pure Source Mine project is located on the north-eastern limb of the Vredefort Dome. The geology of the area is dominated by mainly shale, slate and quartzite of the Pretoria Group; Hekpoort lava; many diabase sills; sporadic occurrence of dolomite and chert, Ventersdorp lava and Ecca shale and sandstone in the south-east. Quartzite usually forms crests and scarps (Figure 30).

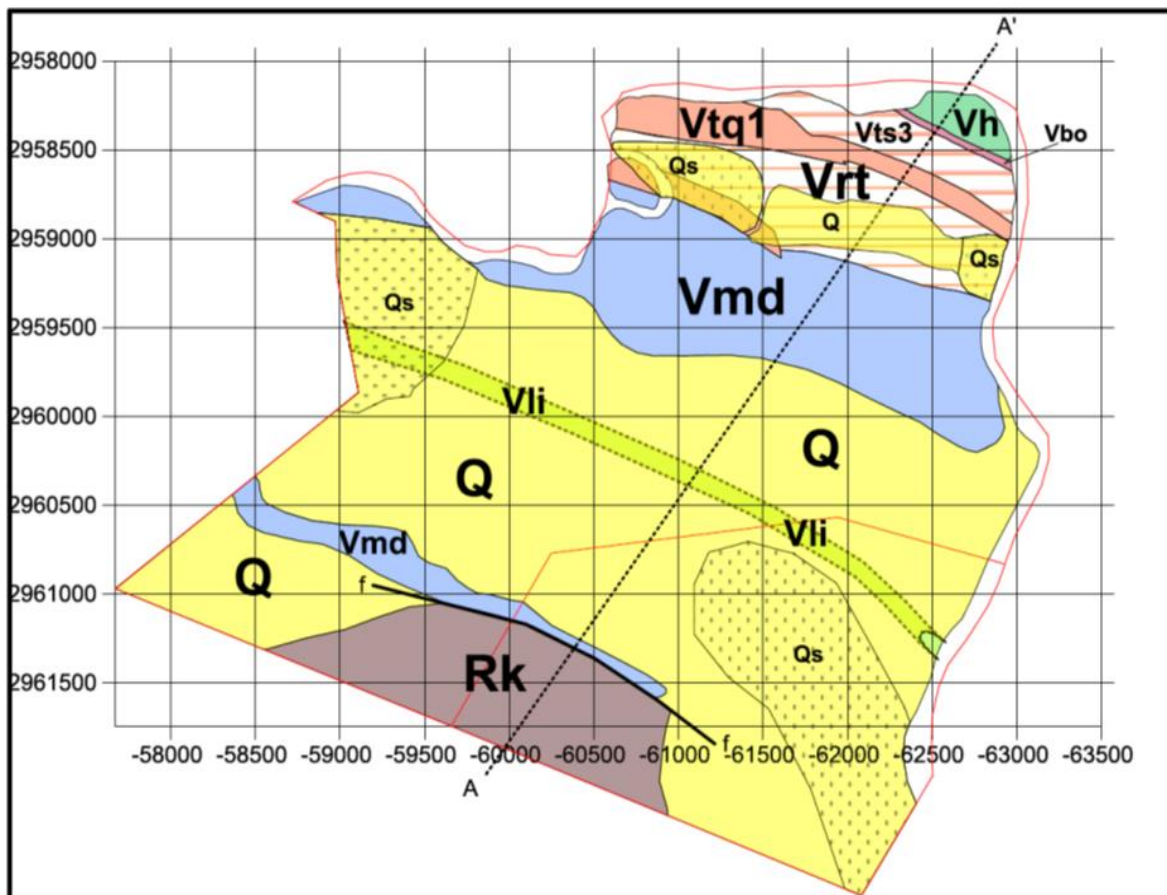


Figure 30: Sub-surface geology of the application area. See text below for key to symbols.

The geological formations described below are from oldest to youngest.

1. Klipriviersberg Group (Rk).

The Klipriviersberg Group, Ventersdorp Supergroup, consists of basaltic lavas, agglomerates and tuffs. This unit unconformably overlies the Witwatersrand Supergroup, and is locally estimated to be between 3 300 and 3 600 m in thickness. The typical lavas of this unit are mostly basaltic in composition and it is amygdaloidal in places.

2. Black Reef Formation (Vbr).

The Black Reef Formation has been displaced by faulting on the Klipriviersberg Group and Malmani Subgroup contact.

3. Malmani Subgroup (Vmd).

This sub-group overlies the Black Reef Formation conformably and consists of dolomite, chert and chert-breccia. This unit is between 1 200 and 1 500 m thick in the vicinity of Woodlands 407. The dolomite of this formation is usually covered by soft sediment, but the more resistant chert and chert-breccia are usually visible as prominent ridges. This unit covers the largest part of the geology on Woodlands.

4. Lindeques Drift Complex (Vli).

This intrusive igneous complex forms an elongated body of 11 km in length and is emplaced within the Malmani dolomite. It consists of lamprophyre, syenodiorite and albite-syenite dykes.

5. Rooihoogte Formation (Vrt).

The Rooihoogte Formation unconformably overlies the Malmani Sub-group, and is on average between 10 and 150 m in thickness. Lower down (basal 30 m) in the succession, this formation consists of breccia and conglomerate, and quartzite. The thicker upper remainder of this formation consists of shale and intercalated quartzite.

6. The Timeball Hill Formation (Vtq 1).

This formation overlies the Rooihoogte Formation conformably and is made up of the Timeball Hill quartzite. This usually forms prominent ridges. The Vtq2 succession contains an elevated amount of iron when compared to Vtq1.

7. The Timeball Hill Formation (Vts 3).

This formation overlies the Timeball Hill quartzite and consists of shale horizons.

8. The Hekpoort Formation (Vh).

The main lithologies are finely crystalline andesitic tuffs and lava flows with amygdoloidal zones.

9. Quaternary Sands (Q).

Most of the formations in the area are overlain by unconsolidated quaternary sediments of waterborne and windblown sands. The Vaal River is a very old and mature drainage system, borne out by the course it takes across the rim of the Vredefort Dome. There is evidence on Woodlands 407 of a paleo-channel cutting across Portion 4 and the southern parts of the remaining extent, as well as the southern part of the remaining extent of portion 1. Further north in an east-west orientation is additional evidence of separate quaternary sediment deposited on Portion 3 and the remaining extent of Portion 1.

10. Diamondiferous Gravels (Qs).

The mapped diamondiferous gravels are indicated as Qs on Figure 30.

The lithologies described above are shown as a cross section (Figure 31).

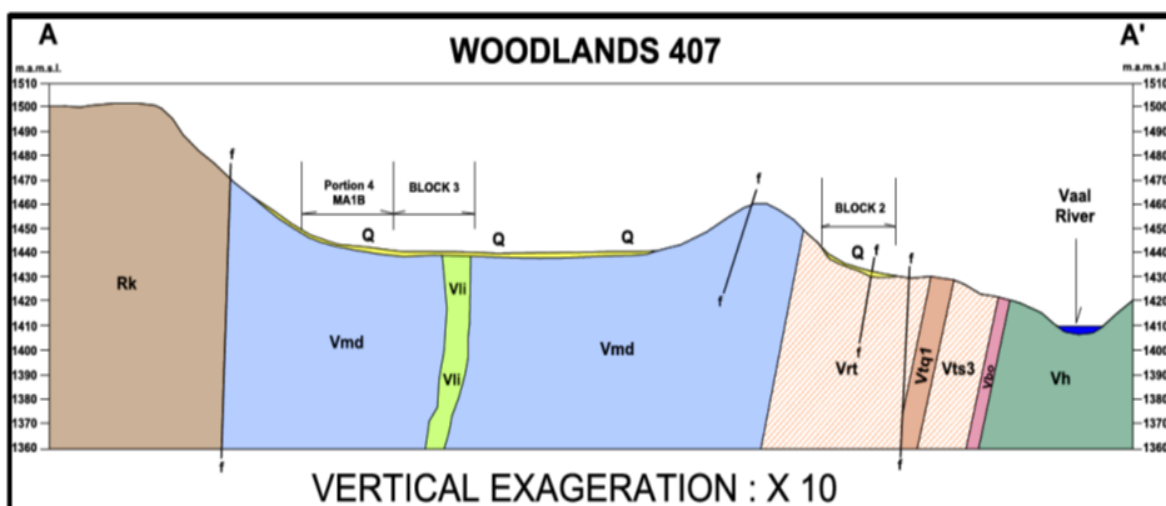


Figure 31: Geological cross section.

Sand and Aggregate Potential

Quaternary age sands and aggregates represent the mining target. These sands are unconsolidated and unconformably overlie sediments of the Transvaal Supergroup. A stratigraphic column of this rock succession is

shown in Figure 32. The secondary commodity of interest is the unconsolidated, Quaternary gravels, which potentially contain alluvial diamonds.

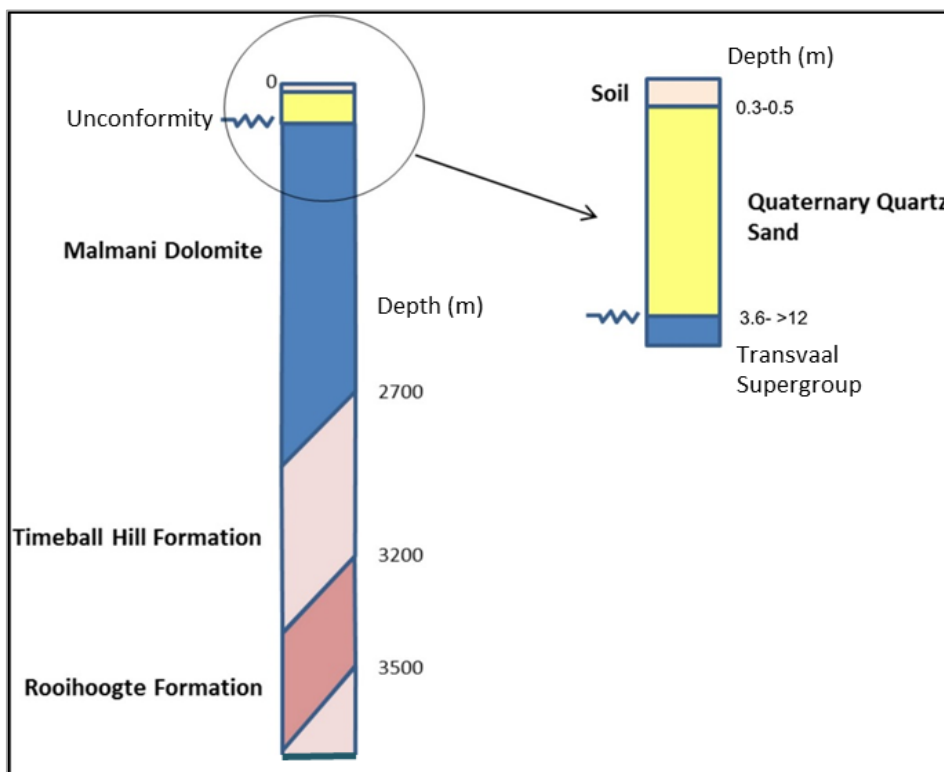


Figure 32: Stratigraphic column of the area on interest.

Alluvial Diamond Potential

During the period 1922-1926, some 25,000ct are recorded as having been recovered from five farms located on the northbank (Marshall, 1987) (Table 11). On Kaalplaats and Zeekoeifontein, intermittent diamond production continued up until 1968 and 1973 respectively. No information exists regarding potential grades or diamond values.

Table 11: Diamond Production from nearby properties.

Property	Carats Recorded
Boschdraai 575	133.75
Brakfontein 476	44.75
Bronkhorstfontein 566	266.45
Kaalplaats 577	11 147.89
Witkop 475	220.00
Zeekoeifontein 573	13 644.65

The largest number of diamonds recorded historically (+13 000 ct), were recorded from the farm Zeekoeifontein, which is located directly across the river from Woodlands, in the meander bend where Vaal Oewer is situated today.

During a site visit in mid-June 2018 along the banks of the Vaal River across from Zeekoeifontein, the presence of “diggers heaps” (Figure 32) and an old plant-site were noted. The spoil heaps comprise rounded – well-rounded, pebble-cobble size, alluvial clasts that could, conceivably, date back to the mid-1920’s. These diggers heaps prove that diamonds were recovered from the Woodland property, likely at the same time that diamonds

were being mined elsewhere in the vicinity. The plant-site probably dates from the 1960's or 70's, indicating that gravels were still being processed there up until quite recently (as is the case on Zeekoeifontein and Kaalplaats). What is most encouraging to note is that, both the old diggers heaps on Woodlands and the property with significant diamond production records are located adjacent to the North pit sand deposit (Figure 33). The implication is that alluvial diamond deposition is associated with the palaeochannel that deposited the sand.



Figure 33: Location of historical diamond recoveries.

In a meandering river system, such as the Vaal is seen to be at this location, the coarse-grained (gravel) units occur as channel lag deposits overlain by finer-grained, sandy point bar deposits (Figure 34). The point bar deposits would represent the silica sand deposits that are currently being mined on Woodlands, and the channel lag deposits would be the priority target for alluvial diamonds.

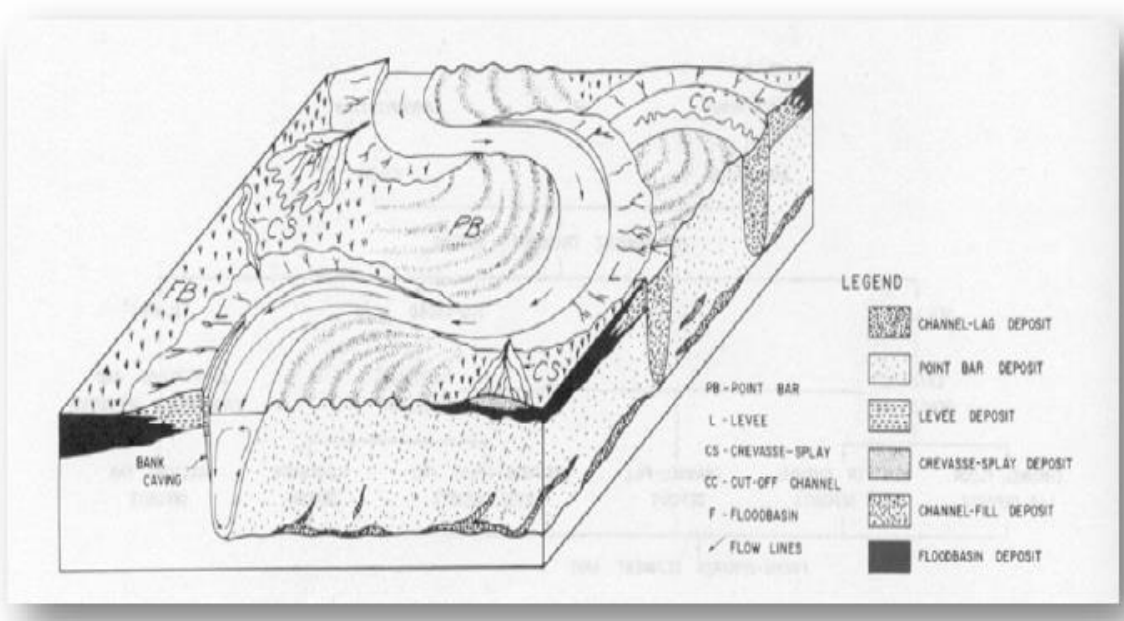


Figure 34: Schematic of point bar (sand) units overlying channel lag deposits.

14.1.9 Palaeontology

According to the South African Heritage Resources Agency (SAHRA) website and the South African Heritage Information System (SAHRIS) Fossil Sensitivity Map (Figure 35), the application area is depicted having very high (red), high (orange/yellow) and moderate (green) fossil sensitivity and therefore, warrants careful scrutiny.

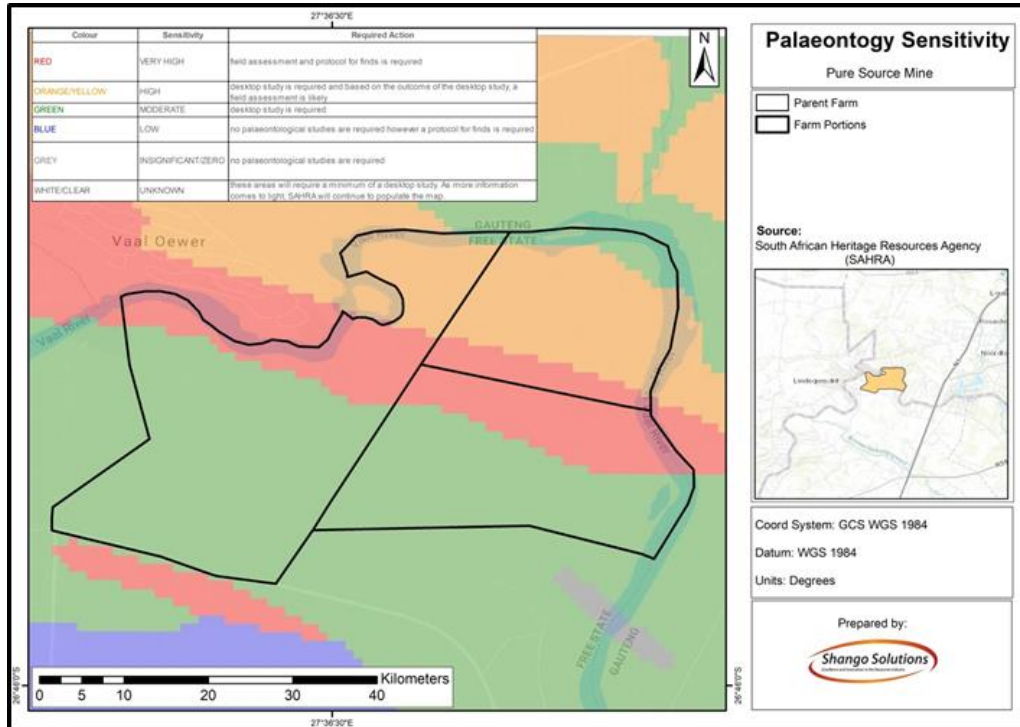
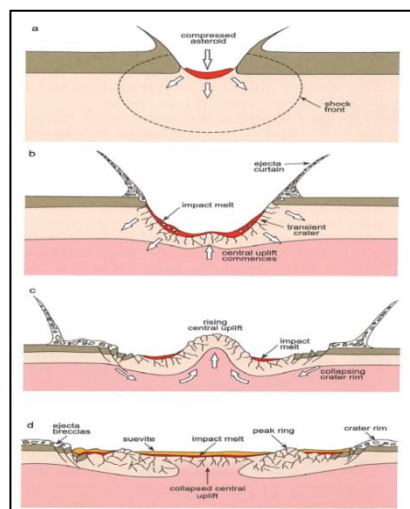


Figure 35: Palaeontological sensitivity (refer to Appendix D for enlarged map).

The project area is situated in the collar rocks of the Vredefort Dome northeast of the Vredefort Dome World Heritage Site. The basement granite at Vredefort formed prior to 3 000 million years ago. The strata overlying the basement consist of volcanic and sedimentary rocks (quartzite, shale and dolomite) and were deposited between 3 000 and 2 400 million years ago. They are named (from the base upwards): the Witwatersrand, Ventersdorp and Transvaal supergroups. The impact took place about 2 020 million year ago. After the impact, erosion removed all traces of the actual impact crater, leaving only the deeper levels which form a ring-like collar around the central uplift (Figure 36).



Erosion level at Vredefort.

Figure 36: Diagrams illustrating stages in the development of the Vredefort impact. Erosion has removed the actual impact crater and only the depressed outer ring and central uplift are preserved (Reimold and Gibson, 2009).

The penultimate phase of erosion occurred 300 million years ago under the influence of glaciers, at a time when southern Africa, then part of the supercontinent Gondwana, passed over the ice cap of the South Pole. Moving ice is a powerful eroding agent, and the ice sheets carved out the rocks of the Vredefort in accordance with their harness – soft rocks formed valleys and harder rocks formed ridges.

Following emergence from beneath the ice cap, what is now southern Africa was partly submerged beneath a shallow sea. River systems emerging from melting ice deposited sandstone and mudstone (shale) in large deltas which gradually buried the eroded Vredefort landscape. Peat collected in densely vegetated swamps amongst the deltas, which was ultimately converted into coal by accumulated heat and pressure from the overlying sediment. These sedimentary rocks form part of the Karoo Supergroup

The modern river system began to form about 150 million years ago as Gondwana began to break up. By about 50 million years ago, the interior of southern Africa had been eroded down to a low-lying plain, much like present day Australia which has an average elevation of only 330 MAMSL. Uplift of southern Africa occurred between 20 and 5 million years ago, resulting in a central plateau which lies at an elevation largely above 1 000 MAMSL. Only two primary rivers drain the vast interior plateau – the Vaal and Orange rivers, both of which arise near the eastern escarpment and flow across the entire country to the Atlantic Ocean. The Vaal River has been steadily removing the Karoo Supergroup sedimentary rocks. In the Vredefort area, the Karoo cover rocks have been removed from the northwestern section of the dome, but still cover the southeastern section (Figure 37). Essentially only the soft Karoo sedimentary rocks have been eroded away, thus resurrecting the ring-shaped pattern of ridges and valleys formed by the glaciers that preceded the Karoo sedimentation. The manner in which the Karoo strata were removed occasionally resulted in fairly sudden changes in the course of the Vaal River, leaving Vaal River sediment (gravel overlain by sand) preserved in valley bottoms. In addition, during dry periods, especially droughts, sand banks would have been exposed in the bed of the Vaal River, which would have been blown out into adjacent valleys by the wind.

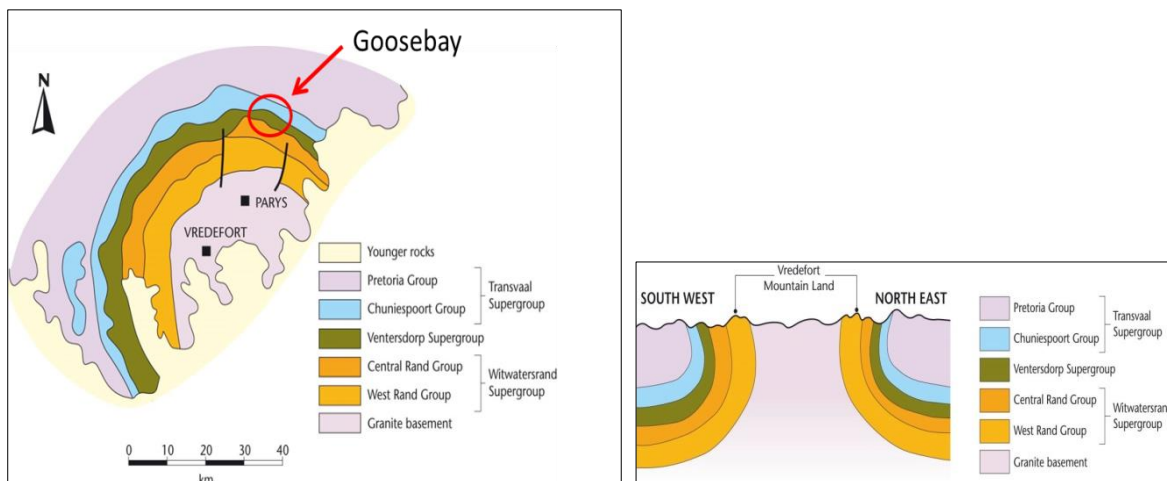


Figure 37: (Left) Plan view and (Right) Sectional view.

Palaeontological Implications

The rocks underlying the application area were deposited between 3 000 million and 2 400 million years ago, well before the appearance of animals and plants. As a consequence, no fossils as such can be expected to occur on the property. The dominant life form that prevailed at that time was various species of bacteria, and in fact bacterial growth was largely responsible for the precipitation of the dolomite of the Transvaal Supergroup. Under very special conditions these bacteria were sometimes fossilized, but the fossils are so small they can only be seen using an electron microscope. The structures formed by bacterial colonies are often found preserved, much like

abandoned coral reefs and are known as stromatolites. These provide information on the conditions which prevailed at the time of deposition and are useful to sedimentologists, but have very limited palaeontological value. The dolomite of the Transvaal Supergroup is very widespread, so it is very unlikely that the dolomite that occurs onsite has any special palaeontological value.

During the course of the mining of sand and gravel, archaeological material may be uncovered in which case an Archaeologist should be engaged to assess the importance of the material and its context for possible conservation.

14.1.10 Soil

The conservation of South Africa's limited soil resources is essential. In the past misuse and poor management of the soil resource has led to the loss of the resource through erosion and destabilisation of the natural systems. In addition, loss of high potential agricultural land due to land use changes is currently a big concern in South Africa. Soil can be seen as the foundation for ecological function. Without a healthy soil system for microbes to thrive in, both flora and fauna would be negatively impacted, which in turn feeds the natural soil system with organics and nutrients.

To identify soils accurately, it is necessary to undertake a soil survey. The aim is to provide an accurate record of the soil resources of an area. Land capability and land potential is then determined from these results. The objective of determining the land capability/potential is to find and identify the most sustainable use of the soil resource without degrading the system. Soil mapping is essential to determine the types of soils present, their depths, their land capability and land potential. According to the land type database (Land Type Survey Staff, 1972 - 2006) the project falls within the Bc36 land type and a small portion of the Ba39 land type (Figure 38).

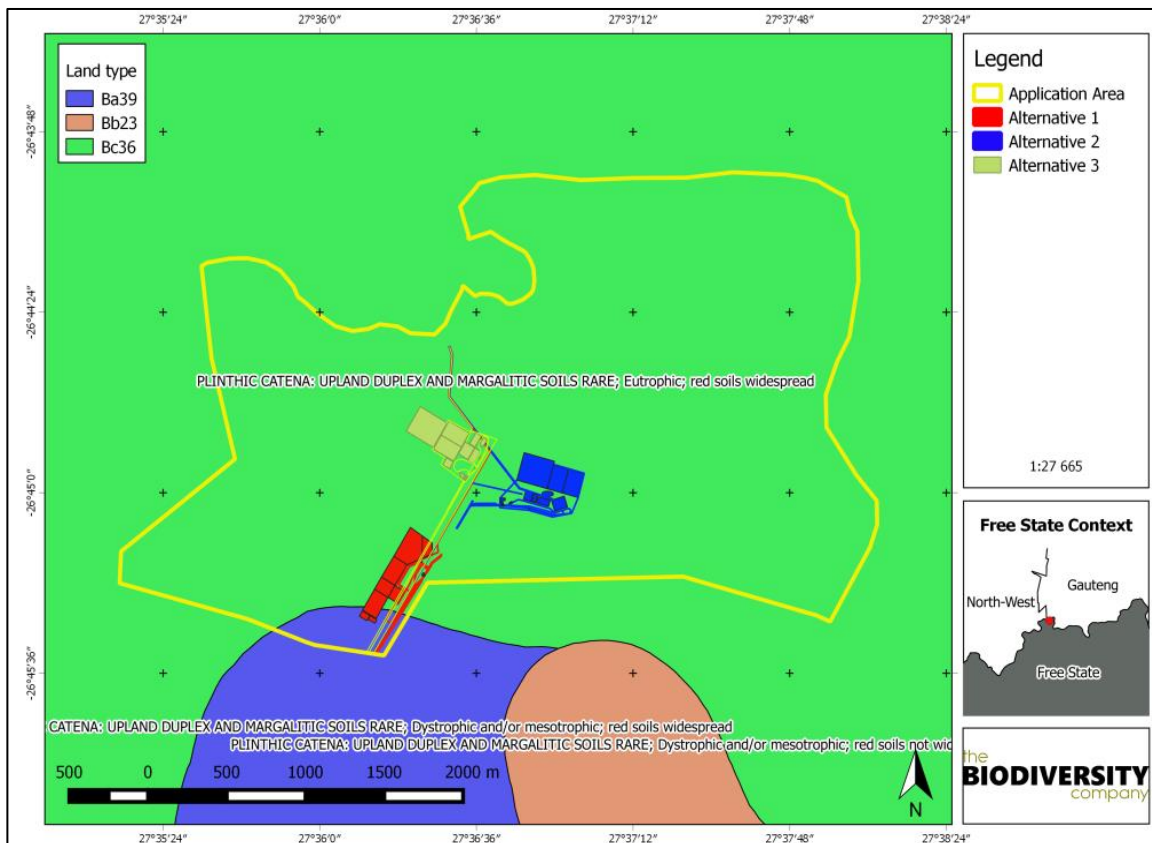


Figure 38: Land type map for the application area.

It is expected that the dominant soils in the crest position, with slopes exceeding 16%, will be shallow Mispah and Glenrosa soils. The Hutton, Clovelly, and Oakleaf (freely drained soils) soil forms dominate the southern flatter portions. Areas where water accumulates are dominated by the Westleigh, Longlands and Fernwood soil forms. Figure 39 represent the soil forms that were delineated within the application area.

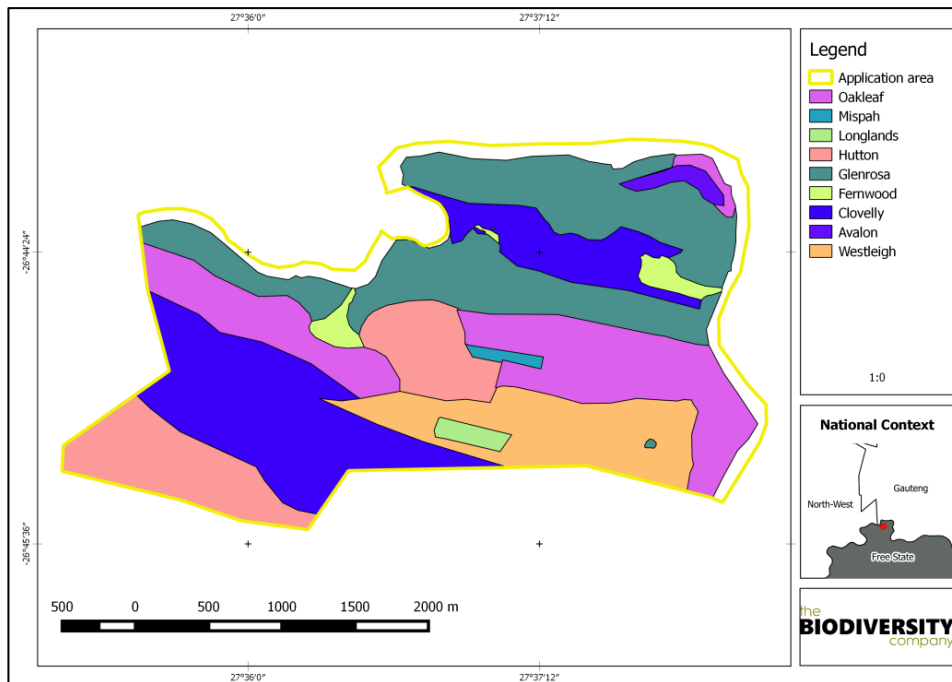


Figure 39: Preliminary soil delineation for the project area

Land capability and agricultural potential is determined by a combination of soil, terrain and climate features. Land capability is defined by the most intensive long term sustainable use of land under rain-fed conditions. At the same time an indication is given about the permanent limitations associated with the different land use classes (Smith, 2006). Land capability is divided into eight classes and these may be divided into three capability groups. Table 12 illustrates how the land classes and groups are arranged in order of decreasing capability and ranges of use. The risk of use increases from class I to class VIII (Smith, 2006).

Table 12: Land capability class and intensity of use (Smith, 2006).

Land Capability Class	Increased Intensity of Use									Land Capability Groups
	W	F	LG	MG	IG	LC	MC	IC	VIC	
I	W	F	LG	MG	IG	LC	MC	IC	VIC	Arable Land
II	W	F	LG	MG	IG	LC	MC	IC		
III	W	F	LG	MG	IG	LC	MC			
IV	W	F	LG	MG	IG	LC				
V	W		LG	MG						Grazing Land
VI	W	F	LG	MG						
VII	W	F	LG							
VIII	W									Wildlife
W - Wildlife		MG – Moderate Grazing			MC – Moderate Cultivation					
F - Forestry		HG – Intensive Grazing			IC – Intensive Cultivation					
LG – Light grazing		LC – Light Cultivation			VI – Very Intensive Cultivation					

The overall land capability of the soils identified in the application area is Class III (moderate cultivation) or less. Class III land would pose moderate limitations to agriculture with some erosion hazard, and would require special conservation practice and tillage methods. The farming method for this capability would require the rotation of crops and ley (50%).

14.1.11 Terrestrial Biodiversity

The Biodiversity Assessment was conducted on a desktop level and a field survey was undertaken during which the floral and faunal communities within the mining footprint and the overall application area were assessed. The Biodiversity Assessment discusses the following components:

- Vegetation Assessment.
- Faunal Assessment.
- Critical Biodiversity Areas and Ecological Supports Areas.
- Ecosystem Threat Status and Ecosystem Protection Level.
- The project area in relation to protected areas.
- Ridges and Outcrops.

14.1.11.1 Vegetation Assessment

The project area is situated within the grassland biome. This biome is centrally located in southern Africa, and adjoins all except the desert, fynbos and succulent Karoo biomes (Mucina and Rutherford, 2006). Grasslands are dominated by a single layer of grasses. The amount of cover depends on rainfall and the degree of grazing. The grassland biome experiences summer rainfall and dry winters with frost (and fire), which are unfavourable for tree growth. Thus, trees are typically absent, except in a few localised habitats. Geophytes (bulbs) are often abundant. Frosts, fire and grazing maintain the grass dominance and prevent the establishment of trees.

The grassland biome comprises many different vegetation types. The application area is situated within a single vegetation type, namely the Soweto Highveld Grassland (Gs4) vegetation type according to Mucina and Rutherford (2006) (Figure 40).

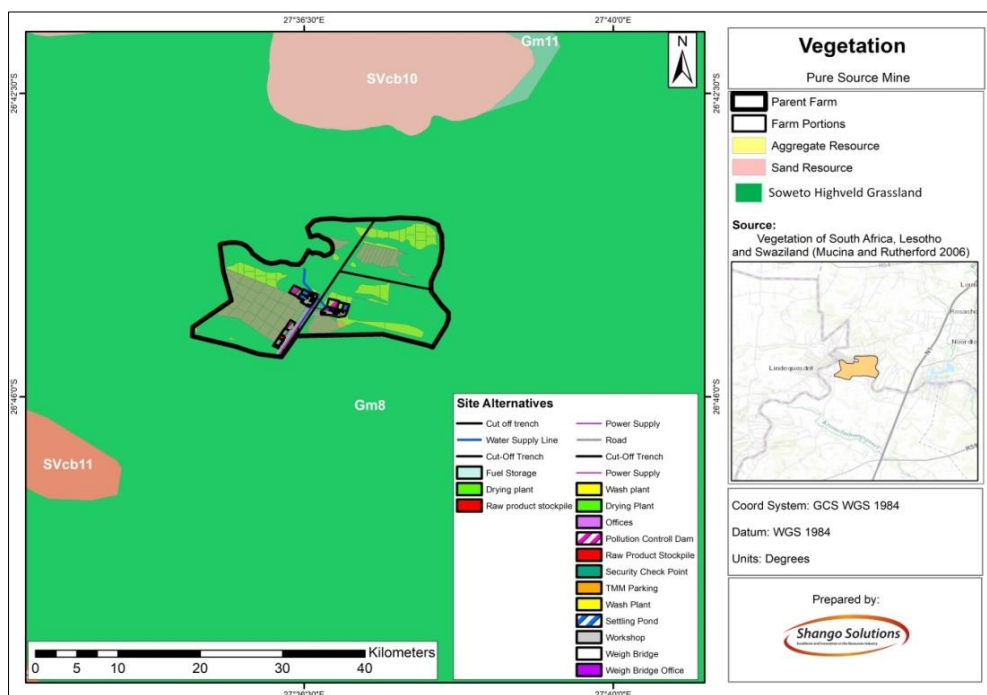


Figure 40: The project area showing the vegetation type based on the Vegetation Map of South Africa, Lesotho and Swaziland (BGIS, 2017) (refer to Appendix D for enlarged map).

Soweto Highveld Grassland (Gs4)

The Soweto Highveld Grassland vegetation type is found in Mpumalanga, Gauteng and to a little extent also in neighbouring Free State and North-West Provinces. This vegetation type typically comprises of an undulating landscape on the Highveld plateau supporting short to medium-high, dense, tufted grassland dominated almost entirely by *Themeda triandra* and accompanied by a variety of other grasses such as *Elionurus muticus*, *Eragrostis racemosa*, *Heteropogon contortus* and *Tristachya leucothrix*. Scattered small wetlands, narrow stream alluvia, pans and occasional ridges or rocky outcrops interrupt the continuous grassland cover (Mucina and Rutherford, 2006).

Important plant taxa

Important plant taxa are those species that have a high abundance, a frequent occurrence or are prominent in the landscape within a particular vegetation type (Mucina and Rutherford, 2006). The following species are important in the Soweto Highveld Grassland.

- **Graminoids:** *Andropogon appendiculatus*, *Brachiaria serrata*, *Cymbopogon pospischilii*, *Cynodon dactylon*, *Elionurus muticus*, *Eragrostis capensis*, *E. chloromelas*, *E. curvula*, *E. plana*, *E. planiculmis*, *E. racemosa*, *Heteropogon contortus*, *Hyparrhenia hirta*, *Setaria nigrirostris*, *S. sphacelata*, *Themeda triandra*, *Tristachya leucothrix*, *Andropogon schirensis*, *Aristida adscensionis*, *A. bipartita*, *A. congesta*, *A. junciformis* subsp. *galpinii*, *Cymbopogon caesius*, *Digitaria diagonalis*, *Diheteropogon amplexans*, *Eragrostis micrantha*, *E. superba*, *Harpochloa falx*, *Microchloa caffra* and *Paspalum dilatatum*.
- **Herbs:** *Hermannia depressa*, *Acalypha angustata*, *Berkheya setifera*, *Dicoma anomala*, *Euryops gilfillanii*, *Geigeria aspera* var. *aspera*, *Graderia subintegra*, *Haplocarpha scaposa*, *Helichrysum miconiifolium*, *H. nudifolium* var. *nudifolium*, *H. rugulosum*, *Hibiscus pusillus*, *Justicia anagalloides*, *Lippia scaberrima*, *Rhynchosia effusa*, *Schistostephium crataegifolium*, *Selago densiflora*, *Senecio coronatus*, *Vernonia oligocephala* and *Wahlenbergia undulata*.
- **Geophytic Herbs:** *Haemanthus humilis* subsp. *Hirsutus* and *H. montanus*.
- **Herbaceous Climber:** *Rhynchosia totta*.
- **Low Shrubs:** *Anthospermum hispidulum*, *A. rigidum* subsp. *pumilum*, *Berkheya annectens*, *Felicia muricata* and *Ziziphus zeyheriana*.

Conservation Status of the Vegetation Type

According to Mucina and Rutherford (2006), the Soweto Highveld Grassland vegetation type is classified as Endangered. The national target for conservation protection for both these vegetation types is 24%, but only a few patches are statutorily conserved in Waldrift, Krugersdorp, Leeuwkuil, Suikerbosrand, Rolfe's Pan Nature Reserves or privately conserved in Johanna Jacobs, Tweefontein, Gert Jacobs, Nikolaas and Avalon Nature Reserves and the Heidelberg Natural Heritage Site.

By 2006 nearly half of the area of occupancy of this vegetation type had already been transformed by cultivation, urban sprawl, mining and building of road infrastructure. The amount of area transformed has most likely increased substantially. Some Soweto Grassland areas have been flooded by dams including Grootdraai, Leeuwkuil, Trichardtsfontein, Vaal and Willem Brummer.

Plant Species of Conservation Concern

Based on the Plants of Southern Africa (BODATSA-POSA, 2016) database, 445 plant species are expected to occur in the project area. Figure 41 shows the extent of the grid that was used to compile the expected species list based on the Plants of Southern Africa (BODATSA-POSA, 2016) database. The list of expected plant species

is provided in Appendix A of the Specialist Report. Of the 385-plant species, one (1) species is listed as being a Species of Conservation Concern (SCC) (Table 13).

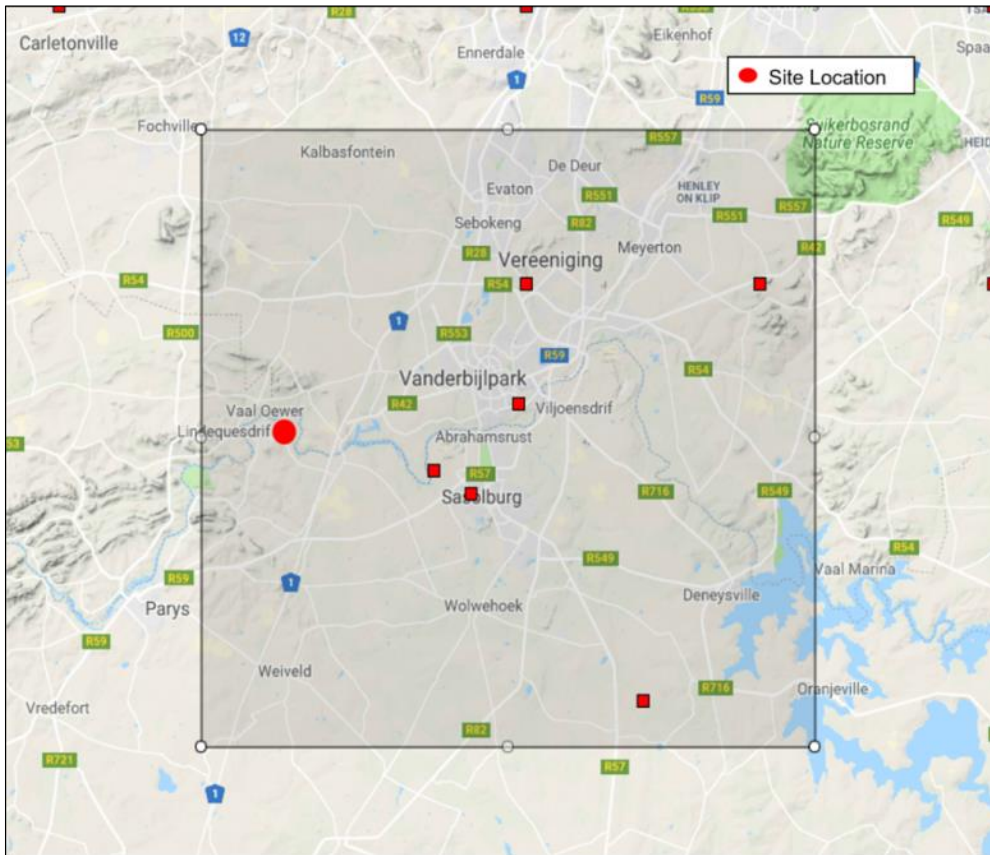


Figure 41: Map showing the grid drawn to compile an expected species list (BODATSA-POSA, 2016).

Table 13: Plant Species of Conservation Concern (SCC) expected to occur in the project area (BODATSA-POSA, 2016)

Family	Taxon	Author	IUCN	Ecology
Asphodelaceae	<i>Miraglossum laeve</i>	Kupicha	CR	Indigenous; Endemic

Miraglossum laeve is a rare and poorly known species. It has been collected twice only: first in 1930, from hills south of Pretoria, and again in 1960, from the hills of the Vredefort Dome north-east of Parys, a disjunction of about 130 km. Despite dedicated searches, this species has not been found again. The 1960 collection has a fairly precise locality description, which indicates that it occurs in Gold Reef Mountain Bushveld, a vegetation type with a limited distribution on the rocky ridges of Gauteng and adjacent areas in North West Province. The older collection's locality description is too imprecise to determine its habitat, but hills to the south of Pretoria also has another limited vegetation type on them, Gauteng Shale Mountain Bushveld, which is found on three ridges across Gauteng Province, and also extending somewhat into North West Province. It is therefore likely that this species is a rare, localised endemic of ridges in Gauteng Province (von Staden and Victor, 2005).

Threats

Habitat loss and degradation due to urban expansion is a severe threat across Gauteng, and very little natural areas remain. Efforts have been made to limit development on ridges, but these natural areas are now becoming increasingly isolated, and continue to be degraded due to fire exclusion and encroachment of alien invasive plants.

14.1.11.2 Fauna Assessment

Avifauna

Based on the South African Bird Atlas Project, Version 2 (SABAP2) database, 317 bird species are expected to occur in the vicinity of the project area. The full list of potential bird species is provided in Appendix B of the Specialist Report.

Of the expected bird species, twenty-four (24) species are listed as SCC either on a regional scale or international scale (Table 14). The SCC include the following:

- Four (4) species that are listed as Endangered (EN) on a regional basis.
- Six (6) species that are listed as Vulnerable (VU) on a regional basis.
- Twelve (12) species that are listed as Near Threatened (NT) on a regional basis.

Table 14: List of bird species of regional or global conservation importance that are expected to occur.

Species	Common Name	Conservation Status		Likelihood of Occurrence
		Regional (SANBI, 2016)	IUCN (2017)	
<i>Alcedo semitorquata</i>	Kingfisher, Half-collared	NT	LC	Moderate
<i>Anthropoides paradiseus</i>	Crane, Blue	NT	VU	Moderate
<i>Aquila verreauxii</i>	Eagle, Verreaux's	VU	LC	High
<i>Balearica regulorum</i>	Crane, Grey Crowned	EN	EN	High
<i>Calidris ferruginea</i>	Sandpiper, Curlew	LC	NT	Moderate
<i>Certhilauda brevirostris</i>	Lark, Agulhas Long-billed	NT	NE	High
<i>Ciconia abdimii</i>	Stork, Abdim's	NT	LC	Moderate
<i>Circus macrourus</i>	Harrier, Pallid	NT	NT	Moderate
<i>Circus ranivorus</i>	Marsh-harrier, African	EN	LC	High
<i>Coracias garrulus</i>	Roller, European	NT	LC	Moderate
<i>Eupodotis caerulescens</i>	Korhaan, Blue	LC	NT	High
<i>Eupodotis senegalensis</i>	Korhaan, White-bellied	VU	LC	High
<i>Falco biarmicus</i>	Falcon, Lanner	VU	LC	High
<i>Falco vespertinus</i>	Falcon, Red-footed	NT	NT	High
<i>Glareola nordmanni</i>	Pratincole, Black-winged	NT	NT	High
<i>Mycteria ibis</i>	Stork, Yellow-billed	EN	LC	Moderate
<i>Oxyura maccoa</i>	Duck, Maccoa	NT	NT	High
<i>Phalacrocorax capensis</i>	Cormorant, Cape	EN	EN	High
<i>Phoeniconaias minor</i>	Flamingo, Lesser	NT	NT	Moderate
<i>Phoenicopterus ruber</i>	Flamingo, Greater	NT	LC	Moderate
<i>Rostratula benghalensis</i>	Painted-snipe, Greater	NT	LC	Moderate
<i>Sagittarius serpentarius</i>	Secretary bird	VU	VU	High
<i>Sterna caspia</i>	Tern, Caspian	VU	LC	High
<i>Tyto capensis</i>	Grass-owl, African	VU	LC	High

Alcedo semitorquata (Half-collared Kingfisher) is listed as Near Threatened (NT) on a regional scale and occurs across a large range. This species generally prefers narrow rivers, streams, and estuaries with dense vegetation onshore, but it may also move into coastal lagoons and lakes. It mainly feeds on fish (IUCN, 2017). The possibility of occurrence is regarded as moderate due to the fact that the Vaal River is on the boundary of the

project area, and there are some small dams on the property, both of which could provide suitable habitat for this species.

Anthropoides paradiseus (Blue Crane) is listed as NT on a regional scale and as VU on a global scale, while *Balearica regulorum* (Grey Crowned Crane) is listed as EN both globally and regionally. Populations of these two species have declined, largely owing to direct poisoning, power-line collisions and loss of their grassland breeding habitats owing to afforestation, mining, agriculture and development (IUCN, 2017). These species breed in natural grass and sedge-dominated habitats, preferring secluded grasslands at high elevations where the vegetation is thick and short. Due to the presence of some open grassland areas within the project site the likelihood of occurrence is rated as moderate for both of these crane species.

Aquila verreauxii (Verreaux's Eagle) is listed as VU on a regional scale and LC on a global scale. This species is locally persecuted in southern Africa where it coincides with livestock farms, but because the species does not take carrion, is little threatened by poisoned carcasses. Where hyraxes are hunted for food and skins, eagle populations have declined (IUCN, 2017). Based on the expected habitat, the close proximity of the various rocky outcrops and the availability of prey items, the likelihood of occurrence of this species at the project site is rated as high. Furthermore this species was recorded in the project area during previous surveys.

Calidris ferruginea (Curlew Sandpiper) is migratory species which breeds on slightly elevated areas in the lowlands of the high Arctic and may be seen in parts of South Africa during winter. During winter, the species occurs at the coast, but also inland on the muddy edges of marshes, large rivers and lakes (both saline and freshwater), irrigated land, flooded areas, dams and salt pans (IUCN, 2017). Due to the presence of some of these habitat types within the project area the likelihood of occurrence of this species was rated as moderate.

Certhilauda brevirostris (Agulhas long-billed lark) is listed as Near Threatened (NT) on a regional scale but has not yet been evaluated by IUCN. The species is endemic to South Africa and generally they prefer recently ploughed fields, shrubland punctuated with *Renosterbos* (*Dicerotheramnus rhinocerotis*) and dwarf Karoo shrubland on clay substrate. Mainly eats insects supplemented with seeds. Due to the presence of suitable habitat, including some ploughed fields, there is a high likelihood of occurrence for this species.

Ciconia abdimii (Abdim's Stork) is listed as NT on a local scale and the species is known to be found in open grassland and savanna woodland often near water but also in semi-arid areas, gathering beside pools and water-holes. They tend to roost in trees or cliffs (IUCN, 2017). The existence of some wet areas and suitable savanna woodland creates the potential for this species to occur in the area and the likelihood of occurrence was rated as moderate.

Circus macrourus (Pallid Harrier) is listed as NT on a regional and global scale, and overwinters in semi-desert, scrub, savanna and wetlands. The species is migratory, with most birds wintering in sub-Saharan Africa or south-east Asia (IUCN, 2017). The species is most likely only to use the area as a migratory route or a temporary overwintering location from August to March, the likelihood of occurrence is moderate.

Circus ranivorus (African Marsh Harrier) is listed as EN in South Africa (ESKOM, 2014). This species has an extremely large distributional range in sub-equatorial Africa. South African populations of this species are declining due to the degradation of wetland habitats, loss of habitat through over-grazing and human disturbance and possibly, poisoning owing to over-use of pesticides (IUCN, 2017). This species breeds in wetlands and forages primarily over reeds and lake margins. There are some wetlands and marsh areas in the project area as

well as the Vaal River, and thus the occurrence of *C. ranivorus* in the Project area is therefore considered to be high.

Coracias garrulous (European Roller) is a winter migrant from most of South-central Europe and Asia occurring throughout sub-Saharan Africa (IUCN, 2017). The European Roller has a preference for bushy plains and dry savannah areas (IUCN, 2017). There is a moderate chance of this species occurring in the project area as they prefer to forage in open/disturbed agricultural areas which are present in the project area.

Eupodotis caerulescens (Blue Korhaan) is listed as near threatened according to the IUCN (2017). Their moderately rapid decline is accredited to habitat loss that is a result of intensive agriculture. They are found in high grassveld in close proximity to water, usually above an altitude of 1 500 MAMSL (del Hoyo, et al. 1996). The species nests in bare open ground, situated in thick grass or cropland. Based on the presence of required habitat in the project area the likelihood of occurrence of this species is rated as high.

Eupodotis senegalensis (White-bellied Korhaan) is Near-endemic to South Africa, occurring from the Limpopo Province and adjacent provinces, south through Swaziland to KwaZulu-Natal and the Eastern Cape. It generally prefers tall, dense sour or mixed grassland, either open or lightly wooded, occasionally moving into cultivated or burnt land, much of which is present in the project area thus the likelihood of occurrence was rated as high (Hockey et al, 2005).

Falco biarmicus (Lanner Falcon) is native to South Africa and inhabits a wide variety of habitats, from lowland deserts to forested mountains (IUCN, 2017). They may occur in groups up to 20 individuals but have also been observed solitary. Their diet is mainly composed of small birds such as pigeons and francolins. The likelihood of incidental records of this species in the project area is rated as high due to the natural veld condition and the presence of many bird species on which Lanner Falcons may predate.

Falco vespertinus (Red-footed Falcon) is known to breed from eastern Europe and northern Asia to north-western China, heading south in the non-breeding season to southern Angola and southern Africa. Within southern Africa it is locally uncommon to common in Botswana, northern Namibia, central Zimbabwe and the area in and around Gauteng, South Africa (Hockey et al, 2005). The habitat it generally prefers is open habitats with scattered trees, such as open grassy woodland, wetlands, forest fringes and croplands. Many of these habitats are present in the project area and thus the likelihood of occurrence is rated as high.

Glareola nordmanni (Black-winged Pratincole) is a migratory species which is listed as NT both globally and regionally. This species has a very large range, breeding mostly in Europe and Russia, before migrating to southern Africa. Overall population declines of approximately 20% for this species are suspected (IUCN, 2017). This species generally occurs near water and damp meadows, or marshes overgrown with dense grass. Due to its migratory nature, this species will only be present in South Africa for a few months during the year and will not breed locally. There is a small amount of suitable habitat within the project area and adjacent to it and as such the likelihood of occurrence is rated as moderate.

Mycteria ibis (Yellow-billed Stork) is listed as EN on a regional scale and Least Concern (LC) on a global scale. This species is migratory and has a large distributional range which includes much of sub-Saharan Africa. It is typically associated with freshwater ecosystems, especially wetlands and the margins of lakes and dams (IUCN, 2017). The presence of some water bodies and the Vaal River within the project area creates a moderate possibility that this species may occur there.

Oxyura maccoa (Maccoa Duck) has a large northern and southern range, South Africa is part of its southern distribution. During the species' breeding season, it inhabits small temporary and permanent inland freshwater lakes, preferring those that are shallow and nutrient-rich with extensive emergent vegetation such as reeds (*Phragmites* spp.) and cattails (*Typha* spp.) on which it relies for nesting (IUCN, 2017). The likelihood of occurrence of this species in the project area was rated as moderate.

Phoeniconaias minor (Lesser Flamingo) is listed as NT on a global and regional scale whereas *Phoenicopterus roseus* (Greater Flamingo) is listed as NT on a regional scale only. Both species have similar habitat requirements and the species breed on large undisturbed alkaline and saline lakes, salt pans or coastal lagoons, usually far out from the shore after seasonal rains have provided the flooding necessary to isolate remote breeding sites from terrestrial predators and the soft muddy material for nest building (IUCN, 2017). Due to the absence of its preferred habitat within the project area, combined the proximity of the urban area, the likelihood of occurrence is moderate to low.

Rostratula benghalensis (Greater Painted-snipe) shows a preference for recently flooded areas in shallow lowland freshwater temporary or permanent wetland, it has a wide range of these freshwater habitats which they occur in including sewage pools, reservoirs and mudflats overgrown with marsh grass. Due to the presence of some dams and the Vaal River which may provide habitat for this species the likelihood of occurrence is regarded as moderate.

Sagittarius serpentarius (Secretary bird) occurs in sub-Saharan Africa and inhabits grasslands, open plains, and lightly wooded savanna. It is also found in agricultural areas and sub-desert (IUCN, 2017). The likelihood of occurrence is rated as high due to the extensive grasslands and some wetland areas present in the project area, as well as the agricultural areas present in which this species may forage.

Sterna caspia (Caspian Tern) is native to South Africa and are known to occur in inland freshwater systems such as large rivers, creeks, floodlands, reservoirs and sewage ponds. Due to the presence of the Vaal River, habitat suitability was found to be high and thus the likelihood of occurrence is regarded as high.

Tyto capensis (African Grass-owl) is rated as Vulnerable (VU) on a regional basis. The distribution of the species includes the eastern parts of South Africa. The species is generally solitary, but it does also occur in pairs, in moist grasslands where it roosts (IUCN, 2017). The species prefers thick grasses around wetlands and rivers which are not present in the project area. Furthermore, this species specifically has a preference for nesting in dense stands of the grass species *Imperata cylindrica*. At least four patches of this grass species are evident within the project area and as such the likelihood of occurrence is rated as high.

Important Bird Areas

Important Bird Areas (IBAs) are the sites of international significance for the conservation of the world's birds and other conservation significant species as identified by BirdLife International. These sites are also all Key Biodiversity Areas; sites that contribute significantly to the global persistence of biodiversity (Birdlife, 2017).

According to Birdlife International (2017), the selection of Important Bird and Biodiversity Areas (IBAs) is achieved through the application of quantitative ornithological criteria, grounded in up-to-date knowledge of the sizes and trends of bird populations. The criteria ensure that the sites selected as IBAs have true significance for the international conservation of bird populations and provide a common currency that all IBAs adhere to, thus creating consistency among, and enabling comparability between, sites at national, continental and global levels.

No IBAs occurs within the proximity of the application area. The nearest IBA to the project area is the Suikerbosrand Nature Reserve which is situated approximately 64 km's north-east of the project area.

Mammals

The IUCN Red List Spatial Data (IUCN, 2017) lists 78 mammal species that could be expected to occur within the vicinity of the project area (Appendix C of the Specialist Report). Of these species, 10 are medium to large conservation dependant species, such as *Ceratotherium simum* (Southern White Rhinoceros) and *Equus quagga* (Plains Zebra) that, in South Africa, are generally restricted to protected areas such as game reserves. These species are not expected to occur in the project area and are removed from the expected SCC list. They are however still included in Appendix C of the Specialist Report.

Of the remaining 67 small to medium sized mammal species, eleven (11) are listed as being of conservation concern on a regional or global basis (Table 15).

The list of potential species includes:

- Five (5) that are listed as Vulnerable (VU) on a regional basis.
- Six (6) that are listed as Near Threatened (NT) on a regional scale.

Table 15: List of mammal species of conservation concern that may occur in the project area as well as their global and regional conservation statuses (IUCN, 2017; SANBI, 2016)

Species	Common name	Conservation Status		Likelihood of Occurrence
		Regional (SANBI, 2016)	IUCN (2017)	
<i>Aonyx capensis</i>	Cape Clawless Otter	NT	NT	High
<i>Atelerix frontalis</i>	South Africa Hedgehog	NT	LC	High
<i>Crocidura maquassiensis</i>	Makwassie Musk Shrew	VU	LC	High
<i>Crocidura mariquensis</i>	Swamp Musk Shrew	NT	LC	Moderate
<i>Felis nigripes</i>	Black-footed Cat	VU	VU	Moderate
<i>Hydrictris maculicollis</i>	Spotted-necked Otter	VU	NT	Moderate
<i>Leptailurus serval</i>	Serval	NT	LC	High
<i>Mystromys albicaudatus</i>	White-tailed Rat	VU	EN	Moderate
<i>Panthera pardus</i>	Leopard	VU	VU	Low
<i>Parahyaena brunnea</i>	Brown Hyaena	NT	NT	High
<i>Poecilogale albinucha</i>	African Striped Weasel	NT	LC	High

Aonyx capensis (Cape Clawless Otter) is the most widely distributed otter species in Africa (IUCN, 2017). This species is predominantly aquatic, and it is seldom found far from water. Based on the presence of the Vaal River and a few dams in the project area the likelihood of occurrence of this species occurring is considered to be high.

Atelerix frontalis (South African Hedgehog) has a tolerance of a degree of habitat modification and occurs in a wide variety of semi-arid and sub-temperate habitats (IUCN, 2017). Based on the Red List of Mammals of South Africa, Lesotho and Swaziland (2016), *A. frontalis* populations are decreasing due to the threats of electrocution, veld fires, road collisions, predation from domestic pets and illegal harvesting. Although the species is cryptic and therefore not often seen, there is suitable habitat in the project area and therefore the likelihood of occurrence is rated as high.

Crocidura mariquensis (Swamp Musk Shrew) has very specific habitat requirements. It occurs in close proximity to open water with a distinct preference for marshy ponds, and riverine and semi-aquatic vegetation such as reed beds (IUCN, 2017). It is considered to be common in suitable habitats. Due to the presence of some of this habitat type in the project area the likelihood of occurrence of this species was rated as moderate.

Crocidura maquassiensis (Maquassie Musk Shrew) is listed as Vulnerable (VU) on a regional basis and is known to be found in rocky, mountain habitats. It may tolerate a wider range of habitats and individuals have been collected in Kwa-Zulu Natal from a garden, and in mixed bracken and grassland alongside a river at 1,500 m (IUCN, 2017). There is presence of extensive rocky areas for this species in the project area and therefore the likelihood of occurrence is rated as high.

Felis nigripes (Black-footed cat) is endemic to the arid regions of southern Africa. This species is naturally rare, has cryptic colouring is small in size and is nocturnal. These factors have contributed to a lack of information on this species. Given that the highest densities of this species have been recorded in the more arid Karoo region of South Africa, the habitat in the project area can be considered to be sub-optimal for the species and the likelihood of occurrence is rated as moderate.

Hydriectis maculicollis (Spotted-necked Otter) inhabits freshwater habitats where water is un-silted, unpolluted, and rich in small to medium sized fishes (IUCN, 2017). Suitable habitat may be available in Vaal River and dams to the west of the project area, and therefore the likelihood of occurrence is regarded as moderate.

Leptailurus serval (Serval) occurs widely through sub-Saharan Africa and is commonly recorded from most major national parks and reserves (IUCN, 2017). The Serval's status outside reserves is not certain, but they are inconspicuous and may be common in suitable habitat as they are tolerant of farming practices provided there is cover and food available. In sub-Saharan Africa, they are found in habitat with well-watered savanna long-grass environments and are particularly associated with reedbeds and other riparian vegetation types. Due to the presence of natural grassland areas in the project area, the likelihood of occurrence for this species is rated as high.

Mystromys albicaudatus (White-tailed Rat) is listed as Vulnerable (VU) on a regional basis and Endangered (EN) on a global scale. It is relatively widespread across South Africa and Lesotho; the species is known to occur in shrubland and grassland areas. A major requirement of the species is black loam soils with good vegetation cover. Although the vegetation type is suitable, no black loam seems to be present on site, therefore the likelihood of occurrence of this species is rated as moderate.

Panthera pardus (Leopard) has a wide distributional range across Africa and Asia, but populations have become reduced and isolated, and they are now extirpated from large portions of their historic range (IUCN, 2017). Impacts that have contributed to the decline in populations of this species include continued persecution by farmers, habitat fragmentation, increased illegal wildlife trade, excessive harvesting for ceremonial use of skins, prey base declines and poorly managed trophy hunting (IUCN, 2017). Although known to occur and persist outside of formally protected areas, the densities in these areas are considered to be low. The likelihood of occurrence in the project area is regarded as low.

Parahyaena brunnea (Brown Hyaena) is endemic to southern Africa. This species occurs in dry areas, generally with annual rainfall less than 100 mm, particularly along the coast, semi-desert, open scrub and open woodland savanna. Given its known ability to persist outside of formally protected areas the likelihood of occurrence of this species in the project area is high. The presence of moderate to large herbivores on the property and extensive suitable habitat increases the likelihood of occurrence of this species. Records of this species occurring on site were noted during previous surveys.

Poecilogale albinucha (African Striped Weasel) is usually associated with savanna habitats, although it probably has a wider habitat tolerance (IUCN, 2017). Due to its secretive nature, it is often overlooked in many areas

where it does occur. There is sufficient habitat for this species in the Project area and the likelihood of occurrence of this species is therefore considered to be high.

Herpetofauna (Reptiles and Amphibians)

Reptiles

Based on the IUCN Red List Spatial Data (IUCN, 2017) and the ReptileMap database provided by the Animal Demography Unit (ADU, 2017) 20 reptile species are expected to occur in the project area (Appendix D of the Specialist Report). No reptile species of conservation concern are expected to be present in the application area.

Amphibians

Based on the IUCN Red List Spatial Data (IUCN, 2017) and the AmphibianMap database provided by the Animal Demography Unit (ADU, 2017) twenty (20) amphibian species are expected to occur in the application area. One (1) amphibian species of conservation concern could be present in the application area according to the above-mentioned sources (Table 16).

Table 16: Amphibian species of conservation concern which may occur in the project area.

Species	Common Name	Conservation Status		Likelihood of Occurrence
		Regional (SANBI, 2016)	IUCN (2017)	
<i>Pyxicephalus adspersus</i>	Giant Bullfrog	NT	LC	Moderate



The Giant Bull Frog (*Pyxicephalus adspersus*) is a species of conservation concern that will possibly occur in the application area. The Giant Bull Frog is listed as Near Threatened on a regional scale. It is a species of drier savannahs. It is fossorial for most of the year, remaining buried in cocoons. They emerge at the start of the rains, and breed in shallow, temporary waters in pools, pans and ditches (IUCN, 2017). There appears to be minimal suitable habitat for this species in the application area and therefore the likelihood of occurrence is regarded as low.

14.1.11.3 Free State Terrestrial CBA Plan

A Critical Biodiversity Area (CBA) is considered a significant and ecologically sensitive area and needs to be kept in a pristine or near-natural state to ensure the continued functioning of ecosystems (SANBI, 2017). A CBA represents the best choice for achieving biodiversity targets. ESAs are not essential for achieving targets, but they play a vital role in the continued functioning of ecosystems and often are essential for proper functioning of adjacent CBAs.

According to the Free State Terrestrial CBA Plan, the project area is comprised of three identified areas: Critical Biodiversity Area 2 (CBA2), Ecological Support Area 1 (ESA1) and Ecological Support Area 2 (ESA2) (Figure 42). All of these areas will have a high or moderately-high biodiversity value. Three areas across the central portion are considered CBA2. These areas coincide with areas which are considered to be rocky ridges and or wetland areas (both high biodiversity areas) based on desktop analyses.

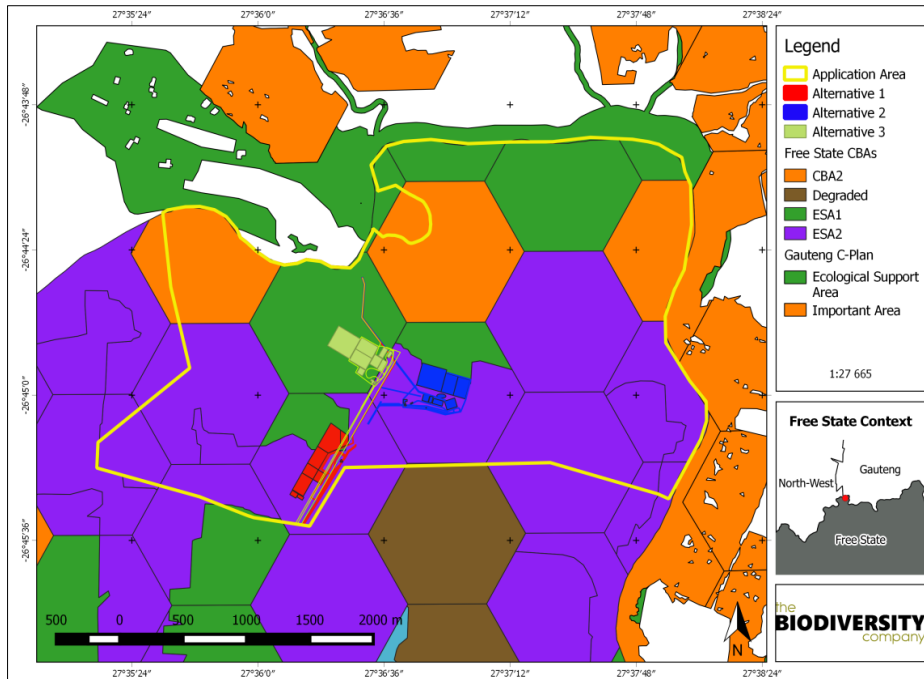


Figure 42: The project area superimposed on the Free State Terrestrial CBA spatial data (BGIS, 2018) (refer to Appendix D for enlarged map).

14.1.11.4 Flora - Ecosystem Threat Status

Ecosystem threat status outlines the degree to which ecosystems are still intact or alternatively losing vital aspects of their structure, function and composition, on which their ability to provide ecosystem services ultimately depends (Driver et al., 2011). Ecosystem types are categorised as Critically Endangered (CR), Endangered (EN), Vulnerable (VU) or Least Threatened (LT), based on the proportion of each ecosystem type that remains in good ecological condition (Driver et al., 2011). The proposed project area was superimposed on the terrestrial ecosystem threat status (Figure 43). As seen in Figure 35 the application area according to the NBA (2011) falls entirely within one ecosystem, which is listed as a Vulnerable (VU) ecosystem.

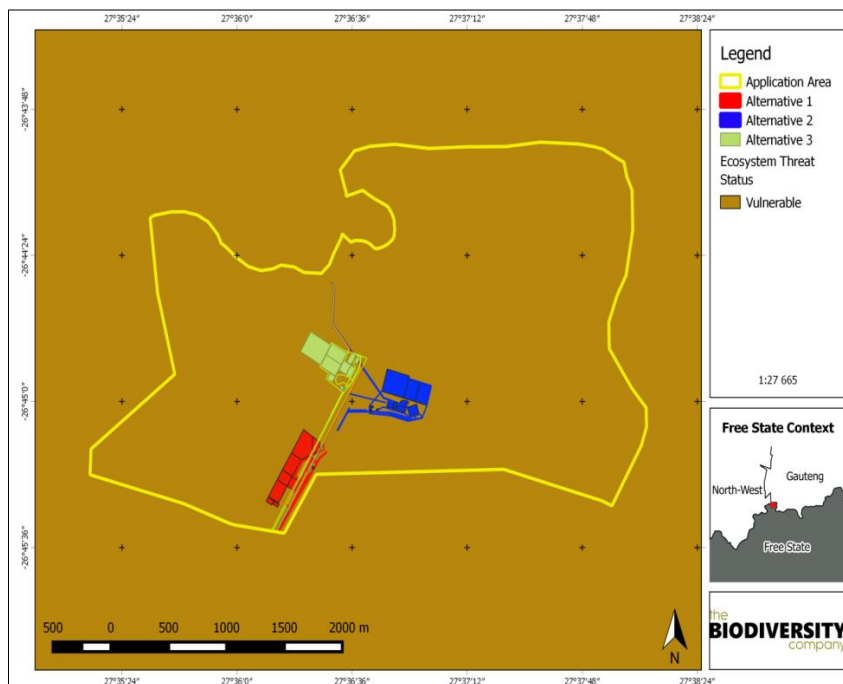


Figure 43: The project area showing the ecosystem threat status of the associated terrestrial ecosystems (BGIS, 2018) (refer to Appendix D for enlarged map).

14.1.11.5 Ecosystem Protection Level

Ecosystem protection level indicates whether ecosystems are adequately protected or under-protected. Ecosystem types are categorised as not protected, poorly protected, moderately protected or well protected, based on the proportion of each ecosystem type that occurs within a protected area recognised in the Protected Areas Act (Driver et al., 2011).

The project area was superimposed on the ecosystem protection level map to assess the protection status of terrestrial ecosystems associated with the development (Figure 44). Based on Figure 43, the terrestrial ecosystems associated with the proposed project area are rated as not protected. This means that this ecosystem type (and associated habitats) are not well protected anywhere in the country (such as in nationally protected areas).

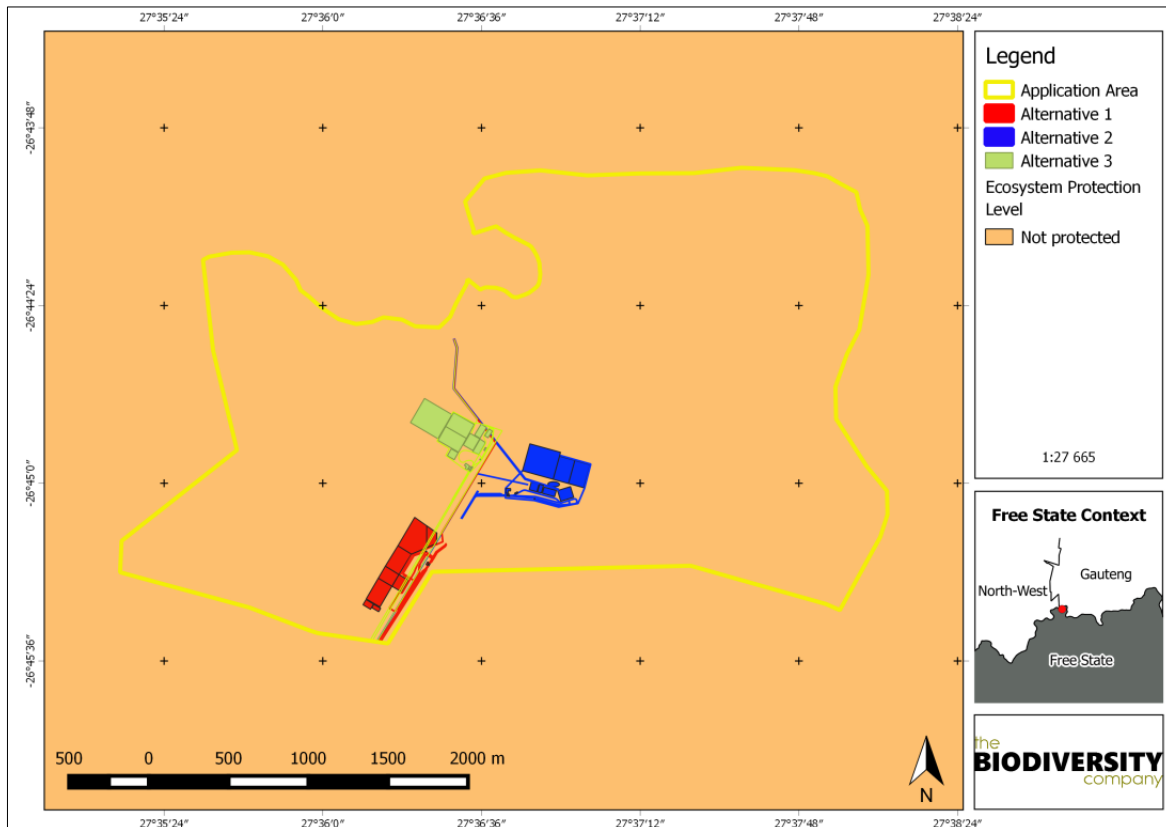


Figure 44: The project area showing the level of protection of terrestrial ecosystems (BGIS, 2018) (refer to Appendix D for enlarged map).

14.1.11.6 Project Area in Relation to Protected Areas - Vredefort Dome World Heritage Site

Formally protected areas refer to areas protected either by national or provincial legislation. Based on the SANBI (2010) Protected Areas Map and the National Protected Areas Expansion Strategy (NPAES), the application area does not overlap with, nor will it impact upon, any formally protected area.

The central core of the Vredefort Dome World Heritage Site is situated approximately 15 km south-west of the proposed project area. The collar of the outer dome is within 8 km of the proposed project area which is outside of the 5 km protected areas buffer and as such the proposed project is not expected to have an impact on this region (Figure 45). However, due to the international importance of the Vredefort World Heritage Site and its location downstream of the proposed project area, there is a minor chance that any severe impacts caused to the Vaal River system by the proposed development, if any, may have an impact on this site.

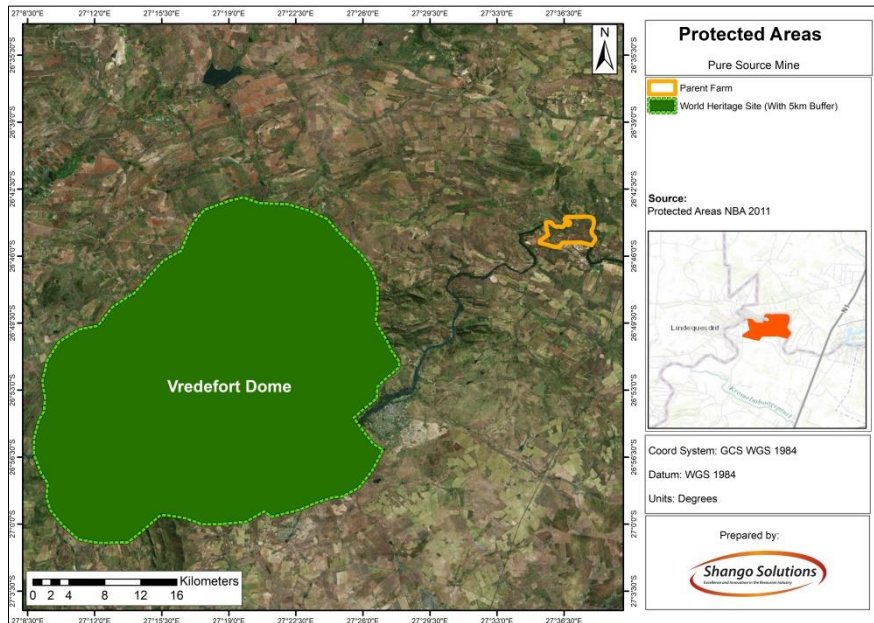


Figure 45: The project area in relation to the Vredefort Dome World Heritage Site (refer to Appendix D for enlarged map).

14.1.11.7 Rocky Ridges and Outcrops

Ridges are characterised by high spatial heterogeneity due to the range of differing aspects, slopes and altitudes all resulting in differing soil, temperature, elevation, light and hydrological conditions. This variation is an especially important predictor of biodiversity. Topography (e.g. hills and valleys) significantly influences biodiversity. Variations in aspect, drainage and altitude create a host of micro-environments that offer a range of conditions for plants and animals to flourish.

Ridges are thus characterized by a particularly high biodiversity and it follows that their protection will contribute significantly to the conservation of biodiversity in the country. According to the Gauteng Conservation C-Plan, the ridges of this Province are vital habitat for many threatened plant species. Sixty-five percent of Gauteng's threatened plant species and 71% of Gauteng's endemic plant species have been recorded on ridges. However, this policy does not exist as yet within Free State legislation. Figure 46 shows images of some of the rocky ridge habitats present across the application area. The Applicant took cognisance of the sensitivity and environmental importance of the rocky ridge and outcrops in the determination of the proposed mining footprint.



Figure 46: Images of some of the rocky ridges and outcrops that occur in the application area.

Class 1 and Class 2 ridges are given the highest level of protection within Gauteng. Where Class 1 ridges occur, no further development is permitted (including residential) and where Class 2 ridges occur either no further development is permitted, or only low impact development is permitted (full EIA required). A 200-meter buffer of low impact development is required around Class 1 and 2 ridges. This is applicable in Gauteng, and the classification of these ridges may not be applicable in the Free State. Nonetheless, ridges represent important areas for biodiversity and will most likely be given a high sensitivity rating.

A Class 1 ridge that occurs on the eastern boundary of the application area will possibly require environmental authorisation to be developed and/or require a comprehensive impact assessment study. A Class 2 ridge occurs on the western boundary of the application area. This ridge extends across the Vaal River and into the application area (Figure 47).

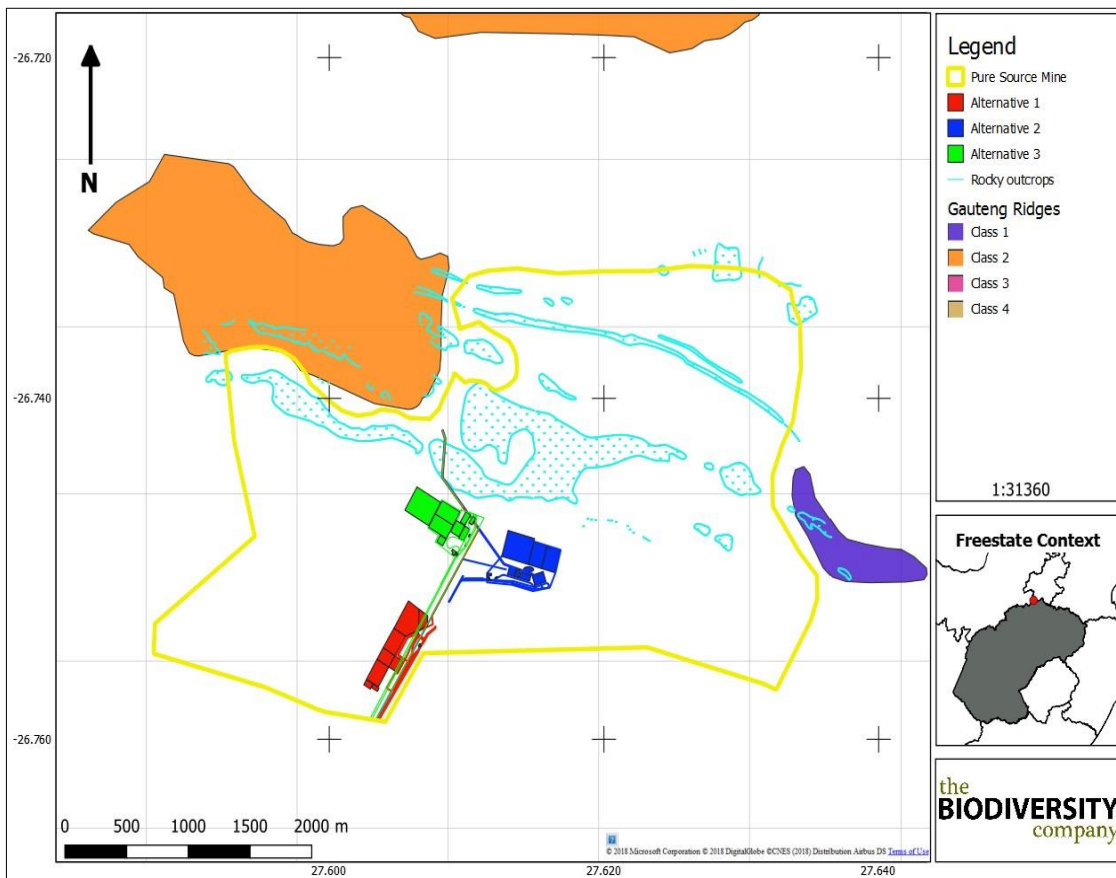


Figure 47: The project area superimposed on the Gauteng Ridge Guidelines and showing rocky ridges (BGIS, 2018 (refer to Appendix D for enlarged map).

14.1.12 Surface Hydrology

The application area is situated within the Vaal Water Management Area in the C23B quaternary catchment. C23B quaternary catchment drains into the C23B-01731 Sub Quaternary Reach (SQR) of the Vaal River system. The C23B-01731 SQR is 27.52 km in length and it is located within the Southern Temperate Highveld Ecoregion. The gradient of the watercourse within the application area was determined to be a class F Geoclass which is indicative of a low gradient-gentle slope watercourse (DWS, 2018). The specific reach of the SQR is located downstream of the Vaal River Barrage and upstream of the Goosebay gauging weir near to the town of Vaal Oewer (Figure 48).

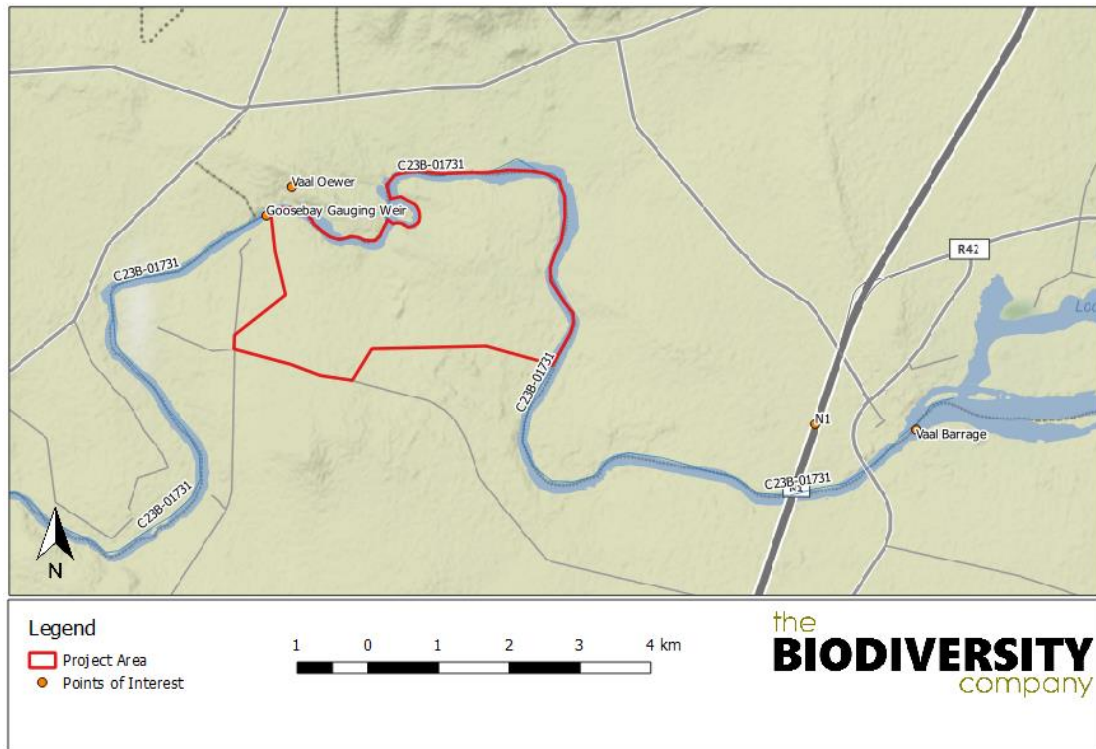


Figure 48: Surface hydrology (refer to Appendix D for enlarged map).

The catchment draining the project area consists of typical undulating, hygrophilous vegetation. Aquatic fauna of the Vaal River system, particularly in this zone, are threatened by extensive agriculture, urban development and industrial activities in Vanderbijlpark/Vereeniging. These land uses have resulted in the sedimentation and modification of instream and wetland habitats associated with the Vaal River. In addition, the Ermelo Coal Field is largely located within the overall source zone of the Vaal River basin which has resulted in several point source contaminants from coal mining and power generation activities. The Vaal River basin supports a critical commercial and industrial area in South Africa, supplying water for a multitude of activities and services.

Notable aquatic ecology in the Vaal River basin are the several endemic Cyprinid species such as *Labeo capensis* (Least Concern), *L. umbratus* (Least Concern), *Labeobarbus kimberleyensis* (Near Threatened), *Labeobarbus aeneus* (Least Concern) and the Rock Catlet, *Austroglanis sclateri* (Least Concern). In addition to the above species, *Enteromius cf. palidus* is undergoing systematic revision and likely represents several species. In the case of this assessment, *E. cf. palidus* is regarded as a listed species as a precautionary approach. The desktop ecological status of the C23B-01731 SQR is presented in Table 17.

Table 17: Desktop Ecological Status of the Vaal River within the C23B-01731 Sub Quaternary Reach (DWS, 2018).

Present Ecological Status (PES)	Largely Modified (class D)
Ecological Importance (EI)	Moderate
Ecological Sensitivity (ES)	High
Default Ecological Category	Largely Natural (Class B)

The desktop data for the Vaal River SQR considered in this assessment indicates that the Present Ecological Status (PES) of the watercourse is Largely Modified (class D). The central factors negatively affecting the PES were water quality deterioration, in the form of excessive sewerage input compounded by industrial, agricultural

and urban runoff, habitat quality degradation, in the form of extensive flow regulation and riparian habitat modification. The ecological importance of the watercourse at a desktop level was determined to be moderate. The moderate rated level of importance can be attributed to the wide distribution of aquatic fauna throughout the Orange-Vaal River Basins. The ecological sensitivity was derived to be high. The presence of flow and water quality sensitive taxa renders the fauna sensitive to changes to the physical components of the watercourse. The default ecological category was rated as Largely Natural (class B). Management of landuse must be completed in a manner which aims to improve the PES class of the watercourse. However, the extensive and permanent nature of the existing impacts renders the management of the watercourse to this level implausible. The default ecological category should therefore be revised.

Freshwater Ecosystem Priority Area (NFEPA) Status and Riparian Zone Buffer

According to Nel et al. (2011) the catchment of the watercourses in the study area are not National Freshwater Priority Areas (NFEPA). The layout of the proposed project with an approximate riparian zone and 100 m buffer are presented in Figure 49.

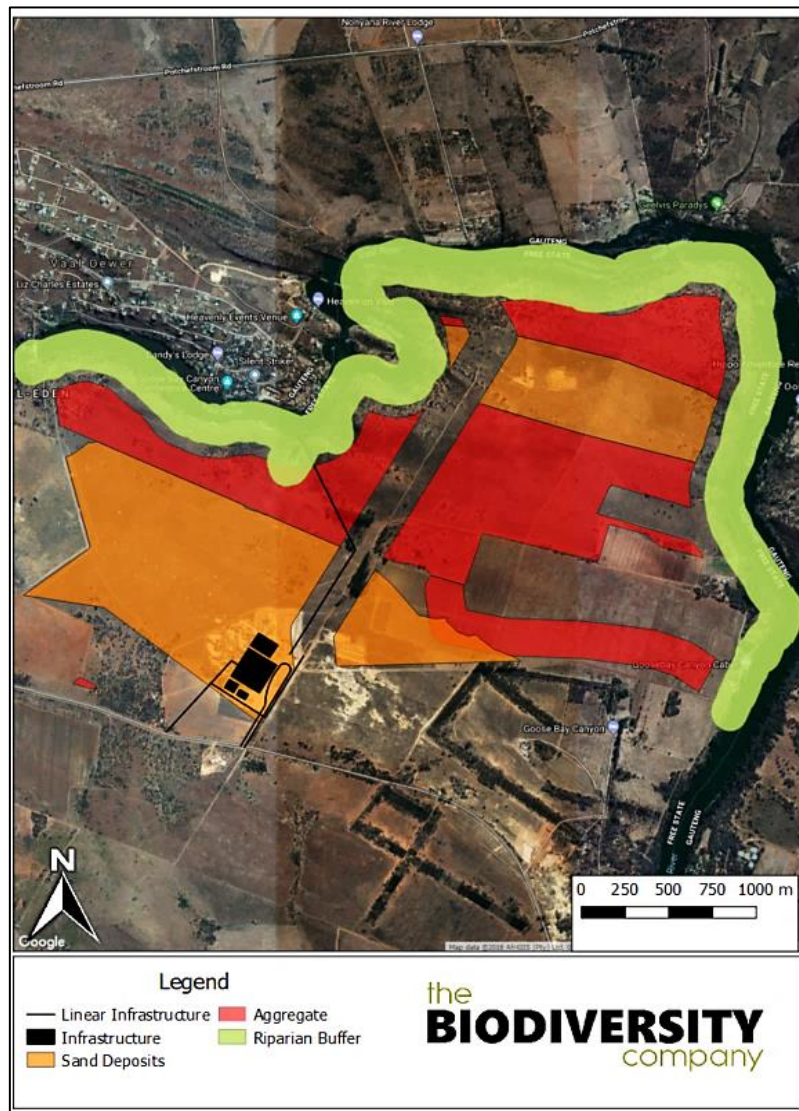


Figure 49: Project layout with approximate riparian bufferzone (refer to Appendix D for enlarged map).

As can be seen in Figure 50, the proposed project is largely outside the delineated riparian and floodline bufferzones. However, site alternative 3 for the plant is situated within the 50 and 100 year floodlines.

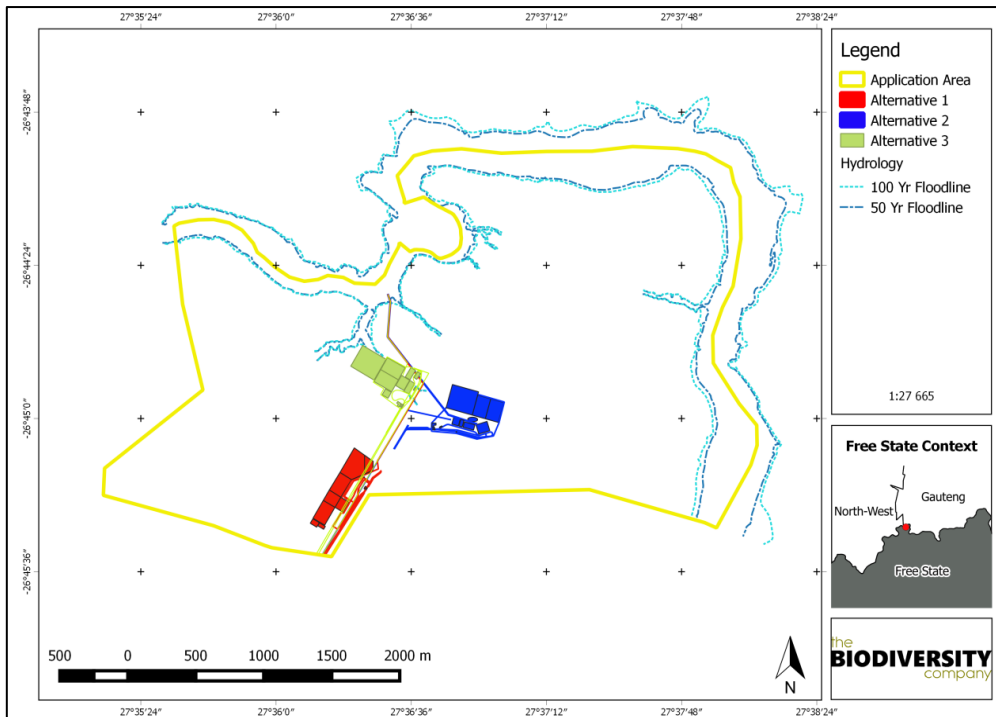


Figure 50: Project layout with approximate Floodline bufferzones (refer to Appendix D for enlarged map).

Wetland Delineation

The wetland areas were delineated in accordance with the DWAF (2005) guidelines. The extent of the delineated wetland areas is presented in Figure 51. As illustrated in this figure, the topographical river line data for quarter degree square “2627” indicates six major river lines flowing from inland towards the Vaal River. These river lines have been investigated and either labelled as likely wetland areas or drainage lines given the suitable topography.

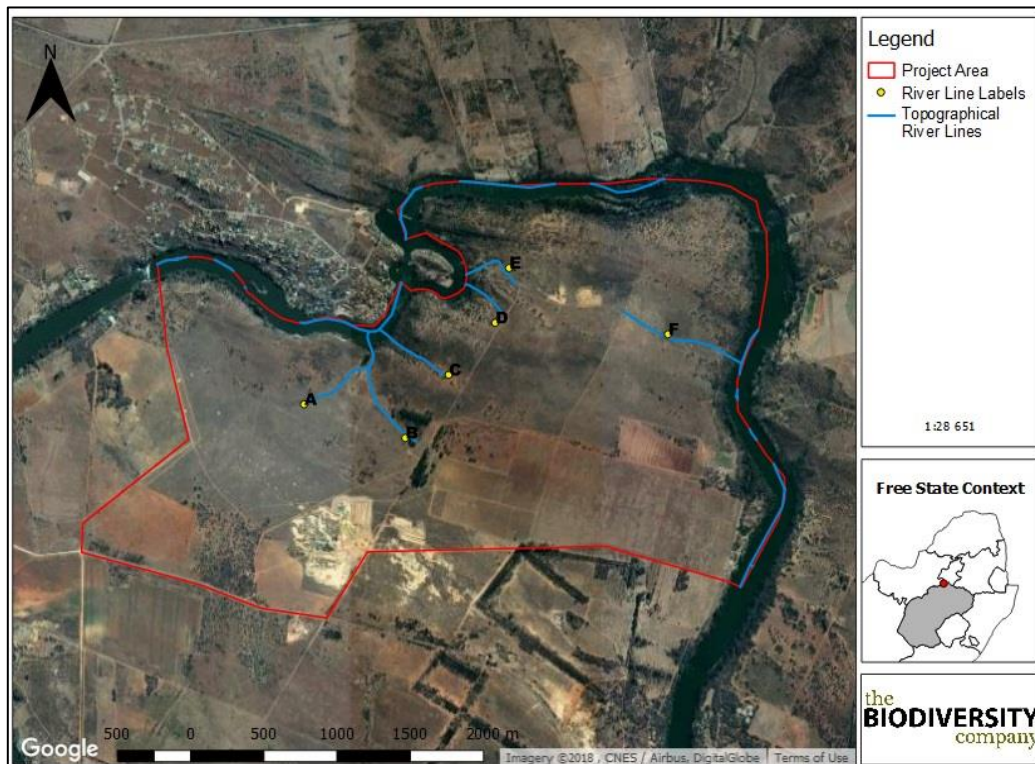


Figure 51: Topographical river lines (refer to Appendix D for enlarged map).

Topographical river lines have been used to identify possible wetland areas. This information has resulted in the classification of various wetlands and dry drainage channels. The river lines labelled “A”, “B”, “E” and “F” have been identified as likely wetland areas, whereas those labelled “C” and “D” have been identified to be likely dry drainage lines.

14.1.13 Geohydrology

A hydrocensus was conducted across the application area during August 2018. The survey included the proposed mining footprint areas and adjacent properties and concentrated on identifying existing boreholes to enhance the knowledge of the groundwater systems and current groundwater use. During the 2018 hydrocensus, 20 groundwater sites (boreholes) were identified. Groundwater level measurements were possible from 12 boreholes (pumping equipment blocked the rest) and 11 groundwater samples were collected for water quality analysis.

The 20 sites included:

- 14 boreholes which are in use.
- 3 blocked boreholes.
- 1 open/capped borehole – new and to be used soon.
- 2 old boreholes, not in use.

During the hydrocensus the following information was collected for each site:

- Borehole position (X, Y, Z-coordinates).
- Information relating to equipment installed.
- Borehole construction details.
- Borehole yield – if known.
- Groundwater level, if possible.
- Current use.

The boreholes are the only source of water to the community in the study area. Water is drawn from the Vaal River, in places, for irrigation purposes. An assumption has been made that there will be a strong correlation between the groundwater quality and water levels for boreholes GOO5, GOO7, GOO12, GOO18, GOO19 and GOO20 and the Vaal River level and quality. These boreholes are located on the banks of the Vaal River.

A summary of the sites identified during the 2018 hydrocensus is presented in Table 18 and on the hydrocensus map (Figure 52).

Table 18: Hydrocensus summary.

Site ID	Farm	Occupant	Latitude (WGS84)	Longitude (WGS84)	Elevation (MAMSL)	Water level (mbgl)	Status
GOO1	Woodlands 407, Portion 4	Ian van Rensburg	26.75780	27.62481	1441	pumping	in use
GOO2	Woodlands 407, Portion 4	Ian van Rensburg	26.75866	27.61974	1449	closed	in use
GOO3	Woodlands 407, Portion 4	Ian van Rensburg	26.76435	27.62336	1441	closed	not in use
GOO4	Woodlands 407, Portion 4	Ian van Rensburg	26.75936	27.60881	1457	closed	in use
GOO5	Woodlands 407	Goosebay	26.75176	27.63284	1426	4.44	in use
GOO6	Woodlands 407	Goosebay	26.74971	27.61116	1432	closed	collapsed
GOO7	Woodlands 407	Goosebay	26.75015	27.63216	1419	closed	collapsed
GOO8	Woodlands 407	Goosebay	26.74887	27.60975	1433	closed	in use
GOO9	Woodlands 407	Goosebay	26.75060	27.60743	1438	2.57	collapsed
GOO10	Woodlands 407	Goosebay	26.75805	27.59957	1465	20.56	in use
GOO11	Woodlands 407	Sweet Sensations, Vaal Sand	26.74570	27.58980	1433	7.07	in use
GOO12	De Pont 228	unknown	26.74072	27.58975	1430	closed	not in use
GOO13	Welbedaght 282	Trevor v Heerden	26.77248	27.58512	1417	pumping	in use
GOO14	Welbedaght 282	Vintage Yard Wedding Venue	26.76958	27.58435	1412	1.88	in use
GOO15	Welbedaght 282	Trevor v Heerden	26.76971	27.58866	1435	17.10	in use
GOO16	Welbedaght 282	Trevor v Heerden	26.78416	27.60061	1448	closed	in use
GOO17	Welbedaght 282	Trevor v Heerden	26.77430	27.60671	1469	9.95	in use
GOO18	De Pont 228	Wilhelm Gersteling	26.74398	27.58365	1416	9.85	in use
GOO19	De Pont 228	Athos	26.74484	27.58293	1412	closed	in use
GOO20	De Pont 228	Athos	26.74460	27.58316	1413	closed	in use

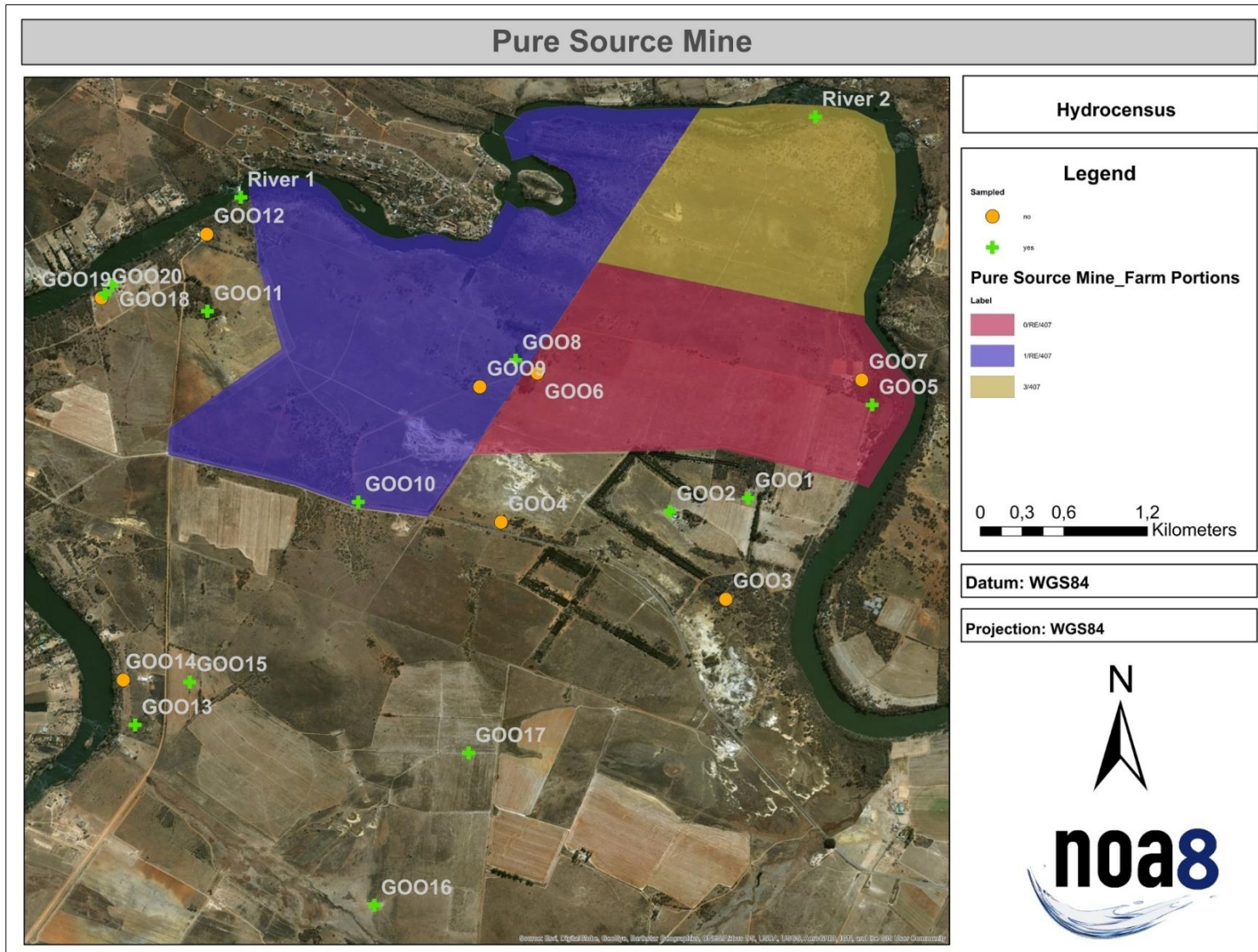


Figure 52: Sites recorded during the hydrocensus survey (refer to Appendix D for enlarged map).

Groundwater Levels

Water levels were measured by using a dip meter to measure the distance from the mouth of the borehole (borehole collar elevation) to the groundwater table depth in the borehole. The height of the borehole collar was subtracted from the measured water level to define a water level below surface (measured in metres below ground level, mbgl).

The groundwater levels varied from 2.5 m to 7 m across the proposed mining area, to a maximum depth of 20.5 mbgl along the tar road. To the south of the big hill (south of the tar road and proposed mining area) the average water table depth is 10 m below surface.

Time series groundwater level or quality data are not available to determine seasonal groundwater changes. Detailed information in terms of borehole construction and yields are also not available for the boreholes. The correlation between the topographical elevation and the water table elevation is 91%, confirming that the groundwater table elevation follows the topography (Figure 53). The general groundwater flow direction is in a northerly direction towards the Vaal River. There is a strong possibility of good surface water-groundwater interaction based on the shallow groundwater levels in the proposed mining area and the proximity of the Vaal River. The shallow groundwater table in the proposed mining area also indicates the possibility of groundwater inflow into the sand and aggregate excavations.

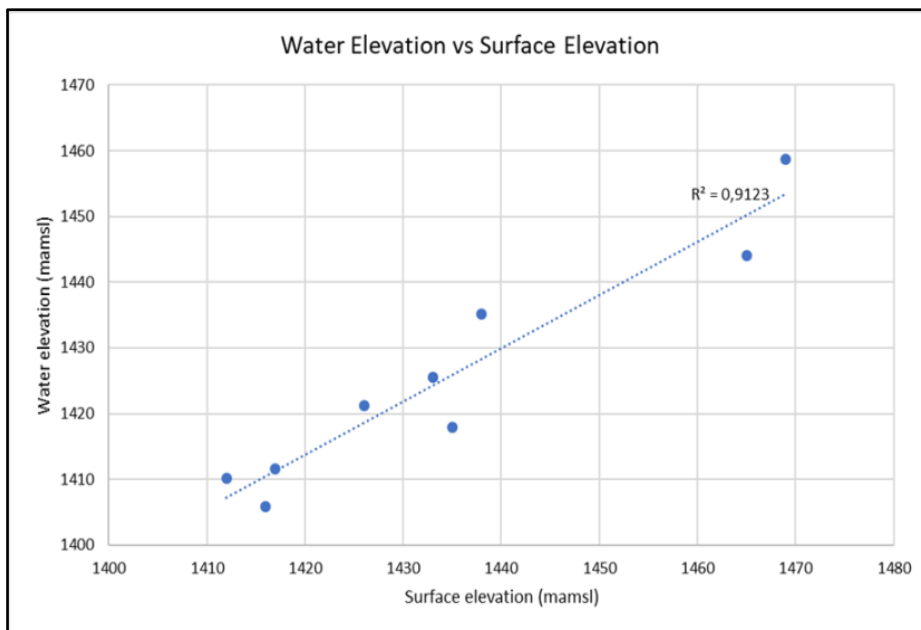


Figure 53: Groundwater vs surface elevation.

Groundwater Quality

Eleven (11) groundwater samples were collected during the 2018 hydrocensus. The water samples were submitted to Waterlab (Pty) Ltd for analysis; Waterlab is a SANAS accredited laboratory (South African National Accreditation System). The water samples were analysed for basic inorganic parameters and the results were compared against the SANS 241: 2015 Drinking Water Standards. It is recommended that all identified boreholes, actively used for domestic and agricultural purposes be sampled again before the construction phase (if the application is successful) to update the baseline assessment and build a water quality database for the area. The database will help the client identify water quality and level trends in the area and will serve as reference to identify and quantify potential impacts on private boreholes.

Samples were collected from boreholes across the project area to ensure a good illustration of current

groundwater qualities. Water quality analysis included the following elements:

- pH – Value at 25°C.
- Electrical Conductivity in mS/m at 25°C.
- Total Dissolved Solids.
- Chloride as Cl.
- Sulphate as SO₄.
- Fluoride as F.
- Nitrate as N.
- Ortho Phosphate as P.
- Total Cyanide as CN.
- E. coli/100 ml.
- Free & Saline Ammonia as N.
- ICP-MS Scan

The water quality results are presented in Table 19. Based on the water quality results, the following conclusions were drawn:

1. Acute Health effects:

- E.Coli – The downstream river sample (River 1) yielded a high E.Coli concentration (2 counts per 100 ml); potentially caused by anthropogenic activities in the area.

2. Aesthetic effects:

- Ammonium – Ammonia is not toxic to humans at the concentrations likely to be found in drinking water, but does exert other effects. Elevated concentrations of ammonia can compromise the disinfection of water and give rise to nitrite formation, which may result in taste and odour problems. A high ammonia concentration was measured in the upstream river sample (River 3). Ammonia is also found in runoff from agricultural lands, where ammonium salts have been used for fertilizers.
- Iron – The speciation of iron is also related to the pH and Eh of water. An elevated iron concentration was measured at borehole GOO5 (Table 18). This borehole is on the banks of the Vaal River and the elevated iron concentration could be the results of corroding steel casing or the Transvaal shale formations. The concentration of dissolved iron in water is also dependent on the occurrence of other heavy metals, such as manganese.
- Manganese – Manganese is a relatively abundant element, constituting approximately 0.1% of the earth's crust. The downstream river sample (River 1) measured a manganese concentration that could result in aesthetic issues (Table 18). Manganese tends to precipitate out of solution to form a black hydrated oxide which is responsible for staining problems.

3. Calcium:

- elevated calcium concentrations were measured in the two river samples and borehole GOO5. Scaling is likely to occur in water heating appliances such as kettles and geysers, and results in low efficiencies and the partial obstruction of pipes. High concentrations of calcium also impair the lathering of soap.

Most of the elevated concentrations are only elevated at one or two sampling points, mostly in the Vaal River and boreholes close to the river. Most of the salts and metals were present in concentrations below the SANS241 guideline limits. Based on the SANS241 drinking water guideline and on the sampled borehole water results, the groundwater sampled from 9 boreholes are fit for human consumption (treatment still recommended).

Groundwater quality in an area can be defined by the groundwater flow rate (residence time), the geological formations, the redox potential and human activities. Good quality groundwater can be expected in the proposed Mining Right area due to the sandy aquifers, dolomite, rainfall, and active groundwater flow. Stagnant groundwater zones are not expected in the area.

The sampled groundwater is currently not showing any negative impacts associated with the historical mining activities on the application area or at the neighbouring sand mine operations.

Table 19: Water quality results (August 2018).

	pH – Value at 25°C	Electrical Conductivity in mS/m at 25°C	Total Dissolved Solids (mS/mx6.7)	Chloride as Cl	Sulphate as SO ₄	Fluoride as F	Nitrate as N	Ortho Phosphate as P	E. coli / 100 mℓ	Free & Saline Ammonia as N	Na (mg/L)	Ca (mg/L)	K (mg/L)
SANS241 Standard Limits	≥5 - ≤9.7	Aesthetic ≤170	Aesthetic ≤1200	Aesthetic ≤300	Aesthetic ≤250					Aesthetic ≤1.5	Aesthetic ≤200		
					Acute health ≤500	Chronic health ≤1.5	Acute health ≤11		Acute health - Not detected				
DWS Drinking Standards												No health effects. Scaling intensifies from 32 mg/L	No aesthetic or health effects below 50 mg/L
River 1	7.7	78.1	523	49	172	0.2	4.7	0.4	2	1.0	60	57	10,4
River 3	7.7	78.4	525	53	177	0.3	4.0	0.4	0	1.9	61	59	10,5
G001	7.7	19.1	128	2	7	--	3.0	--	0	0.1	4	19	0,8
G002	8.1	26.2	175	3	3	--	4.3	--	0	0.1	4	29	1,6
G005	7.3	99.8	669	48	235	--	0.7	--	0	0.1	43	97	0,7
G008	7.6	22.0	147	8	--	--	0.7	--	0	0.2	5	21	0,7
G010	7.2	17.2	115	2	--	--	4.4	--	0	0.2	5	15	3,3
G011	8.6	12.1	81	2	--	--	1.5	--	0	--	2	15	0,9
G017	6.8	15.7	105	5	2	--	5.4	--	0	--	9	12	3,2
G018	7.8	30.4	204	14	27	--	3.6	--	0	--	6	31	1,0
G020	8.5	11.9	80	2	5	--	1.8	--	0	--	3	15	0,8

14.1.14 Geochemical Evaluation

The geological formations in the application area were subjected to geochemical assessments to determine their leach characteristics and acid generation potential. The samples were submitted for static leachate tests and the analysis were performed according to the National Environmental Management: Waste Act, 2008 (NEM:WA) guidelines and regulations for waste classification. The laboratory results have been used to determine the mineral composition of the samples, what elements could potentially leach from the sand or waste material during storage on surface or within the excavations and define the liner requirements for the storage of the material on surface.

Five (5) geological samples were submitted for geochemical laboratory tests. Material samples were taken across the proposed mining area to ensure a representative analysis of the proposed mining zone (Table 20).

Table 20: Geochemistry sample selection.

Geochem Sample No.	Deposit	Sample Locality	Longitude (WGS 1984)	Latitude (WGS 1984)	Leach Test
Z7501	North Sand	Sand North West	27.615625°	-26.737210°	Distilled
Z7502	South Sand	Sand Middle Slime	27.605264°	-26.752521°	Distilled
Z7503	North Aggregate Central	Aggregate Central	27.613431°	-26.747359°	Distilled
Z7504	South Aggregate	Aggregate Central West 2 / Aggregate South East	27.600770° / 27.627160°	-26.744046° / -26.753428°	Distilled
Z7505	North Aggregate	Aggregate North West	27.621645°	-26.735109°	Distilled

Laboratory Tests

All samples were submitted to Waterlab (Pty) Ltd for analysis. Tests included:

- XRD analysis.
- Acid-Base Accounting (ABA).
- Sulphur Speciation.
- Aqua regia digestion.

Evaluation of a material's potential to generate or neutralise acid, and leach metals or salts is determined by two types of tests: static and kinetic tests. Static tests enable a basic evaluation of the material in terms of its potential to produce ARD and to identify elements that may leach from the sample. Kinetic testing (not conducted for this project) supports the static test findings, but at a high level of confidence and provides an indication of the time scale associated with the leaching.

Total Concentration values were determined by aqua regia digestion and analysis with ICP methods to determine the chemical make-up of the material.

XRD Analysis

XRD is used to determine the mineralogical composition of the material.

ABA Analysis

Acid-Base Accounting (ABA) measures the acid and alkaline-producing potential of geological samples to determine if the waste material will produce acid and release metals. It defines the acid-neutralising potential or acid-generating potential of rock samples; the difference is calculated and reported as the Net Neutralising Potential (NNP). The NNP is compared with a predetermined set of values to divide samples into categories that either require, or do not require further laboratory test work.

Leachate Tests and Total Element Analysis

As part of the assessment, leach tests (distilled water extraction) were undertaken by performing a 1:20 (solid-liquid) aqueous extraction with distilled water. The tests are commonly used as a preliminary screening process to identify potential chemicals of concern (CoC).

Sulphur Analysis

Sulphide minerals are the primary sources of acidity and leaching of trace metals, and their measurement is a requirement for acid drainage chemistry prediction. For sustainable long-term acid generation, at least 0.3% Sulphide-S is needed. Values below this can yield acidity.

Laboratory Results

The laboratory results were assessed against the guidelines as defined in the NEM:WA, to determine the potential environmental risks, as well as to determine the waste type and liner requirements. All laboratory results are presented as an appendix to the Geohydrology and Waste Classification specialist report (Appendix F).

Sample Mineralogy

Quantitative XRD analysis indicate that the samples consist mainly of quartz, goethite and microcline. The mineral names may not reflect the actual composition of minerals identified, but rather the mineral group. The quartz, iron and feldspar minerals are characteristic of the area.

ABA Analysis

The following guidelines were used to assess the acid or neutralising potential of the samples. Net Neutralising Potential (NNP) is classified according to the following:

1. If $NNP (NP - AP) < 0$, the sample has the potential to generate acid.
2. If $NNP (NP - AP) > 0$, the sample has the potential to neutralise acid produced.
3. Any sample with $NNP < 20$ is potential acid-generating, and any sample with $NNP > -20$ might not generate acid (Usher et al., 2003).
4. NNP values between -20 and 20 kg/ton $CaCO_3$ are thus in a range of uncertainty; kinetic tests may be needed.
5. If the NNP is greater than 20 kg/ton $CaCO_3$, it is generally accepted that the material is non-acid producing.
6. If the NNP is less than -20 kg/ton $CaCO_3$, it is generally accepted that the material is acid producing.

Table 21: Classification according to the Neutralising Potential Ratio (NPR).

Potential for ARD	Initial NPR Screening Criteria	Comments
Likely	< 1:1	Likely ARD generating.
Possibly	1:1 – 2:1	Possibly ARD generating if NP is insufficiently reactive or is depleted at a faster rate than sulphides.
Low	2:1 – 4:1	Not potentially ARD generating unless significant preferential exposure of sulphides along fracture planes, or extremely reactive sulphides in combination with insufficiently reactive NP.
None	>4:1	No further ARD testing required unless materials are to be used as a source of alkalinity.

Classification according to the Sulphur Content (%S) and Neutralising Potential Ratio (NPR)

For sustainable long-term acid generation, at least 0.3% Sulphide-S is needed. Values below this can yield acidity, but it is likely to be only of short-term significance. From this, and using the NPR values:

1. Samples with less than 0.3% Sulphide-S are regarded as having insufficient oxidizable Sulphide-S to sustain acid generation.
2. NPR ratios of >4:1 are considered to have enough neutralising capacity.
3. NPR ratios of 3:1 to 1:1 are consider inconclusive.
4. NPR ratios below 1:1 with Sulphide-S above 3% are potentially acid-generating (Waterlab test certificates, 2018).

Table 22 presents the final classification of the tested material.

Table 22: Final classification of the material.

TYPE I	Potentially Acid Forming	Total S(%) > 0.25% and NP:AP ratio 1:1 or less
TYPE II	Intermediate	Total S(%) > 0.25% and NP:AP ratio 1:3 or less
TYPE III	Non-Acid Forming	Total S(%) < 0.25% and NP:AP ratio 1:3 or greater

The results of the acid or neutralising potential of the samples for this project are presented in Table 23

Table 23: Acid Base Accounting results.

Acid – Base Accounting Modified Sobek (EPA-600)	Sample Identification				
	Sample Z7501	Sample Z7502	Sample Z7503	Sample Z7504	Sample Z7505
Paste pH	4.5	5.6	5.5	5.2	4.7
Total Sulphur (%) (LECO)	0.01	0.01	0.01	0.01	0.01
Acid Potential (AP) (kg/t)	0.453	0.238	0.234	0.188	0.459
Neutralization Potential (NP)	0.250	0.250	0.993	0.993	0.002
Nett Neutralization Potential (NNP)	-0.203	0.013	0.758	0.804	-0.457
Neutralizing Potential Ratio (NPR) (NP:AP)	0.552	1.05	4.23	5.27	0.005
Rock Type	II	III	III	III	II

Based on the results presented in Table 23, the following were concluded from the ABA tests:

1. Paste pH:

- i. Samples Z7502, Z7503 and Z7504 indicate a paste pH higher than 5.0.
- ii. Samples Z7501 and Z7505 were between 4.0 and 5.0.
- iii. A sample with a pH of < 4.0 is considered potentially acid forming (PAF) and will contain significant acidic sulphate salts that will produce acid upon exposure to water. Samples with a paste pH of 4.0 to 5.0 are also considered PAF, but have a lower stored acidic salt content.
- iv. Paste pH values higher than pH 5.0 indicate a short-term acid neutralizing capacity.

2. Sulphur content:

- i. The sulphur content of all samples is below the 0.3% benchmark and thus unlikely to generate acid sustainably. It is also due to the low S-values that the samples have a classification of TYPE II (intermediate) or III (non-acid forming).

3. Nett Neutralization Potential:

- i. 2 of the 5 samples have an NNP value less than zero and is therefore potentially acid generating – samples Z7501 and Z7505.
- ii. Three of the samples have the potential to neutralise acid, if produced.

Based on the ABA results presented above, the rock classifications are as follow:

- i. TYPE II – Intermediate risk:
 - a. Sample Z7501.
 - b. Sample Z7505.
- ii. TYPE III – Non-acid forming:
 - a. Samples Z7502, Z7503 and Z7504.

In summary, 2 of the 5 geological formations sampled during the groundwater assessment present an intermediate risk and the other 3 samples indicated no risk. The two samples that present an intermediate risk relate to the sand and aggregate located in the northern mining sections. The sand and aggregate material on the rest of the proposed mining area show no risk for acid generation.

Leach Tests

From the leach test results the following can be concluded:

1. In terms of Total Concentrations (TC):
 - i. Boron concentrations exceed the TCT0 limit in samples Z7501, Z7503 and Z7504.
 - ii. Barium exceeded the TCT0 limit for geochem samples Z7501, Z7502 and Z7505.
 - iii. Copper, Manganese and Vanadium exceeded the TCT0 limit for geochem samples Z7503 and Z7504.
 - iv. Lead exceeded the TCT0 limit for geochem samples Z7501, Z7503 and Z7504.
 - v. Total Fluoride exceeded the TCT0 limit for geochem samples Z7501, Z7503, Z7504 and Z7505.
2. In terms of Leachable Concentrations (LC):
 - i. No element concentrations exceed the LCT0 limit for all samples.

It is recommended that before construction, additional samples be taken across the project area, focussing on the proposed northern pit areas to provide a more complete understanding of the risks for that area; analysis should include TCLP leach and kinetic testing.

14.1.15 Waste Classification

According to the NEM:WA, mine waste is listed under Schedule 3, under the category Hazardous Waste; and is considered to be hazardous unless the applicant can prove that the waste is non-hazardous. As waste rock is considered to be waste, it is regulated (August 2013) by:

1. GNR 634 (23 August 2013): Waste Classification and Management Regulations – talks to SANS 10234 and talks to the requirements for disposal, record keeping.

2. GNR 635 (23 August 2013): National Norms and Standards for the assessment of Waste for Landfill Disposal – Assessment of waste prior to landfilling. Prescribes limits relating to chemical composition of wastes from lab testing such as LCT (Leachable Concentration Threshold).
3. GNR 636 (23 August 2013): National Norms and Standards for Disposal of Waste to Landfill –aligns waste classification and character to simplified basal lining systems (containment) being Class A, B, C and D versus Type 0 to 4.

According to these regulations, waste must be classified in accordance with GHS - SANS 10234 “South African National Standard Globally Harmonized System of Classification and Labelling of Chemicals (GHS)”; within 180 days of generation. Classification guidelines are used to determine the waste category, as well as liner design specifications associated with each category.

Waste Assessment Methodology

Total Concentration Threshold (TCT) limits are subdivided into three categories:

1. TCT0 limits based on screening values for the protection of water resources, as contained in the Framework for the Management of Contaminated Land (DEA, March 2010).
2. TCT1 limits derived from land remediation values for commercial/industrial land (DEA, March 2010).
3. TCT2 limits derived by multiplying the TCT1 values by a factor of 4, as used by the Environmental Protection Agency, Australian State of Victoria.

Leachable concentrations were determined by following the Australian Standard Leaching Procedure for Wastes, Sediments and Contaminated Soils (AS 4439,3-1997), as specified in the NEM:WA Regulations (2013). The procedure recommends the use of reagent water for leaching of non-putrescible material that will be mono-filled. A leachate of 1:20 solids per distilled water was used.

Leachable Concentration Threshold (LCT) limits are subdivided into four categories:

1. LCT0 limits derived from human health effect values for drinking water, as published by the Department of Water and Sanitation (DWS), South African National Standards (SANS), World Health Organization (WHO) or the United States Environmental Protection Agency (USEPA).
2. LCT1 limits derived by multiplying LCT0 values by a Dilution Attenuation Factor (DAF) of 50, as proposed by the Australian State of Victoria.
3. LCT2 limits derived by multiplying LCT1 values by a factor of 2.
4. LCT3 limits derived by multiplying the LCT2 values by a factor of 4.

GNR 634 identifies waste classes (Waste Types 0 to 4) ranging from high risk to low risk. Waste is classified by comparing the total and leachable concentration of elements and chemical substances in the waste material to TCT and LCT limits as specified in the National Norms and Standards for Waste Classification, and the National Norms and Standards for Disposal to Landfill (Table 24).

Table 24: Waste type and disposal classification*

Type of Waste	Element or Chemical Substance Concentration
Type 0	LC > LCT3 OR TC > TCT2
Type 1	LCT2 < LC ≤ LCT3 OR TCT1 < TC ≤ TCT2
Type 2	LCT1 < LC ≤ LCT2 AND TC ≤ TCT1

Type of Waste	Element or Chemical Substance Concentration
Type 3	LCT0 < LC ≤ LCT1 AND TC ≤ TCT1
Type 4	LC ≤ LCT0 AND TC ≤ TCT0 for metal ions and inorganic anions AND all chemical substances are below the total concentration limits provided for organics and pesticides listed
Disposal Requirements	
Type 0	Not allowed. The waste must be treated first and then re-tested to determine the risk profile for disposal.
Type 1	Class A or Hh:HH
Type 2	Class B or GLB+
Type 3	Class C or GLB+
Type 4	Class D or GSB-

*DEA. Waste Classification and Management Regulations and Supporting Norms & Standards

Assessment Results

Results of the TCT and LCT analysis are shown in Table 25 and Table 26 respectively, and compared to threshold concentrations published in the NEM:WA, Waste Classification and Management Regulations.

Table 25: TCT limits.

Total Concentration Thresholds (mg/kg)					Measured Total Concentrations (mg/kg)				
Parameter	Unit	TCT0	TCT1	TCT2	Sample Z7501	Sample Z7502	Sample Z7503	Sample Z7504	Sample Z7505
As, Arsenic	mg/kg	5,8	500	2000	1,60	<0.400	<0.400	<0.400	<0.400
B, Boron	mg/kg	150	15000	6000	270	<10	832	776	<10
Ba, Barium	mg/kg	62,5	6250	25000	67	144	44	13	103
Ca, Calcium	mg/kg				<400	<400	<400	<400	<400
Cd, Cadmium	mg/kg	7,5	260	1040	<1.20	<1.20	<1.20	<1.20	<1.20
Co, Cobalt	mg/kg	50	5000	20000	<10	<10	16	10	<10
Cr _{Total} , Chromium Total	mg/kg	46000	800000	N/A	185	52	1564	310	97
Cu, Copper	mg/kg	16	19500	78000	6,80	<4.00	129	136	<4.00
Fe, Iron	mg/kg				57200	4800	162000	122800	25200
Hg, Mercury	mg/kg	0,93	160	640	<0.400	<0.400	<0.400	<0.400	<0.400
K, Potassium	mg/kg				7560	9600	<200	<200	7000
Mg, Magnesium	mg/kg				800	<400	800	<400	800
Mn, Manganese	mg/kg	1000	25000	100000	212	48	3756	1132	129
Mo, Molybdenum	mg/kg	40	1000	4000	<10	<10	<10	<10	<10
Na, Sodium	mg/kg				1200	1600	<400	<400	1200
Ni, Nickel	mg/kg	91	10600	42400	<10	<10	22	15	<10
Pb, Lead	mg/kg	20	1900	7600	33	9,20	56	48	18
Sb, Antimony	mg/kg	10	75	300	<0.400	<0.400	<0.400	<0.400	<0.400
Se, Selenium	mg/kg	10	50	200	<0.400	<0.400	<0.400	<0.400	<0.400
U, Uranium	mg/kg				4,40	0,800	4,80	2,80	2,80
V, Vanadium	mg/kg	150	2680	10720	84	14	1316	1072	49
Zn, Zinc	mg/kg	240	160000	640000	<10	<10	<10	<10	<10

Total Concentration Thresholds (mg/kg)					Measured Total Concentrations (mg/kg)				
Parameter	Unit	TCT0	TCT1	TCT2	Sample Z7501	Sample Z7502	Sample Z7503	Sample Z7504	Sample Z7505
Cr(VI), Chromium (VI) Total [s]	mg/kg	6,5	500	2000	<5	<5	<5	<5	<5
Total Fluoride [s] mg/kg	mg/kg	100	10000	40000	152	99,3	130	107	171
Total Cyanide as CN mg/kg	mg/kg	14	10500	42000	<0.5	<0.5	<0.5	<0.5	<0.5

Table 26: LCT limits.

Leachable concentration threshold (mg/L)					Measured Leachable concentration of samples (mg/L)					
Parameter	Unit	LCT0	LCT1	LCT2	LCT3	Sample Z7501	Sample Z7502	Sample Z7503	Sample Z7504	Sample Z7505
As, Arsenic	mg/l	0,01	0,5	1	4	<0.001	<0.001	<0.001	0,002	<0.001
B, Boron	mg/l	0,5	25	50	200	<0.025	<0.025	<0.025	<0.025	<0.025
Ba, Barium	mg/l	0,7	35	70	280	0,052	<0.025	0,044	<0.025	0,076
Ca, Calcium	mg/l					<1	<1	<1	<1	4
Cd, Cadmium	mg/l	0,003	0,15	0,3	1,2	<0.003	<0.003	<0.003	<0.003	<0.003
Co, Cobalt	mg/l	0,5	25	50	200	<0.025	<0.025	<0.025	<0.025	<0.025
Cr _{Total} , Chromium Total	mg/l	0,1	5	10	40	<0.025	<0.025	<0.025	<0.025	<0.025
Cr(VI), Chromium (VI)	mg/l	0,05	2,5	5	20	<0.010	<0.010	<0.010	<0.010	<0.010
Cu, Copper	mg/l	2,0	100	200	800	0,011	<0.010	<0.010	0,022	<0.010
Fe, Iron	mg/l					2,05	0,326	0,570	0,725	1,03
Hg, Mercury	mg/l	0,006	0,3	0,6	2,4	<0.001	<0.001	<0.001	<0.001	<0.001
K, Potassium	mg/l					<0.5	<0.5	0,6	<0.5	5,5
Mg, Magnesium	mg/l					<1	<1	<1	<1	2
Mn, Manganese	mg/l	0,5	25	50	200	<0.025	0,052	0,126	0,044	0,056
Mo, Molybdenum	mg/l	0,07	3,5	7	28	<0.025	<0.025	<0.025	<0.025	<0.025
Na, Sodium	mg/l					<1	<1	<1	<1	<1

Leachable concentration threshold (mg/L)						Measured Leachable concentration of samples (mg/L)				
Parameter	Unit	LCT0	LCT1	LCT2	LCT3	Sample Z7501	Sample Z7502	Sample Z7503	Sample Z7504	Sample Z7505
Ni, Nickel	mg/l	0,07	3,5	7	28	<0.025	<0.025	<0.025	<0.025	<0.025
Pb, Lead	mg/l	0,01	0,5	1	4	<0.010	<0.010	<0.010	<0.010	<0.010
Sb, Antimony	mg/l	0,02	1,0	2	8	<0.001	<0.001	<0.001	<0.001	<0.001
Se, Selenium	mg/l	0,01	0,5	1	4	<0.001	<0.001	<0.001	<0.001	<0.001
U, Uranium	mg/l					<0.001	<0.001	<0.001	0,001	<0.001
V, Vanadium	mg/l	0,2	10	20	80	<0.025	<0.025	<0.025	<0.025	<0.025
Zn, Zinc	mg/l	5,0	250	500	2000	<0.025	<0.025	<0.025	<0.025	<0.025
Total Dissolved Solids*	mg/l	1000	12 500	25 000	100 000	12	12	15	<10	42
Total Alkalinity as CaCO ₃	mg/l					12	<5	12	8	8
Chloride as Cl	mg/l	300	15 000	30 000	120 000	11	<2	2	3	11
Sulphate as SO ₄	mg/l	250	12 500	25 000	100 000	21	<2	4	<2	32
Nitrate as N	mg/l	11	550	1100	4400	0,3	0,6	0,6	0,4	1,7
Fluoride as F	mg/l	1,5	75	150	600	1	<0.2	0,2	0,3	1,2
Ortho-Phosphate as P	mg/l					<0.1	<0.1	<0.1	<0.1	<0.1
Cyanide as CN [s]	mg/l	0,07	3,5	7	28	<0.02	<0.02	<0.02	<0.02	<0.02
pH	mg/l					3,7	3,6	5	4,9	4,6

Total Concentrations

Based on the total concentration analysis (Table 25):

1. Boron concentrations exceeded the TCT0 limit in samples Z7501, Z7503 and Z7504;
2. Barium exceeded the TCT0 limit for geochem samples Z7501, Z7502 and Z7505;
3. Copper, Manganese and Vanadium exceeded the TCT0 limit for geochem samples Z7503 and Z7504;
4. Lead exceeded the TCT0 limit for geochem samples Z7501, Z7503 and Z7504; and
5. Total Fluoride exceeded the TCT0 limit for geochem samples Z7501, Z7503, Z7504 and Z7505.

Leachable Concentrations

In terms of Leachable Concentrations (LC) (Table 26) no element concentrations exceeded the LCT0 limits, for all samples.

Classification

Based on the total concentration (Table 25) and leachable concentration (Table 26) results, the waste will be classified as a Type 3 waste and the liner design must be according to Class C landfill requirements (Figure 54). This is based on TCT0 threshold values exceeded for various parameters. All concentrations were still below TCT1 limits.

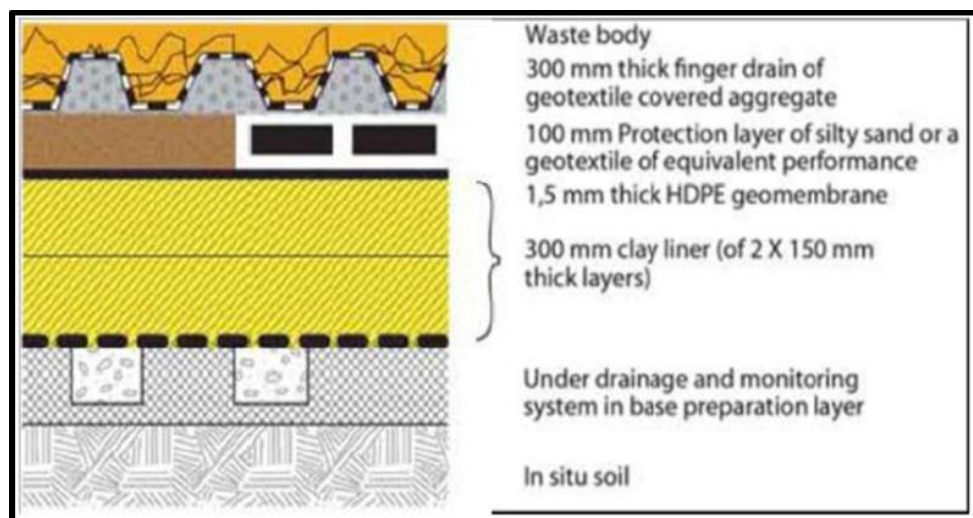


Figure 54: Class C landfill site liner requirements (NEM:WA, 2008)

On 21 September 2018 the Minister of Environmental Affairs published amendments to the regulations regarding the Planning and Management of Residue Stockpiles and Residue Deposits, Amendment Regulations. The changes to the existing regulations (Planning and Management of Residue Stockpiles and Residue Deposits, 2015) were made to allow for the pollution control measures required for residue stockpiles and residue deposits, to be determined on a case by case basis, based on a risk assessment conducted by a competent person.

A risk assessment must be conducted to determine pollution control measures suitable for a specific residue stockpile or residue deposit, as part of an application for a waste management licence. Various liner and pollution intercept systems must be simulated and discussed as motivation for the selection of a specific pollution management system. A pollution control barrier system designed in terms of the National Norms and Standards for the Assessment of Waste for Landfill Disposal (GN R635 of 23 August 2013) and the National Norms and Standards for the Disposal of Waste to Landfill (GN R636 of 23 August 2013) is no longer required, if a suitable, effective alternative can be presented.

The pollution assessment documents must include all environmental impacts of a mining operation's residue stockpiles and deposits. All residue stockpiles and residue deposits must still be characterised and classified according to the requirements of the Regulations.

The impact assessment section in the Environmental Impact Assessment report will provide more details in terms of alternatives investigated and solutions proposed.

14.1.16 Air Quality

Existing Sources of Air Pollution in the Area

The identification of existing sources of emission in the region and the characterisation of existing ambient pollutant concentrations is fundamental to the assessment of the potential for cumulative impacts and synergistic effects given the proposed operation and its associated emissions. Source types present in the area and the pollutants associated with such source types are noted with the aim of identifying pollutants, which may be of importance in terms of cumulative impact potentials.

Existing sources of emission in the area include the following:

- Mining activities.
- Vehicle tailpipe emissions.
- Domestic fuel combustion.
- Biomass burning (veld fires).
- Various miscellaneous fugitive dust sources (agricultural activities, wind erosion of open areas, vehicle-entrainment of dust along paved and unpaved roads).

The current usage of land surrounding the proposed mine includes mining, residential and agriculture. Air Quality (AQ) sensitive receptors include direct surrounding large communities such as Vaaloewer and Lindequesdrif (Figure 55).

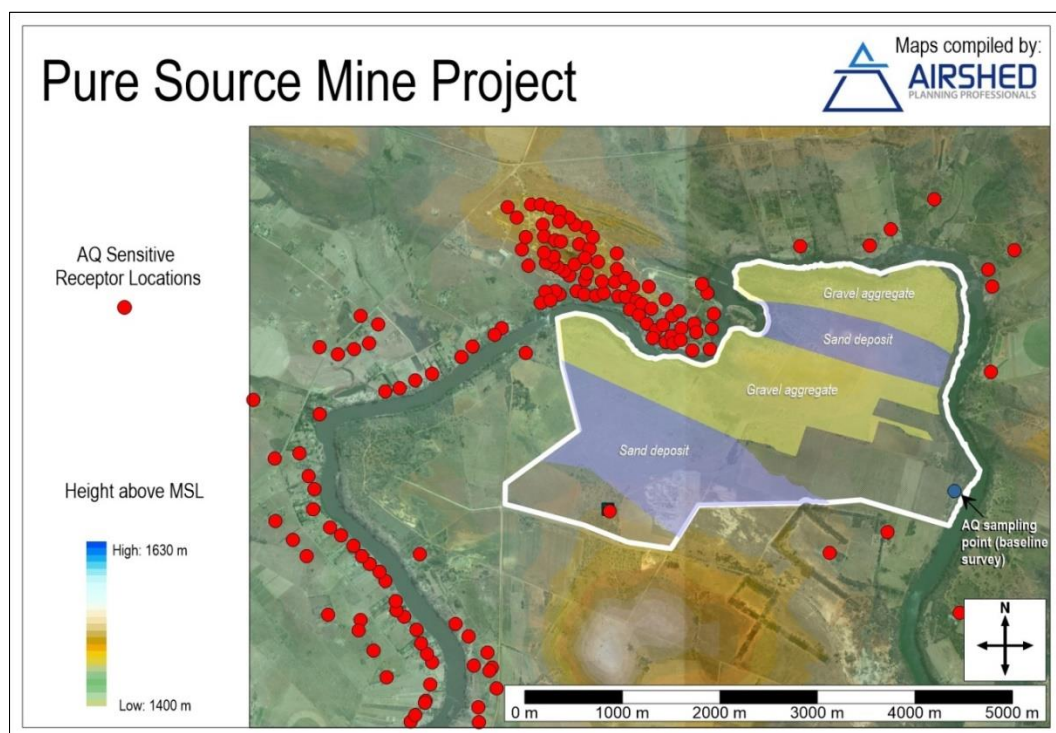


Figure 55: Layout with sensitive receptors (refer to Appendix D for enlarged map).

National Ambient Air Quality Standards

The South African Bureau of Standards (SABS) assisted the Department of Environmental Affairs (DEA) in the development of ambient air quality standards. National Ambient Air Quality Standards (NAAQS) were determined based on international best practice for sulfur dioxide (SO₂), nitrogen dioxide (NO₂), PM_{2.5}, PM₁₀, ozone (O₃), carbon monoxide (CO), lead (Pb) and benzene (Figure 56).

Substance	Molecular Formula / Notation	Averaging Period	Concentration (µg/m ³)	Permitted Frequency of Exceedance	Compliance Date
Sulfur Dioxide	SO ₂	10 minutes	500	526	Immediate
		1 hour	350	88	Immediate
		24 hours	125	4	Immediate
		1 year	50	0	Immediate
Nitrogen Dioxide	NO ₂	1 hour	200	88	Immediate
		1 year	40	0	Immediate
Particulate Matter	PM _{2.5}	24 hour	40	4	1 Jan 2016 – 31 Dec 2029
			25	4	1 Jan 2030
		1 year	20	0	1 Jan 2016 – 31 Dec 2029
			15	0	1 Jan 2030
	PM ₁₀	24 hour	120	4	Immediate – 31 Dec 2014
			75	4	1 Jan 2015
		1 year	50	0	Immediate – 31 Dec 2014
			40	0	1 Jan 2015

Figure 56: National Ambient Air Quality Standards (Government Gazette 32816, 2009).

Vaal Triangle Airshed Priority Area

The proposed mine falls just outside of the Vaal Triangle Airshed Priority Area (VTAPA). The closest air quality monitoring stations to the study site are Zamdela (located 24 km to the southeast) and Sharpeville (located 24.5 km to the northeast), both of which fall within the VTAPA and are operated by the DEA. The ambient data collected for these stations are likely not representative of the ambient air quality at the study site, due to the distance of the monitoring stations and different type of emission sources that affect the air quality in the VTAPA.

Site Measurement

PM₁₀ and PM_{2.5} concentrations were sampled over a 22-hour period at the sampling point on site to provide a general idea of existing ambient air quality in the application area. Concentrations were sampled using a DustTrak™ DRX Handheld Aerosol Monitor, Model 8534, which can concurrently measure mass and size fraction (TSI, 2016). A summary of the sampled particulate concentrations is provided in Table 27 and illustrated in Figure 55. It is important to note that this was not a formal ambient monitoring campaign, and that results may not be truly representative of long term baseline air quality in the study area.

Table 27: Summary of particulate concentrations measured at sampling point within the application area.

	Concentration $\mu\text{g}/\text{m}^3$	
	PM _{2.5}	PM ₁₀
Average Concentration	71.8	74.6
Median Concentration	41	42
Minimum Concentration	12	14

The large difference between the minimum and maximum concentrations (as well as between average and median concentrations) in Table 20 shows that concentrations are highly variable in the application area and are likely mostly influenced by localised sources.

Atmospheric Dispersion Potential

There is no meteorological station operational at the proposed site. Hourly sequential simulated MM5 weather data set for the study site for the period January 2015 to December 2017 was obtained. Residences in the vicinity of the proposed site that fall within the modelling domain were included as individual receptors for the purpose of off-site air quality assessment (Figure 57).

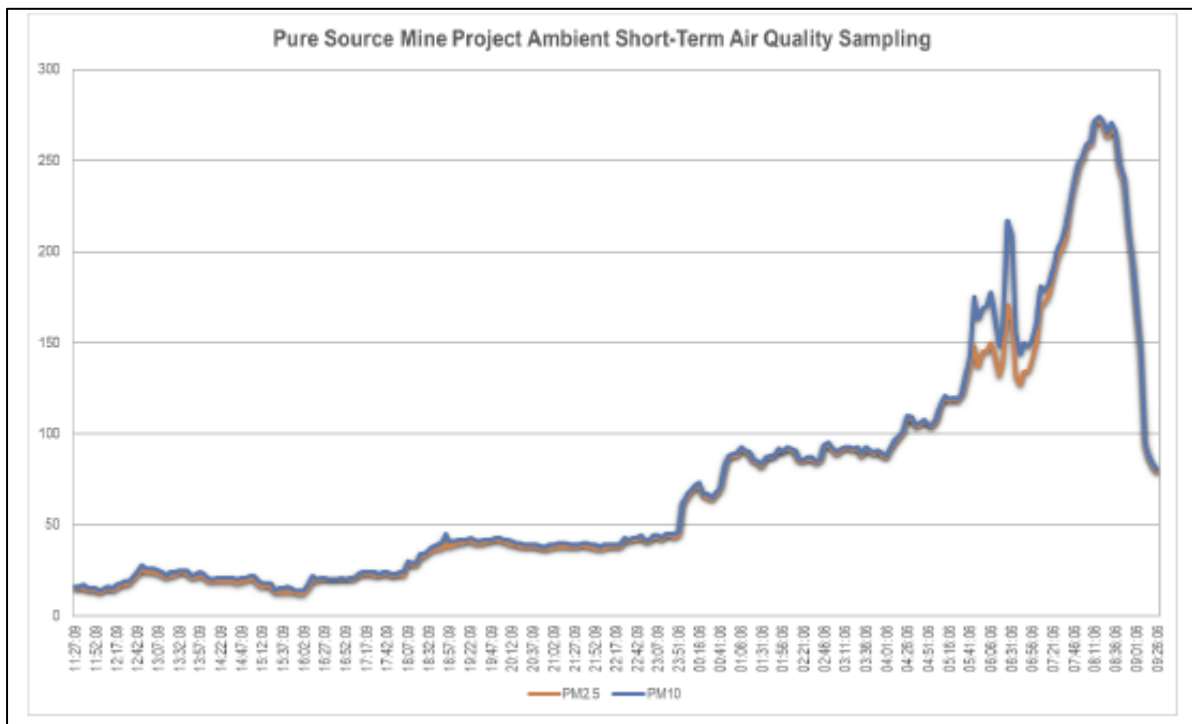


Figure 57: PM₁₀ and PM_{2.5} concentrations sampled at 5-minute intervals during a site visit.

Surface Wind Field

The dispersion of pollution is largely a function of the wind field. The wind speed determines both the distance of downward transport and the rate of dilution of pollutants. The generation of mechanical turbulence is similarly a function of the wind speed, in combination with the surface roughness. The topography of an area normally has an effect on the localised wind flow. The results of the wind field modelling are given in the form of wind roses. Wind roses comprise 16 spokes which represent the directions from which winds blew during the period.

Figure 58 depicts the period, day-time and night-time wind roses based on the MM5 modelled data for the study site. The figure indicates a wind field dominated by winds from the northern sector during the entire period, day- and night, with very little wind from the south. Day- and night-time average wind speeds are 3.2 m/s and 3.3 m/s

respectively. Calm conditions occur 15.7% of time during the day 10.0% during the night. On average, air quality impacts are expected to be slightly more notable to the south of the project activities.

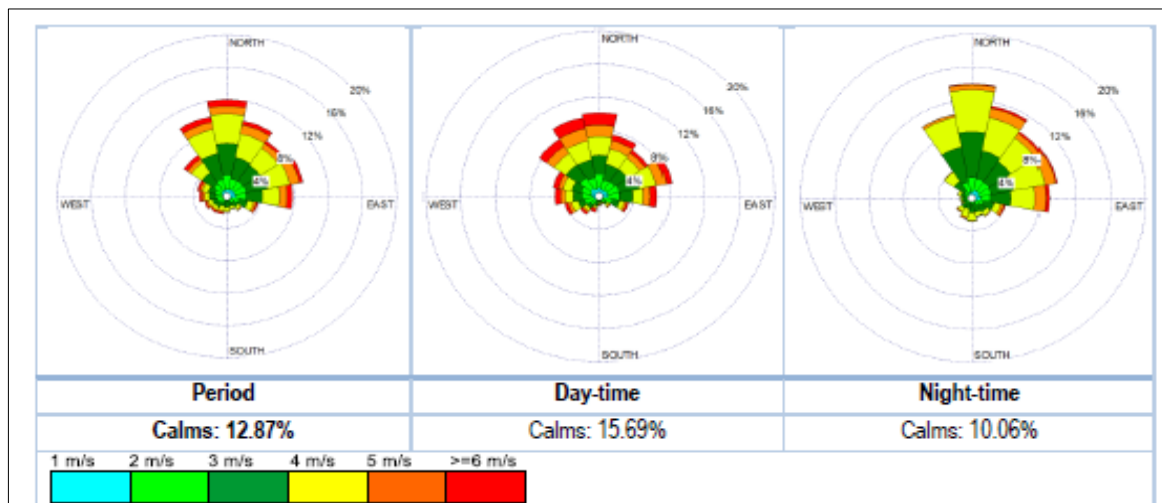


Figure 58: Period, day-time and night-time wind roses based on modelled MM5 data for the study site (January 2015 to December 2017).

The colours of the spokes reflect the different categories of wind speeds, the yellow area, for example represent winds of 4 m/s to 5 m/s. The dotted circles provide information regarding the frequency of occurrence of wind speed and direction categories. Each dotted circle represents a 3% frequency of occurrence. The number given as a percentage next to calms describes the frequency with which calms occurred, i.e. periods during which the wind speed was below 1 m/s.

National Dust Control Regulations

The National Dust Control Regulations were gazetted on 1 November 2013 (No. 36974). The purpose of the regulations is to prescribe general measures for the control of dust in all areas including residential and light commercial areas. The standard for acceptable dustfall rate is set out in Figure 59. The method to be used for measuring dustfall rate and the guideline for locating sampling points shall be ASTM D1739: 1970, or equivalent method approved by any internationally recognized body.

Restriction Area	Dustfall Rate (D) (mg/m ² /day, 30 days average)	Permitted Frequency of Exceeding Dustfall Rate
Residential area	D<600	Two on a year, not sequential months
Non-residential area	600<D<1200	Two on a year, not sequential months

Figure 59: Acceptable dust rates.

Silica

Several polymorphs exist for crystalline silica, of which alpha-quartz is the most abundant, constituting 12% of the earth’s crust (Elzea, 1997). Inhalation of crystalline silica initially causes respiratory irritation and an inflammatory reaction in the lungs (e.g., Vallyathan et al., 1995). Acute exposures to high concentrations cause cough, shortness of breath, and pulmonary alveolar lipoproteinosis (acute silicosis). After chronic but lower workplace exposures to silica for six to sixteen years, the small airways become obstructed as measured by pulmonary function tests (Chia et al., 1992). The Californian Office of Environmental Health Hazard Assessment provides a chronic inhalation reference expose level of 3 µg/m³ for respirable crystalline silica.

14.1.17 Noise

Noise Receptors (NRs) generally include private residences, community buildings such as schools, hospitals and any publicly accessible areas outside an industrial facility's property. Homesteads and residential areas included in the assessment as NRs were identified from available maps and satellite imagery. NRs for the project include the following:

- Places of residence and areas where members of the public may be affected by noise generated by proposed activities.
- A 2 km radius of the proposed operations include several residences on the both banks of the Vaal river to the west and east of the proposed operations, as well as the residential area of Vaaloewer to the north of the operations (Figure 60).

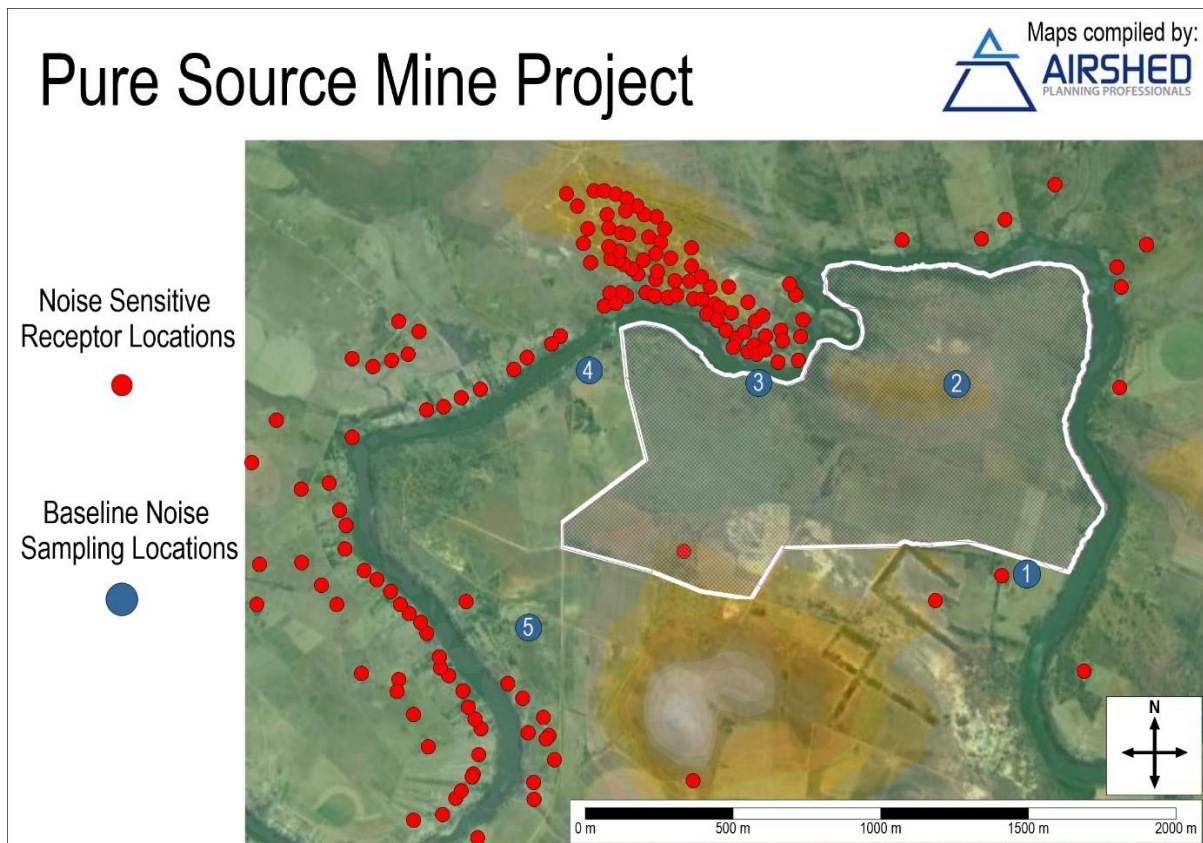


Figure 60: Environmental noise impact study area, NRs, and baseline noise measurement sites.

The ability of the environment to attenuate noise as it travels through the air was studied by considering local meteorology, land use, and terrain data. Atmospheric attenuation potential was described based on a simulated MM5 weather data set for an on-site location. Data for the 2015 to 2017 period was considered.

MM5 weather data for the study area indicates a wind field dominated by winds from the northern sector during the day- and night (Figure 61), with very little wind from the south. Day- and night-time average wind speeds are 3.2 m/s and 3.3 m/s respectively. Calm conditions occur 15.7% of time during the day 10.0% during the night. The average temperature in the study area over the three-year period was 17.2°C and the average humidity 62%. Noise impacts are expected to be slightly more notable to the south of the project activities.

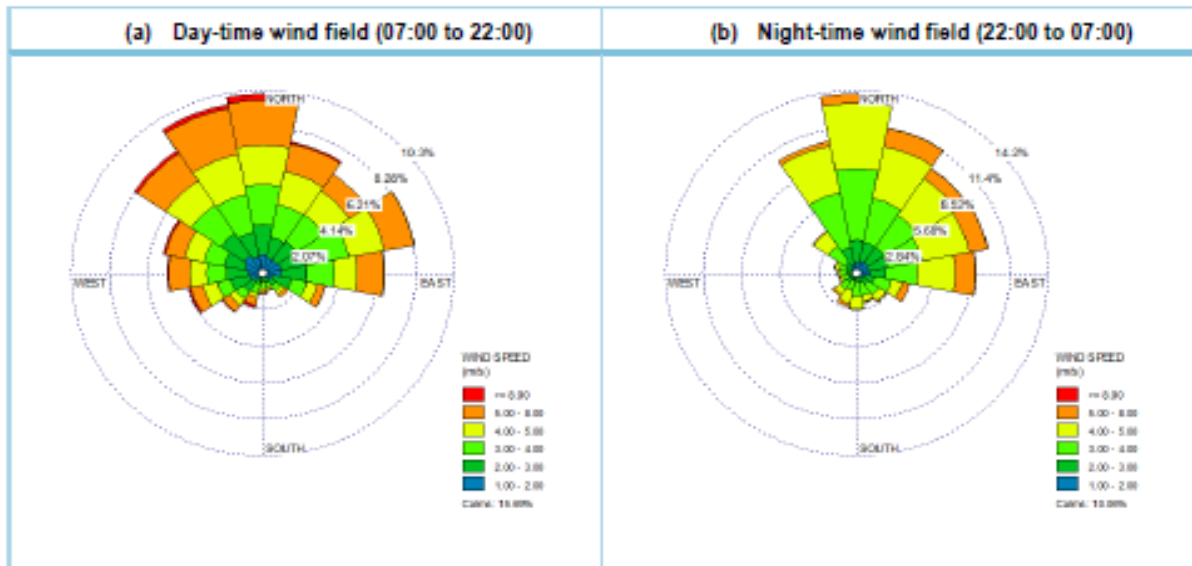


Figure 61: Day- and night-time wind field showing dominant northerly winds (MM5, 2014 to 2016)

Temperature gradients in the atmosphere create effects that are uniform in all directions from a source. On a sunny day with no wind, temperature decreases with altitude and creates a ‘shadowing’ effect for sounds. On a clear night, temperatures may increase with altitude thereby ‘focusing’ sound on the ground surface. Noise impacts are therefore generally more notable during the night.

SANS 10103 (2008) successfully addresses the manner in which environmental noise measurements are to be taken and assessed in South Africa, and is fully aligned with the World Health Organisation (WHO) guidelines for Community Noise (WHO, 1999). It should be noted that the values given in Figure 60 are typical rating levels that it is recommended should not be exceeded outdoors in the different districts specified. Outdoor ambient noise exceeding these levels will be annoying to the community.

On average, noise impacts are expected to be slightly more notable to the south of the project activities. Terrain may affect noise propagation between sources and NRs by acting as noise barriers. The acoustic climate at NRs is currently affected by community activities, music, light vehicle and motorcycle traffic, domesticated animals as well as natural noises such as birds, insects and noise created by the Vaal River.

Recorded LReq,d at all sampling locations during the daytime survey are similar to those given in SANS 10103 as typical for rural districts (45 dBA). Recorded night-time LReq,n =sampling locations 1, 4 and 5 are typical for rural districts at (35 dBA) as described by SANS 10103. Recorded night time LReq,n at sampling location 2 and 3 are however more akin to those typical for urban districts (45 dBA) as described by SANS 10103 (Figure 62).

Type of district	Equivalent Continuous Rating Level ($L_{Req,T}$) for Outdoor Noise		
	Day/night $L_{R,dn}^{(c)}$ (dBA)	Day-time $L_{Req,d}^{(a)}$ (dBA)	Night-time $L_{Req,n}^{(b)}$ (dBA)
Rural districts	45	45	35
Suburban districts with little road traffic	50	50	40
Urban districts	55	55	45
Urban districts with one or more of the following; business premises; and main roads.	60	60	50
Central business districts	65	65	55
Industrial districts	70	70	60

Notes

- (a) $L_{Req,d}$ = The L_{Aeq} rated for impulsive sound and tonality in accordance with SANS 10103 for the day-time period, i.e. from 06:00 to 22:00.
- (b) $L_{Req,n}$ = The L_{Aeq} rated for impulsive sound and tonality in accordance with SANS 10103 for the night-time period, i.e. from 22:00 to 06:00.
- (c) $L_{R,dn}$ = The L_{Aeq} rated for impulsive sound and tonality in accordance with SANS 10103 for the period of a day and night, i.e. 24 hours, and wherein the $L_{Req,n}$ has been weighted with 10dB in order to account for the additional disturbance caused by noise during the night.

Figure 62: Typical rating levels for outdoor noise as per SANS 10103.

14.1.18 Economic

Long term positive economic impacts can only flow from a project that is financially sustainable (i.e. financially viable in the long term with enough income to cover costs). Discussions with the applicant (MCCP) revealed that the financial viability of the project has been considered at length. Their appraisal followed standard viability and risk assessment methods that have been applied in similar mining projects. In their view, and based on their analysis, the expected rewards of the project outweigh risks making it financially viable to make the necessary investment. This view recognises that diamond exploration may prove fruitless. It is nevertheless important to bear in mind that financial sustainability/viability is never a certainty as is the case for virtually all commercial ventures. As a rule, applicants can only assess risks and costs to the degree possible and make an informed decision on whether they are worth taking relative to anticipated financial gains. The available information provides no reason to anticipate financial failure which would argue against the project.

Economic development contributions

In accordance with the Mineral and Petroleum Resources Development Act, and in line with the principles set out in the latest version of the Mining Charter, the applicant has committed to achieving the following objectives, as outlined in the Social and Labour Plan (SLP):

- Promote employment.
- Contribute to the transformation of the mining industry.
- Ensure that holders of mining rights contribute towards the socio-economic development of the areas in which they are operating.

MCCP intends to achieve these objectives in three ways outlined in the SLP. Firstly, through the creation of employment opportunities and through a Skills Development Plan, MCCP seeks to promote employment. Secondly, through an Enterprise Development Strategy, small, medium and micro-sized enterprises (SMMEs) in the surrounding area will be supported and encouraged to grow. Lastly, and with the largest number of potential

recipients, as part of the commitment to contributing to the socioeconomic development of the area surrounding the proposed mine, MCCP is in the process of formulating a Local Economic Development Programme.

The project would result in spending injections that would lead to increased economic activity best measured in terms of impacts on employment and associated incomes focusing on the local area and region. All expenditures will lead to linked direct, indirect and induced impacts on employment and incomes. Taking employment as an example, impacts would be direct where people are employed directly on the project in question (e.g. jobs such as construction workers), indirect - where the direct expenditure associated with a project leads to jobs and incomes in other sectors (e.g. purchasing building materials maintains jobs in that sector) and induced where jobs are created due to the expenditure of employees and other consumers that gained from the project. Direct impacts are the most important of these three categories as they are the largest and more likely to be felt in the local area.

Skills development

MCCP's intentions to contribute to the development of the workforce are outlined in a Skills Development Plan which has the following objectives (MCCP, 2018b: 18):

- Improve the quality of life of employees.
- Expand employees' prospects for work enhancement at Pure Source.
- Enhance safety, productivity and the competitiveness of the employees.
- Improve the levels of return on the investment in education and training.
- Encourage the use of the workplace as an active learning environment.
- Allow new employees to gain relevant work experience.
- Advance the employment prospects of employees through education and training.
- Utilise the Workplace Skills Plan as a vehicle to align skills development with both business growth strategies and employment equity plans.

If the abovementioned objectives are met this will contribute to the development of skills which will allow employees to add a greater share of value to the production process whilst giving them a better chance at securing future employment. In addition, the applicant intends to develop the skills of people outside of its workforce through an internship and bursary plan focussed on members of the local community. The SLP indicates that one external bursary, one study assistance package, and two internships will be offered at any given time between 2020 and 2023. The SLP also outlines transformation related goals in an Employment Equity Plan which are focussed on maintaining existing levels of diversity within the workforce.

Local Economic Development (LED)

MCCP intends to support a LED Programme that will be guided by the Ngwathe Local municipality's LED priorities. The SLP outlines some of the ways in which MCCP aims to support existing local socio-economic development initiatives:

- Integrates the mine's SLP into the Ngwathe Local Municipality's IDP through serving on the local LED Forum and through consultation with the LED manager for the municipality.
- Assists in implementing LED projects and/or programmes identified in the IDPs, in partnership with local government, business and affected communities.
- Undertakes and support identified sustainable development initiatives in surrounding and affected communities.
- Provide Historically Disadvantaged South Africans who possess the required technical ability with a preferred supplier status in all three levels of procurement, namely:

- Capital goods.
- Consumables.
- Services.

The amounts which the MCCP intends to spend on the programmes outlined above are shown in Table 28. The amounts are highly preliminary estimates based on conservative cash flow calculations shown in the MWP. Once the project has reached full production, spending on economic development contributions, including LED, HR development and management of downscaling, is estimated to be between R820 000 and R1 380 000 per year.

Table 28: Annual planned expenditure on social and labour plan-related costs

Spending category	Amount
Local Economic Development	R 20 000 - R 30 000
Human Resource Development	R 350 000 - R 700 000
Management of Downscaling	R 450 000 - R 650 000
Total	R 820 000 - R 1 380 000

These estimates will be revisited in the assessment phase particularly in light of the draft Mining Charter which sets targets for local benefit sharing.

Tax, royalty and regulatory fees payments

The nature of the project should ensure that it makes a relatively significant contribution to the national fiscus. Payments towards direct taxes, royalties and regulatory fees (including payments towards mine health and safety regulations, national skills fund contributions as well as environmental monitoring and auditing) are key variables for the measurement of these benefits. Estimates of benefits in this regard are provided in this section. It should be noted that these estimates are the result of geological surveys and market analyses contained in the MWP¹. They are highly preliminary and do not include amounts which may be associated with the discovery of diamonds.

Preliminary calculations estimate that payments towards taxes, royalties and regulatory fees should be in the range of R2.5 million and R3.6 million annually once full production is reached. A breakdown of these estimates is provided in Table 29.

Table 29: Estimates of payments towards taxes, royalties and regulatory fees.

Spending category	Amount
Company tax	R 700 000 - R 1 200 000
Royalties	R 450 000 - R 600 000
Regulatory fees	R 1 400 000 - R 1 800 000
Total	R 2 550 000 - R 3 600 000

¹ Predicting market prices is unavoidably difficult. As such the MWP only forecasts prices for the first 10 years of the project. These prices were projected a further 20 years to calculate very rough estimates of these variables.

Property Values

Economic theory suggests that property values capture not only the physical characteristics and productive potential of properties, but also the environmental and social characteristics of their surroundings. The project's environmental and social impacts thus have the potential to impact on property values.

In order to gauge the potential impacts of the proposed project on existing property values, the existing property context surrounding the site was first considered. Then the results of the other specialist studies were scrutinised for information on impacts that could lead to welfare changes reflected in property value effects. The individual factors that could impact negatively on property values (primarily visual, air quality, noise and water quality) were first considered in isolation before making an overall assessment of their combined impact. Positive impacts would stem from the increased commercial activity and job creation associated with the project which could play a role in boosting demand for houses with potential impacts on values. Assessment is focused on the operational phase as impacts on property values should take their lead from longer term impacts and not temporary impacts during construction over approximately two years.

The surrounding property context

1. *Vaalower*

Vaalower is located directly across the Vaal River from the north-western border of the project site. The settlement consists of around 700 people (according to the 2011 census) living in an area which spans just under 3 km. There is a cluster of informal housing located on the western border of the settlement. The settlement has grown somewhat in the past 14 years. A count of structures revealed that there were around 170 in 2004 and closer to 270 in 2018. The settlement is approximately 25 km from Vanderbijlpark and 35 km from Sasolburg and thus falls within commuting distance of these towns.

Property in Vaal Oewer ranges in value. At the time of this study there was a ZAR 315 000, 850 m² plot of land with a good view of the river, as well as a cheaper, ZAR 180 000, 836 m² erf without river views for sale. Houses ranged from around ZAR 659 000 for a 2-bedroom house on a 734 m² erf to ZAR 5.5 million for a 7-bedroom house on 1500 m² erf. There were also larger properties in the vicinity of Vaal Oewer, for example a 37 ha property, situated 2 km to the east of the settlement, is on sale for ZAR 3.75 million.

2. *Lindesquesdrif*

Lindequesdrif is a collection of mostly residential small holdings situated along the Vaal River, starting directly across the river from the western border of the project site and running downstream for approximately 8 km. There are also several plots of land which are set back from the river and which appear to have a more agricultural focus.

At the time of this study the asking prices for properties ranged in value from around ZAR 165 000 for a 2.4 ha plot of undeveloped land to ZAR 420 000 for a 1 bedroom house, to ZAR 12.5 million for a 2 ha riverside property with 2 modern 3 bedroom houses built near the river. Riverside properties appeared to be substantially more valuable than those set back from the river. For example, there was a 4.3 ha agricultural holding, set back from the river, on sale for ZAR 550 000.

3. *Vaal Barage*

The Vaal Barage area is comprised of smaller suburbs such as Windsor on Vaal, Ebner on Vaal, Lochvaal and Miravaal. The western border of this area is situated approximately 5 km to the east of and upstream from the project site.

Houses in Windsor on Vaal are generally on erfs of around 2.1 ha. There were at the time of this study two for sale, one 6-bedroom and one 9-bedroom, for ZAR11 million each. There were similar properties in Ebner on Vaal, such as an 8-bedroom house on sale for just under ZAR 11 million, but the area also had cheaper properties such as 2.1 ha properties with multiple houses, set back from the river, valued at around ZAR 1.8 million.

4. Surrounding farm residences

The value of agricultural land in the wider study area is primarily driven by its productive potential. Farm values are also, generally to a lesser degree, driven by other 'lifestyle' factors which essentially determine how pleasant it is to live on the land. These can include visual appearance, noise levels, pollution levels, etc.

The key potential sources of negative impacts on property values in the area are visual, air quality, noise and terrestrial and riverine biodiversity impacts. The likely property value implications of the specialist studies dealing with these aspects are summarised below and an assessment of risks per area is presented. Note that the emergence of negative social impacts also presents a risk for property values. These are assessed in the social specialist study which found that the project would lead to positive impacts associated with job creation and possible socio-economic spin-offs. The combined significance of these impacts was rated as high. Negative impacts anticipated to result from the project include those associated with a potential influx of job seekers, as well as impacts resulting from an altered sense-of-place. Combined negative impacts were rated as having a low significance.

The visual assessment notes that "[t]he following visual receptors have been identified within a 5 km radius of the Project area:

- Residential areas, particularly those located along the Vaal River.
- Farm houses.
- Main roads within the area, particularly the N1 highway.

Visual impacts would result from the following activities:

- Removal of vegetation for infrastructure and open pit mining.
- Vehicular and heavy machinery movement.
- Erection of mine Infrastructure.
- Open pit mining.
- Development of stockpiles.

The assessment concludes that impacts from open pit mining will be high negative without mitigation and medium negative with mitigation.

From a property value perspective, dust levels are a particular concern as the presence of dust can impact on living conditions limiting outdoor activities (e.g. braais) and resulting in the need for increased cleaning. According to the scoping report produced by the air quality specialists, impacts relating to mining and processing activities are likely to result mainly from increased particulates (dust), but other pollutants such as combustion products from vehicle tail-pipe emissions and dryer stack(s) are also considered to be a concern. The severity of anticipated air quality impacts was not estimated.

The report produced by the noise specialist as part of the scoping phase was a baseline assessment and, as such, did not estimate the severity of impacts resulting from the proposed development. Key findings in respect of estimating impacts on property values are as follows.

- “NRs [Noise Receptors]:
 - Include places of residence and areas where members of the public may be affected by noise generated by proposed activities.
 - NRs within a 2 km radius of the proposed operations include several residences on the both banks of the Vaal River to the west and east of the proposed operations, as well as the residential area of Vaal Oewer to the north of the operations.
- On average, noise impacts are expected to be slightly more notable to the south of the project activities. Terrain may affect noise propagation between sources and NRs by acting as noise barriers.

Negative impacts on the freshwater environment have the potential to effect property values, given that reduced water quality will likely lessen the appeal of properties in the vicinity of the river. With regards to overall freshwater impacts, the key preliminary finding of the riverine ecology scoping report is that impacts would be low with mitigation.

There is also some potential for property values to change due to the project's impacts on terrestrial biodiversity. The biodiversity assessment reveals that the project has been proposed on land which is ecologically sensitive.

According to the Free State Terrestrial CBA Plan, the project area is comprised of three identified areas: CBA 2, ESA 1 and ESA 2. All of these areas will have a high or moderately-high biodiversity value. Three areas across the central portion are considered CBA 2. These areas coincide with areas which are considered to be rocky ridges and or wetland areas (both high biodiversity areas) based on desktop analyses. The biodiversity assessment has rated impacts on biodiversity, flora and fauna as moderate to high with mitigation. These impacts have the potential to put downward pressure on certain property values (for example where properties have views over what is currently relatively in-tact natural vegetation).

In addition to the negative impacts which can stem from the above, the project also has the potential to place upward pressure on property prices. Property values in any given area are significantly driven by demand for housing which, in turn, is directly linked to economic opportunities and jobs in the area. The proposed project therefore has the potential to increase demand and associated values for housing and property.

It is difficult to predict the degree to which the project would contribute to property demand thereby supporting value increases. There is, for example, no formula that can be used to link new project expenditure and jobs to property demand. Notwithstanding measurement constraints, it stands to reason that the relatively small scale of the project would not contribute substantially to property demand thereby supporting only marginal value increases if any at all.

Tourism

Tourism plays an important role in the economy of the local area and wider region and has the potential to play an increasingly prominent role as a driver of economic development. In the SWOT analysis which forms part of Ngwathe Local Municipality's IDP, 'Tourism for Economic Development' is listed as one of seven of the municipality's strengths (NLM, 2018). Towns mentioned specifically where tourism is discussed in the report include Parys, Vredefort, Koppies and Heilbron, of which Parys is the closest to the study site, situated approximately 20 km to the south-west. Parys and the surrounding area have a broad range of attractions including river rafting, golf, quad biking, art and antique galleries and beauty spas, all of which appeal to those seeking recreation and relaxation. Also of interest is one of the oldest and largest known meteorite impact site on earth, which extends from Welkom to Johannesburg. The central part of the impact crater is located near

Vredefort, approximately 35 km to the south-west of the project site, and is known as the Vredefort Dome, as it is a 90 km wide dome-shaped geological formation. The Vredefort Dome is a UNESCO World Heritage Site.

Tourism also plays an important role in the area immediately surrounding the project site. Many of the riverside properties adjacent to the site have been developed into establishments which offer accommodation as well as fishing and other forms of riverside recreation. Desktop research revealed that there are at least 18 tourism establishments situated within 2 km of the project site boundaries. The establishments identified thus far are shown in Figure 63.



Figure 63: Tourism establishments within 2 km of the project site boundaries.

There is also a private game reserve called *The Savannah Africa* situated roughly 6 km to the south-west of (and thus downstream from) the project site border. The reserve offers accommodation, game drives, hiking trails and river paddles.

A review of property for sale in the area revealed that there was one tourism establishment for sale in Vaal Oewer. The establishment, marketed as a lodge, consisted of 11 units of various types with “access to pristine Riverside areas for walks, fishing, bird-watching, Swimming pool, Braai areas, Lapa's, Boathouses, Wharf Complex, carpports and comfortable accommodation and lots more.” The property was being advertised for ZAR 5.45 million². There was also a function venue for sale in Lindequesdrif with a function hall suited for 120 people, river frontage with kitchen, catering and braai facilities, several cottages, a main house with 4 bedrooms, as well as the original farmhouse also with 4 bedrooms, a swimming pool, a warehouse, 4 garages and staff quarters being advertised for ZAR 6.5 million³.

² See <https://www.property24.com/for-sale/vaalower/vanderbijlpark/gauteng/3628/106404304>

³ See <https://www.property24.com/for-sale/lindequesdrif/potchefstroom/north-west/3601/106730949>

The visual specialist assessment identifies residences along the Vaal River, within 5 km of the project site, as receptors of visual impacts resulting from the project. As some of these residences are tourism establishments, it can be inferred that they are also sensitive to visual impacts. The visual study concludes that impacts from mining activities are likely to be high without mitigation and medium with mitigation.

The proposed project has some potential to result in increased tourism to the area as a result of increased business tourism. Experience indicates that a number of technical, management and sales staff generally associated with the companies involved in a project of this nature are required to periodically visit the project site to conduct business. These staff members generally fall into middle to higher income brackets and in the event that they have travelled significant distances there is some chance that they could require accommodation and potentially make use of other tourist facilities and services such as restaurants and retail outlets. Given the relatively close proximity of the project site to urban centres where business visitors are likely to come from, these impacts are anticipated to be of minor significance.

14.2 The Mining and Biodiversity Guidelines

The Mining and Biodiversity Guidelines (2013) were developed by the Department of Mineral Resources, the Chamber of Mines, the South African National Biodiversity Institute and the South African Mining and Biodiversity Forum, with the intention to find a balance between economic growth and environmental sustainability. The Guideline is envisioned as a tool to “foster a strong relationship between biodiversity and mining which will eventually translate into best practice within the mining sector.

In identifying biodiversity priority areas which have different levels of risk against mining, the Guideline categorises biodiversity priority areas into four categories of biodiversity priority areas in relation to their importance from a biodiversity and ecosystem service point of view as well as the implications for mining in these areas:

- A) Legally protected areas, where mining is prohibited.
- B) Areas of highest biodiversity importance, which are at the highest risk for mining.
- C) Areas of high biodiversity importance, which are at a high risk for mining.
- D) Areas of moderate biodiversity importance, which are at a moderate risk for mining.

The Guideline provides a tool to facilitate the sustainable development of South Africa’s mineral resources in a way that enables regulators, industry and practitioners to minimise the impact of mining on the country’s biodiversity and ecosystem services. It provides the mining sector with a practical, user- friendly manual for integrating biodiversity considerations into the planning processes and managing biodiversity during the operational phases of a mine, from exploration through to closure. The Guideline provides explicit direction in terms of where mining-related impacts are legally prohibited, where biodiversity priority areas may present high risks for mining projects, and where biodiversity may limit the potential for mining.

According to these guidelines, the application area is predominantly classed as having a ‘Moderate Biodiversity Importance’ and represents a ‘Moderate Risk for Mining’ (Figure 64). Existing agricultural areas in the southern portion are not given any classification level.

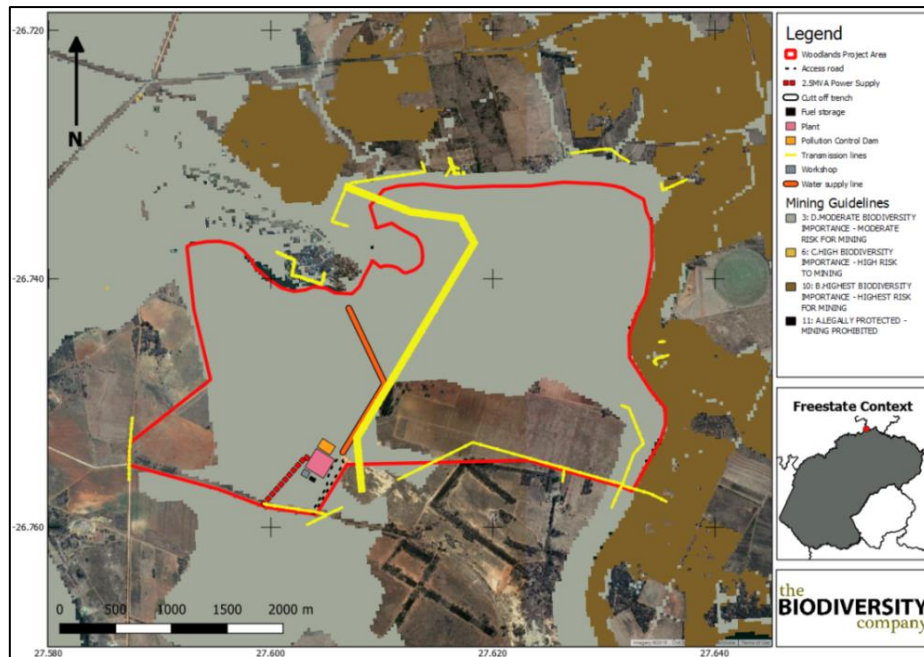


Figure 64: The application area superimposed on the Mining and Biodiversity Guidelines spatial dataset (refer to Appendix D for enlarged map).

14.2.1 Traffic

Vehicle access from and to the proposed mining development is suggested from Road S171 (Figure 65) by means of an existing farm access road.

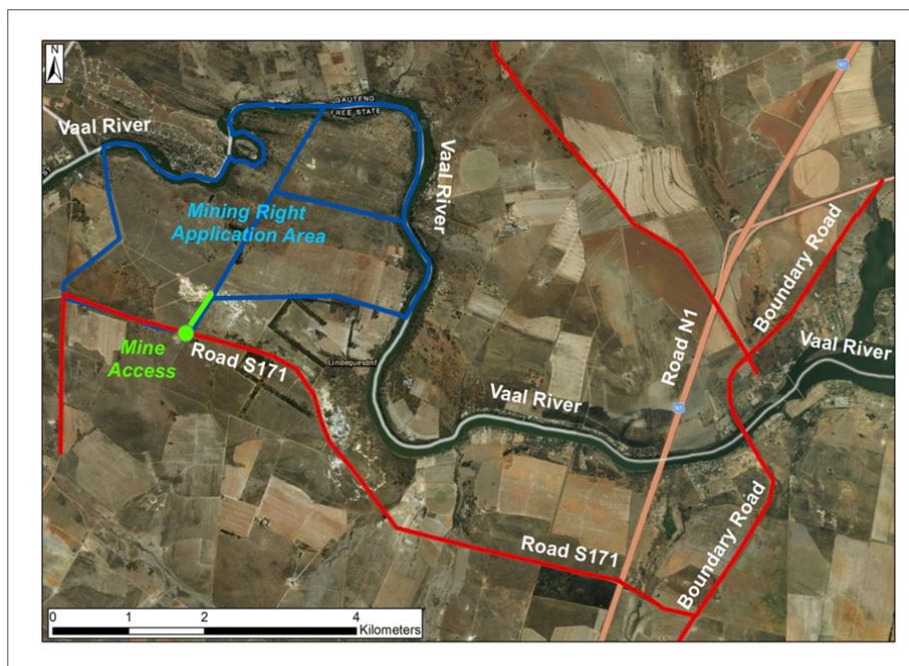


Figure 65: Proposed mining development and relevant intersections under investigation.

A visual investigation of the relevant section of the Road S171 was conducted. It was noted that the road surface is in a poor condition with multiple potholes and it is possibly deteriorating. The traffic specialist concedes that if the recommended mitigation measures are implemented, impacts of the mining activities on the road could be minimised from a high sensitivity to a low sensitivity.

15. POSITIVE AND NEGATIVE IMPACTS OF THE PROPOSED ACTIVITY AND ALTERNATIVES

The potential biophysical and socio-economic impacts of the proposed project that were identified during the Scoping process, with inputs from specialist studies, are discussed under each of the identified issues in this section. These discussions should be read with the corresponding descriptions of the baseline environment in Section 14 and scoping specialist studies in Appendix F.

The potential impacts associated with the project phases (construction, operations, decommissioning and closure) have been identified and described and reference has been made to the studies/investigations that are required to inform the impact assessment. The specialist studies undertaken in support of this application were conducted on a scoping level. As such, the assessment conclusions are conservative. It follows that the assessment provided below is a preliminary assessment which will, after having obtained detailed specialist input, be refined/changed as necessary in the EIA phase, as appropriate with due consideration of the direct and indirect impacts. With reference to Section 12, site alternatives for the plant are being considered as part of the proposed project. The assessment below provides a preliminary assessment of the project alternatives.

15.1 Potential Impacts Associated with the Construction Phase

15.1.1 Ecology (Fauna, Avifauna and Flora)

- Site clearance for infrastructure and associated access roads during the construction phase has the potential to directly disturb vegetation, regardless of the alternatives that are selected. The identified impact would result in high severity impacts in the absence of mitigation measures. Where the project plan takes into account the findings of the specialist studies and avoids or minimises impacts on ecologically sensitive areas, the significance of the potential impact is reduced to moderate significance.
- The placement of infrastructure has the potential to destroy habitats for faunal species. In addition, the construction activities may result in disturbances such as noise, vibrations, dust and increased human presence (and possible poaching).
- The significance of this impact would be high in the unmitigated scenario. In the mitigated scenario, which focuses on avoiding ecologically sensitive areas, adhering to bufferzones and implementing training to ensure that the staff is aware of faunal sensitivity, the significance remains high.

15.1.2 Aquatic and Wetland Biodiversity

- The removal of vegetation, ground compaction and infrastructure placement during the construction phase may result in the destruction of wetland systems. The unmitigated significance is considered to be medium. Where the project plan takes into account the findings of specialist studies and applies the necessary mitigation to avoid or minimise the impact, the significance of the potential impact can be reduced to low.
- The placement of infrastructure within the catchment area may result in a loss/reduction in catchment yield. In the absence of mitigation measures, the identified impact is considered to be medium. Where the project plan takes into account the findings of specialist studies and applies the necessary mitigation to avoid or minimise the impact, the significance of the potential impact can be reduced to low.
- Vegetation removal and altered surface flow dynamics may result in an increase in the concentration of suspended solids.

- The unmitigated impact is considered low and will remain low should the necessary mitigation measures be applied.
- On site mixing, fuelling and use of machines and vehicles as well as erosion of the cleared footprint areas may result in the contamination of surface water resources. In the absence of mitigation measures, given the importance of the Vaal River system and based on the mine plan, the severity of the unmitigated impact would be medium. It is important to note that the use or potential contamination of water resourced is regulated through water use licensing requirements of the DWS as the custodian of water resources in South Africa. With the implementation of mitigation measures, the potential impact is reduced to low significance.
- Construction activities may result in noise and traffic which will result in the loss of species diversity. The significance of this impact is medium in the unmitigated scenario. Where the project plan takes into account the findings of the specialist studies and avoids or minimises the impact on species, the significance of the impact can be reduced to low.
- Introduction of "pests" and weeds into the area during the construction phase may result in a change in species abundance. The unmitigated impact is considered low and will remain low should the necessary mitigation measures be applied.
- Preparation of the mining area may result in a loss of wetland systems. In the absence of mitigation measures, the potential impact would result in long term high severity impacts. With the implementation of mitigation measures, the significance can be reduced to moderate.
- Construction of associated infrastructure may result in the loss of sub-surface flows.
- The significance of this impact is high in the unmitigated scenario. With the implementation of mitigation measures, the significance is reduced to medium.

15.1.3 Pedology

- Potential disturbances include compaction, physical removal and potential pollution as well as soil erosion.
- The exposed soil surfaces have the potential to erode easily if left uncovered which could lead to the loss of the soil resources. Soils that are excavated for the installation of foundations will have their physical and chemical states altered negatively.
- There may also be potential loss of stockpiled topsoil and other materials through erosion if not protected properly.
- Insufficient storm water control measures may result in localised high levels of soil erosion, possibly creating dongas or gullies, which may lead to decreased water quality in surrounding watercourses. Increased erosion could result in increased sedimentation which could impact on ecological processes.
- The additional hardened surfaces created during construction could increase the amount of storm water runoff, which has the potential to cause erosion.
- Physical disturbance of the soil and plant removal may result in soil erosion/loss. Erosion and potential soil loss from cut and fill activities and areas where naturally dispersive soils occur.
- The unmitigated impact is considered to be of medium significance and can be reduced to low significance should the necessary mitigation measures be applied.

15.1.4 Riverine Ecology

- Vegetation clearance during the construction phase may result in the alteration of catchment drainage, resulting in an increased runoff velocity and erosion. In the absence of mitigation

measures, the severity of the impact is expected to be medium. The significance can be reduced to low should mitigation measures be implemented.

- Construction of infrastructure and minor earthworks may result in the alteration of the catchment drainage and exposure of un-weathered materials, resulting in increased dissolved solid concentrations in local water bodies. In the absence of mitigation measures, the severity of the impact is expected to be medium. The significance can be reduced to low should mitigation measures be implemented.
- Placement of infrastructure within the catchment area may result in the alteration of the catchment drainage thus causing erosion and sedimentation. In the absence of mitigation measures, the severity of the impact is expected to be medium. The significance can be reduced to low should mitigation measures be implemented.

15.1.5 Visual

- The removal of vegetation during the construction phase will expose the area to sensitive visual receptors, particularly those located on elevated areas surrounding the project area. Dust generated during the construction phase is further likely to create a visual disturbance. In the absence of mitigation measures, the severity of the impact is expected to be high. The significance can be reduced to medium should mitigation measures be implemented.
- The movement of vehicles and heavy machinery as well as dust generated by vehicular movement is likely to create a visual disturbance to surrounding visual receptors. In addition, the erection of mine infrastructure (plant, workshop etc.) is likely to visually intrude on the landscape. However, the development footprint and height of the proposed mine infrastructure is limited. In the absence of mitigation measures, the severity of the impacts is expected to be of medium significance. In the mitigated scenario, the potential impacts can be reduced to low significance.

15.1.6 Heritage/Cultural Resources

- The placement of infrastructure and mining activities, in all phases prior to closure, may result in the potential removal, damage and destruction of heritage/cultural resources. This will result in the loss of the resource for future generations. In the absence of mitigation measures, the unmitigated severity could be high to low depending on the distance of the resource from the mining activities and associated infrastructure. Where the project planning takes into account the findings of the specialist studies and either avoids resources of high significance or alternatively document and/or relocate resources in line with a permit or the necessary approvals, the significance can be reduced to low.

15.1.7 Socio-Economic

- The potential positive impacts which could arise as a result of the construction activities include increase in job opportunities both for skilled and unskilled labourers. Jobs for the unskilled labourers are likely to be filled by the local community and the skilled personnel likely to be drawn around South Africa. The project also brings with it an opportunity for training and capacity building of personnel that will be recruited. Furthermore, during construction, the informal business sector, particularly women in the area, could benefit from selling food to construction workers. The unmitigated impacts are considered positive medium to low positive medium and would remain positive medium to low positive medium should the appropriate mitigation measures be implemented.

- An influx of workers and jobseekers to an area (whether locals are employed, or outsiders are employed) could increase the safety risks in the local area and have an impact on the local social dynamics. Should locals be employed, it could minimise the perceived and actual risk in this regard. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, the potential impact can be reduced to low significance.
- During the construction phase, adjacent landowners could be negatively affected by the dust, noise and negative aesthetics created as a result of the construction activities. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, the potential impact can be reduced to low significance.
- Heavy vehicles and construction activities could result in damage to roads and present safety risks in the local area. The unmitigated impact is considered low and would remain low should the appropriate mitigation measures be implemented.

15.1.8 Surface Water

- The removal of vegetation and subsequent exposure of soils, laydown of impermeable surfaces such as concrete, alteration to the natural topography due to pit excavations, dumps and infrastructure may result in erosion and consequent increase in TSS in surrounding water courses. In the absence of mitigation measures, the unmitigated severity could be medium. The significance can be reduced to low should appropriate mitigation measures be implemented.

15.1.9 Groundwater

- During the construction phase little impacts are expected on groundwater quality. Minor impacts on the groundwater can be expected from accidental hydrocarbon spillage from construction vehicles at the service station or diesel bays. The current groundwater quality is good; depending on distance from the Vaal River. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, the potential impact can be reduced to low.
- The use of groundwater as a potential source of water during construction could potentially have an impact on local water users due to the cone of depression around the production boreholes. The study area is not known for high yielding boreholes. The unmitigated impacts are considered medium and would be reduced to low medium should the appropriate mitigation measures be implemented.

15.1.10 Air Quality

- Mining activities usually present a number of emission sources that can have a negative impact on ambient air quality and surrounding land uses in all phases, regardless of the alternatives that are selected. Emission sources would include land clearing activities for construction and ahead of mining, materials handling, wind erosion from stockpiles, wind erosion of disturbed areas, vehicle movement along unpaved roads, crushing, drying and exhaust emissions. The main contaminants would include inhalable particulate matter, Total Suspended Particulates (TSP) that relate to dust fallout and Diesel Particulate Matter (DPM). Similar emission sources are likely to be produced by adjacent mining activities which collectively could result in cumulative air quality impacts on potential receptors.
- In the absence of mitigation measures that focus on the control of emissions at source and a rehabilitation plan that allows for rehabilitation and supports the post closure land use, the severity is expected to be high. With mitigation that focuses on controlling emissions sources, the

significance could be reduced to medium as the severity, duration, spatial scale and probability would reduce.

15.1.11 Noise

- Mining activities have the potential to contribute to an increase in ambient noise levels during the construction and operational phases. For this proposed project, pre-mining ambient noise environment can be described as suburban, urban and of central business district in nature. Project-related noise sources would include construction related activities, emergency power supply, operation and movement of machinery and equipment (including reverse beepers), crushing, transport of product off site and demolition activities.
- Similar noise sources are likely to be produced by adjacent mining activities which collectively could result in cumulative noise impacts on potential noise receptors. In the absence of mitigation measures that consider potential receptor sites in relation to mining activities, the severity is expected to be high. Noise pollution impacts would extend beyond the site boundary and would occur until full closure is reached. The related unmitigated significance would be high. With mitigation that focuses on minimising impacts through the application of noise control measures, the significance could reduce to medium-high as the severity, duration and probability would reduce.

15.2 Potential Impacts Associated with the Operation Phase

15.2.1 Ecology (Fauna, Avifauna and Flora)

- Mining related activities have the potential to result in encroachment of alien invasive plant species and possible decrease in available ground-water for floral species. In the absence of mitigation measures, the severity of the impact would be high. . The identified impact would result in high severity impacts in the absence of mitigation measures. Where the project plan takes into account the findings of the specialist studies and avoids or minimises impacts on ecologically sensitive areas, the significance of the potential impact is reduced to moderate significance.
- Mining activities could result in loss of species of conservation concern and their habitat as well as continued displacement, direct mortalities and disturbance of faunal community (including possible threatened species) due to habitat loss and disturbances (such as dust, poaching and noise).
- The unmitigated significance is high. With the implementation of mitigation measures, the significance is reduced to moderate.

15.2.2 Aquatic and Wetland Biodiversity

- Mining operations have the potential to negatively impact on wetland systems. In the absence of mitigation measures, the severity of the impact is expected to be high. In the mitigated scenario, which focuses on avoiding wetland areas and adhering to recommended buffer areas, the potential impact can be reduced to low significance.
- Operation of the supporting infrastructure to be established within the mining area may result in a reduction in catchment water yield. In the absence of mitigation measures, the severity of the impact is expected to be high. The significance can be reduced to medium should mitigation measures be implemented.
- Operation of the supporting infrastructure to be established within the mining area may result in the loss of sub-surface flows. In the absence of mitigation measures, the severity of the impact is expected to be high. The significance can be reduced to medium should mitigation measures be implemented.

- Operation of the supporting infrastructure to be established within the mining area may result in an increase in the concentrations of suspended solids. In the absence of mitigation measures, the severity of the impact is expected to be medium. The significance can be reduced to low should mitigation measures be implemented.
- Mining operations have the potential to negatively impact on water resources through dewatering activities. In the absence of mitigation, given the importance of the Vaal River system, the severity of the unmitigated impact would be of medium significance.
- In the mitigated scenario, which focuses on containing water in a PCD and avoiding discharging contaminated water into water courses, the potential impact can be reduced to low significance.

15.2.3 Pedology

- Potential disturbances include compaction, physical removal and potential pollution as well as soil erosion.
- The exposed soil surfaces have the potential to erode easily if left uncovered which could lead to the loss of the soil resources. Soils that are excavated for the installation of foundations will have their physical and chemical states altered negatively.
- There may also be potential loss of stockpiled topsoil and other materials through erosion if not protected properly.
- Insufficient storm water control measures may result in localised high levels of soil erosion, possibly creating dongas or gullies, which may lead to decreased water quality in surrounding watercourses. Increased erosion could result in increased sedimentation which could impact on ecological processes.
- The additional hardened surfaces created during construction could increase the amount of storm water runoff, which has the potential to cause erosion.
- Physical disturbance of the soil and plant removal may result in soil erosion/loss. Erosion and potential soil loss from cut and fill activities and areas where naturally dispersive soils occur.
- The unmitigated impact is considered to be of medium significance and can be reduced to low significance should the necessary mitigation measures be applied.

15.2.4 Riverine Ecology

- Operation of the open pit mine may cause alteration of the catchment drainage and exposure of un- weathered materials, resulting in an increase in the concentrations of dissolved solids in local water bodies. In the absence of mitigation, the severity of the unmitigated impact would be of medium significance. In the mitigated scenario, the potential impact can be reduced to low significance.
- During operation of the processing plant, the use and storage of dirty water may result in diffuse or point source contamination via seepage and direct runoff. This may result in an increase in the suspended and dissolved solids within the Vaal River and subsequent ecological impact. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, which focuses on adhering to recommended bufferzones and implementing a storm water management plan, the potential impact can be reduced to low significance.
- The operation of active Run of Mine stockpiles may result in runoff of materials from stockpiles thus resulting in an increase in the suspended and dissolved solids within the Vaal River and subsequent ecological impact. In the absence of mitigation measures, the severity of the impact is

expected to be medium. The significance can be reduced to low should mitigation measures be implemented.

- Operation of the supporting infrastructure may result in an increase in the suspended/dissolved solid concentrations and erosion from drainage alteration. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, which focuses on adhering to recommended bufferzones and implementing a storm water management plan, the potential impact can be reduced to low significance.
- The dewatering of the open pit may result in the discharge of dirty water, resulting in increased suspended and dissolved solids and local water bodies. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, which focuses on adhering to recommended bufferzones and implementing a storm water management plan, the potential impact can be reduced to low significance.

15.2.5 Visual

- Open pit mining will result in depressions which will be approximately 10 m in depth, and will visually intrude on the surrounding landscape. In addition, dust will be generated during the mining activities. In the absence of mitigation measures, the severity of the impact is expected to be high. The significance can be reduced to medium should mitigation measures be implemented.
- The development of dumps, as mining progresses will visually intrude on the surrounding landscape. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, which focuses on limiting the height of dumps as far as possible, the potential impact can be reduced to low significance.

15.2.6 Heritage/Cultural Resources

- The placement of infrastructure and mining activities, in all phases prior to closure, may result in the potential removal, damage and destruction of heritage/cultural resources. This will result in the loss of the resource for future generations. In the absence of mitigation measures, the unmitigated severity could be high to low depending on the distance of the resource from the mining activities and associated infrastructure. Where the project planning takes into account the findings of the specialist studies and either avoids resources of high significance or alternatively document and/or relocate resources in line with a permit or the necessary approvals, the significance can be reduced to low.

15.2.7 Socio-Economic

- Employment opportunities would be created which could result in benefits to unemployed individuals within the local communities. Furthermore, capacity building and skills development throughout the life of the mine (30 years) could be to the benefit of the employees and could assist them in obtaining transferable skills. The unmitigated impact is considered positive and would remain positive medium should the appropriate mitigation measures be implemented.
- Local procurement for general materials, goods and services (e.g. transport, catering (local women may get the opportunity to sell food to mine workers) and security) and other spin-off benefits could materialise. In the absence of mitigation measures, the severity of the impact is expected to be positive low medium. In the mitigated scenario, the potential impact can be increased to positive medium.
- The proposed development will assist in the generation of resources such as sand and diamonds which would boost South Africa's economy. In the absence of mitigation measures, the severity of

the impact is expected to be positive low medium. In the mitigated scenario, the potential impact can be increased to positive medium.

- The permanent visual impact associated with the mine and its associated infrastructure would alter the landscape. The proposed development is located in a farming area. Therefore, the visual implications could have a further negative impact on the area's sense of place. The unmitigated impact is considered low and would remain low should the appropriate mitigation measures be implemented.
- The development of the mine is likely to affect tourism in the area. The unmitigated impact is considered low and would remain low should the appropriate mitigation measures be implemented.
- The use of roads by trucks carrying mined products could result in damage to roads and present safety risks in the local area.
- The S171 road does not have a carrying capacity to accommodate trucks. The narrowness of the road poses as great security risk for the local residents who drive small passenger cars.

15.2.8 Surface Water

- Open pit mining will result in a loss of contributing catchment area to the Vaal River. Runoff will be captured in the pits that would have otherwise reported to the Vaal River. The unmitigated impact is considered low and would remain low should the appropriate mitigation measures be implemented.
- Runoff from the plant area and stockpiles is likely to contain high levels of TSS and potentially high dissolved solids that could runoff into the environment. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, the potential impact can be reduced to low.
- Some of the proposed mining deposits occur within drainage lines. The function of these drainage lines is to drain the area during and post rainfall. Mining through drainage lines may result in flooding of pits and other infrastructure, as well as a loss of runoff reporting to the Vaal River. The unmitigated impact is considered medium and would remain medium should the appropriate mitigation measures be implemented.
- It is highly likely that groundwater will seep into the open pits, resulting in dirty water. The pits may also become flooded due to high seepage rates. In the absence of mitigation measures, the severity of the impact is expected to be medium. In the mitigated scenario, the potential impact can be reduced to low.
- Abstraction of water from the Vaal River is likely to result in loss of water volumes and a reduction of flows. In the absence of mitigation measures, given the importance of the Vaal River system and based on the mine plan, the severity of the unmitigated impact would be medium. It is important to note that the use or potential contamination of water resources is regulated through water use licensing requirements of the DWS as the custodian of water resources in South Africa. With the implementation of mitigation measures, the potential impact is reduced to low significance.

15.2.9 Groundwater

- Groundwater quality could potentially be negatively affected by the excavation of the sand and around the washing facility. Hydrocarbon spillage, as well as the incorrect handling and storage of hazardous waste and sewage can potentially contaminate the aquifers. The unmitigated impacts are considered high and would be reduced to medium should the appropriate mitigation measures be implemented.

- Pit dewatering and groundwater abstraction could potentially influence the local groundwater system and may have a negative impact on the local groundwater users. The unmitigated impacts are considered high and would be reduced to medium should the appropriate mitigation measures be implemented.

15.2.10 Air Quality

- Mining activities usually present a number of emission sources that can have a negative impact on ambient air quality and surrounding land uses in all phases, regardless of the alternatives that are selected. Emission sources would include land clearing activities for construction and ahead of mining, materials handling, wind erosion from stockpiles, wind erosion of disturbed areas, vehicle movement along unpaved roads, crushing, drying and exhaust emissions. The main contaminants would include inhalable particulate matter, Total Suspended Particulates (TSP) that relate to dust fallout and Diesel Particulate Matter (DPM). Similar emission sources are likely to be produced by adjacent mining activities which collectively could result in cumulative air quality impacts on potential receptors.
- In the absence of mitigation measures that focus on the control of emissions at source and a rehabilitation plan that allows for rehabilitation and supports the post closure land use, the severity is expected to be high. With mitigation that focuses on controlling emissions sources, the significance could be reduced to medium as the severity, duration, spatial scale and probability would reduce.

15.2.11 Noise

- Mining activities have the potential to contribute to an increase in ambient noise levels during the construction and operational phases. For this proposed project, pre-mining ambient noise environment can be described as suburban, urban and of central business district in nature. Project-related noise sources would include construction related activities, emergency power supply, operation and movement of machinery and equipment (including reverse beepers), crushing, transport of product off site and demolition activities.
- Similar noise sources are likely to be produced by adjacent mining activities which collectively could result in cumulative noise impacts on potential noise receptors. In the absence of mitigation measures that consider potential receptor sites in relation to mining activities, the severity is expected to be high. Noise pollution impacts would extend beyond the site boundary and would occur until full closure is reached. The related unmitigated significance would be high. With mitigation that focuses on minimising impacts through the application of noise control measures, the significance could reduce to medium-high as the severity, duration and probability would reduce.

15.2.12 Economic

- The project would result in spending injections that would lead to increased economic activity best measured in terms of impacts on employment and associated incomes focusing on the local area and region. In addition to the direct employment and associated income opportunities indirect opportunities would be associated with the operational phase of the project. These would stem primarily from increased expenditure by the applicants and their employees in the local area and region.
- The nature of the project should ensure that it makes a relatively significant contribution to the national fiscus. Payments towards direct taxes, royalties and regulatory fees (including payments towards mine

health and safety regulations, national skills fund contributions as well as environmental monitoring and auditing) are key variables for the measurement of these benefits.

- The key potential sources of negative impacts on property values in the area are visual, air quality, noise and terrestrial and riverine biodiversity impacts.

15.2.13 Tourism

- The proposed project has some potential to result in increased tourism to the area as a result of increased business tourism.
- Negative impacts on air quality have the potential to impact on the experience of tourists particularly if significant direct nuisance is caused by dust.
- Noise impacts have the potential to impact on tourism if they are significant and impact negatively on tourism receptors and tourist experiences. The noise specialist study identifies a number of receptors particularly nearby residences along the Vaal River that include tourism establishments.
- Negative impacts on the freshwater environment have the potential to impact on the experience of tourists particularly if the Vaal River is impacted on given its importance as an attraction. With regards to overall freshwater impacts, the key preliminary finding of the riverine ecology scoping report is that impacts would be low with mitigation.
- The project's impacts on terrestrial biodiversity have the potential to impact negatively on tourism in the area. The biodiversity assessment reveals that the project has been proposed on land which is considered to be high in biodiversity. Impacts on biodiversity, flora and fauna have been given preliminary ratings of moderate to high significance with mitigation.
- The proposed project has some potential to result in increased tourism to the area as a result of increased business tourism. Experience indicates that a number of technical, management and sales staff generally associated with the companies involved in a project of this nature are required to periodically visit the project site to conduct business. These staff members generally fall into middle to higher income brackets and in the event that they have travelled significant distances there is some chance that they could require accommodation and potentially make use of other tourist facilities and services such as restaurants and retail outlets. Given the relatively close proximity of the project site to urban centres where business visitors are likely to come from, these impacts are anticipated to be of minor significance.

15.2.14 Traffic

- It is anticipated that the proposed mining development would add a significant number of heavy vehicle trips onto the relevant roads network. With the current poor state of Road S171, the additional anticipated heavy vehicle trips to be generated by the proposed mining development that will make use of the Road S171 can have a contribution to the further deterioration of Road S171. It is therefore recommended to collaborate with the relevant road authority,
- It is anticipated that the sensitivity of the relevant section of Road S171 under investigation and the relevant intersections under investigation would improve with the implementation of the mitigating measures recommended.

15.3 Potential Impacts Associated with the Decommissioning, Rehabilitation and Closure Phase

15.3.1 Ecology (Fauna, Avifauna and Flora)

- Impacts on flora species due to spread and/or establishment of alien and/or invasive species may occur during the decommissioning and rehabilitation phases. In the absence of mitigation measures, the severity of the impact is expected to be high.

- With the implementation of mitigation measures focused on preventing impacts and thereby reducing the duration and probability of the impacts occurring, the significance is reduced to low.

15.3.2 Aquatic and Wetland Biodiversity

- Backfilling of voids and removal of infrastructure will result in restoration of the catchment water yield. The unmitigated impact is considered low and will remain low should the necessary mitigation measures be applied.
- Backfilling of voids and shaping of the catchment area may result in an increase in concentrations of suspended solids.
- The unmitigated impact is considered low and will remain low should the necessary mitigation measures be applied.
- Backfilling of voids during rehabilitation will result in the restoration of shallow recharge. The unmitigated impact is considered low and will remain low should the necessary mitigation measures be applied.
- Degradation of soil resources by means of vehicle transportation may result leaks and compaction as well as contamination of surface water resources. Contaminants from the project are expected to include fuels, hydrocarbons, hazardous wastes etc. In the absence of mitigation measures, given the importance of the Vaal River system and based on the mine plan, the severity of the unmitigated impact would be medium. With the implementation of mitigation measures, the potential impact is reduced to low significance.
- Ripping of compacted areas will result in an improvement in soil quality. The unmitigated impact is considered low and will remain low should the necessary mitigation measures be applied.

15.3.3 Socio-Economic

- Typically, the major social impacts associated with the decommissioning phase are linked to the loss of jobs and associated income. The unmitigated impacts are considered low medium to low and would be reduced to low should the appropriate mitigation measures be implemented.

15.4 Potential Impacts Associated with the Post Closure Phase

15.4.1 Groundwater

- The water quality impacts associated with the excavations and washing of sand will reduce and possibly disappear post closure. The unmitigated impact is considered medium and would remain medium should the appropriate mitigation measures be implemented.
- No impact is expected on the water quantity during the post mine phase. The groundwater table will recover during this phase and boreholes in the area previously affected by mine dewatering could start to improve. This will be a function of the recharge to the area. The unmitigated impact is considered medium and would remain medium should the appropriate mitigation measures be implemented.

16. POSSIBLE MITIGATION MEASURES AND ANTICIPATED LEVEL OF RESIDUAL RISKS

Table 30 provides a list of the impacts identified by the EAP or raised by interested and affected parties, as well as the possible management and mitigation measures. The level of residual risk after management or mitigation is also estimated. This would be refined during the EIA phase with specialist input as appropriate.

Table 30: Possible mitigation measures and anticipated level of residual risks.

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
Biodiversity	Open pit mining, site clearance for infrastructure and associated access roads as well as disturbances such as noise, vibrations, dust and increased human presence (and possible poaching)	Loss of areas classified as CBA (Free State CBA, 2014) and sensitive rocky ridges	High (negative)	<ul style="list-style-type: none"> Avoid CBA areas and implement bufferzones. 	High (negative)
		Loss of area of plant endemism (Mucina and Rutherford, 2006)	High (negative)	<ul style="list-style-type: none"> Avoid areas of remaining indigenous vegetation, restrict infrastructure areas to brownfield areas only. 	Moderate (negative)
		Loss of Endangered & Vulnerable habitat (MBSP, 2014) (NBA, 2011)	High (negative)	<ul style="list-style-type: none"> Avoid high biodiversity sensitivity areas (natural vegetation, watercourses and wetlands) and comply to prescribed bufferzones. 	High (negative)
Flora	Open pit mining, site clearance for infrastructure and associated access roads as well as disturbances such as noise, vibrations, dust and increased human presence	Loss of plant species of conservation importance (IUCN, 2018)	High (negative)	<ul style="list-style-type: none"> Avoid areas in which plant species of conservation concern occur. If some areas cannot be avoided implement rescue of plant species of conservation concern. 	Medium (negative)
		Encroachment of alien invasive plant species	High (negative)	<ul style="list-style-type: none"> An alien invasive plant management plan needs to be compiled and implemented during construction to prevent the growth of invasive species on cleared areas. 	Medium (negative)
Fauna	Open pit mining, site clearance for infrastructure and associated access roads as well as disturbances such as noise, vibrations, dust and increased human presence (and possible poaching)	Loss of habitat for species of conservation concern (NBA, 2011)	High (negative)	<ul style="list-style-type: none"> Avoid high biodiversity sensitivity areas (natural vegetation, ridges, watercourses & wetlands) and comply to prescribed bufferzones. 	High (negative)
		Displacement, direct mortalities and disturbance of faunal community (including multiple threatened species) due to habitat loss and disturbances (such as dust and noise), and poaching	High (negative)	<ul style="list-style-type: none"> Avoid high biodiversity sensitivity areas (natural vegetation, ridges, watercourses and wetlands) and comply with prescribed bufferzones. Implement training to ensure that all staff members are aware of faunal sensitivity. Put protocols in place to deal with fauna that are encountered during construction. 	High (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
Aquatic and wetland biodiversity	Open pit mining, site clearance for infrastructure and associated access	Destruction of wetland systems	High (negative)	<ul style="list-style-type: none"> • Limit site clearance to what is absolutely necessary. • Avoid sensitive areas as far as practically possible. • Ensure necessary setback distances from watercourses and wetlands. • Implementation of an alien invasive species programme. • Limit emissions (dust, light, noise). • Training of employees on the value of biodiversity. • Zero tolerance for harming and harvesting fauna and flora. • Effective waste management and pollution prevention. • Implementation of a biodiversity action plan to ensure that the undeveloped/disturbed areas within the property are properly conserved and maintained. • Effective rehabilitation to achieve post closure land use. 	Medium (negative)
	Open pit mining, site clearance for infrastructure and associated access	Reduction in surface water quality affecting third party users	High (negative)	<ul style="list-style-type: none"> • Design and implement contamination containment measures. • Mine infrastructure will be constructed and operated so as to comply with the National Water Act 36 of 1998 and Regulation 704 (4 June 1999): <ul style="list-style-type: none"> ○ Clean and dirty water system will be separate. ○ Clean run-off will be diverted away from the site. ○ Dirty water will be contained. • Conduct surface water monitoring and implement remedial actions as required. • Effective equipment and vehicle maintenance. • Fast and effective clean-up of spills. • Effective waste management. • Education and training of workers. • Apply and operate in line with a water use license. 	Medium (negative)
	Open pit mining, site clearance for infrastructure and associated access	Reduction in surface water quantity affecting third party users	High (negative)	<ul style="list-style-type: none"> • Develop and implement a stormwater management plan to minimise containment areas and divert clean water away from the site. • Effective rehabilitation to achieve post closure land use. 	Moderate (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
Surface water	Open pit mining through drainage lines	Some of the proposed mining deposits occur within drainage lines. The function of these drainage lines is to drain the area during and post rainfall. Mining through drainage lines may result in flooding of pits and other infrastructure, as well as a loss of runoff reporting to the Vaal River.	Medium (negative)	<ul style="list-style-type: none"> According to Regulation 4 (a) and (b) of GN704, no mining should take place within a 100 m buffer of watercourses, or within the 1:50 and 1:100 year floodlines, unless exemption is obtained. Should mining be permitted within the drainage lines, then upstream runoff should be diverted around the open pits, to prevent any unnecessary flooding. 	Medium (negative)
Ground water	Open pit mining, site clearance for infrastructure and associated access	Reduction in groundwater quantity affecting third party users	High (negative)	<ul style="list-style-type: none"> Conduct groundwater monitoring and implement remedial actions where required. This includes compensation for mine related loss of third party water supply. This monitoring programme should include third party boreholes. Apply and operate in line with a water use license. Minimise water usage and optimise water recycling and treatment of dewatering water. 	Moderate (negative)
	Groundwater seepage into the open pits	It is highly likely that groundwater will seep into the open pits, resulting in dirty water. The pits may also become flooded due to high seepage rates.	Medium (negative)	<ul style="list-style-type: none"> Dirty water from the pits should be dewatered for use at the plant. This should ensure that water levels within the pits are maintained at suitable levels. Dirty water should be kept in a closed system, to ensure that it does not report to the environment. 	Low (negative)
Water quantity	Abstraction of water from the Vaal River	Loss of water volumes and a reduction of flows in the Vaal River	Medium (negative)	<ul style="list-style-type: none"> The plant is likely to have the highest water demands for the Project. Unnecessary pumping of water from the Vaal River must be avoided. This can be done through the recycling of water from groundwater seepage and runoff into the pits, for use at the plant. 	Low (negative)
Water quantity	Operation of the plant area and stockpiles	Runoff from the plant area and stockpiles is likely to contain high levels of TSS and potentially high dissolved solids that could runoff into the environment.	Medium (negative)	<ul style="list-style-type: none"> A stormwater management plan must be designed and implemented that captures and contains dirty water runoff from the site, in accordance with the requirements stipulated in the GN704 Regulations. Dirty water captured, should be recycled and used at the plant, and should not be allowed to report to the environment. 	Low (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
Air quality	Open pit mining, site clearance for infrastructure and associated access	Decrease in air quality from project emissions	High (negative)	<ul style="list-style-type: none"> Limit disturbed areas. Suppress dust effectively. Maintain equipment and vehicles in good working order. Monitor pollutants of concern and implement additional mitigation as required. Effective rehabilitation to achieve post closure land use. 	Low (negative)
Noise	Open pit mining, site clearance for infrastructure and associated access	Increase in noise levels	High (negative)	<ul style="list-style-type: none"> Maintain vehicles and equipment in good working order. Provide noise berms where possible between activities and receptors. Conduct noise monitoring in response to noise complaints. 	Low (negative)
Traffic	Open pit mining, site clearance for infrastructure and associated access	Effect on roads due to project related traffic	High (negative)	<ul style="list-style-type: none"> Road markings, reflective road studs (LED), road signs and overhead lights should be provided and maintained at all the relevant intersections under investigation to ensure visibility during night time, proper visibility of intersection lane geometry and sufficient information to road users. Construct safe access points/intersections. Enforce strict vehicle speeds. If a person or animal is injured by transport activities an emergency response procedure must be implemented. In order to ensure that mined product and workers can be transported at all times with reference to Road S171, it is recommended that a Roads Maintenance Plan be prepared in collaboration with other land owners, developments and the relevant road authority. Road safety training for workers and local community. Continuous maintenance of fencing along relevant roads (proposed mining development can only take responsibility for fencing for properties they own). 	Low (negative)
Visual	Open pit mining, site clearance for infrastructure and associated access	Removal of vegetation for infrastructure and open pit mining	High (negative)	<ul style="list-style-type: none"> Clearance of vegetation must be limited as far as possible to only necessary areas; Tall dense vegetation that can conceal the Project from sensitive visual receptors, should as far as possible be left in place; and Dust suppression measures should be implemented 	Medium (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
				to limit the generation of dust. <ul style="list-style-type: none"> If at all possible, the mined out areas should be rehabilitated to a pre-mining topography. Mined out areas should be vegetated with indigenous species as soon as possible. This will to a degree, mitigate the visual intrusion of these areas on surround visual receptors. 	
		The movement of vehicles and heavy machinery likely to create a visual disturbance to surrounding visual receptors.	Medium (negative)	<ul style="list-style-type: none"> Tall vegetation along the sides of the roads at the site should not be removed, in order to conceal vehicular movement; and Dust suppression measures should be implemented to limit the generation of dust along roads. 	Low (Negative)
	Open pit mining, site clearance for infrastructure and associated access	The erection of mine infrastructure (plant, workshop, etc.) is likely to visually intrude on the landscape.	Medium (negative)	<ul style="list-style-type: none"> The height of the proposed mine infrastructure should be limited as far as possible; and Tall dense vegetation that can conceal the Project from sensitive visual receptors, should as far as possible be left in place. 	Low (negative)
Heritage and Palaeontology	Open pit mining, site clearance for infrastructure and associated access	Loss of or damage to heritage and/or palaeontological resources	High (negative)	<ul style="list-style-type: none"> Plan project to avoid any resources of significant importance. Training of workers regarding the heritage and cultural sites that may be encountered and about the need to conserve these. Fence off and limit access to the heritage and cultural sites that could be indirectly disturbed by mining activities. In the event that resources are identified, a chance find emergency procedure should be implemented. 	Low (negative)
Socio-economic	Open pit mining, site clearance for infrastructure and associated access roads as well as disturbances such as noise, vibrations, dust and increased human presence (and possible poaching)	Negative socio-economic Impacts (influx of jobseekers, impacts on daily living and movement patterns, safety and security risks, nuisance impacts (noise and dust), impact of heavy vehicles, including damage to roads and dust and potential loss of productive agricultural land, job losses at the end of the mining period).	Medium (negative)	<ul style="list-style-type: none"> Work together with residents to manage issues such as security. Employ local people and procure goods and services locally as far as practically possible. Avoid through implementation of preventative measures (e.g. consultation and communication). Avoidance and control through preventative measures (e.g. site security, code of conduct) and through mitigation measures (e.g. recruitment procedure, grievance mechanism and code of conduct). Minimise impacts of job loss through compensation, skills development and livelihood restoration. 	Low (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
	Open pit mining, site clearance for infrastructure and associated access roads as well as disturbances such as noise, vibrations, dust and increased human presence (and possible poaching)	Positive socio-economic Impacts (job creation, skills development, increase in business opportunities for the construction, industrial and jewellery industries, Gross Domestic Product (GDP) improvement and wealth generation and contribution to royalties and tax revenues)	Medium (positive)	<ul style="list-style-type: none"> Maximise positive impacts through optimisation of economic growth opportunities. Develop and implement procedures for recruiting, training and procurement that align with good industry practise. Employ local people and procure goods and services locally as far as practically possible. Effective communication to manage expectations with regard to employment and other opportunities. Ensure that closure planning considerations address the re-skilling of employees for the downscaling, early closure and long-term closure scenarios. 	High (positive)
Land-use	Operation of open pit mining activities	Change in land use affecting surrounding land uses	Medium (negative)	<ul style="list-style-type: none"> Effectively manage biophysical, cultural and socio-economic impacts. Effectively rehabilitate opencast mining areas in line with an approved rehabilitation plan that meets the post closure land use objectives and ensure successful rehabilitation as soon as mining is complete. Schedule the opencast mining operations in a manner that minimises cumulative impacts on receptors. Establish a stakeholder communication and grievance mechanisms for the duration of the mining operation. 	Low (negative)
Topography	Operation of open pit mining activities	Surface subsidence	Medium (negative)	<ul style="list-style-type: none"> Access control, barriers and warning signs at hazardous areas. Monitoring and maintenance post closure to observe whether the relevant long-term safety objectives have been achieved and to identify the need for additional intervention where the objectives have not been met. Where Pure Source Mine has caused injury or death to third parties and/or animals, appropriate compensation will be provided. In case of injury or death due to subsidence, an emergency response procedure must be implemented. 	Low (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
	Operation of open pit mining activities	Alteration in surface water drainage patterns leading to erosion and consequent increase in TSS in surrounding watercourses.	Medium (negative)	<ul style="list-style-type: none"> Stormwater management measures around the dumps, plant area, etc. are proposed; and Water quality sampling must be implemented upstream and downstream of construction areas. Specific parameters that should be monitored include TSS and turbidity. They should be kept within the baseline water quality range. 	Low (negative)
Surface water	Operation of open pit mining activities	Some of the proposed mining deposits occur within drainage lines. The function of these drainage lines is to drain the area during and post rainfall. Mining through drainage lines may result in flooding of pits and other infrastructure, as well as a loss of runoff reporting to the Vaal River.	Medium (negative)	<ul style="list-style-type: none"> According to Regulation 4 (a) and (b) of GN704, no mining should take place within a 100 m buffer of watercourses, or within the 1:50 and 1:100 year floodlines, unless exemption is obtained. Should mining be permitted within the drainage lines, then upstream runoff should be diverted around the open pits, to prevent any unnecessary flooding. 	Medium (negative)
Ground water	Operation of open pit mining activities	Reduction in groundwater quantity affecting third party users	High (negative)	<ul style="list-style-type: none"> Conduct groundwater monitoring and implement remedial actions where required. This includes compensation for mine related loss of third party water supply. This monitoring programme should include third party boreholes. Apply and operate in line with a water use license. <ul style="list-style-type: none"> Minimise water usage and optimise water recycling and treatment of dewatering water. 	Moderate (negative)
Land capability and agricultural potential	Operation of open pit mining activities	It is highly likely that groundwater will seep into the open pits, resulting in dirty water. The pits may also become flooded due to high seepage rates.	Medium (negative)	<ul style="list-style-type: none"> Dirty water from the pits should be dewatered for use at the plant. This should ensure that water levels within the pits are maintained at suitable levels. Dirty water should be kept in a closed system, to ensure that it does not report to the environment. 	Low (negative)
Water quantity	Operation of open pit mining activities	Loss of water volumes and a reduction of flows in the Vaal River	Medium (negative)	<ul style="list-style-type: none"> The plant is likely to have the highest water demands for the Project. Unnecessary pumping of water from the Vaal River must be avoided. This can be done through the recycling of water from groundwater seepage and runoff into the pits, for use at the plant. 	Low (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
Water quantity	Operation of open pit mining activities	Runoff from the plant area and stockpiles is likely to contain high levels of TSS and potentially high dissolved solids that could runoff into the environment.	Medium (negative)	<ul style="list-style-type: none"> A stormwater management plan must be designed and implemented that captures and contains dirty water runoff from the site, in accordance with the requirements stipulated in the GN704 Regulations. Dirty water captured, should be recycled and used at the plant, and should not be allowed to report to the environment. 	Low (negative)
Heritage and palaeontology	Operation of open pit mining activities	Loss of or damage to heritage and/or palaeontological resources	Medium (negative)	<ul style="list-style-type: none"> Plan project to avoid any resources of significant importance. Training of workers regarding the heritage and cultural sites that may be encountered and about the need to conserve these. Fence off and limit access to the heritage and cultural sites that could be indirectly disturbed by mining activities. In the event that resources are identified, a chance find emergency procedure should be implemented. 	Low (negative)
Air quality	Operation of open pit mining activities	Decrease in air quality from project emissions	Medium (negative)	<ul style="list-style-type: none"> Limit disturbed areas. Suppress dust effectively. Maintain equipment and vehicles in good working order. Monitor pollutants of concern and implement additional mitigation as required. Effective rehabilitation to achieve post closure land use. 	Medium (negative)
Visual	Operation of open pit mining activities	Open pit mining will result in depressions that will be approximately 10 m in depth, and will visually intrude on the surrounding landscape. Dust will be generated during mining activities.	High (negative)	<ul style="list-style-type: none"> Limit the extent of disturbed areas. Suppress dust to prevent a visual dust cloud. Effective waste management. Implement effective use of lighting which reduces light spill. Effective rehabilitation to achieve post closure land use. The use of berms where appropriate. 	Medium (negative)
	Operation of open pit mining activities	The development of stockpiles, as mining progresses, will visually intrude on the surrounding landscape.	Medium (negative)	<ul style="list-style-type: none"> The height of stockpiles should be limited as far as possible. 	Low (negative)
	Operation of open pit mining activities	The movement of vehicles and heavy machinery during the operational phase is likely to create a visual disturbance to surrounding visual receptors	Medium (negative)	<ul style="list-style-type: none"> Tall vegetation along the sides of the roads at the site should not be removed, in order to conceal vehicular movement; and Dust suppression measures should be implemented 	Low (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
				to limit the generation of dust along roads.	
Fauna	Operation of open pit mining activities	Loss of species of conservation concern and their habitat. Continued displacement, direct mortalities and disturbance of faunal community (including possible threatened species) due to habitat loss and disturbances (such as dust, poaching and noise)	High (negative)	<ul style="list-style-type: none"> Mitigation measures can be added to infrastructure. Monitoring impacts of operational activities on fauna so that adaptive management practises can be implemented if required. Restrict access to high biodiversity areas (drainage lines, wetlands etc) in the vicinity of mining operations. Implement training to ensure that all staff are aware of faunal sensitivity. Put protocols in place to deal with fauna that are encountered during operation. 	Medium (negative)
Economic	Operation of open pit mining activities	Project expenditure/investment	Low (positive)	<ul style="list-style-type: none"> The applicant's procurement processes, hiring and training of staff and other measures outlined in the Social and Labour Plan (SLP) should be implemented. 	Medium (positive)
	Operation of open pit mining activities	Economic development contributions	Low (positive)	<ul style="list-style-type: none"> No mitigation is recommended. The SLP appears to be aligned with local government's published planning imperatives and seeks to optimise benefits resulting from the applicant's participation in the local economy. 	Medium (positive)
	Operation of open pit mining activities	Tax, royalty and regulatory fees payments	Low (positive)	<ul style="list-style-type: none"> No mitigation measures are recommended. 	Medium (positive)
	Operation of open pit mining activities	Property values	High (negative)	<ul style="list-style-type: none"> Impacts on property values are primarily dependent on how the applicant's operations are designed, constructed and operated to minimise negative biophysical and social impacts and enhance positive ones. The measures recommended in other specialist reports to minimise negative impacts (primarily visual, air quality, noise, water quality, traffic and social measures) and enhance positive impacts would thus also reduce impacts on property values and should be implemented. 	Medium (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
	Operation of open pit mining activities	Tourism	High (negative)	<ul style="list-style-type: none"> Impacts on tourism are primarily dependent on how project operations are designed, constructed and executed to minimise negative biophysical and social impacts and enhance positive impacts. The measures recommended in other specialist studies to minimise negative impacts (primarily visual, air quality, noise, water quality, botanical, rehabilitation and social measures) and enhance positive impacts would thus also reduce impacts on tourism and should be implemented. These measures are not repeated here. Serious consideration should be given to funding tourism enhancement projects in collaboration with local tourism stakeholders as part of the mine's future Social and Labour Plan (SLP) contributions. This is a particular need given limited concerted efforts in this regard in the local area. Assistance could, for example, encompass tourism planning, promotion, capacity building, enterprise development and the provision of tourist facilities. 	Medium (negative)
Traffic	Operation of open pit activities	Road safety	High (negative)	<ul style="list-style-type: none"> Road markings, reflective road studs (LED), road signs and overhead lights should be provided and maintained at all the relevant intersections under investigation to ensure visibility during night time, proper visibility of intersection lane geometry and sufficient information to road users. Construct safe access points/intersections. Enforce strict vehicle speeds. If a person or animal is injured by transport activities an emergency response procedure must be implemented. In order to ensure that mined product and workers can be transported at all times with reference to Road S171, it is recommended that a Roads Maintenance Plan be prepared in collaboration with other land owners, developments and the relevant road authority. Road safety training for workers and local community. Continuous maintenance of fencing along relevant roads (proposed mining development can only take responsibility for fencing for properties they own). 	Low (negative)

Affected Environment	Activity	Impact Description	Significance	Mitigation measures/Recommendations	Significance after mitigation
Flora	Decommissioning activities, including removal of infrastructure and rehabilitation of mined areas	Further impacts due to the spread and/or establishment of alien and/or invasive species	High (negative)	<ul style="list-style-type: none"> Implementation of alien invasive plant management plan needs to be continued during decommissioning to prevent the growth of invasive species on rehabilitated areas. Rehabilitation of site with indigenous vegetation that occurs in the vicinity of Project area. 	Low (Negative)
Fauna	Decommissioning activities, including removal of infrastructure and rehabilitation of mined areas.	Continued displacement, direct mortalities and disturbance of faunal community (including possible threatened species) due to habitat loss and disturbances (such as dust, poaching and noise)	High (negative)	<ul style="list-style-type: none"> Any infrastructure that could have a negative impact on faunal species needs to be decommissioned and removed. 	Low (negative)
Economic	Decommissioning activities, including removal of infrastructure and rehabilitation of mined areas	Tourism	High (negative)	<ul style="list-style-type: none"> If one takes a sample of mines throughout South Africa, it is clear that rehabilitation effort and success can be highly variable even if all mines are required to abide by the same regulations. This variability can be seen when comparing both operating and closed mines. It therefore stands to reason that, with regards to minimising impacts, much will depend not only on how the applicant's EMP is conceived but critically and how it is implemented in partnership with the relevant authorities and other stakeholders. Rehabilitation needs to be rigorously applied and adequately funded both concurrently and at closure, especially to minimise visual scarring and other tourism risks. 	Low (negative)

17. MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED

Three alternative sites have been investigated for the project. As such, this section is not applicable.

18. STATEMENT MOTIVATING THE ALTERNATIVE DEVELOPMENT LOCATION WITHIN THE OVERALL SITE

As discussed in Section 12, Site Alternative 1 (Site 1) is the preferred site for the project. Site 1 is located near the south eastern border of Remaining Extent of Portion 1 of Woodlands 407 on a disturbed area (Figure 1 and Figure 10). The site is strategically placed to be in close proximity to the main sand resource, the S171 tar road and power supply. The footprint of the infrastructure (excluding roads, power line and water supply) is approximately 13.5 ha.

Advantages:

- The site is currently disturbed and no additional encroachment on natural vegetation will be required.
- This location will have the least impact on the migration patterns of the game that roam on the farm due to the fact that previous mining occurred in this area. It is also near the perimeter of the farm, bordered by fenced agricultural fields on two sides.
- It is in close proximity to existing infrastructure such as a public road network and power supply, therefore minimising construction and operational impacts.
- It is in close proximity to the main sand deposit which in turn requires the least distance for transporting material.
- The site and proposed mine layout, provides a safe separation between active mining in the pit, and vehicle circulation for product collection.
- The site is furthest away from the nearest residential development.

Disadvantages:

- The site is fairly exposed and visible from potential sensitive viewpoints.

19. REHABILITATION

Rehabilitation from the mining industry perspective means the disturbed areas will adhere to a pre-determined plan or fulfil a function that is sustainable and usable. It recognises that extraction of a resource will occur and that the original topography will be altered. The basic requirements for rehabilitation are to construct a stable, safe and functioning environment, post mining. The intention is not to restore the original topography, but to sculpt the mined areas to facilitate various ecological habitats.

The end land use is proposed to be an Eco-Estate for which an Environmental Authorisation was obtained, with residential, resort and conservation land uses. The mined area will ultimately leave behind voids that, with careful planning, will be converted into artificial wetlands or water courses. These watercourses will be beneficial within the estate's vision. In addition, the conversion of the mine voids into artificial wetlands or water courses will result into a nett gain in biodiversity that should have a positive impact.

The application area is currently utilised as a game farm and this will continue to remain the primary land use with other agricultural activities such as crop production. Mining is an interim land use and it will be conducted in a sensitive manner that will not have a negative impact on the game.

Progressive rehabilitation will follow the mining activity. Rehabilitation will start the year after the extraction of the resource is completed in the block of that year (as illustrated in Figures 2 to 4). Four basic phases usually accompany rehabilitation, namely:

1. Bulk earthworks.
2. Topsoil spreading and fine grading.
3. Re-vegetation either by seeding or planting by hand depending on the post-closure vision requirements, i.e. establishing grazing or an artificial wetland.
4. Monitoring.

20. FINANCIAL PROVISION

The requirement for final rehabilitation, decommissioning and closure stems primarily from the legislative requirements of the MPRDA and NEMA. On 20th November 2015 the Minister promulgated the Financial Provisioning Regulations under the NEMA. The Regulations aim to regulate the determination of Financial Provision as contemplated in the NEMA for the costs associated with the undertaking of management, rehabilitation and remediation of environmental impacts from, prospecting, exploration, mining or production operations through the lifespan of such operations and latent or residual environmental impacts that may become known in the future. These regulations provide for, inter alia:

- Determination of Financial Provision: An Applicant or holder of a right or permit must determine and make Financial Provision to guarantee the availability of sufficient funds to undertake rehabilitation and remediation of the adverse environmental impacts of prospecting, exploration, mining or production operations, as contemplated in the Act and to the satisfaction of the Minister responsible for mineral resources.
- Scope of the Financial Provision: Rehabilitation and remediation; decommissioning and closure activities at the end of operations; and remediation and management of latent or residual impacts.
- Regulation 6: Method for determining Financial Provision – An applicant must determine the Financial Provision through a detailed itemisation of all activities and costs, calculated based on the actual costs of implementation of the measures required for:
 - Annual rehabilitation – annual rehabilitation plan.
 - Final rehabilitation, decommission and closure at end of life of operations – rehabilitation, decommissioning and closure plan.
 - Remediation of latent defects.
- Regulation 10: An applicant must-
 - Ensure that a determination is made of the Financial Provision and the plans contemplated in regulation 6 are submitted as part of the information submitted for consideration by the Minister responsible for mineral resources of an application for environmental authorisation, the associated environmental management programme and the associated right or permit in terms of the Mineral and Petroleum Resources Development Act, 2002.
 - Provide proof of payment or arrangements to provide the Financial Provision prior to commencing with any prospecting, exploration, mining or production operations.
- Regulation 11: Requires annual review, assessment and adjustment of the Financial Provision. The review of the adequacy of the Financial Provision including the proof of payment must be independently audited (annually) and included in the audit of the EMPR as required by the EIA Regulations.

Appendix 4 of the Financial Provisioning Regulations provides the minimum content of a final rehabilitation, decommissioning and closure plan (FRDCP).

20.1 Other Guidelines

The following additional guidelines which relate to Financial Provisioning and closure have been published in the South African context:

- Best Practice Guideline G5: Water Management Aspects for Mine Closure: This guideline was prepared by the DWS and aims to provide a logical and clear process that can be applied by mines and the competent authorities to enable proper mine closure planning that meets the requirements of the relevant authorities. The following technical factors which should be considered during closure, and which are likely to relate to mining activities, have been considered:
 - Land use plan: directly interlinked with water management issues insofar as water is required to support the intended land use- in this regard the surrounding communities and the land uses implemented rely on available ground and surface water to be sustained.
 - Public participation and consultation: consultation is fundamental to closure and there is a need for full involvement of stakeholders in the development of the final closure plans, and in the agreement of closure objectives.
- Guideline for the Evaluation of the Quantum of Closure Related Financial Provision Provided by a Mine: The objectives of the guideline include the need to improve the understanding of the financial and legal aspects pertaining to the costing of remediation measures as a result of mining activities. Whilst this guideline predates the recent NEMA Financial Provisioning Regulations, it does contain certain principles and concepts that remain valid.

20.2 Calculation Methodology

The Financial Provision was calculated in accordance with the legislative requirements presented above. A Financial Provision model has been compiled using Microsoft Excel which comprises:

- An input sheet, containing measurements of the infrastructure.
- A standard rate sheet.
- A summary sheet, which summarises the costs for closure.

This model calculates the cost of demolishing, removing and rehabilitating each component of the mining area infrastructure. For ease of reference, Table 31 highlights the mining footprint, and the associated components and/or infrastructure.

Table 31: Mining footprint and associated components and infrastructure.

Area	Components and/or Infrastructure
Remaining Extent (RE) of the farm Woodlands 407	Full Extent Sand Deposit Full Extent Aggregate Resource Year 18 Central Aggregate Resource
RE of Portion 1 of the farm Woodlands 407	Plant Fuel Storage Workshop Pollution Control Dam Main Sand Deposit Central Aggregate Resource Main Sand Deposit and Final Void Northern Sand Deposit Final Void

Area	Components and/or Infrastructure
	South Western Aggregate Resource Final Void
Portion 3 of the farm Woodlands 407	Eastern Sand Aggregate Deposit
Linear Infrastructure	Access Road Powerlines Water Supply Line Cut-off Trench

20.3 Calculation of Financial Provision

The estimated Financial Provision required for the rehabilitation and closure of the Project is R 14 821 429 (LoM) Excl. VAT. A summary of the Financial Provision estimates is presented in Table 32.

Table 32: Financial Provision summary.

Area and Description	End of Life 2047
<u>Infrastructure and Rehabilitation</u>	
Area 1: Portion 3 farm Woodlands 407	R0
Area 2: Remaining Extent of Portion 1 farm Woodlands 407	R8 646 256
Area 3: Remaining Extent of farm Woodlands 407	R0
Area 4: Linear Infrastructure	R2 476 373
Sub-total	R11 122 629
<u>Monitoring and Maintenance</u>	
Monitoring Costs (Groundwater and Surface water 3 Years)	R622 500
Monitoring Costs (Vegetation 3 Years)	R20 593
Maintenance Costs (Vegetation 3 Years)	R608 728
Sub-total	R1 251 821
Project Management (12%)	R1 334 716
Contingency (10%)	R1 112 263
GRAND TOTAL (Excl. VAT)	R14 821 429

21. PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT

The section below outlines the proposed plan of study which will be conducted for the various environmental aspects during the EIA phase. The plan of study has been compiled by the specialist consultants contracted to the project with select input from Shango Solutions. It is also important to note that the plan of study will also be guided by comment obtained from I&APs and other stakeholders during the PPP.

21.1 Description of Impacts to be Assessed in EIA

The following aspects will be assessed further during the EIA phase investigation to be undertaken:

- Soil, Land Capability and Agricultural Potential.
- Ecology (Fauna, Avifauna and Flora).
- Terrestrial Biodiversity
- Aquatics and Wetland Biodiversity.
- Hydrology including Floodlines and Buffer Zone Calculations
- Financial Provision and Final Rehabilitation, Decommissioning and Closure Plan.
- Geohydrology and Waste Classification.
- Noise and Air Quality.
- Palaeontology.
- Heritage.
- Social.
- Economic including a cost benefit analysis and comparative land use.
- Visual.
- Traffic.

21.2 Description of Specialist Studies

21.2.1 Air Quality and Noise

The main aim of this investigation is to provide the basis for the Air Quality and the Noise Impact Assessment Plans to be conducted for the proposed Pure Source Mine. The following will be included in the Air Quality Impact Assessment Study:

- The identification of air quality sensitive receptors from available maps.
- A study of atmospheric dispersion potential by referring to available weather records or simulated hourly sequential meteorological data for a period of at least 3 years (required for dispersion modelling), land use and topography data.
- A review of emission limits, ambient air quality criteria, inhalation reference concentrations, cancer risk factors and dust control regulations.
- Available ambient air quality data.
- The establishment of an atmospheric emissions inventory for the proposed operation. Pollutants quantified will include particulate matter (TSP, PM10 and PM2.5), gaseous pollutants i.e. carbon monoxide (CO), oxides of nitrogen (NO_x) and sulphur dioxide (SO₂) as well as selected metals. Use will be made of design emission standards, emissions factors published by the United States Environmental Protection Agency (US EPA) and Australian National Pollutant Inventory (NPI).
- Atmospheric dispersion modelling to determine ambient air pollutant concentrations. The US EPA AERMOD model will be used.

- The screening of simulated ambient pollutant concentrations against National Ambient Air Quality Standards (NAAQSs), National Dust Control Regulations (NDCRs) and other applicable air quality criteria.

A climate change assessment will not be conducted as part of the air quality impact assessment. However, greenhouse gas emissions from the mining operations will be included in emissions inventory.

A detailed Noise Impact Assessment Study will form part of the EIA specialist studies. The following components will form part of the study:

- A two (2) day site visit to collect baseline noise data.
- Baseline noise measurements will be conducted according to the South African National Standards (SANS 10103:2008) 'The measurement and rating of environmental noise with respect to annoyance and to speech communication'. Measurements will be conducted during the day and night at locations representative of the noise climate and at sensitive receptors. Measurement time intervals will be so chosen that the results are representative of the noise climate, taking into account variations in weather conditions and variations existing noise levels.
- Noise emissions from the project's operational phases will be estimated. The propagation of noise from the project will be calculated according to SANS 10357:2004, 'The calculation of sound propagation by the Concawe method'. The Concawe method makes use of the International Organisation for Standardization's (ISO) air absorption parameters and equations for noise attenuation as well as the factors for barriers and ground effects. In addition to the ISO method, the Concawe method facilitates the calculation of sound propagation under a variety of meteorological conditions. Data representative of conditions in the study area and obtained from the air quality study will be applied in the calculations.
- Noise impacts will be calculated both in terms of total ambient noise levels as a result of the project as well as the effective change in ambient noise levels. Impacts will be calculated and assessed according to guidelines provided by the International Finance Corporation (IFC).

All sources of noise associated with the Pure Source Mine will be quantified and noise propagation modelling undertaken using the CadnaA model. Three scenarios have been identified to assess the worst case noise impacts when the mining operations are closest to noise receptor locations. These three scenarios will be for mining operations during years 12, 18 and 29. Contour plots will be generated for the three scenarios and simulated noise levels (both cumulative and increase from baseline) compared to applicable standards and guidelines. Based on the impact assessment management and mitigation measures will be recommended and suitable monitoring locations identified and recommended. It is noted that baseline noise levels are much lower in winter due to the absence of insects. This will be considered during the noise impact assessment.

21.2.2 Human and Animal Health

- Alpha quartz (silica) concentrations will be modelled and assessed against international health screening criteria during the full air quality impact assessment.
- Ambient particulate and gaseous concentrations due to the mining operations will be assessed during the air quality impact assessment.
- The Vaal River will be included in the assessment of dust fallout impacts. It should be noted that silica is only harmful when inhaled and is not harmful if it lands up in the river.
- Dust fallout on animals and vegetation will be qualitatively assessed. It should be noted that alpha quartz (silica) is only harmful when inhaled and is not considered harmful through ingestion or dermal contact.

21.2.3 Economic Impact

An Economic Impact Assessment will be undertaken in order to establish the existing economic environment affected by the proposed project. The impact assessment will comprise the following steps:

- Provide a profile/baseline of the existing economic context within which the project would be established.
- Identify significant economic impacts for assessment.
- Assess significant economic impacts without mitigation.
- Recommend appropriate management and mitigation measures.
- Re-assess impacts assuming mitigation measures are implemented.

The study will assess the impacts of the project focusing primarily on the local and regional scales. Adverse, positive, direct and indirect impacts will be identified for the establishment, operational and decommissioning phases.

21.2.4 Comparative Land Use Assessment

An evaluation (cost-benefit analysis) of the proposed sand, gravel and alluvial diamond mining will be compared with other reasonable/feasible alternative land uses (such as agriculture, tourism and eco-tourism) in order to determine if mining would be the optimum sustainable land use over the application area.

21.2.5 Financial Provision and Final Decommissioning, Rehabilitation and Closure Plan

A Financial Provision Assessment will be undertaken during the EIA phase. The following scope of work applies for the Financial Provision Assessment:

- Review of available information and specialist environmental assessments completed as part of the project.
- Infrastructure mapping.
- Development of a project specific Financial Provision cost model in Microsoft Excel.
- Calculation of a Financial Provision estimate for planned activities.
- Compilation of a Financial Provision report.
- Compilation of a Final Decommissioning, Rehabilitation and Closure Plan as per the minimum content prescribed by Appendix 4 of GN R1147.
- Compilation of an Environmental Risk Report as per the requirements of Appendix 5 of GN R1147.

21.2.6 Hydrogeology and Geochemistry

The Hydrogeological and Geochemical Specialist Study to be compiled by Noa8 Agencies for the proposed Pure Source Mine will address affective mitigation and water management principles. The assessment process will comprise four phases, namely

- Phase A: Data evaluation and hydrocensus user survey.
- Phase B: Geochemical modelling and analyses for detailed waste classification.
- Phase C: Construction of a detailed numerical groundwater flow model: Dewatering and contaminant transport modelling.
- Phase D: Geohydrological assessment, reporting and cumulative impact assessments.

21.2.7 Hydrology

The following will be undertaken during the EIA phase of the project for the surface water study:

- Surface water quality sampling and assessment.
- Development of a conceptual Stormwater Management Plan (SWMP) in accordance with the DWS Best Practice Guideline G1: Storm Water Management and GN704 Regulations. The primary purpose of the

SWMP is to ensure that clean (non-impacted water) and dirty water (mine impacted water) are clearly separated in accordance with the above mentioned Guideline and Regulations.

- Determination of the 1:50 and 1:100 year floodlines.
- Development of a water balance according to the DWS Best Practice Guideline G2: Water and Salt Balances. The water balance will provide the sources and water volumes required for the mine.
- An assessment of the potential surface water impacts and possible mitigation measures.
- Development of monitoring plans that can be used to monitor potential impacts resulting from the proposed mine.

21.2.8 Pedology, Land Capability and agricultural Potential

A soil survey will be undertaken to determine the actual agricultural potential. A soil auger will be used to determine the soil form/family and depth. The soil will be hand augured to the first restricting layer or 1.5 m. Soil survey positions will be recorded as waypoints using a handheld GPS. Soils will be identified to the soil family level as per the "Soil Classification: A Taxonomic System for South Africa" (Soil Classification Working Group, 1991). Landscape features such as existing open trenches will also be helpful in determining soil types and depth.

21.2.9 Ecology (Fauna, Avifauna and Flora)

An Ecology Assessment will be undertaken during the EIA phase in order to assess potential impacts on the ecological receiving environment. A field survey will be undertaken in order to identify fauna, flora and habitat features (caves and ridges) within the proposed project area. The survey will include the project site and a 200 m radius.

21.2.10 Aquatic and Wetland Biodiversity

Wetland areas will be delineated as part of the Wetland Biodiversity Assessment. The Present Ecological Status and Ecological Importance and Sensitivity of the rivers and wetlands within the proposed project area will be ascertained. Furthermore, an appropriate buffer zone will be determined and a description of the wetland ecological services provided.

A field survey will be undertaken as part of the Aquatic Biodiversity Assessment. The survey will include the following:

- An assessment of the local biota to determine the health of the system.
- A level 3 EcoStatus assessment (including the South African Scoring System Version 5) of the river system.
- The delineation of any riparian areas.

The ecological classification (EcoClassification) of the systems will require the determination and categorisation of the Present Ecological State (PES; health or integrity) of individual biophysical attributes, and then comparing these findings to the natural or close to natural reference conditions. These biophysical attributes refer to the drivers and biological responses of an aquatic ecosystem.

21.2.11 Visual

During the EIA phase, a Visual Impact Assessment will be conducted to identify the visual impacts of the proposed project on the surrounding environment. The project will be investigated in terms of the visual characteristics of the receiving environment.

At a desktop level, aerial photography will be analysed to characterise the landscape. In addition, a viewshed analysis will be undertaken to establish the degree of visibility that the proposed infrastructure is likely to have. Information gathered during the site visit to be undertaken will be used to determine the zone of influence and

refine the viewshed model for daytime and night-time scenarios. Furthermore, the visual impacts will be assessed and mitigation measures proposed.

21.2.12 Social

Primary and secondary data sources will be utilised to inform the study in aid of the objectives of the study. Primary data sources for the SEIA will include the following:

- A site visit will be undertaken. Observations will also be made while on site and within the study area.
- Meetings will be undertaken to collect information from representatives of key stakeholder groups. These included individuals both directly and indirectly associated with the proposed development. The meetings will mostly be undertaken face-to-face and where not possible telephonically. A project specific questionnaire will be developed and utilised for the semi-structured interviews. These meetings will form the basis of the primary data collection and assist with the gathering of baseline information as well as establishing the stakeholder's perceptions, interests and concerns on the proposed development.
- Secondary data collection methods mostly centred on desktop study will be gathered and analysed for the purpose of the study, in which the following documents will be examined:
 - Project maps.
 - A desktop aerial study of the affected area through the use of Google Earth.
 - The background information document (BID).
 - The 2011 South African Census Survey and the Local Government Handbook.
 - Planning documentation such as District Municipality (DM) Integrated Development Plans (IDPs), Spatial Development Framework (SDF) and Environmental Management Framework (EMF) as well as the Local Municipality (LM) IDPs and policies.
 - Relevant guidelines, policies and plan frameworks.
 - Other similar specialist studies and relevant information where there have been cross-cutting issues, such as the EIAs undertaken for previous mining activities in the Free State Province and other parts of South Africa.
 - Literature reviews of social issues associated with mining projects.

Information that is relevant to the development will be identified and assessed from these sources within the context of the pre-construction, construction, operational and decommissioning phases of the proposed Pure Source Mine Project.

21.2.13 Traffic

A detailed traffic study will form part of the EIA specialist studies. The scope of the work is as follows:

- Gather all required information on relevant project including conducting site visit.
- Conduct 12-hour manual traffic counts at relevant intersections on a month-end Friday.
- Conduct detailed trip generation and distribution calculations.
- Conduct detailed intersection performance evaluations (Sidra).
- Provide basic geometric design input in terms of access intersection.
- Liaise with all relevant parties.
- Prepare memorandum containing findings and recommendations (Traffic Impact Assessment).

21.3 Environmental Impact Assessment Process

21.3.1 Method of Assessing Impact Significance

The impact assessment methodology is guided by the requirements of the NEMA 2014 EIA Regulations (as amended). The broad approach to the significance rating methodology is to determine the Environmental Risk

(ER) by considering the Consequence (C) of each impact (comprising Nature, Extent, Duration, Magnitude, and Reversibility) and relate this to the Probability/Likelihood (P) of the impact occurring. This determines the environmental risk. In addition, other factors, including cumulative impacts, public concern, and potential for irreplaceable loss of resources, are used to determine a Prioritisation Factor (PF) which is applied to the ER to determine the overall Significance (S).

21.3.2 Determination of Environmental Risk

The significance (S) of an impact is determined by applying a Prioritisation Factor (PF) to the Environmental Risk (ER).

The Environmental Risk is dependent on the Consequence (C) of the particular impact and the Probability (P) of the impact occurring. Consequence is determined through the consideration of the Nature (N), Extent (E), Duration (D), Magnitude (M), and reversibility (R) applicable to the specific impact.

For the purpose of this methodology the consequence of the impact is represented by:

$$C = (E+D+M+R) \times N$$

4

Each individual aspect in the determination of the consequence is represented by a rating scale as defined in Table 33.

Table 33: Criteria for determination of impact consequence.

Aspect	Score	Definition
Nature	- 1	Likely to result in a negative/ detrimental impact
	+1	Likely to result in a positive/ beneficial impact
Extent	1	Activity (i.e. limited to the area applicable to the specific activity)
	2	Site (i.e. within the development property boundary),
	3	Local (i.e. the area within 5 km of the site),
	4	Regional (i.e. extends between 5 and 50 km from the site)
	5	Provincial / National (i.e. extends beyond 50 km from the site)
Duration	1	Immediate (<1 year)
	2	Short term (1-5 years)
	3	Medium term (6-15 years)
	4	Long term (the impact will cease after the operational life span of the project),
	5	Permanent (no mitigation measure of natural process will reduce the impact after construction).
Magnitude/ Intensity	1	Minor (where the impact affects the environment in such a way that natural, cultural and social functions and processes are not affected)
	2	Low (where the impact affects the environment in such a way that natural, cultural and social functions and processes are slightly affected)
	3	Moderate (where the affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way)
	4	High (where natural, cultural or social functions or processes are altered to the extent that it will temporarily cease) or

Aspect	Score	Definition
	5	Very high / don't know (where natural, cultural or social functions or processes are altered to the extent that it will permanently cease)
Reversibility	1	Impact is reversible without any time and cost
	2	Impact is reversible without incurring significant time and cost
	3	Impact is reversible only by incurring significant time and cost
	4	Impact is reversible only by incurring prohibitively high time and cost
	5	Irreversible Impact

Once the C has been determined the ER is determined in accordance with the standard risk assessment relationship by multiplying the C and the P. Probability is rated/scored as per Table 34.

Table 34: Probability scoring.

Probability	1	Improbable (the possibility of the impact materialising is very low as a result of design, historic experience, or implementation of adequate corrective actions; <25%),
	2	Low probability (there is a possibility that the impact will occur; >25% and <50%),
	3	Medium probability (the impact may occur; >50% and <75%),
	4	High probability (it is most likely that the impact will occur- > 75% probability), or
	5	Definite (the impact will occur),

The result is a qualitative representation of relative ER associated with the impact. ER is therefore calculated as follows (Table 35):

$$ER = C \times P$$

Table 35: Determination of environmental risk.

Consequence	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
Probability						

The outcome of the environmental risk assessment will result in a range of scores, ranging from 1 through to 25. These ER scores are then grouped into respective classes as described in Table 36.

Table 36: Significance classes.

Environmental Risk Score	
Value	Description
< 10	Low (i.e. where this impact is unlikely to be a significant environmental risk),
≥ 10; < 20	Medium (i.e. where the impact could have a significant environmental risk),
≥ 20	High (i.e. where the impact will have a significant environmental risk).

The impact ER will be determined for each impact without relevant management and mitigation measures (pre-mitigation), as well as post implementation of relevant management and mitigation measures (post-mitigation). This allows for a prediction in the degree to which the impact can be managed/ mitigated.

21.3.3 Impact Prioritisation

In accordance with the requirements of Appendix 3(1)(j) of the NEMA 2014 EIA Regulations (GNR 326, as amended), and further to the assessment criteria presented in the Section above it is necessary to assess

- Each potentially significant impact in terms of: cumulative impacts.
- The degree to which the impact may cause irreplaceable loss of resources.

In addition, it is important that the public opinion, sentiment regarding a prospective development and consequent potential impacts is considered in the decision making process.

In an effort to ensure that these factors are considered, an impact prioritisation factor (PF) will be applied to each impact ER (post-mitigation). This prioritisation factor does not aim to detract from the risk ratings but rather to focus the attention of the decision-making authority on the higher priority/ significance issues and impacts. The PF will be applied to the ER score based on the assumption that relevant suggested management/mitigation impacts are implemented (Table 37).

Table 37: Criteria for the determination of prioritisation.

Public response (PR)	Low (1)	Issue not raised in public response.
	Medium (2)	Issue has received a meaningful and justifiable public response.
	High (3)	Issue has received an intense meaningful and justifiable public response.
Cumulative Impact (CI)	Low (1)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is unlikely that the impact will result in spatial and temporal cumulative change.
	Medium (2)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is probable that the impact will result in spatial and temporal cumulative change.
	High (3)	Considering the potential incremental, interactive, sequential, and synergistic cumulative impacts, it is highly probable/definite that the impact will result in spatial and temporal cumulative change.
Irreplaceable loss of resources (LR)	Low (1)	Where the impact is unlikely to result in irreplaceable loss of resources.
	Medium (2)	Where the impact may result in the irreplaceable loss (cannot be replaced or substituted) of resources but the value (services and/or functions) of these resources is limited.
	High (3)	Where the impact may result in the irreplaceable loss of resources of high value (services and/or functions).

The value for the final impact priority is represented as a single consolidated priority, determined as the sum of each individual criterion. The impact priority is therefore determined as follows:

$$\text{Priority} = \text{PR} + \text{CI} + \text{LR}$$

The result is a priority score which ranges from 3 to 9 and a consequent PF ranging from 1 to 2 (Table 38).

Table 38: Determination of prioritisation factor.

Priority	Ranking	Prioritisation Factor
3	Low	1
4	Medium	1.17
5	Medium	1.33
6	Medium	1.5
7	Medium	1.67
8	Medium	1.83
9	High	2

In order to determine the final impact significance the PF is multiplied by the ER of the post mitigation scoring. The ultimate aim of the PF is to be able to increase the post mitigation environmental risk rating by a full ranking class, if all the priority attributes are high (i.e. if an impact comes out with a medium environmental risk after the conventional impact rating, but there is significant cumulative impact potential, significant public response, and significant potential for irreplaceable loss of resources, then the net result would be to upscale the impact to a high significance (Table 39).

Table 39: Environmental significance rating.

Environmental Significance Rating	
Value	Description
< -10	Low negative (i.e. where this impact would not have a direct influence on the decision to develop in the area).
$\geq -10 < -20$	Medium negative (i.e. where the impact could influence the decision to develop in the area).
≥ -20	High negative (i.e. where the impact must have an influence on the decision process to develop in the area).
0	No impact
< 10	Low positive (i.e. where this impact would not have a direct influence on the decision to develop in the area).
$\geq 10 < 20$	Medium positive (i.e. where the impact could influence the decision to develop in the area).
≥ 20	High positive (i.e. where the impact must have an influence on the decision process to develop in the area)

21.3.4 Evaluation of Impacts and Mitigation Measures

The significance of environmental impacts will be rated before and after the implementation of mitigation measures. These mitigation measures may be existing measures of additional measures that may arise from the impact assessment and specialist input. The impact rating system considers the confidence level that can be placed on the successful implementation of the mitigation. The impact assessment methodology enables the assessment of environmental issues including: the severity of impacts (including the nature of impacts and the degree to which impacts may cause irreplaceable loss of resources), the extent of the impacts, the duration and reversibility of impacts, the probability of the impact occurring and the degree to which the impacts can be mitigated.

The specialist studies will recommend practicable mitigation measures or management actions that effectively minimise or eliminate negative impacts, enhance beneficial impacts and assist project design. If appropriate, the studies will differentiate between essential mitigation measures, which must be implemented and optional mitigation measures, which are recommended.

21.4 Public Consultation Process in Environmental Assessment

An overview of the proposed public participation process to be followed for the EIA phase is provided below. Forecast dates provided below may change as the project progresses. However, authority submission deadlines will be strictly adhered to. The commenting periods that will be provided to I&APs will be thirty (30) days long. Two commenting periods will be provided during the project for the Scoping Report and the EIA Report and EMPR.

Feedback from I&APs has been and will be solicited through the following means:

- Open Days.
- Advertisements.
- Site notices and posters.
- Registered mail, faxes and e-mails.
- Completion of the I&AP registration form.
- Any other communication with Shango Solutions.

The Public Participation Process was initiated on the 8th October 2018 with an initial notification and call to register period ending on the 9th November 2018. All comments received to date have been included in this Final Scoping Report that is submitted to the DMR, for review and decision-making. This report has also been made available to the public for review and comment for at least 30 days, starting from the 14th December 2018 to the 6th February 2019.

The dates of the review and commenting period for the draft EIA report and associated EMPR will be determined at a later stage and communicated to all registered I&APs.

21.4.1 Consultation Process with Competent Authority

The conditions of the scoping approval from the competent authority (if any) will be implemented through the EIA process. A site visit and meeting with the competent authority shall be held, if requested. The Department Environmental Affairs will be invited to all public-feedback meetings/open days to be held. The EIA Report and EMPR will be submitted to the Department Environmental Affairs in both draft and final formats.

21.5 Description of EIA Tasks

The plan of study in terms of certain aspects is detailed in the above sections and summarized below. The following tasks will be undertaken as part of the EIA phase of the project:

- Specialist studies:
 - Soil, Land Capability and Agricultural Potential.
 - Ecology (Fauna, Avifauna and Flora).
 - Terrestrial Biodiversity
 - Aquatics and Wetland Biodiversity.
 - Hydrology including Floodlines and Buffer Zone Calculations
 - Financial Provision and Final Rehabilitation, Decommissioning and Closure Plan.
 - Geohydrology and Waste Classification.
 - Noise and Air Quality.
 - Palaeontology.
 - Heritage.
 - Social.
 - Economic including a cost benefit analysis and comparative land use.
 - Visual.
 - Traffic.

- Public consultation:
 - Notification regarding availability of EIA Report and EMPR.
 - Open Day (EIA Phase).
- Authority consultation:
 - Authorities meeting to provide authorities with project related information and obtain their feedback (if requested).
- Document compilation:
 - The EIA Report and EMPR will be compiled in line with the requirements of Appendix 3 and 4 of the EIA (2014) Regulations (as amended).
 - The EIA Report and EMPR will be made available for public comment for a period of at least 30 days.
 - The EIA Report and EMPR will be finalised and submitted to the competent authority.

22. SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

No additional information was requested or is deemed necessary.

23. UNDERTAKING

The EAP herewith confirms:

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



Signature of the Environmental Assessment Practitioner:

Shango Solutions

Name of company (if applicable):

14 December 2018

Date:

The Applicant herewith confirms:

- (a) The person whose name is stated below is the person authorised to act as representative of the Applicant in terms of the resolution submitted with the application.



Signature of the applicant / Signature on behalf of the applicant:

Monte Cristo Commercial Park (Pty) Ltd

Name of company:

14 December 2018

Date:

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