mineral resources

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

# BASIC ASSESSMENT REPORT
# and
# ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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

NAME OF APPLICANT: **Tashmarie Granite (Pty) Ltd.**
TEL NO: **081 722 7310**
FAX NO: -
POSTAL ADDRESS: **Plot 965, Kareepoort, Brits, 0001**
FILE REFERENCE NUMBER SAMRAD: **NW 30/5/1/3/2/11135 MP**

## 1. IMPORTANT NOTICE

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

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

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

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

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

## 2. Objective of the basic assessment process

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

(a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

(b) identify the alternatives considered, including the activity, location, and technology alternatives;

(c) describe the need and desirability of the proposed alternatives,

(d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on Mining determining the geographical, physical, biological, social, economic, heritage , and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine:

(i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

(ii) the degree to which these impacts—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be managed, avoided or mitigated;

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

(i) identify and motivate a preferred site, activity and technology alternative;

(ii) identify suitable measures to manage, avoid or mitigate identified impacts; and

iii) identify residual risks that need to be managed and monitored.

## PART A

## SCOPE OF ASSSSMENT AND BASIC ASSESSMENT REPORT

### 3. CONTACT PERSON AND CORRESPONDENCE ADDRESS

#### a) DETAILS OF -

#### (i) Details of the EAP how prepared the report

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(a)(i)*

Name of the Practitioner:
DERA Environmental Consultants (Pty) Ltd
Ms. Esna Erasmus
Tel No.: 018-468 5355
Fax No. : 018-011 3760
E-mail address:dera.office@dera.co.za

#### (ii) Expertise of the EAP

##### i. The qualifications of the EAP

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(a)(ii)*

The EAP, Ms HM (Esna) Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management. She also completed the subjects for her Master Degree in Environmental Analysis & Management at NWU. See **Figure 1 & 2** for copies of his qualifications and CV. She is further registered at the International Association for Impact Assessment South Africa (***IAIAsa***), ***membership No: 6502*** and is registered at Environmental Assessment Practitioners Association of South Africa (**EAPASA**), ***registration No: 2020/2909***.

Environmental Assessment Practitioners Association of South Africa

Registration No. 2020/2909

*Herewith certifies that*

Hester (Esna) Magdalena Erasmus

*is registered as an*

Environmental Assessment Practitioner

*Registered in accordance with the prescribed criteria of Regulation 15. (1) of the Section 24H Registration Authority Regulations (Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended).*

Effective: 01 March 2022 Expires: 28 February 2023

Chairperson Registrar

SAQA

**Figure 1 – Copy of Qualification**

# TECHNIKON PRETORIA

## NASIONALE NATIONAL DIPLOMA

**LANDBOU: HULPBRONBENUTTING** **AGRICULTURE: RESOURCE UTILISATION**

Toegeken aan Awarded to

**HESTER MAGDALENA CLAASE**

95057691 1975-04-03

met ingang van with effect from

1998-01-01

Registrateur (Akademies)
Registrar (Academic)

Rektor/Rector

No.
№ 30054

**Figure 2**

# TECHNIKON PRETORIA

## BACCALAUREUS TECHNOLOGIAE

**LANDBOUBESTUUR** **AGRICULTURAL MANAGEMENT**

Toegeken aan Awarded to

**HESTER MAGDALENA CLAASE**

95057691 1975-04-03

met ingang van with effect from

2000-12-15

Registrateur (Akademies)
Registrar (Academic)

Rektor/Rector

E 6280

iii. **Summary of the EAP's past experience.**

HM (Esna) Erasmus (maiden name Claase) is an environmental practitioner with 24 years' experience in Agricultural and Mining Management and Science. Experience in the field of inspection and evaluation of Environmental Impact Assessment in North West. Since 1998 involvement in Mining activities with Department of Minerals and Energy in the North West Province as representative for National Department of Agriculture Dir. LRM in the following: Evaluation of Environmental Management Reports Inspection and evaluation of all different Mining entities in North West Province. A member of the Slimes Dam Core Committee of North West Province. Involved in the compiling of a strategy for rehabilitation of Gold slime Dams in NW. Give inputs and comments on the revision of EMPR for small scale diamond Mining. Involve in setting a strategy to encounter the impact of small scale mining on the environment in North West. See **Figure 3** below Curriculum Vitae of H.M. Erasmus.

**Figure 3** – Copy of Curriculum Vitae

# ESNA ERASMUS

ENVIRONMENTAL PRACTITIONER

## CONTACTS

esnae@dera.co.za

+27 83 4525917

Linkedin
http://za.linkedin.com/in/esna-erasmus-1881abas/

Klerksdorp, North-west Province, South Africa

## SKILLS

Report writing
Conduct auditing
Bilingual (English/Afrikaans)
Computer Proficient
Report generation and analysis
Verbal and written communication
Computer literate
Project Management
Results-orientated
Conduct risk assessments

## ABOUT ME

Environmental practitioner with 22 years' experience in Agricultural and Mining Management and Science.
Experience in the field of inspection and evaluation of Environmental Impact Assessment in North West.
Since 1998 involvement in mining activities with Department of Minerals and Energy in the North West Province as representative for National Department of Agriculture Dir. LRM in the following
Evaluation of Environmental Management Reports
Inspection and evaluation of all different mining entities in North West Province.
A member of the Slimes Dam Core Committee of North West Province.
Involved in the compiling of a strategy for rehabilitation of Gold slime Dams in NW.
Give inputs and comments on the revision of EMPR for small scale diamond mining.
Involve in setting a strategy to encounter the impact of small scale mining on the environment in North West.

## WORK EXPERIENCE

JAN 1998 – JUN 2002
**SENIOR RESOURCE CONSERVATION INSPECTOR**
*National Department of Agriculture – Potchefstroom, SA*

Manage Administration of Act 43 of 1983, Agricultural Resource Conservation act in North West Province.
Management of personnel and personnel related matters.
Management of budget for Potchefstroom office of Directorate Land Resource Management.

JUL 2002 – FEB 2004
**SENIOR ENVIRONMENTAL OFFICER**
*Department of Minerals and Energy – Klerksdorp, SA*

Administration of Act 50 of 1991, the Minerals Act in the North West province.
Evaluation of EMPR's and EIA's.
Audit and compliance inspections of mining operations.

MAR 2004 – PRESENT
**ENVIRONMENTAL PRACTITIONER**
*DERA Environmental Consultants – Klerksdorp, SA*

Compiling and submission of mining related applications; manage and compile legal environmental documents.
Monitoring work to evaluated compliance to environmental legislation; evaluating outstanding rehabilitation liabilities for mining companies.
Risk assessment and applications for closure certificates.
Compile EMPR/EIA for Mining Rights and compilation of EMPlan's for Prospecting and Mining Right applications.
Compile BAR & EMPR's in support of applications for listed activities under NEMA such as Chicken Broilers, Feed lots, Fuel Storage, ect.
Manages consultation between Departments and applicants.

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## EDUCATION

1993 **HIGH SCHOOL DIPLOMA**
*Middelburg High School – Middelburg, Mpumalanga, SA*

| | |
|---|---|
| English | Afrikaans |
| Biology | History |
| Geography | Accounting |

1998 **NATIONAL DIPLOMA: AGRICULTURE: RESOURCE UTILISATION**
*Tshwane University of Technology – Pretoria, Tshwane, SA*

| | |
|---|---|
| Animal Production I | Computer Application I |
| Pasture Science I | Physical Science I |
| Agricultural Marketing II I, II and III | |
| Poultry Production II | Crop Production I, II |
| Agricultural Soil Science I | Agricultural Mechanization I |
| Agricultural Production Management III | |
| Agricultural Extension II | Large Stock Production II |
| Horticulture III | Agricultural Anatomy & Physiology I |
| Farm Planning I | Soil Conservation II |

2000 **BACCALAUREUS TECHNOLOGIAE: AGRICULTURAL MANAGMENT**
*Tshwane University of Technology – Pretoria, Tshwane, SA*

| | |
|---|---|
| Financial Management IV | Strategic Management IV |
| Plant Production IV | Leadership Development II |

2004 **MATERS OF ENVIRONMENTAL SCIENCES IN ENVIRONMENTAL SCIENCES AND MANAGEMENT**- uncompleted
*North-West University – Potchefstroom, North West*

Introduction to environmental management
Applied Environmental Management
Environmental Management
Theoretical Hydrology
Urban Ecology
Introduction to GIS
Applied GIS
Applied Hydrology
Environmental Analysis
Research Proposal – uncompleted
Final dissertation - uncompleted

## SHORT COURSES

Computer training Dbase IV
Seminar in public speaking
Veld assessment course
Resource Identification and utilization course – September 1998
Introduction to GIS – June 2001
Persuasion skills
Wetlands identification
Wetlands Rehabilitation – August 2001
Management skills
Environmental Risk Assessment and Management – August 2005
Mining and the Environment – October 2003

## EIA- EXPERIENCE

The following list of EIA's was just some that was done by me:

- Frida Boer (Doornfontein) – was done as part of a Prospecting Right Application with Bulk Sampling, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process
- Hartzer & Steyn Beleggers (Zwartpaal) - was done as part of Mining Right Application with Bulk Sampling, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process
- Bethlehem Sand en Klip CC (Kilarney) - was done as part of Mining Right Application, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- KMF Agro Processing (Pty) Ltd (Roetfontein) - was done as part of an Environmental Authorization for a listed activity, for the construction of Chicken slaughter facility, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.
- Summit Ridge (Grootvaagte) - was done as part of an Environmental Authorization for a listed activity for feed mill for chicken feed, my role entailed: site visit, impact assessment and evaluation and compilation of report and handling of application process.

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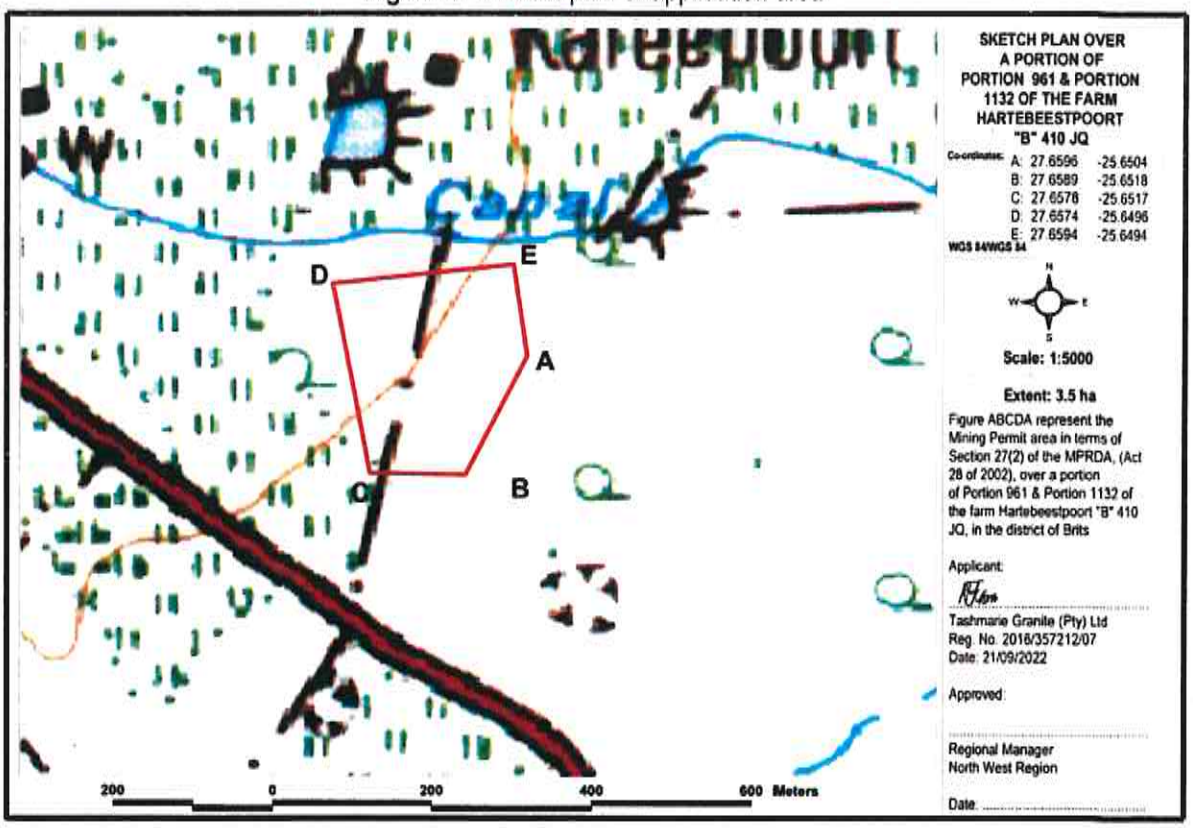
## b) Location of the overall Activity

**Table 1:** Property Description

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(b)*

| | |
|---|---|
| **(i) 21 digit Surveyor General Code for each farm portion** | T0JQ00000000041000961<br>T0JQ00000000041001132 |
| **(ii) Farm Name:** | **HARTEBEESTPOORT B 410 JQ**<br>➢ over a certain portion of Portion 961<br>➢ over a certain portion of Portion 1132. |
| (iii) Coordinates - Co-ordinates List WG 27° | **Co-ordinates:** A: 27.6596 -25.6504<br>B: 27.6589 -25.6518<br>C: 27.6578 -25.6517<br>D: 27.6574 -25.6496<br>E: 27.6594 -25.6494<br>**WGS 84/WGS 84** |
| Application area (Ha) | **3,5 hectares** |
| Magisterial district: | The area (Brits) is a large town situated in a fertile, citrus, vegetable and grain-producing area that is irrigated by the waters of the Hartbeespoort Dam. **Brits are part of the Madibeng Local Municipality and fall under the Bojanala District Municipality of the North West Province** of South Africa. Total area is 114.7 km2 (44.3 sq. mi) with a total population (2011) of 53'511. |
| Distance and direction from nearest town | The site is situated 25 km west of Brits. |
| Minerals applied for | Granite/Syenite (MA) |

**Figure 4 –** Sketch plan of application area



## c) Locality map

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(c)*

The **area (Brits)** is a large town situated in a fertile, citrus, vegetable and grain-producing area that is irrigated by the waters of the Hartbeespoort Dam. **Brits are part of the Madibeng Local Municipality** and fall under the **Bojanala District Municipality** of the North West Province

See **Figure 5**, as well as Appendix 1(a) - Locality Map indication where the applied area is situated within the district of Brits, North West Province.

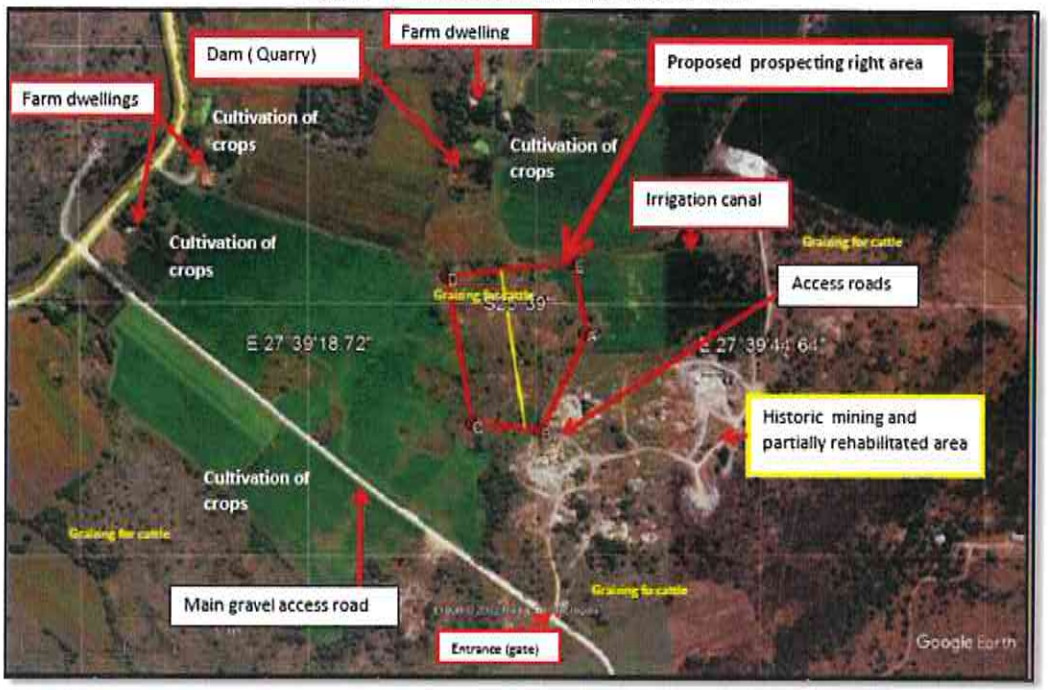
**Figure 5: Locality Map**

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

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(d)*

**This will be a very small project with low impacts (only 3.5 ha).** The application area is situated over an area that is over natural grassveld vegetation over and area that was disturbed by agriculture land uses (cultivation of wheat) and mining activities (rehabilitated and unrehabilitated areas). The proposed application area is situated ± 25 km west of Brits, as can be seen on the **Figure 5** – for images of proposed site. There is no infrastructure over the application site. It is part of a bigger farm portions - of the rest of the farm HARTEBEESTPOORT B 410 JQ (over a certain portion of Portion 961 and a certain portion of Portion 1132). Access to the application area is gained via existing gravel road and a farm road. See **Figure 6** below for access to the application area.

**Figure 6 –** Access to the application area




**<u>The scope of the Mining activities</u>:** The extent of the Mining area is **3.5 hectare**.

This will be a very small project (only 3.5 ha). The application area is situated amongst natural savanna veldt and cultivated fields, there are also other mining operations not far from this applications area. The site is situated over a flat area with rock outcrops as the *<u>Granite</u>* they are planning to mine is in the geology. The application area is partially overgrown by natural vegetation, shrubs and small trees and the natural granite outcrops (rock plates) on various places over the application area. The nearest town is Brits and all mining related procurement will probably be done from the town of Brits as it has an industrial area. There is no infrastructure on the application area, as this area is only 3.5 ha and is part of a bigger farm. It will be a small scale granite mining operation.

The scope of the mining activities will be opencast mining where the available topsoil will be stripped and stockpiled for rehabilitation at the end of mine. The *<u>Granite</u>* will be mine by drilling core in order to determine where the high quality granite is located. Explosives (black powder) will be used to blast the blocks in order to loosen them from the rest of the rock formation. It will be further cut loose by using diamond saws. The blocks will be removed with a front-end loader from where it will be cut in smaller, more transportable blocks and dressed. Granite blocks will be loaded onto trucks and sold off site to buyers. The area will be mined and rehabilitated and the sides of the quarry will be sloped to an acceptable- and safe gradient. The mining focus area will be clearly demarcated and fenced off. The area applied for is partially covered by natural vegetation and cultivated crops (wheat) and some evidence of historic mining activities. Access to the area is gained by an existing gravel road from Brits (no number). See **Figure 6** for Google Erath Images of proposed area. Also see **Appendix 1(b)** for Infrastructure Plan.

It is foreseen that the main mining area will over the rock outcrop areas initially. The area applied for is over the mining permit application area of the entire **3.5 hectare**. It is envisaged that all impacts on the environment can be properly managed and mitigated and no high negative long-term impacts will take place.

**Appendix 1(b 1 & b2) –** Infrastructure Plan

## (i) Listed and specified activities

**Table 2:** Listed and specified activities

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(d)(i)*

| NAME OF ACTIVITY | Aerial extent of the Activity Ha or m² | LISTED ACTIVITY | APPLICABLE LISTING NOTICE | WASTE MANAGEMENT AUTHORISATION |
|---|---|---|---|---|
| **Listing 1 – Activity 21:**<br>Any activity including the operation of that activity which requires a Mining permitin terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including —<br>(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource ; or<br>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing;<br>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 Listing Notice 2 applies. | 3.5 ha | X | GNR 327 | |
| **Listing 1 – Activity 27:**<br>The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for—<br>(i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan. | 3.5 ha | X | GNR 327 | |

## (ii) Listed and specified activities

In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(d)(ii)

**Table 3:** Description of Activities to be followed

| Activities | Description of phases | Associated structures and infrastructures |
|---|---|---|
| **The Mineral** | The applicant intends to mine for Granite/Syenite/(MA) situated on a the farm HARTEBEESTPOORT B 410 JQ (over a certain portion of Portion 961 & over a certain portion of Portion 1132). The Granite will be used in different facets of the dimension stone industry. | |
| **The extend** | The granite is situated on this demarcated area on average 4.5 meters deep. The identified and demarcated which are 3.5 hectares in total includes the entire mining area. 2 hectares will be used for mining and 1.5 hectare as dressing and stockpile area. The granite reserve on these 1.5 hectares is estimated at 900 m³. (It is taken that 10% of the material in situ (90'000m³) is sellable, thus 90% waste). | No infrastructure. |
| **Mining method** | The above area will be mined through blasting and opencast excavations where the granite will be drilled, blast and cut with a diamond saw into blocks. The blocks are then removed with a frond-end loader to the stockpile/dressing area for dressing and loading onto the trucks.<br><br>The granite blocks will be transported to the clients at a rate of 300m³ a month. The total estimated reserve of Granite is 9'000m³ taken at a production rate of 300m³ a | There will be a dress yard with ablution facilities next to the excavation.<br>Equipment to be used includes:<br>• 1 x Frond-end-Loader,<br>• 4 x jackhammers,<br>• 1 x diamond saw,<br>• 1 x tractor with water cart &<br>• 10 x Permanent laborers and one manager will be used in this operation. |

| | | |
|---|---|---|
| | month it will take 30 months to work the estimated reserve of 9'000 m³.<br><br>The granite which is 4.5m thick and the relatively low production rate of this operation make this 3.5 hectare to be worked sustainable over the initial period of two years and renewal periods of 3 years. | |

## e) Policy and Legislative Context

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(e)(i)*

**Table 4:** Policy & Legislative Context

| APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT | REFERENCE WHERE APPLIED | HOW DOES THIS DEVELOPMENT COMPLY WITH AND RESPOND TO THE POLICY AND LEGISLATIVE CONTEXT |
|---|---|---|
| National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA)<br>Submitted for Environmental Authorizations in terms of the National Environmental Management Act, 1998 and the National Environmental Management Waste Act, 2008 in respect of Listed Activities that has been triggered by applications in terms of the Minerals and Petroleum Resources Development Act, 2002 (As mentioned). | Activity 21, Listing 1,<br>Activity 27, Listing 1. | Mining Right application submitted and EA application with DMR |
| National Environmental Management Act, 1998 (Act 107 of 1998):<br>Environmental Impact Assessment Regulations, 2014 (G38282 – R982-985)<br>EA Authorization and EIA/EMP. Submit documents that will describe the impacts and sustainable mitigation thereof.<br>Compliance to Act and Regulations during course of activities. Show impacts and mitigation thereof. | Regulation 21<br>Section 23 | Scoping Report in process following by EIA/EMP |
| National Water Act, 1998 (Act 36 of 1998)<br>Application for Water abstraction for mining use | Section 21 (a) | Application for water use license with DWS, will follow. |
| South African National Heritage Resources Act (Act 25 of 1999) (SAHRA)<br>Compliance to Act and Regulations during course of activities. Ensure that no graves or heritage site will be disturbed. | Section 38 | SAHRA was notified process will be followed.<br>Compilation of HIA over the application area in order to identify possible archaeological and paleontological sites or occurrences. |
| Conservation of Agricultural Resources Act No 43 of 1983 (CARA)<br>Compliance to Act and Regulations during course of activities. Stabilization of soil after rehab to be sustainable with no erosion. Eradication of declared weeds | Section 29 | Regulation will be applicable during construction and operational phases of mining. |
| National Forest Act, Act No. 84 of 1998 (NFA) &<br>GN 1935 in Government Gazette No. 46094 of 25 March 2022.<br>Application of Permit or License if protected species may be affected. | Section 15 (1) | No person may cut, disturb, damage or destroy any protected tree; or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, or any forest product derived from a protected tree, except under a licence granted by the Minister; or in terms of an exemption published by the Minister. |
| National Veld and Forest Fire Act, Act 101 of 1998 (NVFFA) | Section 12 | Duty on owners to prepare and maintain firebreaks as it may be required in consultation with adjoining owners and fire protection association. |
| Provincial Northern Cape Nature Conservation Act, Act 9 of 2009 (NCNCA)<br>Application of Permit or License if protected species may be affected. | Section 3<br><br>Section 49 | Restricted activities involving specially protected animals. No person may, without a permit - hunt; import; export; transport; keep; possess; breed; or trade in, a specimen of a specially protected animal.<br>Restricted activities involving specially protected plants: (1) No person may, without a permit - pick; import; export; transport; possess; cultivate; or trade in, a specimen of a specially protected plant. |
| National Environmental Management Laws Amendment Act (Act 2 of 2022) | | |

| | | |
|---|---|---|
| NEMA Financial Provision Regulation | | The purpose of GNR 1147 is to regulate the determination of financial provision as contemplated in NEMA for the specific costs related to undertaking the management, rehabilitation and remediation of environmental impacts. This is applicable from the commencement of exploration activities, through the lifespan of mining and mining operations. |
| National Environmental Management :Air Quality Act (Act 39 of 2004) | | |
| National Dust Control Regulations (GN. 827 of 1 November 2013) | | |
| National Environmental Management: Biodiversity Act (Act 10 of 2004): Threatened or Protected Species Regulations | | |

## f) Need and desirability of the proposed activities

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(f)*

The applicant believes that the applied area has prospects for *Granite* as applied for. This area is virgin soil with regards to mining, but the granite outcrop on various place over the applied are, which show the potential for *Granite* in this area. There is also similar dimension stone mining operation in the rest of the Brits area, thus the application in order to confirm if minerals can be mined over this area. The Brits/Rustenburg area is well known for its dimension stone and there are various mining operators in this part of the North West province. The desirability of this project can be motivated as the mining of dimension stone will increase the revenue for this area, and although by mining the rock away, the impact that will be caused by the activity can be properly mitigated and rehabilitated. All mining activities will be kept within the mining permit area. The locality of the activities is over a small area within a bigger farm portion and will be shielded by the natural vegetation. The specific activities as listed will be on this 3.5 ha application area specific according to the sketch plan. The duration of the activities will be 2 years initially and renewal periods of 3 years.

The farm portions over which the application was applied for is currently used as **agriculture (grazing for cattle), some cultivation of crops under irrigation, historic disturbed and rehabilitated mining areas**. There seem to be infrastructure on this 3.5 ha site, including farm roads, cultivated land under pivot irrigation, also utilized by the land owner (applicant). There is historically disturbance/mining areas in the surrounding area.

As mentioned there is infrastructure on this area, beside for the farm road. Access to the farm is gained by an existing farm road. See **Figure 6** for extraction of Google Earth Images for more detail. It is envisages that the whole site **(3.5 ha) will in time (2 years) be disturbed but that as mining progress it will be simultaneously and immediately be rehabilitated** .

The area applied for is over the demarcated portion only. After mining the land will be used for grazing for cattle (agricultural) again.

**Figure 6: Google Earth Images**

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

The applicant envisaged that the applied mineral (***Granite***) is present on this property and therefore the application for a mining permit. The Granite outcrops only on certain places within the farm area and for this reason this area is the preferred area.

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

### (i) Details of the development footprint alternatives considered

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(i)*

Alternative is not applicable. **The current land is partially natural vegetation**. Thus the option to mine the area will be an alternative land use. The applicant, Tashmarie Granite (Pty) Ltd., is not interested in any other alternative land use over this land aside for the mining of *Granite*, or any other activity, or method use other than mining for *Granite* in the conventional way, which is the most cost effective. It is currently under natural vegetation and because of the outcrop of the mineral and shallow soil depth; it cannot really be utilized for any other use, but natural veld.

a) the property on which or location where it is proposed to undertake the activity
There are no alternative for the property as the application is for this 3.5 hectare area only. The Granite can only be mined where it is at and in order to minimize disturbance to other area, all processing will also be done there.

b) the type of activity to be undertaken
The type of activity is in line with the submitted Mining Plan. Granite will be mined in the conventional manner, where the bedrock is drilled, blasted to loosen the blocks and cut with a diamond saw in order to make the blocks smaller for transportation.

c) the design or layout of the activity
The layout of the activity will and can only be on this application area as per sketch plan **Figure 4**. As the area is so small 3.5 ha all the activities will be done within this area. The residences in the area are farmsteads on the neighbouring farm.

d) the technology to be used in the activity
The technology used in the activity will be as described in the Mining Plan and the best options will be determined by the applicant. Granite will be mined in the conventional manner, where the bedrock is drilled, blasted to loosen the blocks and cut with a diamond saw in order to make the blocks smaller for transportation.

e) the operational aspects of the activity, and
The operational aspect is only the mining of *Granite* on this specific area in the conventional manner.

f) the option of not implementing the activity
This option might only be possible if the applicant decide to abandon the project. And then they would just continue as pre-mining that the area will be natural veld.

## (ii) Details of the Public Participation Process Followed

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(ii)*

The process as described by NEMA for Environmental Authorization was followed. See **Table 5 & 6** below for the identification of Interested and Affected Parties to be consulted with. **The landowners are Mr HJ Bruwer and Ms FJ Grimett** and the direct neighbours were consulted personally and through a letter that was given to them by hand. **A site notice** was placed at the entrance of the farms. With this site notice all passers-by are requested to submit any written comments to be forwarded to the consultant (still awaiting response). An **advertisement** was placed in the **Brits Pos Newspaper of 11th November 2022**. See proof of consultation under **Appendix 2**.

**Appendix 2** – Proof of consultation.

**Table 5:** Description of process to be undertaken to consult interested and affected parties

| IDENTIFICATION CRITERIA | Mark with an X where applicable | | ACTIONS |
|---|---|---|---|
| | YES | NO | |
| Will the landowner be specifically consulted? | X | | Yes, see consultation letter |
| Will the lawful occupier on the property other than the Landowner be consulted? | X | | Yes, see letter form land owner |
| Will a tribal authority or host community that may be affected be consulted? | | X | N/A |
| Will recipients of land claims in respect of the area be consulted? | X | | E-mail was sent to Mr. Johanna Motswatswe, no reply was received. |
| Will the landowners or lawful occupiers of neighbouring properties been identified? | X | | The landowner and neighbours were all consulted in person. |
| Will the local municipality be consulted? | X | | Madibeng Local Municipality was consulted in writhing. |
| Will the Authority responsible for power lines within 100 meters of the area be consulted? | | X | There are power lines within 100m from application area. This is being utilized on site. |
| Will the Authorities responsible for public roads or railway lines within 100 meters of the area applied for be consulted? | | X | There are no public roads within 100 m that will be affected. |
| Will the Authorities responsible for any other infrastructure within 100 meters the area applied for be consulted? (Specify) | | X | There are no surface infrastructure that will be affected; the application area is within grazing land for cattle and cultivated wheat crop land. |
| Will the Provincial Department responsible for the environment be consulted? | X | | Draft BAR was sent to DEDECT |
| Will all of the parties identified above be provided with a description of the proposed Mining/Mining operation as referred above? | X | | All consultation letters included the full property description and summary of intended activities. |
| Will all the parties identified above be requested in writing to provide information as to how their interests (whether it be socio-economic, cultural, heritage or environmental) will be affected by the proposed Mining project? | X | | All consulted letter invited all I&AP's to send through any comment or objections. |
| Other, Specify | | | |

**Table 6: Furthermore the details of the engagement process to be followed are as reflected below**

| | |
|---|---|
| **Steps to be taken to notify interested and affected parties** | **PROVIDE DESCRIPTION HERE**<br>The landowners and the neighbours were informed personally consulted by the applicant and confirmed in the writing. A consultation letter was sent to the Madibeng Local Municipality. An advertisement was placed in the Brits Pos Newspaper for comments. |
| **Information to be provided to Interested and Affected Parties.** | **Compulsory**<br>The site plan.<br>List of activities to be authorized<br>Scale and extent of activities to be authorized<br>Typical impacts of activities to be authorized (e.g. surface disturbance, dust, noise, drainage, fly rock etc.)<br>The duration of the activity.<br>Sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land) |
| | **Other, specify:** Mining plan |
| **Information to be required from Interested and Affected Parties.** | **Compulsory**<br>To provide information on how they consider that the proposed activities will impact on them or their socio-economic conditions<br>To provide written responses stating their suggestions to mitigate the anticipated impacts of each activity<br>To provide information on current land uses and their location within the area under consideration<br>To provide information on the location of environmental features on site to make proposals as to how and to what standard the impacts on site can be remedied. requested to make written proposals<br>To mitigate the potential impacts on their socio economic conditions to make proposals as to how the potential impacts on their infrastructure can be managed, avoided or remedied). |
| | **Other, Specify** |

## (iii) Summary of issues raised by I&AP's

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(iii)*

See **Appendix 2** for full detail on public participation.

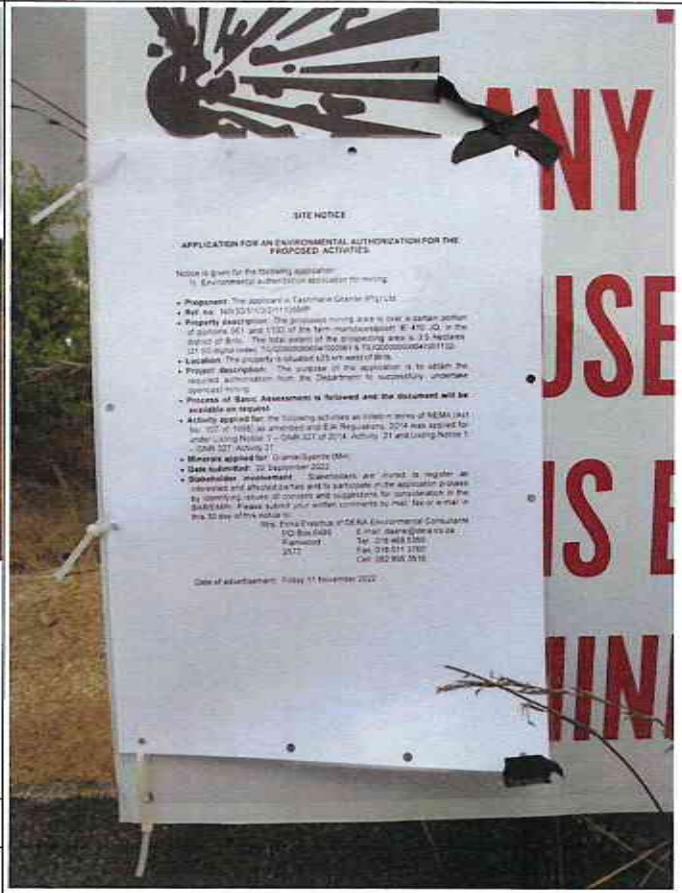
**Table 7: Summary of Identified I&AP's**

| Interested and Affected Parties | | Date sent and/or Comments Received | Issues raised | EAP's response to the applicant |
|---|---|---|---|---|
| **AFFECTED PARTIES** | | | | |
| **Landowner/s** | X | | | |
| H.J. Bruwer (Landowner on Pt 961 & Neighbour)<br>P.O. Box 215, Sonop, 0258<br>Cell: 082 775 9220, E-mail: bruwerboerdery@gmail.com | | 11 Nov 2022<br>23 Nov 2022 | Consultation letter sent<br>No objection, see signed consultation form | |
| F.J. Grimmit (Landowner on Pt 1132)<br>Mrs. J.D. Grimmit & Mrs. M. Grimmet<br>Private Bag X5094, Brits, 0250<br>Cell: 072 950 1907 & 076 755 4183, Fax: 086 697 0462,<br>E-mail: joanne@magaliescitrus.co.za and<br>mary-ann@magaliescistrus.co.za | | 11 Nov 2022<br>25 Nov 2022 | Consultation letter sent<br>No objection, see signed consultation letters | |
| **Lawful occupier/s of the land** | | | | |
| | | | | |
| **Landowners or lawful occupiers on adjacent properties** | X | | | |
| M.R. Bruwer(Neighbour)<br>P.O. Box 345, Sonop, 0258<br>Cell: 083 678 7579, E-mail: marbruwer@gmail.com | | 11 Nov 2022<br>23 Nov 2022 | Consultation letter sent<br>No objection, see signed consultation letter | |
| **Municipal councilor** | | | | |
| | | | | |
| **Municipality** | X | | | |
| Madibeng Local Municipality<br>LED officer: Johanna Motswatswe<br>Tel: 012 318 9503, Fax: 012 318 9665,<br>E-mail: Johanna.Motswatse@madibeng.gov.za and<br>munman@madibeng.gov.za | | 11 Nov 2022<br>18 Nov 2022 | Consultation letter was sent to Johanna Motswatswe (LED Manager) via e-mail | |

| | | | | |
|---|---|---|---|---|
| **Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA.** | | | | |
| Eskom | | | | |
| **Communities** | | | | |
| N/A | | | | |
| **Dept. Land Affairs** | X | | | |
| Mr. Keatbetswe Mothupi, Office of the Regional Land Claims Commissioner, N W Province; Private Bag X08, Mmabatho, 2735; Fax: 018 389 9641, E-mail: keabetswe.mothupi@dairrd.gov.za | | 11 Nov 2022<br>18 Nov 2022 | E-mail sent to Keabetswe Mothupi for verification of any land claims on the land. | |
| Traditional Leaders | | | | |
| N/A | | | | |
| **Dept. Economic Development, Environment, Conservation and Tourism** | X | | | |
| Ms Ouma Skosana<br>Agricentre Building, Cnr. Dr James Moroko Drive & Stadium Road, Mmabatho, 2735<br>Tel: 014 597 3597; E-mail: oskosana@nwpg.gov.za | | 11 Nov 2022 | BAR sent with Fastway couriers for comments | |
| **Dept. Water and Sanitation** | X | | | |
| Cornia Theunissen<br>Old Rustenburg Road, Hartebeespoort, 0216<br>Tel: 012 253 1026; E-mail: theunissenc@dwa.gov.za | | 11 Nov 2022 | BAR sent with Fastway couriers for comments | |
| **Dept. Agriculture, Forestry and Fisheries** | X | | | |
| Maurice Vukeya<br>Louis le Grange Building, Cnr Peter Mokaba & Wolmarans street, 3rd Floor, Office 318, Potchefstroom, 2520<br>Tel: 018 389 5156; E-mail: MauriceV@daff.gov.za | | 11 Nov 2022 | BAR sent with Fastway couriers for comments | |
| **Dept. Rural Development and Landform** | | | | |
| | | | | |
| **Other Competent Authorities** | | | | |
| | | | | |
| **OTHER AFFECTED PARTIES** | | | | |
| | | | | |
| **INTERESTED PARTIES** | | | | |

**Notice published in the Bits Pos Newspaper of 11th November 2022.**

**PLACEMENT OF ADVERT AT GATE:**

| | Photo 1 | Photo 2 |
|---|---|---|
| | |   |
| | **Location: 25° 39' 15.86"S** | |
| | **27° 39' 32.6 "E** | |

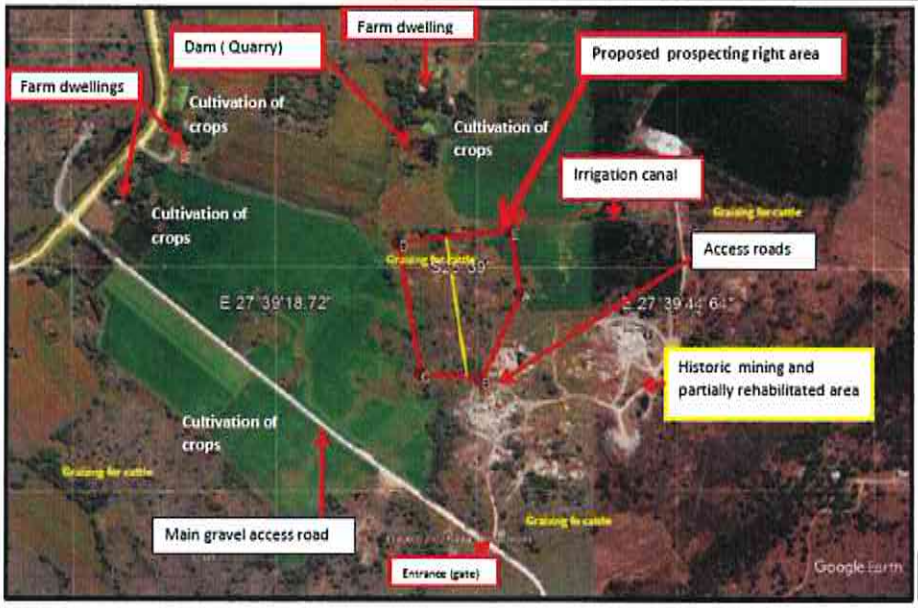
## (iv)The Environmental attributes associated with the alternatives

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(iv)*

### 1. Baseline Environment

**Introduction**: The purpose of this section is to provide information on the environment in which the proposed mining activities will take place, with a view to identify sensitive issues/areas, which need to be considered when conducting the impact assessment. The application is over: **HARTEBEESTPOORT'B' 410 JQ (over a certain portion of Portion 961 and a certain portion of Portion 1132).** This area consists of natural vegetation (grazing for cattle), cultivated crops (wheat) under pivot irrigation and existing mining area (rehabilitated and disturbed). **The focus area of mining activities will be over the whole application site, but only 0.3 ha will be disturbed by mining:**

**LAND USE COMPOSITE MAP**




**MAP/PLAN 1C**

**Magisterial District:** The area (**Brits**) is a large town situated in a fertile, citrus, vegetable and grain-producing area that is irrigated by the waters of the Hartbeespoort Dam. Brits are part of the ***Madibeng Local Municipality*** and fall under the ***Bojanala District Municipality*** of the ***North West Province*** of South Africa. Total area is 114.7 km² (44.3 sq. mi) with a total population (2011) of 53'511.

**See Map 1C, as well as Appendix 1(a) - Locality Map indication where the applied area is situated within the district of Brits, North West Province.**

**Direction from neighbouring town:** The nearest town is Brits, which is situated 25 km east from the application area.

**Longitude (approximate centre of Mining site): 27° 31' 59.28" E**
**Latitude (approximate centre of Mining site): 25° 24' 18.58" S**

**Existing Surface Infrastructure:** The application area is situated over a rural part of the Brits district. The Mmining permit application area is characterized by natural vegetation (grazing for cattle), cultivated crops (wheat) under irrigation and disturbed mining area (rehabilitated and not rehabilitated).

The infrastructure over the farm HARTEBEESTPOORT B 410 JQ (over a certain portion of Portion 961 and over a certain portion of Portion 1132), there is an entrance (gate) farm road from the gravel road (no name).

All of the above infrastructure can be seen on the **Infrastructure Plan - Appendix 1(b1)1 (b2).** The **surrounding farms** are mostly utilized as cultivated field for cash crops and natural grazing for cattle and mining can be seen. Access to the mining permit application area will be from the gravel road. **Also see Appendix 1(b1) & 1(b2) for Infrastructure Plan and Google satellite image of the application area.**

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

**Vegetation [Flora] and Landscape Features: This application area falls over veld type: [SVcb 7 Norite Koppies Busshveld].** *VT 19 Sourish Mixed Bushveld (82%) (Acocks 1953). LR 14 Clay Thorn Bushveld (87%) (Low & Rebelo 1996). Croton gratissimus-Setaria linden-bergiana Woodland (Van der Meulen 1979).*

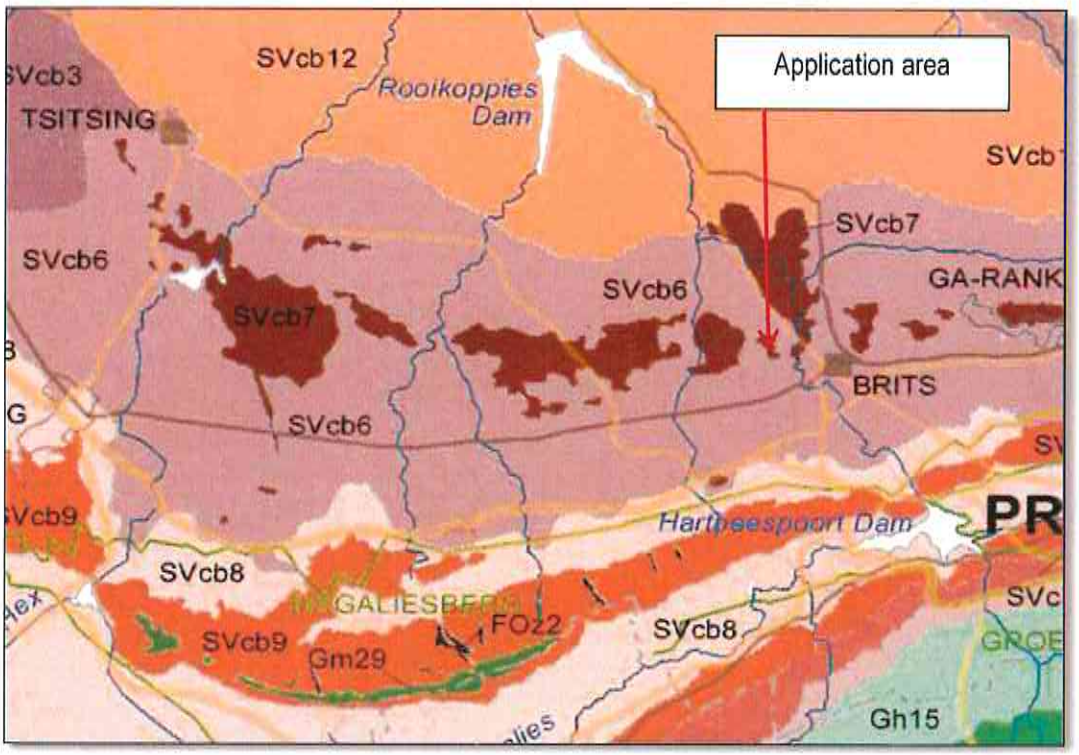
**Distribution:** North-West and Gauteng Provinces: Embedded in Marikana Thornveld, north of the Magaliesberg, on rocky hills between Rustenburg and Pretoria with the highest hills (e.g. Kareepoortberg) near Brits. Altitude about 1 100-1 350 m. [See **Figure 7** below]

**Vegetation & Landscape Features:** A low, semi-open to closed woodland up to 5 m tall, consisting of dense deciduous **shrubs and trees with very sparse undergrowth on shallow soils, with large areas not covered by vegetation**. Tree and shrub layers are continuous. The stands of this unit are found on **noritic outcrops and koppies**, many appearing as inselbergs above the surrounding plains. [See **Figure 7** below].

**VEGMAP (2006) further classify this area as part of the: This application area falls over veld type: [SVcb 7 Norite Koppies Busshveld]** over most of the **mining permit application** area of **3.5 hectare.** See **Figure 7** below. **Below is a summary of the plant species that may occur over the surrounding undisturbed areas, which in turn can be a source for regrowth of natural species once mining, have totally ceased over this area.**

**Vegetation [Flora]: Tall Tree:** ***Sclerocarya birrea* subsp. *caffra*. Small Trees:** ***Combretum molle* (d), *Croton gratissimus* (d), *Ficus abutilifolia* (d), *Pappea capensis* (d), *Acacia caffra, Bridelia mollis, Combretum apiculaturn, Cussonia paniculata Dombeya rotundifolia, Faurea saligna, Ficus glumosa, Lannea discolor, Obetia tenax, Peltophorum africanum, Rhus leptodictya, Vangueria infausta, Ziziphus mucronata.*** Succulent Tree: *Euphorbia cooperi.* Tall Shrubs: *Triaspis glaucophylla* (d), *Canthium gilfillanii, Clerodendrum glabrum, Diplorhynchus condylocarpon, Euclea natalensis, Grewia flavescens, G. monticola, Gymnosporia nemorosa, G. polyacantha, Pavetta eylesii, Pouzolzia mixta, Psydrax livida, Vitex zeyheri.* Low Shrubs: *Jatropha latifolia* var. *latifolia* (d), *Abutilon austro-africanum, Hermannia floribunda, Hibiscus subreniformis, Rhus zeyheri.* Succulent Shrub: *Tetradenia brevispicata.* Semiparasitic Shrub: *Osyris lanceolata.* Woody Climbers: *Helinus integrifolius, Rhoicissus tridentata, Turraea obtusifolia.* Woody Succulent Climber: *Sarcostemma viminale.* Herbaceous Climber: *Cyphostemma lanigerum.* Graminoids: *Chrysopogon serrulatus* (d), *Setaria lindenbergiana* (d), *Aristida congesta, Bulbostylis humilis, Eustachys paspaloides, Heteropogon contortus, Loudetia simplex, Melinis nerviglumis, Panicum maximum, Themeda triandra.* Herb: *Hibiscus sidiformis.* Geophytic Herbs: *Pellaea calomelanos, P viridis, Scadoxus puniceus.*

**Figure 7:** The VEGMAP classification: (SVcb 7) Norite Koppies Bushveld




**Conservation Conservation:** Least threatened according to remote sensing data, but ground truthing suggests that it is rather susceptable. Target 24%. None conserved in statutory reserves but 4% conserved in De Onderstepoort Nature Reserve. About 10% transformed (but more recent assessment suggests about 20%), especially at the unit fringes, mainly by mining as well as urban and built-up developments and cultivated areas. Mining is primarily in the form of granite quarries on koppies, but also affects surrounding lower-lying areas. Areas close to human settlements are often severely disturbed and many woody species may have been harvested from these areas for fuel or building materials. Weeds, including a number of declared aliens, are more common in these disturbed sites. Erosion is very low to moderate. **Remarks** Vegetation patterns on norite koppies are primarily determined by the amount of rockiness and aspect, warmer north-facing slopes and cooler south-facing slopes bearing floristically distinct vegetation. A number of the woody species, e.g. species of *Ficus*, are typical chasmophytes, penetrating the rocks with their roots (Van der Meulen 1979). The vegetation unit is transitional between xeric lowland bushveld and mesophyllous woodland in cooler more moist upland areas associated with the Magaliesberg and may be considered to be a more xeric phase of these upland areas (Van der Meulen 1979). **References** Van der Meulen (1979), Panagos (1996).

**Indication could be found of the original vegetation type** on the **3.5 ha**. Though the years the site have been disturbed by agricultural activities (grazing for cattle), cultivation of wheat crops and historic mining activities**. This is a "brownfields site".**

**See photo table (next pages):**

| | PHOTO |
|---|---|
| 1 | Natural vegetation and cultivated wheat field. |
| 2 | Natural vegetation and cultivated wheat field. |

| | |
|---|---|
| 3 | |
| 4 | Natural grazing area with rock outcrops |

| | |
|---|---|
| 5 | Natural vegetation cover within rock outcrop area. Escom power line utilized by applicant also present on site.<br> |
| 6 | |

| | |
|---|---|
| 7 | |
| 8 | Access road on site |

**Screening of *environmental sensitivity* of the proposed site (See Appendix 3 for full report):**
Furthermore according to the DEDACT's (Department of Economic Development, Environment, Conservation and Tourism's) screening tool the footprint of this application area, although only **small scale mining (3.5 ha disturbed over 2 years initially),** are classified (by background reference to the whole mining permit application area as per summary table below.

According to the **screening of *environmental sensitivity* of the proposed mining permit (3.5 ha)** it is indicated that ***Terrestrial Biodiversity Theme*** was classified as being VERY HIGH. Also the whole of the area is being regarded as to have a LOW environmental sensitivity with regard to plant species and MEDIUM with regard to animals. The majority of the areas have been disturbed by agricultural activities. The site itself does not represent anymore the [SVcb 7 Norite Koppies Busshveld]. Majority of the trees, shrubs have been removed on the site is being utilized as grazing for cattle and cultivation of wheat crops (agricultural use). The mining permit **site** should be regarded as a "**brownfields site**" as the site has been disturbed by agriculture activities and mining activities. During the site investigation no animals were found on site. The **Animal Species Theme** is regarded as of MEDIUM sensitivity. The **site has been disturbed by agricultural activities and mining activities** in **the past and currently** and it is likely that animals would not stay in such a habitat but rather move to other undisturbed areas.

**Palaeontology Theme** was further classified as being MEDIUM sensitivity. It is however not foreseen that there will be any such sites of the application area that the landowner may not be aware of any findings and they would have come across item if there were any. **The mining activity will initially on hard rock outcrop formations**. The mining project manager will have to keep a look out for possible sightings and report it as soon as possible.

According to the screening of *environmental sensitivity* of the proposed site it is indicated that **Agricultural Theme** was classified as being HGH sensitivity. The mining sites will disturb **only 3.5 ha in total over 2 years** and should be regarded as a "**brownfields site**" as the site has been disturbed by agriculture activities (grazing for cattle, cultivation of wheat), cultivation of crops under irrigation. Rehabilitation of the 3.5 ha site will return the site to some grazing capability for cattle. **The majority of the farm still continues with agricultural activity (grazing for cattle and cultivation of crops (wheat) and is in no way hindered by the proposed activity and the environmental sensitivity for the 3.5 ha should be low.**

According to the screening of environmental sensitivity of the proposed site it is indicated that **Plant species Theme** was classified as being MEDIUM sensitivity. **Giving the fact that the majority of the mining permit application area has been impacted by agricultural activities and mining activities, the site is actually "Brownfields site".**

**See Summary: See results of screening report for the farm the farm HARTEBEESTPOORT'B' 410 JQ (over a certain portion of Portion 961 and over a certain portion of Portion 1132) within which the mining permit application area of 3.5 ha in total as shown in Table 8 below.**

**Table 8:** DEDACT - Screening Report

| Theme | Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|---|
| Agriculture Theme | | X | | |
| Animal Species Theme | | | X | |
| Aquatic Biodiversity Theme | | | | X |
| Archaeological and Cultural Heritage Theme | | | | X |
| Civil Aviation Theme | | | X | |
| Defence Theme | | | | X |
| Palaeontology Theme | | | X | |
| Plant Species Theme | | | X | |

| | | | | |
|---|---|---|---|---|
| Terrestrial Biodiversity Theme | X | | | |

**Climate**: Summer rainfall with dry winters. **MAP from 600-700 mm**. Frost fairly frequent around the base of hills in winter but less so on the hills.

**Geology & Soils:** Mostly **gabbro and norite** with interlayered anorthosite of the Pyramid Gabbro-Norite, Rustenburg Layered Suite, with a small area of the Rashoop Granophyre Suite (felsic igneous rocks), both of the Bushveld Complex (Vaalian). **Large rock boulders and very shallow lithosols occur. Soils are well-drained, Glenrosa and Mispah forms; in some areas vertic, melanic clays are found as well.** Land types mainly Ib, with some Ea also occurring.

Shallow Arcadia Form (vertisol) soil

**Part of the 3.5 ha is covered by rock outcrops/ rock plates/ boulders that will be the initial focus of the mining excavations.**

**Animal Life [Fauna]:** Not many species were directly observed but the presence of nesting sites in the area is an indication that this area is an acceptable habitat for shelter and food for avian species. The natural animal life occurring over the application area includes but is not restricted to, small animals common in this area. List of mammals which are likely to occur over the project area were derived based consultation with the land owner and on distribution record from the Animal Demography Unit (ADU) web portal: http://vmus.adu.org.za. Animals that are likely to occur here are: *Cynictis penicillata* (Yellow Mongoose), *Sylvicapra grimmia* (Bush Duiker), *Hystrix africaeaustralis* (Cape Porcupine), *Canis mesomelas* (Black-backed Jackal), *Herpestes sanguineus* (Slender Mongoose), *Raphicerus campestris* (Steenbok), *Otocyon megalotis* (Bat-eared Fox), *Phacochoerus africanus* (Common Warthog (Suidae).

The study area is being known for the agriculture with regard to the production of cattle and cultivation of crops under irrigation.

***Surface Water*:** **This application area fall within the Water Management Area (WMA): Crocodile (West) and Marico (3) and secondary catchment area A21 and tertiary drainage region A21K.** There is no open water over the application area. It is not foreseen that mining will have any direct impact of these surface water bodies. **It is not expected that 3.5 ha site in total will have any effect on the surface run-off in the drainage catchment area (A21K).**

According to NEMA's Screening Tool the *Aquatic biodiversity sensitivity* was classified as being VERY HIGH sensitive. No streams rivers, pans, vlei areas occur on site. The majority of the site is already disturbed by agricultural and mining activities.

**Ground Water:** The applicant intends NOT TO USE WATER from a boreholes but only standing water in old quarries.

**Air Quality:** The impact on air quality will occur from test pits, trenches and movement on the roads. This impact will be low and will be monitored and mitigated trough wetting of the roads. This area fall in very rural area and the impact form windblown dust particles, can have just as big an impact. Area where testing are completed must be backfilled and re-vegetated so soon as possible to establish a vegetation layer in order to retain the loose soil fractions.

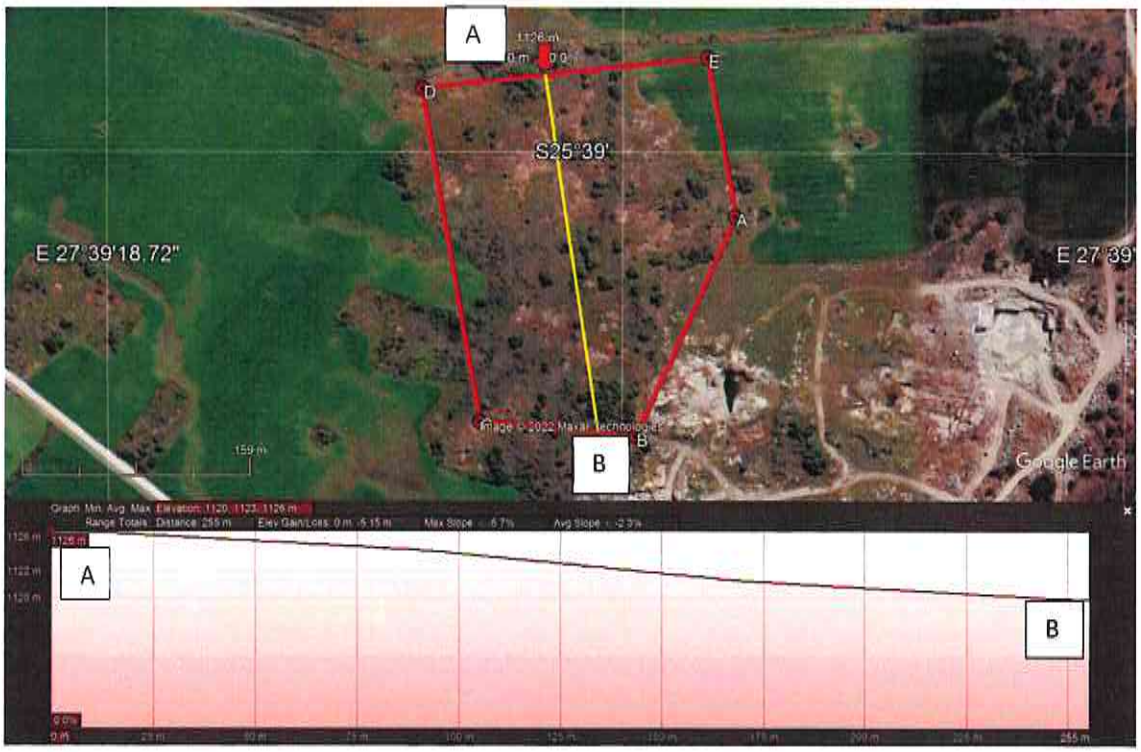
**Noise:** The impact of noise will be generated by the mining equipment. This operation will only be in day time working hours and will have a low impact on current surroundings. And because of the extent of this application area 3.5ha the sound will get lost and no residence on neighboring farms will be adversely affected. The farmsteads are located within the application area and roads to the application area and will they be the most affected by any noise of the mining activities. The impact may be greater with regards to wild animals, but they tend to move away toward areas less influenced by noise disturbance.

**Sites of Archaeological and Cultural Interest:** None. Nothing found on site.

**Sensitive Landscapes:** None. Nothing found on site.

**Visual Aspects:** These mining activities will be visible to the landowner and neighbours.

**Topography:** The site has one **terrain type**, which is characterized as **"Hills and lowlands"** (Terrain Morphological Map of S.A. 1983), covered with grassland. **The average slope is 2.1 % that can be described as flat (see slope profile).** The **average elevation is between 1122-1127 m** meters above sea level (masl) over most of the mining permit application area.



**Social:** The proposed activity will employ **18 people (manager included).** Various social amenities are available close to the operation. These include schools, hospitals, clinics, churches, recreation facilities as well as a Police Station at Brits, which is located ± 25 km away from the proposed operation.

(b) Description of the current land uses.

**The current land use (agricultural) is natural vegetation for grazing by cattle and cultivated wheat fields (irrigation). There are also areas that were previously mined and some surface areas that have been rehabilitated.**

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

The application area is situated over a rural part of the Brits district. The area is characterized as being: there is that some parts that look as if historical mining has taken place on site and the rest is natural grazing land for cattle and cultivation of wheat crops.

All of the above infrastructure can be seen on the Infrastructure Plan - **Appendix 1(b1 & b2). The surrounding farms** are mostly utilized as cultivated field for cash crops and natural grazing and mining. The evidence of years of granite (dimension stone) mining can clearly be seen over these areas. Access to farm will be from an existing gravel road and a farm road. See **Appendix 1(b1 & b2)** for Infrastructure Plan of the application area.

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

Current land use on the application area is grazing over natural veld, cultivation of crops under irrigation, mining disturbed and rehabilitated areas. This is privately owned land see **Appendix 1 C** for more detail.

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

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(v)*

The proposed project is anticipated to impact on a range of biophysical and socio-economic aspects of the environment. The main purpose of the BAR/EMPr report is to identify and evaluate the significance of these potential impacts and determine how they can be minimized or mitigated.

It should be noted that a comprehensive Environmental Management Program (EMPr) will be developed and implemented to regulate and minimize the direct, indirect and cumulative impacts during the construction and operational phases. The potential environmental impacts identified, which will be investigated further in the Impact Assessment Phase of the project are summarized in **Table 9** on next page.

## Table 9: Impact significance identification matrix for Hartebeestpoort ' B' 410 JQ

| | | | A | B | C | D | E | F | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Components | ABIOTIC | | | | | | | | | BIOTIC | | | VISUAL | SOCIO-ECONOMIC | | |
| | PHASE | Impacts | Geology | Topography | Soil | Land capability | Land use potential | Surface water | Ground water | Air quality | Noise | Vegetation | Wildlife | Sensitive landscapes | Visual impact | Archaeological & cultural sites | Socio-economic impacts | Affected parties |
| | | Activity, Product or Service | | | | | | | | | | | | | | | | |
| 1 | Construction | Demarcation of new borrow area | | | L | M | L | | | | | | M | | M | | | |
| 2 | Construction | Establishment (site preparation, vegetation clearance, topsoil removal and stockpiling) of proper access roads (upgrade existing road), local vegetation clearance, topsoil removal & stockpiling within the new borrow area | | M | H | H | | | M | H | H | H | H | L | M | | L | M |
| 3 | Construction | Establishment of bunded diesel and oil/chemical storage facilities, chemical toilets | | M | M | H | | M | M | | | M | | | M | | | |
| 4 | Construction | Provision of storage tanks for potable (drinking water) and process water (dust suppression) | | H | H | H | H | L | M | M | H | H | H | M | L | L | | |
| 5 | | Provision of waste handing/disposal facilities (domestic & industrial waste bins) | | | L | | | L | L | | | | | L | | | | |
| 6 | | Fencing –off active mining area as required in terms of the MHSA. Ensure access control (gate), ect. | | | | M | | | | | | | M | | M | | | H+ |
| 7 | Operational | Vegetation clearance, topsoil removal & stockpiling not to within the new borrow area (0.1 ha of surface area disturbed at any given time) | | M | H | H | M | L | | L | | H | L | | L | | M | H |
| 8 | Operational | Drilling, blasting and cutting of granite with a diamond saw into granite blocks (Mining) | H | M+ | H | H | H | L | M | L | L | H | L | | L+ | | M | H |
| 9 | Operational | Loading rock and transport with trucks away from the site | | | H | | | L | H | L | L | H | | | M | | M | H |
| 10 | | Concurrent backfilling of quarry with rock material and infilling (not total coverage) of waste rock dumps and backfilled quarry with the stockpiled topsoil/overburden if/when it the amount available is sufficient | H- | H- | H- | H | H | L | L | L | M | H | M | | H | | M+ | M- |
| 11 | | Final sloping of all voids where possible | H+ | H+ | H+ | H+ | H+ | H+ | H+ | L | L | | | | L | | H+ | H± |
| 13 | Decommissioning and closure | Replace and spread all topsoil evenly over sloped area | | | H+ | H+ | H+ | H+ | H+ | H+ | L | H+ | H+ | | H+ | | H+ | H+ |
| 14 | Decommissioning and closure | Establishment of vegetation cover | | | H+ | H+ | H+ | H+ | H+ | H+ | | H+ | H+ | | H+ | | H+ | H+ |
| 15 | Decommissioning and closure | Removal of all temporary & demolition of all permanent structures (Section 44 of the MPRDA) | | | H+ | H+ | H+ | H+ | H+ | H+ | L | H+ | H+ | | H+ | | H+ | H+ |
| 16 | Decommissioning and closure | Rehabilitation of all access roads, compacted areas etc | | | H+ | H+ | H+ | H+ | H+ | H+ | L | H+ | H+ | | H+ | | H+ | H+ |

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

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(vi)*

***A. Assessment and evaluation of potential impacts.***

A.1. List of each potential impact identified. (Include all the items to be included in the list referred to in the concomitant section of the guideline posted on the official website of the Department)

A.2. Concomitant impact rating for each potential impact listed in **Table 9** above in terms of its nature, extent, duration, probability and significance. (Provide a definition of the criteria used for each of the variables used for rating potential impacts and ensure that the potential impacts are rated specifically with the assumption that no mitigation measures are applied).

A.3. Indication of the phases (construction, operational, decommissioning) and estimated time frames in relation to the potential impacts rated.

Impact assessment involves the consideration of physical, biological, socio-economic and cultural information to estimate the likely characteristics and parameters of the impact. The aim of impact assessment is to provide a basis for determining the likely significance of each impact with sufficient accuracy to develop appropriate mitigation measures

***Introduction:***

This section below describes and evaluates the effects of the different mining projects and the associated activities on the natural and social environments. The different environmental components, on which the project (can/may) have an impact, are:

1. Geology
2. Topography
3. Soil
4. Land Capability
5. Land Use
6. Vegetation
7. Wildlife
8. Surface Water
9. Ground Water
10. Air Quality
11. Noise
12. Archaeological and Cultural sites
13. Sensitive Landscapes
14. Visual Aspects
15. Socio-economic Structure
16. Interested and Affected Parties

***IMPACT ASSESSMENT***

Before the impact assessment could be done the different project activities were identified:

***ACTIVITIES:***

1. Access Roads (Existing roads to be upgraded)
2. Temporary office, workshops, ablution facility, water tanks, diesel tanks and other temporary buildings
3. Mining equipment (generator, trucks & front-end loaders, diamond saw, etc.)
4. Granite Stockpiles
5. Topsoil /Overburden stockpiles (surface run-off control structures)
6. Waste rock dumps
7. Opencast granite quarry/excavation)

***Environmental Impact Assessment Summary:***

- **Environment likely to be affected by the mining operation. (See Appendix 1 (b) for location)**

| Environmental aspect | Affected | | Not affected |
|---|---|---|---|
| | Negligible | Substantial | |
| 1. GEOLOGY | | X | |
| 2. TOPOGRAPHY | X | | |
| 3. SOIL | | X | |
| 4. LAND CAPABILITY | | X | |
| 5. LAND USE | X | | |
| 6. VEGETATION | | X | |
| 7. WILDLIFE | X | | |
| 8. SURFACE WATER | | | X |
| 9. GROUND WATER | X | | |
| 10. AIR QUALITY | X | | |
| 11. NOISE | X | | |
| 12. SENSITIVE LANDSCAPES | | | X |
| 13. VISUAL ASPECTS | X | | |
| 14. SOCIO ECONOMICS | X | | |
| 15. INTERESTED & AFFECTED | X | | |
| 16. ARCHAEOLOGICAL | | | X |

- **Environment likely to be affected by the alternative land use**

  Mining will be a new land use over this area. The site that is earmarked for mining represents ± 100 % of the total area applied for. And it is further not foreseen that mining activities would disturbed an area of more than 0.3 ha at any given time. The whole of the 3.5 ha area will be under mining associated infrastructure or activities.

- **Assessment of the impacts created by the mining activity**

  Before any assessment can be made the following evaluation criteria need to be described:

*Explanation of **probability** of impact occurrence*

| Probability of impact | Explanation of probability |
|---|---|
| Very low | <20% sure of particular fact or likelihood of impact occurring. |
| Low | 20 to 39% sure of particular fact or likelihood of impact occurring. |
| Moderate | 40 to 59% sure of particular fact or likelihood of impact occurring. |
| High | 60 to 79% sure of particular fact or likelihood of impact occurring. |
| Very high | 80 to 99% sure of particular fact or likelihood of impact occurring. |
| Definite | 100% sure of particular fact or likelihood of impact occurring. |

## *Explanation of **extend** of impact*

| Extend of impact | Explanation of extend |
|---|---|
| Site specific | Direct and indirect impacts limited to site of impact only. |
| Local | Direct and indirect impacts affecting environmental elements within the **Brits district**. |
| Regional | Direct and indirect impacts affecting environmental elements within North West Province. |
| National | Direct and indirect impacts affecting environmental elements on a national level. |
| Global | Direct and indirect impacts affecting environmental elements on a global level. |

## *Explanation of **duration** of impact*

| Duration of impact | Explanation of duration |
|---|---|
| Very short | Less than 1 year |
| Short | 1 to 5 years |
| Medium | 6 to 12 years |
| Long | 13 to 50 years |
| Very long | Longer than 50 years |
| Permanent | Permanent |

## *Explanation of impact **significance***

| Impact significance | Explanation of significance |
|---|---|
| No impact | There would be no impact at all - not even a very low impact on the system or any of its parts. |
| Very low | Impact would be negligible. In the case of negative impacts, almost no mitigation and/or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap and simple. In the case of positive impacts, alternative means would almost all likely to be better, in one or a number of ways, than this means of achieving the benefit. |
| Low | Impact would be of a low order and with little real effect. In the case of negative impacts, mitigation and/or remedial activity would be either easily achieved or little would be required, or both. In case of positive impacts, alternative means for achieving this benefit would likely be easier, cheaper, more effective, less time-consuming, or some combination of these. |
| Moderate significance | Impact would be real but not substantial within the bounds of those which could occur. In the case of negative impacts, mitigation and/or remedial activity would be both feasible and fairly easily possible. In the case of positive impacts, other means of achieving these benefits would be about equal in time, cost and effort. |
| High significance | Impacts of a substantial order. In the case of negative impacts, mitigation and/or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these. In the case of positive impacts, other means of achieving this benefit would be feasible, but these would be more difficult, expensive, time-consuming or some combination of these. |
| Very high significance | Of the highest order possible within the bounds of impacts which could occur. In the case of negative impacts, there would be no possible mitigation and/or remedial activity to offset the impact at the spatial or time scale for which it was predicted. In the case of positive impacts, there is no real alternative to achieving the benefit. |

## *Assessment and evaluation of potential impacts KEY*

| ASPECT | IMPACTS (Nature of the impact) | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| **1. Environmental Component** | | | | | |
| **Actions, activities or processes, including any NEMA EIA Regulation listed activities** | | | | | |
| See list of activities and associated environmental components that are being impacted on, as being spelled out in Table 1 (impact identification matrix for the mining operations). | **A.1** | | | | |
| Extent | Site | | | | |
| Duration | Permanent | **A.2** | | | |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Constru | Operation | Decommissioning | Closure | |
| | | | **A.3** | | |

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

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(vii)*

The applicant discover this good quality granite and the fact that it is within acceptable close range from the town of Marikana/Sonop/Brits where the most granite for the clients (processing of granite blocks) for building sector etc. The demand and need for good quality granite to be delivered, make this project and site desirable. The farm portion over which the application was applied for is used as natural grazing land.

There were no sensitive areas nearby this application area noted. This will be a very small operation (3.5ha) with very limited impacts on the surrounding environment.

The site is selected in such a way that farming will still be possible on the rest of the farm. **Mining is concentrated on the rock outcrop areas.** The specific occurrence of the granite deposit dictates the selection of the specific mining site. The loss of land use and land capability will be temporary as the site will be rehabilitated in such a way that it allows the establishment of a grass cover again. The rest of the farm will still be continued to be used for grazing for cattle/ cultivation of crops (wheat, etc.).

Although this is an small granite mining operation it would also add to the increased economic activity within the farming and exiting mining community around Brits. **Jobs for 18 permanent labourers** will be created.

Negative impacts on the area are expected to be temporary and can be mitigated to a large extent if the recommendations of the EMP are adhered to e.g. rehabilitation. No concerns have been raised as yet by any I & AP. The specific occurrence of the granite deposit dictates the selection of the specific mining site. The study area in general is well known for granite mining operations. The resource is available that can be economically mined within a period of 2 years.

In terms of the EIA regulations, consideration must also be given to alternatives. Alternatives are different approaches and ways of meeting the need, purpose and objectives of a proposed activity. Alternatives may include a location site alternative, activity alternatives, processes or technology alternatives, temporal alternatives etc. the no-go alternative or option is also considered, as it provides the baseline against which the impacts or other alternatives may be compared.

However, for this specific project, no alternatives have been investigated, with the exception of the no-go alternative. The reason for this being that the mining permit is being applied for the sole purpose of mining of granite. The no-go option entails the continuation of the current land use (natural grazing and cultivation of wheat crops, etc.) on the study site.

The no-go option is therefore not a feasible option in this case, as it suggests that the mineral reserves should not be exploited. The site layout will be only the quarry and office container. The stockpiles of the topsoil (where available) will be placed next to the side of the quarry on the outside. This will have the advantage to be nearby available to be used for rehabilitation.

### (viii) The possible mitigation measures that could be applied and the level of risk

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(viii)*

Refer to the results of consultation contained in **Table 7** for the issues that were raised by I&AP's and stakeholders during the review period of the consultation phase of the BAR/EMPr report, as well as the response to those issues made by the Environmental Assessment Practitioner.

The farm road will be maintained by Tashmarie Granite (Pty) Ltd. for the period of mining and all measures for safety of the other road users will be in place and properly managed. The mitigation measures and technical management action plans which address potential impacts are discussed below. Please see section below for more detail.

**Table 10: Assessment of the nature, extent, duration, probability and significance of the potential environmental, social and cultural impacts of the proposed Mining operation, including the cumulative environmental impacts**

| ASPECT<br>1. GEOLOGY | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Geology is being destroyed during opencast development and mining of the (granite) ore body. The planned production rate would be 300 m³ a month. In the extraction process waste rock is also generated that ends-up on waste rock dumps or used to back-fill quarries. During operation which will be for the next 2 years, the mineral resource (granite up to 4.5m (2 m below surface) will be mined. Waste material will be disposed off/backfilled in quarry as part of the mining process. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Permanent | | | | An opencast mining method will be used to extract mineral deposits. Therefore the original geology will be totally destroyed. An opencast (bench mining) method (drilling and cutting with diamond wire saw) would be used to mine the granite. In order to reach the granite, it is drilled, blasted and removed with an excavator and trucks. Therefore the original geology will be totally destroyed (except some waste material) as it is seen as a significant impact. |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>2. TOPOGRAPHY | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | *** Change in landform :**<br>The existing topography will be described as flat with some rock outcrops (low hills, rock plates) and the majority of infrastructure required for the project would have an impact on topography. The result of the mining process is the creation of prominent waste dumps and a quarry (depression) in the landscape.<br>*** Disturbance of the surface drainage:**<br>The mining of granite will result in the creation of a quarry that acts as depressions in the environment that captures run-off (standing water). The mining of the mineral deposits will result in the creation of a quarry. Mining activities will be concentrated as indicated on **Appendix 1(b)** on the application area (approximately 4.5 m depth). Normal surface drainage will be disturbed at a given point. Run-off if any will be diverted away from the specific site. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Very long to Permanent | | | | Creation of excavations |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for | Phase 1 | Phase 2 | Phase 3 | Closure | |

| | | | | | |
|---|---|---|---|---|---|
| the impact | | X | X | X | |

| 3. SOIL | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | The surface area is characterized by swallow soil, with only thin organic layer on top. Any construction of infrastructure should be preceded by the **removal of all available topsoil where available.** Topsoil removal during site preparation earmarked for mining. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | In the process of removing topsoil the soil layers are mixed and the structure may be disturbed. Proceeding with mining (quarrying and creating waste rock dumps) without proper removal of topsoil and stockpiling. |
| Probability | High | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| 3. SOIL | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | The establishment, construction, operation and eventually rehabilitation (demolition) of listed structures such as the access roads, stockpiles, cause compaction of soil, the loss of a growth medium resource and the alienation of a particular surface area and should be preceded by the **removal of all available topsoil/overburden material (although limited).** Topsoil removal during site preparation earmarked for mining. All mining activities will be concentrated on the identified mining focus area where mineral deposits could be found. In the same time a certain surface area is therefore alienated. **The active mining surface area (alienated) would be restricted within the 0.3 ha within a total of 3.5 ha at any given time for the next 2 years.** | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | Site preparation for mining, construction, operation of listed infrastructure, mining process (resulting quarry and waste rock dumps) and the construction of access roads. Mining within the application boundaries. |
| Probability | High | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>3. SOIL | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Soil erosion: Due to the fact that certain surface areas would become compacted and this would lead to lesser infiltration of rainwater and more run-off that could cause erosion on bare disturbed surfaces. Erosion would always be possible until such time a vegetation cover is provided during rehabilitation phase. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Very short | | | | When removing topsoil during site preparation, little storm water control structures are in place. If a severe storm hits the area, it may lead to erosion on site. Topsoil stockpiles may be prone to erosion due to lack of vegetation cover. Water control structures may fail or severe rainstorms may cause excessive run-off. Surface compaction due to activities taking place. |
| Probability | Very low | | | | |
| Significance | Low | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| 3. SOIL | | | | | |
| Nature of the impact | Potential of soil contamination. | | | | None. |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | Vehicle/equipment breakages and oil/lubricant /diesel spills may contaminate soil.<br>Earth moving equipment breakages and oil/lubricant /diesel spills may contaminate soil.<br>The workshop may contaminate soil due to spillages and bad management. Bad surface water management may divert contaminated run-off water on soil and thereby contaminating it. |
| Probability | Moderate | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| 3. SOIL | | | | | |
| Nature of the impact | Loss of soil structure | | | | None |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | In the process of removing topsoil the soil layers are mixed and the structure may be disturbed. |
| Probability | High | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| 3.SOIL | | | | | |
| Nature of the impact | Loss of soil fertility | | | | None |
| Extent | Site | | | | Activity causing the impact |
| Duration | Short | | | | The mixing of soil during site preparation, compaction and potential pollution (spillages form oil etc.) all may cause this situation. |
| Probability | Definite | | | | |
| Significance | Low | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT | IMPACTS | CUMULATIVE IMPACTS |
|---|---|---|
| 4.LAND CAPABILITY | | |
| Nature of the impact | **Permanent loss of land capability to support grazing/cultivation of crops**. The area is being used as natural grazing and cultivation of wheat and lucern.by the landowner. A small area (3.5ha) of the total farm area where the active mining activities will occur (excavations and stock piles) will thus be temporary alienated, until the area is rehabilitated.<br>Permanent loss of land capability to support grazing. The small area where the infrastructure such as the, buildings, quarry, waste rock dumps, stock piles, etc. will thus be alienated, until the area is rehabilitated. Some structures could probable remain if an alternative use is found. The quarry would remain in the end but would be rehabilitated. The quarry could probable serve as a water reservoir, ensuring some capability.<br>Prior to mining the land was used mostly for grazing. After rehabilitation the land will be too disturbed with hardly any natural areas left to be grazed. Instead of grazing the voids left by the mining activities can be used for other activities such as waste dumping, reservoirs or recreational areas.<br>Before the mining activities, the land was capable is being used for grazing. After closure the mining area can be used for possible other activities. This may be considered a possible improvement in land | |

| | | | | | |
|---|---|---|---|---|---|
| | capability. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | Site preparation for additional mining sites and the construction, operation of listed infrastructure, the land capability of the active mining area will be totally destroyed. |
| Probability | Definite | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>5. LAND USE | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | The area will lose its land use to support grazing / cultivation of crops. The area will thus be alienated. A certain surface area would remain covered with waste rock dumps if not utilized as product or dumped again in the quarry. The quarry as such would remain and a certain portion of land would probably be alienated for any future use, other than serving as a water hole once rehabilitated and made safe, etc. Other buildings could possible kept for alternative use or demolished should it not be required anymore. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long to permanent | | | | Continuation and extension of the opencast mining activity. |
| Probability | Definite | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>6.VEGETATION | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Vegetation clearance, disturbance and trampling. Destruction of habitats for vegetation. Due to a disturbed ecosystem, bare ground and spreading of exotics can follow.<br>The surrounding area is used for cattle farming, cultivation of crops and mining of granite. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | The site preparation for new sites, construction of listed infrastructure will cause destruction of habitats for vegetation. Due to a disturbed ecosystem, bare ground and invasion of exotics could further spread.<br>The vegetation needs to be cleared to remove the topsoil. |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>6.VEGETATION | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Habitat change, loss of species, spread of alien and invasive species. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Permanent | | | | The change in the current habitat will be mitigated during final rehabilitation. |
| Probability | High | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>6.VEGETATION | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Dust coverage of plants. | | | | None |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | Heavy trucks and other vehicles on dirt roads, stockpiling, dumping of tailings are mainly responsible for this impact. |
| Probability | High | | | | |
| Significance | Low | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>7. WILDLIFE | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Wildlife or wildlife habitat destruction /change / disturbance. | | | | None |
| Extent | Site | | | | Activity causing the impact |
| Duration | Permanent | | | | The flora which normally serves as habitat for animals would be destroyed during site preparation. The increase in activity will temporarily scare other animals. The area will serve as a new habitat after rehabilitation. |
| Probability | Very High | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>7. WILDLIFE | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Injury and death to wildlife. | | | | None |
| Extent | Site | | | | Activity causing the impact |
| Duration | Short | | | | The movement of vehicles may kill certain insects, rodents and possible birds. Most of the remaining animal life will however move away due to noise. |
| Probability | Very low | | | | |
| Significance | Low | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>7. WILDLIFE | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Restoration of habitat. | | | | None |
| Extent | Site | | | | Activity causing the impact |
| Duration | Short | | | | As rehabilitation progresses the habitat of certain species will be restored/created (Closure objective) Animals will probably only move back when human movement is limited. |
| Probability | Low | | | | |
| Significance | Low | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>8. SURFACE WATER | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Increased silt load.<br>Clearing topsoil for footprint areas can increase infiltration rates of water to the groundwater system and decrease buffering capacity of soils to absorb contaminants from spills on surface. This can increase the risk of contamination of the groundwater system (increases aquifer vulnerability. | | | | |
| Extent | Local | | | | Activity causing the impact |
| Duration | Short | | | | The clearance of vegetation and the traffic on access roads will all contribute to an increase in the silt load on the mining area. |
| Probability | Moderate | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>8. SURFACE WATER | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Change in surface water quality.<br>Spillages from vehicles, diesel tanks lacking adequate bund walls, waste rock dump and also run-off (water, erosion, silt) that is not adequately diverted away from the quarry end-up in the quarry.<br>As this area is very small only 3.5 hectares the impact of surface water will be very low. Spillages from vehicles and also surface water run-off that is not adequately diverted away from the active mining excavations could end-up in the quarry creating problems regarding water quality and hindering the mining process. Surface run-off from active mining sites if not adequately contained on site could end-up in the adjacent undisturbed natural veld. | | | | |
| Extent | Local | | | | Activity causing the impact |
| Duration | Short | | | | "Dirty / Clean" water systems at facilities like the overburden dumps, roads, excavations, etc. may impact on the quality of the surface water. The water should be contained in the surface runoff control measures provided therefore. |
| Probability | Moderate | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>8. SURFACE WATER | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Change in surface water quantity:<br>Notwithstanding the above-mentioned facts, it is not expected that mining operations will have any effect on the boundaries or the general water flow of the catchment. Standing water in the quarry could as the result of rain/ surface run-off ending up in shallow depressions. Water for the dust suppression might be used from the quarries. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | It is an operational objective to contain or divert all surface run-offs from the active mining excavations area mainly due to pollution (sediment) potential. This will reduce the run-off quantity, although small in comparison with the drainage area in total. |
| Probability | High | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | | |

| ASPECT<br>9. GROUND WATER | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Water will be used during the diamond saw cutting operation of the granite blocks. No water will be abstracted from any borehole/ Water will be used for dust suppression on the roads and potable water will be brought in with a tanker.<br>There is very little water available in the gabbro-norites due to the geology. No seepage occurs in the open cast pits and there are no springs located on the property. | | | | Mining related activities. |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>9. GROUND WATER | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Reduction of groundwater quality<br>Mining activities are not likely to impact on local ground-water quality. Use of explosives may impact on the groundwater quality. It is not foreseen that the opencast operation will have any detrimental impact on the groundwater regime. No chemicals area used during the mining process. Handling of waste and transport of granite material can cause various types of spills (domestic waste, pit latrines, hydrocarbons) which can infiltrate and contaminate of the groundwater system. | | | | Mining related activities. |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>10. AIR QUALITY | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Dust will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation on gravel/dirt/farm roads. The mining method (diamond wire cutting) will serve as mitigation measure because mining will take place in a series of slots and thus limit dust to the active mining area. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | Initial construction work with regard to infrastructure that involves drilling, diamond wire cutting and the used of earth moving equipment. During the operational phase dust could be generated at the quarry, stockpiles, waste rock dump, (when dry), vehicles travelling on dirt roads, etc. |
| Probability | Moderate | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>11. NOISE POLLUTION | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Noise will be generated during the mining operation (drilling, blasting and cutting of the granite) and transportation from the site. The average noise levels are expected to be less than 80dB as they will be using a low loading.<br>The mine itself is located in rural area. The impact would be of more importance regarding the direct worker environment that should adhere to the requirements in terms of the Mine Health and Safety Act. | | | | |
| Extent | Local | | | | Activity causing the impact |
| Duration | Long | | | | Drilling, blasting and cutting of granite and vehicles (trucks). |
| Probability | Definite | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| **12. ARCHAEOLOGICAL AND CULTURAL SITES** | | | | | |
| Nature of the impact | It is unlikely that the proposed development will result in any significant archaeological impact at the site. There no graves within the application area or within 500m radius. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Permanent | | | | No impact |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | | | |

| ASPECT | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| **13. SENSITIVE LANDSCAPE** | | | | | |
| Nature of the impact | No sensitive landscapes identified. | | | | |
| Extent | Not applicable | | | | Activity causing the impact |
| Duration | Not applicable | | | | |
| Probability | Not applicable | | | | |
| Significance | Not applicable | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | | | | |

| ASPECT | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| **14.VISUAL ASPECTS** | | | | | |
| Nature of the impact | The quarry is located very far away from any major tourist road or township. This impact is considered insignificant since very few people will be aware of and see the mining operation. The mine (quarries) will not be visible from any scenic views, tourist routes or residential areas and dust pollution should be lower or close to the normal occurrence for this area. The location and type of this mine is of a nature that makes it less visible than most similar mines in the area. The mine is also located in the immediate vicinity of a number of similar bigger operations that already have a significant visual impact with regards to the aesthetic consideration. | | | | |
| Extent | Site | | | | Activity causing the impact |
| Duration | Long | | | | Mining operation. |
| Probability | Definite | | | | |
| Significance | Low | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>15. SOCIO ECONOMICS | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Increase in Socio – economic activity at local level.<br>The project in itself would ensure that approximately 18 workers would be assured of a job for some time. Job creation plays a major role in increasing the economic wellbeing of employees and their dependants in the Brits and surrounding district.<br>Once all mining operations have ceased it would definitely have a negative impact. | | | | The increase in socio-economic activity will add to the current growth and development in Brits district already created by industry and mining. |
| Extent | Local | | | | Activity causing the impact |
| Duration | Long | | | | Additional employment opportunities created. |
| Probability | Definite | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>15. SOCIO ECONOMICS | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | The main impact on the landowners is visual impact and the small area of 3.5 ha that will not be available for agricultural activities at any given time for 2 years.<br>This will however not be a problem as the landowner is also the applicant. | | | | The economic benefits in terms of investment and the delivery of services in the North West province will get an additional benefit from the project. |
| Extent | Regional | | | | Activity causing the impact |
| Duration | Very Long | | | | |
| Probability | High | | | | |
| Significance | Moderate | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

| ASPECT<br>16. INTERESTED & AFFECTEDPARTIES | IMPACTS | | | | CUMULATIVE IMPACTS |
|---|---|---|---|---|---|
| Nature of the impact | Impact of activities on I&AP's<br>Temporary loss of utilization of the mining focus areas for agricultural purposes. The long-term benefits far out-weight the current benefits from the current use.<br>The main impact on the landowners is visual impact and the small area of 3.5 ha that will not be available for agricultural activities at any given time for 2 years.<br>The anticipated impact is generated by drilling (dust), traffic and blasting. This will be monitored to ensure that it is within acceptable levels.<br>No further negative impact is expected that could be appropriately mitigated such as the eventual rehabilitation of the quarry, waste rock dumps, etc. | | | | |
| Extent | Local | | | | Activity causing the impact |
| Duration | Long | | | | |
| Probability | High | | | | |
| Significance | High | | | | |
| Phase responsible for the impact | Phase 1 | Phase 2 | Phase 3 | Closure | |
| | | X | X | X | |

### (ix)Motivation where no alternative sites were considered:

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(ix)*

**Alternative is not applicable**. The current land use is agricultural and is being utilized as grazing for cattle and cultivation of crops (wheat/lucern) by TASHMARIE GRANITE (PTY) LTD. The option to explore the possibility for mining is already in itself an alternative land use. The applicant, TASHMARIE GRANITE (PTY) LTD, is not interested in any other alternative land use over this land aside of mining alluvial gravel or any other activity on the designate 3.5 ha, or method use other than mining for the aforementioned minerals in the conversional way, which is the most cost effective. Please note that no additional infrastructure will be established, and therefore no alternatives for the location of infrastructure were identified.

### (x) Statement motivating the alternative development location within the overall site

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(x)*

The application area applied for is only 3.5 hectares thus the development location is limited to this area and the area where the mineral deposits occur. The occurrence of economical viable granite was identified over this specific area, thus this site selection.

## i) FULL DESCRIPTION OF THE PROCESS UNDERTAKEN TO IDENTIFY, ASSESS and rank the impacts and risks the activity will impose on the preferred site (In respect of the final site layout plan) through the life of the activity

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(h)(xi)*

See **Table 11** below:

**Table 11: Technical & Management Action Plans**

| Environmental Component | Geology |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| • Planned, systematic and thorough mining of the mineral resource should take place. As mining progress it should be indicated on a plan. Ensure that the mining plan is adhered to at all times.<br>• No mitigation exists except to eventually backfill the quarry with the granite waste material. Certain amount of waste material end-up on the waste rock dumps. The re-working of waste material as part of for the making of tombstones, curb stones, cobblestones etc. This will contribute towards the rehabilitation plan for the mine. When a certain part quarry has been back-filled or waste rock dump constructed, a certain amount of overburden material and topsoil mixture would be placed on the areas. This will not restore the geology, but will mitigate the impact, allowing waste rock dumps also to be used for mining purposes again. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Optimal mining of the mineral resource in order to ensure to facilitate better rehabilitation planning. The overburden and topsoil (where available) must be replaced in a responsible and planned manner in order to achieve some conformity with the surrounding undisturbed area. | |

| Environmental Component | Topography |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| • Access to all quarries should be controlled. The quarries need to be fenced off and physically blocked-off by means of waste rock. The necessary warning signs should be put in place.<br>• All waste rock dumps should be placed outside the border for exploitation but in the same process also allowing some room for an access route/road.<br>• Surface run-off control should be put in place at quarries (preventing water from entering quarries) and also at waste at rehabilitated waste rock dumps in order to prevent the loss of growth medium on top of the dumps.<br>• The dumping of waste rock should be done in such a way that it creates a screening effect form mining (quarry) activities. This also has | |

certain advantages with regard to containment of noise and dust.
Mining would be done according to a definite Mining Plan (only disturbing an area that is really necessary). As part of the Mining Plan the handling of tailings material, overburden material, construction of dumps and back-filling of trenches should also form part of it.
Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. As soon as a section of the mining site would not be explored anymore it should be rehabilitated (planned and phased manner).

**EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

**Closure Objective**

Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. Rehabilitation in such a way that the new landscape features would be stable and would not pose any safety hazard to human and animal anymore.

| Environmental Component | Soil (topsoil & access roads) |
|---|---|

**Environmental Management/Mitigation Measures/Action Plans/Commitments**

**Handling of topsoil as a natural resource:**
Any construction of infrastructure should be preceded by the removal of all available topsoil.
The surface of any new areas to be disturbed must be kept to a minimum. All available topsoil/overburden material should be removed and stockpiled for rehabilitation purposes.
Before the construction or expansion of any waste rock dump or quarry all topsoil/ overburden material should be removed and stored for rehabilitation outside the specific area earmarked for exploitation.
The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure.
**Waste rock dumps:**
Before the construction of any waste rock dump or quarry all topsoil/ overburden material should be removed and stored for rehabilitation outside the specific area earmarked for exploitation.
**Workshops/office site, access roads, etc:**
The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure.
**Access roads, etc:**
The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure.
Wherever possible all topsoil should be removed and stockpiled for rehabilitation purposes. Overburden material should also be stockpiled separately if practically possible. Topsoil and overburden material should be transported to an area earmarked for rehabilitation.

**EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

**Closure Objective**

The topsoil removed in the site preparation process should be replaced during the rehabilitation exercise.

| Environmental Component | Soil (soil compaction) |
|---|---|

**Environmental Management/Mitigation Measures/Action Plans/Commitments**

**Soil compaction:**
The mining operation should only be restricted to what is really required (demarcated area of exploitation) within the fenced-off area.
**Access roads** towards the sites would be restricted only to the roads (exiting roads & roads established in consultation with the surface owner). No land would be disturbed unnecessarily.
Mining& rehabilitation should be done in a well-planned manner (according to a MP) and in the process ensuring that activities are only restricted to surface areas really required.
Compaction of soil surface areas would be alleviated once rehabilitation of certain area starts. Certain roads would probably remain for access (in consultation with the surface owner). Those that would not be required would be ripped and rehabilitated.

**EMP Performance Assessment & Monitoring Reporting**

To be included in EMP/EIA.

**Closure Objective**

Alleviation of compaction of soils would be done during rehabilitation of the mining terrain, including roads.

| Environmental Component | Soil (Soil erosion) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Soil Erosion:**<br>To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion.<br>**Re-vegetation of exposed soil surfaces** (man-made surfaces on tailings dumps , overburden dumps, disturb surfaces in excavated sites, roads, etc.) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| No soil erosion must be visible and no potential for soil erosion must be present at closure. | |

| Environmental Component | Soil (Soil contamination) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Potential for soil contamination:**<br>Remove all **explosive waste products**. Blasting would only be restricted to ones a week and also the **blasting programme** would be executed in consultation with the Principal Inspector of Mines.<br>**Vehicles** to be inspected to ensure no oil and hydraulic fluid leaks occur.<br>All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time in order to enhance the natural occurring soil microbial activity).<br>No servicing of vehicles must occur except on a concrete floor in an area allocated for that. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training. Spill kids should be made available at the workshop. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Closure can only be given once all soil contamination measures have been conducted to prevent and remediate any incidences. | |

| Environmental Component | Soil (Soil structure) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Change in Soil structure:**<br>Ensure that all available (if any) topsoil is carefully removed in different areas.<br>The soil must also be compacted as backfilling is done.<br>No unnecessary driving outside the active mining area is allowed due to soil compaction that may occur.<br>Use organic material e.g. manure to restore the soil structure during rehabilitation.<br>Ensure that the rehabilitation plan makes provision for ripping of roads and spreading of organic material and that this is used during rehabilitation. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| No compaction of any roads or any other area must be present during closure. If the soil structure is disturbed mitigation measures e.g. the use of organic material, lime and fertilizers must be implemented to restore the soil structure. | |

| Environmental Component | Soil (Soil fertility) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Soil fertility:**<br>Little can be done to preserve the moisture status of the soil once it is exposed. The soil must be used for rehabilitation as quickly as possible.<br>The soil on the rehabilitated area must be analysed to determine the deficiencies and fertilizer and lime must be ploughed into the soil to restore its fertility.<br>Ensure that stockpiled soil is kept clean and where possible ensure that the topsoil is treated with organic material and fertilized.<br>Do not use stockpiled soil for any other purpose but for rehabilitation.<br>Do not use topsoil to construct roads. | |

| |
|---|
| Ensure the rehabilitation plan makes provision for fertiliser.<br>Make sure rehabilitated topsoil is analysed in a laboratory. The type of fertilizer would depend on a soil analyses and fertilizer recommendation. |
| **EMP Performance Assessment & Monitoring Reporting** |
| To be included in EMP/EIA. |
| **Closure Objective** |
| The soil must be fertile enough to sustain vegetation. |

| **Environmental Component** | **Land Capability** |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| The disturbance of land must be restricted (kept to a minimum) to the planned fenced-off, active mining site (mine focus area) only. Remove and stockpile topsoil where it is available. Take care that roads needed are restricted to 1 entry to the area for mining purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner.<br>Ultimate rehabilitation of the quarry and waste rock dumps will be done. This means that the area will be rehabilitated that will allow some new land capability (wilderness).<br>All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR).<br>Topsoil/overburden mixture will be placed on backfilled quarry and waste rock dumps and vegetated accordingly. Ensure that the rehabilitation plan is implemented. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Rehabilitated to the state that it is suitable for the predetermined and agreed land capability. | |

| **Environmental Component** | **Land Use** |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| The disturbance of land must be restricted (kept to a minimum) to the planned active, fenced-off mining site only. Remove topsoil where it is available.<br>Take care that roads are the only areas used to enter the area for mining purposes. If new land is used for roads to enter the area it must be done in consultation with surface owner.<br>All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil will be placed in areas where it was removed and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| The opencast section requires the land to be totally disturbed. The replacement of tailings material, overburden and topsoil would ensure that the land is able to support some grazing. | |

| **Environmental Component** | **Vegetation** |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Habitat change, loss of species, spread of alien an invasive species:**<br>No mitigation exists except to replace the vegetation by reseeding of grasses and natural growth.<br>Mining should be done in a well-planned manner (according to a MP) and in the process ensuring that activities are only restricted to surface areas really required. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| During rehabilitation indigenous vegetation cover comprising of local plant species should be established in order to ensure a well-adapted sustainable plant cover that would be able to prevent erosion of the replaced topsoil on the disturbed mining site exposed surfaces, tailings dumps, etc.). | |

| Environmental Component | Vegetation |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Habitat change, loss of species, spread of alien and invasive species:**<br>No mitigation exists except to replace the vegetation by reseeding of grasses.<br>Mining should be done in a well-planned manner (according to a MP) and in the process ensuring that activities are only restricted to surface areas really required.<br>***Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species.***<br>Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.<br>An invasive and alien control programme must be implemented by the mine. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| No invasive and alien species must be present after closure. A post-closure control program must also be implemented. | |

| Environmental Component | Vegetation |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| Ensure that all roads on the mining site (utilized by mining vehicles) are daily sprayed with water to control dust.<br>Site inspections to ensure the spraying are done. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| No excessive dust must be present during the normal growth season after closure. | |

| Environmental Component | Wildlife (habitat) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Wildlife or wildlife habitat destruction /change / disturbance :**<br>To take care that no new or unnecessary destruction of habitats, other than the demarcated mining site should take place.<br>**Restoration of habitat:**<br>Ensure the rehabilitation plan is implemented. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area. | |

| Environmental Component | Wildlife (Injury and death) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Injury and death to wildlife:**<br>Re-establish trees and grass cover as soon as possible during and after mining. Fence area off to ensure that no person can enter without permission.<br>Ensure that the rehabilitation plan is compiled and executed. Keep incidence register on killings and disturbances. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| The animal life habitat must be restored after decommissioning. Success will be measured against the extent to which the animals return to the area. | |

| Environmental Component | Wildlife |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| Make game catching, traps, snares, poaching and any other unnecessary disturbance of animals a disciplinary offence.<br>All staff must undergo basic environmental awareness lecture during induction training.<br>Machine operators and drivers to undergo appropriate level of environmental impact training to ensure they understand their impact on the environment. Ensure all staff working on the opencast section undergo basic lecture during induction phase.<br>Introduce the actions as listed above into disciplinary code as offence. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| The post-closure phase must be suitable for further restoration of the newly man-made animal habitat. The area must be stable and acceptable for the return of animal- and plant life. | |

| Environmental Component | Surface Water (quality) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Change in surface water quality:**<br>Storm water control measures must be implemented to divert clean water away from the active mining site and keep contaminated water contained.<br>Water control structures must be well designed and constructed to ensure a minimum down wash (erosion) of topsoil from quarry side slope areas.<br>Vegetation disturbance must be as little as possible.<br>The mining plan must be strictly adhered to.<br>Re-vegetation with at least *EragrostisTef* to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan.<br>Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately. No servicing of vehicles must occur except at the workshops. ***Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training.*** | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| The post closure water run-off may in no circumstance impact negatively on the water quality. | |

| Environmental Component | Surface Water (quantity) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Change in surface water quantity**: Once the area is rehabilitated the surface run-off will be restored and normal clean water run-off will end-up in the drainage system.<br>Once the area is rehabilitated the normal surface run-off drainage will be restored according to rehabilitation plan. The disturbed surface area must be rehabilitated to ensure some normal drainage. Minimal run-off should end-up in trenches. Final rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources. The depth of the operation of maximum of 4.5m will not intersect the groundwater table thus no negative impact. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Ultimately rehabilitation of the disturbed mining site and the construction of run-off control structures in a planned and phased manner would ensure normal drainage and stability of rehabilitated site. The drainage must be away from the gravel road. | |

| Environmental Component | Ground Water (quality) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Reduction of groundwater quality**: Storm water control measures must be implemented to divert clean water away from the site and keep (silt) contaminated water contained.<br>Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately. No servicing of vehicles must occur except at the workshops. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training.<br>Storage of fuel and oil should be done according to best practices, within a bunded area and in containers of which the integrity is sound.<br>The mining processes will not introduce any harmful or toxic substances and the most likely sources of pollution to the groundwater system would be associated with the infrastructure and / or workshop area. The most likely contaminants is therefore nitrate and bacteria (from sewage / pit latrines), as well as hydrocarbons (from vehicle accidents, diesel storage and the workshop area).<br>An incidence register for this purpose must be kept.<br>Drip trays must be available and used where emergency repairs is done.<br>All waste must be stored according to best practices and disposed at an authorized waste disposal facility. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Post water quality need to indicate a positive trend/improvement. | |

| Environmental Component | Ground Water (quantity) |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Reduction of groundwater quantity, lowering of groundwater level**: No measure required. No boreholes will be used. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Post water quality need to indicate a positive trend/improvement. | |

| Environmental Component | Air Quality |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| **Dust:** The mining method will serve as mitigation measure because mining will limit dust to the active mining area (area where the excavator and the trucks are operating).<br>The mining method (diamond wire cutting) will serve as mitigation measure because mining will take place in a series of slots and thus limit dust to the active mining area<br>Daily spraying of roads with water. Inspection should be done on a daily basis.<br>If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water.<br>Water or any other suitable dust allaying agent and equipment like drilling machines should be equipped with the necessary dust extractors and water sprayers must suppress dust pollution.<br>Blasting would only be restricted to a blasting programme and executed in consultation with the Principal Inspector of Mines. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Dust count must be the same as before mining. Rehabilitation of the mining sampling site would ensure that no dust is generated from exposed surfaces. | |

| Environmental Component | Noise |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| Ensure the required silencers are placed on all engines and compressors. No mitigation to reverse hooters is allowed due to safety standards. Inspection of vehicles and machinery to ensure silencers are fitted.<br>Ensure blasting occurs during daytime and that the immediate neighbours are warned of blasting activities. Noise pollution must be suppressed by the correct use of explosives by the blasting contractor in consultation with the Principal Inspector of Mines.<br>Ensure that a complaints register is created, managed and maintained. Vehicles and earthmoving equipment should be equipped with the necessary silencers and regularly maintained in a good working condition. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| No noise attributed to mining will be generated from the site after closure anymore. During decommissioning and closure phase some earth moving equipment and trucks would be utilized for rehabilitation. | |

| Environmental Component | Archaeological and Cultural Sites |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| All grave yards needs to be avoided if found.<br>However, the potential occurrence of unmarked graves or subsurface finds not recorded during this survey can never be excluded, so it is advised that SAHRA and a qualified archaeologist are informed immediately if archaeological objects are uncovered. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| No site of archaeological importance should be disturbed or damaged until the necessary permit from SAHRA has been issued. | |

| Environmental Component | Sensitive Landscapes |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| None | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| | |

| Environmental Component | Visual Aspects |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| Visual impact would be addressed by means of:<br>Concurrent rehabilitation should be done simultaneously as mining activities progress.<br>During the operational phase, the quarry activities will be concealed from the neighboring residents by means of the waste rock dumps.<br>Visual impact would be addressed by means of;<br>* re-vegetation of waste rock dumps (trees, shrubs, grasses);<br>* planting of trees around the base of certain dumps that could otherwise not sustain plant growth in order to create visual screens;<br>* the placement of waste rock dumps to create a screening affect from the active quarries;<br>* the spraying of $FeCL^2$ (Ferricloride) on exposed waste rock in order to create a similar colour as the natural weathered norite (application in the dry months).<br>* removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| No residual visual impacts will remain after closure. The terrain should blend in with the surrounding landscape. | |

| Environmental Component | Socio-Economics |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| There will be a very small increase in Socio – economic activity at local level, because of the size of this mining activity. | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| The economic development must deliver a multiplier effect that will contribute to the local economy long after closure. | |

| Environmental Component | Interested and Affected Parties |
|---|---|
| **Environmental Management/Mitigation Measures/Action Plans/Commitments** | |
| Access control should always be a priority. Active mining site should be fenced off and also any deep water holes.<br>If any problem should arise, meetings will be held with the landowners and affected parties to consult them on certain matters like permission to prospect and pollution.<br>No mining should be conducted under or near Eskom power line (10 m distance should be kept) *(Permission of Inspector of Mines should be obtained.)* | |
| **EMP Performance Assessment & Monitoring Reporting** | |
| To be included in EMP/EIA. | |
| **Closure Objective** | |
| Not to be an economic, social or environmental liability to the local community or the state now or in the future. The company will ensure that the interest of all interested and affected parties will be considered. | |

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

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(j)(i)(ii)(iii)(iv)(v)(vi)(vii)*

**Table 12: Identified Potentially Significant Impacts & Risks**

| NAME OF ACTIVITY | POTENTIAL IMPACT | (i) CUMULATIVE IMPACTS | (ii) SIGNIFICANCE | (iii) EXTEND AND DURATION | (iv) PROBABILITY OF THE IMPACT OCCURRING | (v) DEGREE TO WHICH IMPACT/RISK CAN BE REVERSED | (vi) DEGREE TO WHICH IRREPLACEABLE LOSS MAY | (vii) DEGREE TO WHICH IMPACT/RISK CAN BE MITIGATED |
|---|---|---|---|---|---|---|---|---|
| **Geology:** | | | | | | | | |
| 1. Vegetation clearance, topsoil/overburden mixture removal & stockpiling next to opencast mine focus area mechanically excavating topsoil/ overburden material/ and rocks with an excavator and loading onto trucks and transport to topsoil/overburden material dump mixture and waste rock dump or direct placement on benches.<br>2. Drilling , blasting and also cutting of granite with a diamond saw into granite blocks.(Mining) | Geology is being destroyed during opencast development and mining of the (granite) ore body. This is an existing mine (new owner) and therefore a quarry occur from which a mineral resource was extracted. The planned production rate would be 300 m³ a month. In the extraction process waste rock is also generated that ends-up on existing waste rock dumps or used to back-fill quarries that are not productive anymore. During operation which will be for the next 2 years, the mineral resource (granite up to 4-6m (2 m below surface) will be mined. | None | High - | At open excavations 2 years | High | Impossible | Not reversible at all | Not mitigated |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Topography:** | | | | | | | | |
| | *Change in landform: The existing topography is described as flat with some rock outcrops (low hills, rock plates) and the majority of infrastructure required for the project would have an impact on topography. The result of the mining process is the creation of prominent waste dumps and a quarry (depression) in the existing landscape.<br>*Disturbance of the surface drainage:<br>The mining of granite resulted in the creation of a quarry that acts as depressions in the environment that captures run-off (standing water).<br>Mining activities will be concentrated as indicated on the application area (approximately 3.5 ha and ultimately 4.5 m below surface). Normal surface drainage will be disturbed at a given point. Run-off if any will be diverted away from the specific site. | None | Moderate | 2 years | Moderate | Possible | Partly reversible | Not mitigated |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Land use** | | | | | | | | |
| | The area will lose its land use to support grazing. The area will thus be alienated. A certain surface area would remain covered with waste rock dumps if not utilized as product or dumped again in the quarry. The quarry as such would remain and a certain portion of land would probably be alienated for any future use, other than serving as a water hole once rehabilitated and made safe, etc. Other buildings could possible kept for alternative use or demolished should it not be required anymore. | Localized | Moderate- | 2 years | Low | Possible | Partly reversible | Fully mitigated. |
| **Surface water** | | | | | | | | |
| | Increased silt load with surface water run-off. | Localized | Moderate | 2 years | Low | Possible | Reversible | Fully mitigated. |
| **Air quality** | | | | | | | | |
| | Dust will be generated during the mining operation (loading with excavator on to a dump truck) and transportation on gravel /farm roads. The mining method (diamond wire cutting) will serve as mitigation measure because mining will take place in a series of slots and thus limit dust to the active mining area. Water is being used in the process. | Localized | Low | 2 years | Low | Possible | Reversible | Fully mitigated. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Noise** | | | | | | | | |
| | Drilling diamond wire cutting of granite blocks in quarry, earth moving equipment and vehicles (trucks), generators would cause a noise impact. The mine itself is located in rural landscape, with dwellings located further than 258m to 413m from site. The impact would also be of importance regarding the direct worker environment that should adhere to the requirements in terms of the Mine Health and Safety Act. | Localized | Low | 2 years | Low | Possible | Reversible | Fully mitigated. |
| **Vegetation** | | | | | | | | |
| | Vegetation clearance, disturbance and trampling. Destruction of habitats for vegetation. Due to a disturbed ecosystem, bare ground and spreading of exotics can follow (Black Wattle, etc). Surface areas possible disturbed is only restricted to the mine focus area.<br>Habitat change, loss of species, spread of alien and invasive species<br>Dust coverage of plants. | Localized | Moderate | 2 years | Low | Possible | Reversible | Fully mitigated. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Wild life** | | | | | | | | |
| | Wildlife or wildlife habitat destruction /change / disturbance<br>Mining related activities will be limited to ±0.3 ha during any phase, but will lead to the temporary emigration of local species from the mining area onto the adjacent area.<br>The movement of vehicles may kill certain insects, rodents and possible birds. Most of the remaining animal life will however | Localized | Low to Moderate | 2 years | Low | Possible | Reversible | Fully mitigated. |
| **Visual impact** | | | | | | | | |
| | The quarry is located very far away from any major tourist road or township. This impact is considered insignificant since very few people will be aware of and see the mining operation.<br>The mine (quarries) will not be visible from any scenic views, tourist routes or residential areas and dust pollution should be lower or close to the normal occurrence for this area. The location and type of this mine is of a nature that makes it less visible than most similar mines in the area. The mine is also located in the immediate vicinity of a number of similar bigger operations that already have a significant visual impact with regards to the aesthetic consideration. | Localized | Moderate | 2 years | Low | Possible | Reversible | Fully mitigated. |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Social economic** | | | | | | | | |
| | Increase in Socio – economic activity at local level:<br>The project in itself would ensure that approximately 18 workers would be assured of a job for some time. Job creation plays a major role in increasing the economic wellbeing of employees and their dependents in the Brits district.<br>Once all mining operations have ceased it would definitely have a negative impact. | Localized | Low | 2 years | High | Possible | Reversible | Fully mitigated. |

## k) Summary of specialist reports

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(k)*

**Table 13: Specialist Reports**

| LIST OF STUDIES UNDERTAKEN | RECOMMENDATIONS OF SPECIALIST REPORTS | SPECIALIST RECOMMENDATIONS THAT HAVE BEEN INCLUDED IN THE EIA REPORT (Mark with an X where applicable) | REFERENCE TO APPLICABLE SECTION OF REPORT WHERE SPECIALIST RECOMMENDATIONS HAVE BEEN INCLUDED. |
|---|---|---|---|
| None | | | |
| | | | |
| | | | |

## l) Environmental impact statement

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(l)*

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

The small scale granite mining operation is definitely going to have an impact on the environment. The main impact relates to visual, topography, geology, soil, vegetation, and land use and land capability.

The granite dimension stone resource will be mined over a period of 2 years with a possibility to renewal of mining permit of another 3 years. The existing land-use is agriculture, grazing land, cultivation of crops. This is a small operation and for the next 2 years only a small portion of the farm will be temporarily alienated.

The conservation of topsoil is of utmost importance and therefore in order to ensure a sustainable land use again on the 3.5 ha. This will be used again as growth medium during the rehabilitation phase of the backfilled quarry and waste rock dumps. Topsoil/overburden mixture will be stored in berm walls on the border of the quarry in order to divert any surface run-off during a rainfall event.

Other environmental impacts relates to the day to day operation that could easily be managed, such as dust and noise.

### ii) Final Site Map

See **Appendix 1(b) 1-3.**

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

The site is selected in such a way that farming (grazing for cattle and cultivation of crops like wheat and lucerne) will still be possible on the rest of the farm. The loss of land use and land capability will be temporary as the site will be rehabilitated in such a way that it allows the establishment of grass cover again. The rest of the farm will still be continued to be used for grazing for cattle.

Although this is a small granite mining operation it would also add to the increased economic activity within the farming and exiting mining community around Brits. Jobs for 18 permanent labourers will be created.

Negative impacts on the area are expected to be temporary and can be mitigated to a large extent if the recommendations of the EMP are adhered to e.g. rehabilitation.
No concerns have been raised as yet by any I & AP.

The specific occurrence of the granite deposit dictates the selection of the specific mining site..

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

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(m)*

The main closure objective of the applicant is to rehabilitate the entire mining site in such a way to ensure that the new man-made topographical landscape would blend in with the surrounding landscape, not pose a safety hazard to humans and animals, while at the same time allow for alternative land uses. Establish a self-sustaining and stable vegetation cover in order to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO.

The applicant will ensure that the Operation/Sites are:

- Neither a danger to public health and safety nor to animal health and safety;
- Not a source of any pollution;
- Stable (ecological and geophysical);
- Rehabilitated to the state that is suitable for the predetermined and agreed land use (grazing);
- Compatible with the surrounding biophysical environment;
- A sustainable environment;
- Aesthetically acceptable;
- Not an economic, social or environmental liability to the local community or the state now or in the future.

## n) Aspects for Inclusion as Conditions of Authorisation

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(n)*

None

## o) Description of Any Assumptions, Uncertainties and Gaps in Knowledge

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(o)*

None

## p) Reasoned Opinion As To Whether The Proposed Activity Should Or Should Not Be Authorised

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(p)*

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

This activity will have only low and very low impacts and no significant impacts were identified. No concerns were raised by the interested parties. These mining activities will have no significant impacts on them or their surrounding environment.

### (ii) Conditions that must be included in the authorisation

None

## q) Period for which the environmental authorisation is required

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(q)*

24 months for initial permit period, thus 24 months in total.

## r) Undertaking

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(r)*

**UNDERTAKING**

**I, H M Erasmus, the undersigned and duly authorised thereto by DERA Omgewingskonsultante (PTY) Ltd hereby confirm:**

- ✓ **the correctness of the information provided in this report;**
- ✓ **the inclusion of comments and inputs from stakeholders and I&AP's;**
- ✓ **the inclusion of inputs and recommendations from the specialist reports where relevant and where applicable and;**
- ✓ **all information provided to the interested and affected parties a true reflection of this document.**

**Signed at Klerksdorp on this day 11th November 2022.**

.....

**Signature of EAP**

## s) Financial Provision

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(s)*

The total application area is 3.5 hectares, but only 0.3 hectares will be disturbed by opencast excavations at any given time. These figures were used for the calculation of the quantum, according to DMRE current 2022 tariffs, which will amount in a total of **R 147'106.79** needed for the rehabilitation guarantees. **R 147'106.79** will be sufficient for rehabilitation. See quantum attached as **Appendix 4**.

### (i) Explain how the aforesaid amount was derived.

This will be a small operation where only 0.3 hectares will be disturbed at any stage by creating a quarry where granite will be excavated and 0.2 hectares for after care and maintenance. The amount was determined through the quantum tables provided by DMR.

### (ii) Confirm that this amount can be provided for from operating expenditure

Yes it is hereby confirmed that the amount will be provided from operating expenditure.

## t) Specific Information required by the competent Authority

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(t)*

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

#### 1. Impact on the socio-economic conditions of any directly affected person.

The two areas which make up this application area are owned by two land owners Mr HJ Bruwer and Ms FJ Grimett. They will be directly impacted by the operations. They have however both been consultated and have had no objection against the application. No other person will be directly affected by this activity.

2. **Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act**
   This activity will have no impact on archaeological structures.

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

*In term of NEMA – EIA Regulations No. 326 of 7 April 2017 – Reg. 21, Appendix 1 – 3. (1)(u)*

NONE

# PART B

# ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

## 1. DRAFT ENVIRONMENTAL MANAGEMENT PROGRAMME.

### a) Details of the EAP

Name of the Practitioner: DERA Environmental Consultants (Pty) Ltd.
Ms. Esna Erasmus
Tel No.: 018-468 5355
Fax No. : 018 011 3760
E-mail address: dera.office@dera.co.za. The EAP Ms. Esna Erasmus has a National Diploma in Agriculture Resource Utilization and a Baccalaureus Technologiae degree in Agricultural Management and completed three years subjects in Masters of Environmental Sciences in Environmental Sciences and Management.

See **Figure 1**, **Figure 2 & Figure 3** for copies of his qualifications and CV.

### b) Description of the Aspects of the Activity

**Table 14:** Description of Activities to be followed

| Activities | Description of phases | Associated structures and infrastructures |
|---|---|---|
| **The Mineral** | The applicant intends to mine for Granite /Syenite/(MA) situated on a the farm HARTEBEESTPOORT B 410 JQ (over a certain portion of Portion 961 and over a certain portion of Portion 1132). The Granite will be used in different facets of the dimension stone industry. | |
| **The extend** | The granite is situated on this demarcated area on average 4.5 meters deep. The identified and demarcated which are 3.5 hectares in total includes the entire mining area. 2 hectares will be used for mining and 1.5 hectare as dressing and stockpile area. The granite reserve on this 1.5 hectares is estimated at 9'000 m³. (It is taken that 10% of the material in situ (90'000m³) is sellable, thus 90% waste). | No infrastructure. |
| **Mining method** | The above area will be mined through blasting and opencast excavations where the granite will be drilled, blast and cut with a diamond saw into blocks. The blocks are then removed with a frond-end loader to the stockpile/dressing area for dressing and loading onto the trucks.<br><br>The granite blocks will be transported to the clients at a rate of 300m³ a month. The total estimated reserve of Granite is 9'000m³ taken at a production rate of 300m³ a month it will take 30 months to work the estimated reserve of 9'000 m³.<br><br>The granite which is 4.5m thick and the relatively low production rate of this operation make this 3.5 hectare to be worked sustainable over the initial period of two years and renewal periods of 3 years. | There will be a dress yard with ablution facilities next to the excavation.<br><br>Equipment to be used includes:<br>✓ 1 x Frond-end-Loader,<br>✓ 4 x jackhammers,<br>✓ 1 x diamond saw,<br>✓ 1 x tractor with water cart &<br>✓ 10 x Permanent laborers and one manager will be used in this operation. |

## c) Composite Map

See **Appendix 1(b) 1-3.**

There will be no infrastructure constructed on site. Only the opencast pit area and the excavation, temporary stockpiling and loading of granite.

## d) Description of Impact management objectives including management statements

### (i) Determination of closure objectives

The main closure objective of the applicant is to rehabilitate the entire mining site in such a way to ensure that the new man-made topographical landscape would blend in with the surrounding landscape, not pose a safety hazard to humans and animals, while at the same time allow for alternative land uses. Establish a self-sustaining and stable vegetation cover in order to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO. Another main objective is to manage the surface water in such way that an acceptable water standard is achieved when a closure certificate is issued.

**TASHMARIE GRANITE (PTY) LTD.** will ensure that the Operation/Sites are:

- Neither a danger to public health and safety nor to animal health and safety;
- Not a source of any pollution;
- Stable (ecological and geophysical);
- Rehabilitated to the state that is suitable for the predetermined and agreed land use;
- Compatible with the surrounding biophysical environment;
- A sustainable environment;
- Aesthetically acceptable;
- Not an economic, social or environmental liability to the local community or the state now or in the future.

**TASHMARIE GRANITE (PTY) LTD.** will furthermore:

- ensure that the physical and chemical stability of the rehabilitated site will be such that risk to the environment is not increased by naturally occurring forces to the extent that such increased risk cannot be contended with by the installed measures;
- subscribe to the optimal exploitation and utilization of South Africa's mineral resources (GRANITE);
- ensure that the mining site is closed efficiently and cost effectively.
- ensure that the operation is not abandoned but closed in accordance with the relevant requirements;
- ensure that the interest of all interested and affected parties will be considered;
- ensure that the all-relevant legislation regarding mine closure will be adhered to, and all relevant application procedures followed.

### (ii) Volumes and rate of water use required for the operation

Approximately 2000 L a day of water will be used during drilling and diamond saw cutting operation.

### (iii)Has a water use licence been applied for?

No as they will require very little water.

## (iv)Impacts to be mitigated in their respective phases

**Table 15: Measures to rehabilitate the environment affected by the undertaking of any listed activity**

| ACTIVITIES | PHASE | SIZE AND SCALE of disturbance | MITIGATION MEASURES | COMPLIANCE WITH STANDARDS | TIME PERIOD FOR IMPLEMENTATION |
|---|---|---|---|---|---|
| 1. Opencast granite excavations/quarries<br><br>2. Waste rock dumps<br><br>3. Stockpile area<br><br>4. Access road | Operational phase (Mining & Processing) & Rehabilitation & Decommissioning & closure | 3.5 ha in total, 0.3 hectares at any given stage. | TOPOGRAPHY: | | |
| | | | **The quarry will be back-filled and ultimately covered with a mixture of topsoil/overburden material (rehabilitation).**<br>• Quarry will be levelled and rehabilitated.<br>Mining would be done according to a definite mining plan (only disturbing an area of 3.5 ha).<br>**Concurrent backfilling of quarry with rock material and infilling (not total coverage) of waste rock dumps and backfilled quarry with the stockpiled topsoil/overburden mixture.**<br>Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape. As soon as a section of the mining site would not be mined anymore it should be rehabilitated (planned and phased manner). | Quarry need to be backfilled and compacted, providing a base for the replacement of topsoil.<br><br>Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape. Infill material should be sufficient to act as a growth medium. | As part of concurrent rehabilitation exercise.<br><br>As part of concurrent rehabilitation exercise. |
| | | | SOIL: | | |
| | | | **Handling of topsoil as a natural resource**:<br>Any future expansion of the excavations or construction of infrastructure should be preceded by the removal of all available topsoil and overburden material.<br>The surface of any new areas to be disturbed must be kept to a minimum. All available topsoil material should be removed and stockpiled for rehabilitation purposes.<br>Access roads, etc.:<br>The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure.<br>Wherever possible all topsoil should be removed and stockpiled for rehabilitation | Topsoil as natural resource should be handled responsible. In order to facilitate rehabilitation the topsoil need to be removed. | At the start of project. |

| | | | | | |
|---|---|---|---|---|---|
| | | | purposes. Topsoil should be transported to an area earmarked for rehabilitation. | | |
| | | | **Soil Erosion:**<br>To take preventive steps against land disturbance like erosion. Re-vegetation of exposed soil surfaces (man-made surfaces, disturb slope surfaces in excavated sites, roads, etc.) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure.<br>Once topsoil have been replaced on the stable/ sustainable slope the toe/bottom of such a slope need not to be disturbed again by mining **activity and therefor destabilize the slope again and starting erosion again.** | Soil erosion should be prevented and the necessary steps taken to conserve topsoil (Dept. of Agriculture (Resource Conservation))<br>A sustainable vegetation (grass cover should be provided) | Concurrent rehabilitation. |
| | | | **Potential for soil contamination:**<br>All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time in order to enhance the natural occurring soil microbial activity). | Soil should be able to sustain vegetation cover again. | Start bio-remediation as soon after the spillage have been contained and the soil have been removed to a bunded pvc-covered area. |
| | | | **Change in Soil structure:**<br>Ensure that all available (if any) topsoil is carefully removed in different areas.<br>The soil must also be compacted as backfilling is done.<br>No unnecessary driving outside the active mining area is allowed due to soil compaction that may occur.<br>Use organic material e.g. manure to restore the soil structure during rehabilitation.<br>Ensure that the rehabilitation plan makes provision for ripping of roads and spreading of organic material and that this is used during rehabilitation. | Compaction of soil should be restricted and alleviated with the necessary farming equipment.<br><br>Organic material (manure/compost) should be used. | Beginning of project and also part of the day to day operation until final rehabilitation of the site. |
| | | | **Soil fertility:**<br>Little can be done to preserve the moisture status of the soil once it is exposed. The soil must be used for rehabilitation as quickly as possible. | Soil fertility could only be addressed by application of fertilizer based on a soil analyses and fertilizer recommendation by an accredited | Application of fertilizer should be done before seeding of grasses. |

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| | | | The soil on the rehabilitated area must be analysed to determine the deficiencies and fertilizer and lime must be ploughed into the soil to restore its fertility.<br>Ensure that stockpiled soil is kept clean and where possible ensure that the topsoil is treated with organic material and fertilized.<br>Do not use stockpiled soil for any other purpose but for rehabilitation.<br>Do not use topsoil to construct roads.<br>Ensure the rehabilitation plan makes provision for fertilizer.<br>Make sure rehabilitated topsoil is analyzed in a laboratory. The type of fertilizer would depend on a soil analyses and fertilizer recommendation. | laboratory. | |
| | | | **LAND CAPABILITY/LAND-USE:** | | |
| | | | **Concurrent rehabilitation of the quarry will be done**. This means that the area will be rehabilitated that will allow some new land capability.<br>All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR).<br>Topsoil/overburden mixture will be placed on backfilled quarry and also used a infill material on waste rock dumps and the areas will be re-vegetated accordingly. Ensure that the rehabilitation plan is implemented. | | |
| | | | **SURFACE WATER:** | | |
| | | | Change in surface water quality:<br>Storm water control measures must be implemented to divert clean water away from the active mining site and keep contaminated water contained.<br>Water control structures must be well designed and constructed to ensure a minimum down wash (erosion) of topsoil/overburden mixture on backfilled quarry surface and waste rock dumps.<br>Vegetation disturbance must be as little as possible. | Provision of sustainable grass vegetation cover to prevent erosion (siltation of surface run-off). | Concurrent rehabilitation. |

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| | | | Re-vegetation with at least EragrostisTef to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan.<br>Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately. | See potential for soil contamination. No oil should be able to be spill any further by means of surface run-off during a rainfall event. | |
| | | | **VEGETATION:** | | |
| | | | **No mitigation exists except to replace the vegetation by reseeding of grasses and planting of trees, etc.**<br>Habitat change, loss of species, spread of alien and invasive species:<br>**Develop and implement an invasive and alien control programme** to control the spread of weeds and other invasive species.<br>Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.<br>An invasive and alien control programme must be drafted and implemented by the mine. | Re-seeding with indigenous grasses and planting of indigenous trees/shrubs.<br>Invasive control programme should be in place from day one. All listed plants in terms of CARA should be eradicated as spelled out. Alien vegetation should be removed. Not part of the en-vegetation cover.<br>Eradicate alien weeds, plants. | Concurrent rehabilitation.<br>Concurrent<br>Concurrent |
| | | | **VISUAL IMPACT:** | | |
| | | | Visual impact would be addressed by means of:<br>* re-vegetation of disturbed areas with grasses and trees/scrubs.<br>* removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact.<br>Concurrent rehabilitation should be happening for the next 2 years | The site needs to blend in with the surrounding landscape again. | Concurrent |

## e) IMPACT MANAGEMENT OUTCOMES

| ACTIVITY | POTENTIAL IMPACT | ASPECTS AFFECTED | PHASE | MITIGATION TYPE | STANDARD TO BE ACHIEVED |
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| 1.Mining of granite | 1.1 Removal of the granite up to 4.5 m. Drilling and blasting of granite to loosen blocks. | Geology & soil | Operational | **No mitigation exists except to eventually backfill the quarry with the granite waste material.** Certain amount of waste material end-up on the waste rock dumps. The **re-working of waste material** as part of for the making of tombstones, curbstones, cobblestones etc. This will contribute towards the rehabilitation plan for the mine. This will not restore the geology, but will mitigate the impact, allowing waste rock dumps also to be used for mining purposes again. | A stable levelled area that can sustain vegetation without excessive erosion. |
| | 1.2 Change in landform. The excavation will be sloped.<br>1.3 Disturbance of surface drainages | Topography | Operational and closure | **All waste rock dumps should be placed outside the border for exploitation** but in the same process also allowing some room for access route/road.<br>Surface water cut-off trench should be put in place around the active mining site I order to prevent surface water on the mining site.<br>The dumping of waste rock should be done in such a way that it creates a screening effect form mining (quarry) activities. This also has certain a advantages with regard to containment of noise and dust.<br>Rehabilitation of the new rehabilitated landscape in such a way that it would blend in with the surrounding landscape. | If not complete backfilled it must be gentle stable slopes. |

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| | 1.4 Stripping of all available topsoil and stockpiled | Soil | Construction and operational | **The surface of any new areas to be disturbed must be kept to a minimum. All available topsoil/overburden material should be removed and stockpiled for rehabilitation purposes.**<br>Waste rock dumps: Before the construction or expansion of any waste rock dump or quarry all topsoil/ overburden material should be removed and stored for rehabilitation outside the specific area earmarked for exploitation.<br>Workshops/office site, access roads, etc:<br>The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure. | Enough topsoil for rehabilitation to ensure sustainable vegetation. |
| | 1.5 Soil erosion due to the fact that certain surface areas would become devoid of any vegetation cover and compacted. This would lead to lesser infiltration of rain water and more run-off that could cause erosion on bare disturbed areas and side slopes. | Soil | Construction and operational | To take preventive steps against erosion. Implement and maintain cut-off trenches and or berms around the mining area to prevent water entering that can cause excessive erosion.<br>Re-vegetation of exposed soil surfaces (man-made surfaces on waste rock dump, disturb surfaces in quarry, roads, etc) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure. | No excessive erosion that cannot be stabilized. |
| | 1.6 Potential of soil contamination<br>Vehicle/equipment breakages and oil/lubricant /diesel spills may contaminate soil.<br>Earth moving equipment breakages and oil/lubricant /diesel spills may contaminate | Soil | Construction, operational and closure | **Remove all explosive waste products.** Blasting would only be restricted to ones a week and also the blasting programme would be executed in consultation with the Principal Inspector of Mines.<br>**Vehicles** to be inspected to | |

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| | soil.<br>The workshop may contaminate soil due to spillages and bad management. | | | ensure no oil and hydraulic fluid leaks occur.<br>All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time in order to enhance the natural occurring soil microbial activity).<br>No servicing of vehicles must occur except on a concrete floor in an area allocated for that. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training. Spill kids should be made available at the workshop. | |
| | 1.7. Loss of Land capability & land use. | Land capability & land use | Operational and closure | **The disturbance of land must be restricted (kept to a minimum) to the planned fenced-off, active mining site (mine focus area) only.**<br>Remove and stockpile topsoil where it is available. Take care that roads needed are restricted to 1 entry to the area for mining purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner.<br>**Ultimate rehabilitation of the quarry and waste rock dumps will be done. This means that the area will be rehabilitated that will allow some new land capability (wilderness).**<br>All rehabilitation will be done according to the final | Sustainable rehabilitated area. |

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| | | | | rehabilitation plans after approval by the Department of Mineral Resources (DMR).<br>Topsoil/overburden mixture will be placed on backfilled quarry and waste rock dumps and vegetated accordingly. Ensure that the rehabilitation plan is implemented. | |
| | 1.8 Increased silt load | Surface water | Operational | Change in surface water quality:<br>**Storm water control measures must be implemented to divert clean water away from the active mining site and keep contaminated water contained.**<br>Vegetation disturbance must be as little as possible.<br>The mining plan must be strictly adhered to.<br>Re-vegetation with at least EragrostisTef to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan. | Adhere to the GN704 regulation of the Dept of NWS<br><br>Adhere to mining plan.<br><br>Adhere to rehabilitation plan. |
| | 1.9 **Dust** will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation on gravel/dirt/farm roads. The mining method (diamond wire cutting) will serve as mitigation measure because mining will take place in a series of slots and thus limit dust to the active mining area. Water is being used in the process. | Air quality | Operational | **Dust:** The mining method will serve as mitigation measure because mining will limit dust to the active mining area (area where the excavator and the trucks are operating).<br>The **mining method** (diamond wire cutting) will serve as mitigation measure because mining will take place in a series of slots and thus limit dust to the active mining area<br>**Daily spraying of roads** with water. Inspection should be done on a daily basis.<br>If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated | No dust should be emitted from flat compacted surfaces that are actively being traversed by trucks, etc.<br><br>Adhere to dust requirements with regard to the worker environment as required in terms of the MHS. |

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| | | | | by means of spraying the roads with water.<br>Water or any other suitable dust allaying agent and equipment like drilling machines should be equipped with the necessary dust extractors and water sprayers must suppress dust pollution.<br>**Blasting would only be restricted to a blasting programme and** executed in consultation with the Principal Inspector of Mines. | Adhere to blasting programme approved by the Principal Inspector of Mines. |
| | 1.10 Drilling, diamond wire cutting of granite blocks in quarry, earth moving equipment and vehicles (trucks), generators would cause a noise impact. The mine itself is located in rural landscape, with dwellings located further than 258m to 413m from site. The impact would also be of importance regarding the direct worker environment that should adhere to the requirements in terms of the Mine Health and Safety Act. | Noise | Operational phase (Mining) & Rehabilitation | Ensure the required **silencers** are placed on all engines and compressors. No mitigation to reverse hooters is allowed due to safety standards.<br>Inspection of vehicles and machinery to ensure silencers are fitted.<br>Ensure **blasting** occurs during daytime and that the immediate neighbours are warned of blasting activities. Noise pollution must be suppressed by the correct use of explosives by the blasting contractor in consultation with the Principal Inspector of Mines. | With regard to silencers the mine should adhere to requirements in terms of the MHS, 1996.<br>Keep to maintenance schedule of the vehicle.<br><br>Adhere to blasting programme approved by the Principal Inspector of Mines. |
| | 1.11Vegetation clearance, disturbance and trampling. Habitat change, loss of species, spread of alien and invasive species<br>Dust coverage of plants.<br>Destruction of habitats for vegetation. | Vegetation | Operational phase (Mining) & Rehabilitation | **No mitigation exists except to replace the vegetation by reseeding of grasses.**<br>Develop and implement an **invasive and alien control programme** to control the spread of weeds and other invasive species.<br>Mining should be done in a well-planned manner (according to a mining plan) and in the process ensuring that activities are only | Adhere to CARA. |

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| | | | | restricted to surface areas really required. | |
| | 1.12 Wildlife or wildlife habitat destruction /change / disturbance | Wild life | Operational phase (Mining) & Rehabilitation | Wildlife or wildlife habitat destruction /change / disturbance: To take care that no new or unnecessary destruction of habitats, other than the demarcated mining site should take place.<br>injury and death to wildlife: Re-establish grass cover as soon as possible during and after mining. Fence area off to ensure that no person can enter without permission. | Demarcation, fencing- off of mining area. |
| | 1.13 The quarry is located very far away from any major tourist road or township. This impact is considered insignificant since very few people will be aware of and see the mining operation. | Visual impact | Operational phase (Mining) & Rehabilitation | **Visual impact would be addressed by means of:**<br>**Concurrent rehabilitation** should be happening for the next 2 years.<br>During the operational phase, the quarry activities will be concealed from the neighbouring residents by means of the waste rock dumps.<br>**Visual impact would be addressed by means of;**<br>*** the placement of waste rock dumps to create a screening affect from the active quarries;**<br>*** the spraying of FeCL²on exposed waste rock in order to create a similar colour as the natural weathered norite (application in the dry months).**<br>*** removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact** | Adhere to the Rehabilitation Plan and doing concurrent rehabilitation.<br><br>Re-vegetation by means of only indigenous vegetation species as spelled in the rehabilitation plan.<br><br>Adhere to mining plan.<br><br>Remove concurrently all scrap, waste that is stored in bins to a approved municipal waste dumping site. Scrap can be sold. |

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| | 1.14 Increase in Socio – economic activity at local level: | Socio – economic | Operational phase (Mining) & Rehabilitation | | |

## f) IMPACT MANAGEMENT ACTIONS

| ACTIVITY | POTENTIAL IMPACT | ASPECT | MITIGATION TYPE | TIME PERIOD FOR IMPLEMENTATION | COMPLIANCE WITH STANDARDS |
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| 2.1 Vegetation clearance, topsoil/overburden mixture removal & stockpiling next to opencast mine focus area<br>2.2) Mechanically excavating topsoil/overburden material/ and rocks with an excavator and loading onto trucks and transport to topsoil/overburden material dump mixture and waste rock dump or direct placement on benches.<br>2.2) Drilling , blasting and also cutting of granite with a diamond saw into granite blocks.(Mining) | Geology is being destroyed during opencast development and mining of the (granite) ore body. The planned production rate would be 300 m³ a month. In the extraction process waste rock is also generated that ends-up on existing waste rock dumps or used to back-fill quarries that are not productive anymore.<br>During operation which will be for the next 2 years, the mineral resource (granite up to 3.5m (2 m below surface) will be mined. | 2.1) **Geology** | **Planned, systematic and thorough mining of the mineral resource should take place.** As mining progress it should be indicated on a plan. Ensure that the mining plan is adhered to at all times.<br>No mitigation exists except to eventually backfill the quarry with the granite waste material. Certain amount of waste material end-up on the waste rock dumps. **The re-working of waste material** as part of for the making of tombstones, curbstones, cobblestones etc. This will contribute towards the rehabilitation plan for the mine. When a certain quarry has been back-filled or waste rock dump constructed a certain amount of overburden material and topsoil mixture would be placed on the areas. This will not restore the geology, but will mitigate the impact, allowing waste rock dumps also to be used for mining purposes again. | Concurrently, once a certain section has been mined-out.<br><br>For the duration of life of mine. | Conducting mining according to a definite approved mining plan.<br><br>See section D (IV) with regard to rehabilitation standards, etc. |

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| | * Change in landform :<br>The existing topography is described as flat with some rock outcrops (low hills, rock plates) and the majority of infrastructure required for the project would have a impact on topography. The result of the mining process is the creation of prominent waste dumps and a quarry (depression) in the existing landscape.<br>* Disturbance of the surface drainage:<br>The mining of granite resulted in the creation of a quarry that acts as depressions in the environment that captures run-off (standing water). Mining activities will be concentrated as indicated on the application area (approximately 3.5 m and ultimately 2m below surface).<br>Normal surface drainage will be disturbed at a given point. Run-off if any will be diverted away from the specific site. | 2.2) **Topography** | * **Access to all quarries** should be controlled. The quarries need to be fenced off and physically blocked-off by means of waste rock. The necessary warning signs should be put in place.<br>* All **waste rock dumps** should be placed outside the **border for exploitation** but in the same process also allowing some room for access route/road.<br>* **Surface run-off control** should be put in place at quarries (preventing water from entering quarries) and also at waste at rehabilitated waste rock dumps in order to prevent the loss of growth medium on top of the dumps.<br>* The dumping of waste rock should be done in such a way that it creates a **screening effect** form mining (quarry) activities. This also has certain advantages with regard to containment of noise and dust.<br>**Mining would be done according to a definite mining plan** (only disturbing an area that is really necessary). As part of the mining process the handling of waste rock, construction of dumps and back-filling of quarries should form part of.<br>**Rehabilitation of the new topographical landscape** in such a way that it would blend in with the surrounding landscape and allow normal surface drainage to continue. As soon as a section of the mining site would not be mined anymore it should be rehabilitated **(planned and phased manner).** | At the start of the project.<br><br>For the duration of life of mine.<br><br>Concurrent | Adhere to MHS with regard to safety, access control.<br><br>Mining plan as required in terms of the MHS, 1996.<br><br>Adhere to GN 704 regulation of the NDWS<br><br>Mining plan as required in terms of the MHS, 1996.<br><br>The surrounding landscape is dominated by Castle hills (kasteelkoppies). Waste rock dumps with a certain amount of rehabilitation work could blend in with surrounding landscape. |

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| | The surface area that will be occupied by the quarry, waste rock dumps, granite stockpiles is characterized by rock outcrops and really disturbed soil surface area.<br>Any disturbance or construction of infrastructure should be preceded by the removal of all available topsoil/overburden material (although limited).<br>Topsoil removal during site preparation earmarked for mining. | **2.3) Soil** | **Handling of topsoil as a natural resource:**<br>The surface areas to be disturbed must be kept to a minimum. All available topsoil/overburden material should be removed and stockpiled for rehabilitation purposes.<br>Waste rock dumps:<br>Before the construction of any waste rock dump or quarry all topsoil/ overburden material should be removed and stored for rehabilitation outside the specific area earmarked for exploitation.<br>Workshops/office site, access roads, etc:<br>The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure. | For the duration of life of mine.<br>Topsoil should be removed at the start of an area to be mined. | The mining activities should be restricted to the surface area within the boundaries of the mining authorisation. See plan No. 2A & 2B.<br><br>Topsoil should be stored within berm walls not higher than 2 meters on the border of the opencast area. |

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| | The establishment, construction, operation and eventually rehabilitation (demolition) of listed structures such as the access roads, stockpiles, cause **compaction of soil.**<br>In the same time a area is therefore **alienated** certain surface.<br>**Structures such as the such as the establishment of roads and the mine site, overburden /soil/waste dumps, cause compaction of soil, the loss of a growth medium resource and the alienation of a particular surface area.**<br>**The majority of the 3.5 ha will be disturbed, alienated covered with waste rock, quarry, etc.**<br>**The establishment, construction, operation and eventually rehabilitation (demolition) of listed structures such as the stockpiles, cause compaction of soil. All mining activities will be concentrated on the application area where the mining of granite will take place.**<br>**The active mining surface area (alienated) would be restricted within the 5 ha at any given time (in relation to** | **2.3) Soil** | The surface of any new areas to be disturbed must be kept to a minimum. All available topsoil/overburden material should be removed and stockpiled for rehabilitation purposes.<br>Waste rock dumps:<br>Before the construction or expansion of any waste rock dump or quarry all topsoil/ overburden material should be removed and stored for rehabilitation outside the specific area earmarked for exploitation.<br>Workshops/office site, access roads, etc:<br>The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure. | Topsoil should be removed at the start of an area to be mined. | Topsoil should be stored within berm walls not higher than 2 meters on the border of the opencast area. |

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| 2.1-2.3, & **2.4) Loading and Transport with trucks to client** | **Soil erosion:** Due to the fact that certain surface areas would become devoid of any vegetation cover and compacted, this would lead to lesser infiltration of rainwater and more run-off that could cause erosion on bare disturbed surfaces (steep non-vegetated side slopes and relative flat quarry surface area. Erosion would always be possible until such time a vegetation cover is provided during rehabilitation phase. Steep side slopes is prone to erosion damaged due to the lack of a proper vegetation cover and surface run-off diversion measures on top flat surface. | | **Soil Erosion:** To take preventive steps against land disturbance like erosion. Implement and maintain cut-off trenches/berms to prevent erosion. Re-vegetation of exposed soil surfaces (man-made surfaces on waste rock dump, disturb surfaces in quarry, roads, etc) should happen as soon as a particular activity has ceased in order to act as a sufficient erosion prevention measure. | At the start of an area to be mined. | Topsoil should be stored within berm walls not higher than 2 meters on the border of the opencast area. |

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| 2.1-2.3, &<br>2.4) Loading and Transport with trucks to client | **Potential of soil contamination**<br>Vehicle/equipment breakages and oil/lubricant /diesel spills may contaminate soil.<br>Earth moving equipment breakages and oil/lubricant /diesel spills may contaminate soil.<br>The workshop may contaminate soil due to spillages and bad management. Bad surface water management may divert contaminated run-off water on soil and thereby contaminating it.<br>During blasting the soil can be contaminated by waste products from explosives. | | Potential for soil contamination:<br>**Remove all explosive waste products.** Blasting would only be restricted to ones a week and also the blasting programme would be executed in consultation with the Principal inspector of Mines.<br>**Vehicles** to be inspected to ensure no oil and hydraulic fluid leaks occur.<br>All oil spills on soil to be removed and bio-remediate immediately (certain commercial products are available such as Terrasorb or it could be rehabilitated by means of the application of fertilizer and turn with a spade from time to time in order to enhance the natural occurring soil microbial activity).<br>No **servicing of vehicles** must occur except on a concrete floor in an area allocated for that. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training. Spill kids should be made available at the workshop.<br>An incidence register for this purpose must be kept.<br>Drip trays must be available and used where emergency repairs is done.<br>**Mobile diesel tankers should be stored/parked in a bunded facility.**<br>**Spillages from the wash bay area should always be contained within the facility constructed therefore and the oil/water separator should always be in a working order. Oil should be removed by a reputable company such as Oilkol.** | For the life of mine. | No spillages should happen. Containment is the bottom line. Adhere to GN 704 regulation. |

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| | Loss of soil structure | | Change in Soil structure:<br>Ensure that all available (if any) topsoil is carefully removed in different areas.<br>The soil must also be compacted as backfilling is done.<br>No unnecessary driving outside the active mining area is allowed due to soil compaction that may occur.<br>Use organic material e.g. manure to restore the soil structure during rehabilitation.<br>Ensure that the rehabilitation plan makes provision for ripping of roads and spreading of organic material and that this is used during rehabilitation. | At the start of the project. | Access routes should clearly be demarcated. Rehabilitated areas should be demarcated. |
| | Loss of soil fertility | | Soil fertility:<br>Little can be done to preserve the moisture status of the soil once it is exposed. The soil must be used for rehabilitation as quickly as possible.<br>The soil on the rehabilitated area must be analyzed to determine the deficiencies and fertilizer and lime must be ploughed into the soil to restore its fertility.<br>Ensure that stockpiled soil is kept clean and where possible ensure that the topsoil is treated with organic material and fertilized.<br>Do not use stockpiled soil for any other purpose but for rehabilitation.<br>Do not use topsoil to construct roads.<br>Ensure the rehabilitation plan makes provision for fertilizer.<br>Make sure rehabilitated topsoil is analyzed in a laboratory. The type of fertilizer would depend on a soil analyses and fertilizer recommendation. | For the life of mine. | Handle/ conserve topsoil as a scarce natural resource (Dept. of Agriculture and Forestry). |

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| | Permanent loss of land capability to support grazing. This area is the main focus area. The small area (3.5ha) where the active mining activities will occur (excavations and stock piles) will thus be temporary alienated, until the area is rehabilitated.<br>Permanent loss of land capability to support grazing. The small area where the infrastructure such as the, buildings, quarry, waste rock dumps, stock piles, etc will thus be alienated, until the area is rehabilitated. Some structures could probable remain if an alternative use is found. The quarry would remain in the end but would be rehabilitated. The quarry could probable serve as a water reservoir, ensuring some capability. | **2.4) Land capability** | The disturbance of land must be restricted (kept to a minimum) to the planned fenced-off, active mining site (mine focus area) only. Remove and stockpile topsoil where it is available. Take care that roads needed are restricted to 1 entry to the area for mining purposes. If new land is used for roads to enter the area it must be done in consultation with the surface owner.<br>Ultimate rehabilitation of the quarry and waste rock dumps will be done. This means that the area will be rehabilitated that will allow some new land capability (wilderness).<br>All rehabilitation will be done according to the final rehabilitation plans after approval by the Department of Mineral Resources (DMR). Topsoil/overburden mixture will be placed on backfilled quarry and waste rock dumps and vegetated accordingly. Ensure that the rehabilitation plan is implemented. | For the life of mine. | Handle/ conserve topsoil as a scarce natural resource (Dept. of Agriculture and Forestry).<br>Mining should be restricted to the authorised mining area (3.5 ha).<br><br>The area will be rehabilitated that will allow some new land capability (wilderness).<br><br>Adhere to the rehabilitation plan. |

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| | The area will lose its land use to support grazing. The area will thus be alienated. A certain surface area would remain covered with waste rock dumps if not utilized as product or dumped again in the quarry. The quarry as such would remain and a certain portion of land would probably be alienated for any future use, other than serving as a water hole once rehabilitated and made safe, etc. Other buildings could possible kept for alternative use or demolished should it not be required anymore. | **2.5) Land use** | Ditto. Same as above. See 2.4. | For the life of mine. | Handle/ conserve topsoil as a scarce natural resource (Dept. of Agriculture and Forestry). |
| | **Increased silt load** | **2.6) Surface water** | Change in surface water quality:<br>Storm water control measures must be implemented to divert clean water away from the active mining site and keep contaminated water contained.<br>Water control structures must be well designed and constructed to ensure a minimum down wash (erosion) of topsoil from quarry side slope areas.<br>Vegetation disturbance must be as little as possible.<br>The mining plan must be strictly adhered to.<br>Re-vegetation with at least EragrostisTef to be done as quickly as possible. Final re-vegetation to be done as per rehabilitation plan.<br>Vehicles to be inspected to ensure no oil and hydraulic fluid leaks occur. All oil spills on soil to be removed and bio-remediate immediately. No servicing of vehicles must occur except at the workshops. Training w.r.t pollution hazards and their impact on the environment must be given as part of induction training. | For the life of mine. | Adhere to the GN704 regulation of the Dept. of NWS.<br><br>Adhere to mining plan.<br><br>Adhere to rehabilitation plan.<br><br>All workers should receive environmental awareness training. |

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| **2.1-2.3, & 2.4) Loading and Transport with trucks to client** | **Dust** will be generated during the mining operation (loading with an excavator on to a dump truck) and transportation on gravel/dirt/farm roads. The mining method (diamond wire cutting) will serve as mitigation measure because mining will take place in a series of slots and thus limit dust to the active mining area. Water is being used in the process. | **2.7) Air quality** | **Dust:** The mining method will serve as mitigation measure because mining will limit dust to the active mining area (area where the excavator and the trucks are operating).<br>The mining method (diamond wire cutting) will serve as mitigation measure because mining will take place in a series of slots and thus limit dust to the active mining area<br>**Daily spraying of roads** with water. Inspection should be done on a daily basis.<br>If new roads are constructed, in coordination with surface owner, dust pollution must be mitigated by means of spraying the roads with water.<br>Water or any other suitable dust allaying agent and equipment like **drilling machines should be equipped with the necessary dust extractors** and water sprayers must suppress dust pollution.<br>**Blasting** would only be restricted to a **blasting programme** and executed in consultation with the Principal Inspector of Mines. | For the life of mine. | No dust should be emitted from flat compacted surfaces that are actively being traversed by trucks, etc.<br><br>Adhere to dust requirements with regard to the worker environment as required in terms of the MHS.<br>Adhere to blasting programme approved by the Principal Inspector of Mines. |
| | Drilling, diamond wire cutting of granite blocks in quarry, earth moving equipment and vehicles (trucks), generators would cause a noise impact. The mine itself is located in rural landscape. With dwellings located further than 258 m to 413m from site. The impact would also be of importance regarding the direct worker environment that should adhere to the requirements in terms of the Mine Health and Safety Act. | **2.8) Noise** | Ensure the required **silencers** are placed on all engines and compressors. No mitigation to reverse hooters is allowed due to safety standards.<br>Inspection of vehicles and machinery to ensure silencers are fitted.<br>Ensure **blasting** occurs during daytime and that the immediate neighbours are warned of blasting activities. Noise pollution must be suppressed by the correct use of explosives by the blasting contractor in consultation with the Principal Inspector of Mines.<br>Ensure that a **complaints register** is created, managed and maintained. Vehicles and earthmoving equipment should be equipped with the necessary silencers and regularly maintained in a good working condition. | For the life of mine. | With regard to silencers the mine should adhere to requirements in terms of the MHS, 1996.<br>Keep to maintenance schedule of the vehicle.<br><br>Adhere to **blasting programme** approved by the Principal Inspector of Mines. |

| | | | | | |
|---|---|---|---|---|---|
| 2.1-2.3, &<br>2.4) Loading and Transport with trucks to client | Vegetation clearance, disturbance and trampling. Destruction of habitats for vegetation. Due to a disturbed ecosystem, bare ground and spreading of exotics can follow (Black Wattle, etc). Surface areas possible disturbed is only restricted to the mine focus area (3,5ha) .<br>Habitat change, loss of species, spread of alien and invasive species<br>Dust coverage of plants | **1.8) Vegetation** | No mitigation exists except to replace the vegetation by reseeding of grasses.<br>Mining should be done in a well-planned manner (according to a mining plan) and in the process ensuring that activities are only restricted to surface areas really required.<br><u>Habitat change, loss of species, spread of alien and invasive species:</u><br>No mitigation exists except to replace the vegetation by reseeding of grasses.<br>Mining should be done in a well-planned manner (according to a mining plan) and in the process ensuring that activities are only restricted to surface areas really required.<br>Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species.<br>Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.<br>An invasive and alien control programme must be drafted and implemented by the mine.<br>Ensure that all roads on the mine site (utilized by mine vehicles) are daily sprayed with water to control dust.<br>Site inspections to ensure the spraying are done. | For the life of mine.<br><br>For the life of mine.<br><br>For the life of mine. | See section D (IV) with regard to rehabilitation standards, etc.<br><br>No exotic weeds and invader species should allow growing on the mine site.<br><br>Adhere to CARA.<br><br>Adhere to invasive and alien control programme.<br><br>No dust should be emitted from flat compacted surfaces that is actively being traversed by trucks, etc |

| | | | | | |
|---|---|---|---|---|---|
| **2.1-2.3, &**<br>**2.4) Loading and Transport with trucks to client** | Wildlife or wildlife habitat destruction /change / disturbance.<br>Mining related activities will be limited to ±0.30 ha during any phase, but will lead to the temporary emigration of local species from the mining area onto the adjacent area.<br>The movement of vehicles may kill certain insects, rodents and possible birds. Most of the remaining animal life will however move away due to noise. | **1.9 Wild life** | Wildlife or wildlife habitat destruction /change / disturbance :<br>To take care that no new or unnecessary destruction of habitats, other than the demarcated mining site should take place.<br>Injury and death to wildlife:<br>Re-establish grass cover as soon as possible during and after mining. Fence area off to ensure that no person can enter without permission.<br>Ensure that the rehabilitation plan is compiled and executed. Keep incidence register on killings and disturbances. | **At the start of the project**<br><br>For the life of mine. | Demarcation, fencing- off of mining area. |
| **2.1-2.3, &**<br>**2.4) Loading and Transport with trucks to client** | The quarry is located very far away from any major tourist road or township. This impact is considered insignificant since very few people will be aware of and see the mining operation. The mine (quarries) will not be visible from any scenic views, tourist routes or residential areas and dust pollution should be lower or close to the normal occurrence for this area. The location and type of this mine is of a nature that makes it less visible than most similar mines in the area. The mine is also located in the immediate vicinity of a number of similar bigger operations that already have a significant visual impact with regards to the aesthetic consideration. | **2.9) Visual impact** | Visual impact would be addressed by means of:<br>Concurrent rehabilitation should be happening for the next 2 years.<br>During the operational phase, the quarry activities will be concealed from the neighboring residents by means of the waste rock dumps.<br>Visual impact would be addressed by means of;<br>* re-vegetation of waste rock dumps (trees, shrubs, grasses);<br>* planting of trees around the base of certain dumps that could otherwise not sustain plant growth in order to create visual screens;<br>* the placement of waste rock dumps to create a screening affect from the active quarries;<br>* the spraying of $FeCL^2$on exposed waste rock in order to create a similar colour as the natural weathered norite (application in the dry months).<br>* removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact. | For the life of mine.<br><br>For the life of mine.<br><br>For the life of mine. | Adhere to the Rehabilitation Plan and doing concurrent rehabilitation.<br><br>Re-vegetation by means of only indigenous vegetation species as spelled in the rehabilitation plan.<br><br>Adhere to mining plan.<br><br>Remove concurrently all scrap, waste that is stored in bins to a approved municipal waste dumping site. Scrap can be sold. |

| | | | | | |
|---|---|---|---|---|---|
| **2.1-2.3, &**<br>**2.4) Loading and Transport with trucks to client** | Increase in Socio – economic activity at local level:<br>The project in itself would ensure that approximately 10 workers would be assured of a job for some time. Job creation plays a major role in increasing the economic wellbeing of employees and their dependents in the Brits district.<br>Once all mining operations have ceased it would definitely have a negative impact. | **2.10) Socio-economic** | | | |

## i) FINANCIAL PROVISION

### 1. Determination of the amount of Financial Provision

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

The main closure objective of the applicant is to rehabilitate the entire mining site in such a way to ensure that the new man-made topographical landscape would blend in with the surrounding landscape, not pose a safety hazard to humans and animals, while at the same time allow for alternative land uses. Establish a self-sustaining and stable vegetation cover in order to mitigate the visual impact, to control erosion and to create some habitat for animals. The rehabilitated environment also needs to be aesthetically acceptable according to the principle of BPEO. Another main objective is to manage the surface water in such way that an acceptable water standard is achieved when a closure certificate is issued.

**TASHMARIE GRANITE (PTY) LTD.** will ensure that the Operation/Sites are:

- Neither a danger to public health and safety nor to animal health and safety;
- Not a source of any pollution;
- Stable (ecological and geophysical);
- Rehabilitated to the state that is suitable for the predetermined and agreed land use;
- Compatible with the surrounding biophysical environment;
- A sustainable environment;
- Aesthetically acceptable;
- Not an economic, social or environmental liability to the local community or the state now or in the future.

**TASHMARIE GRANITE (PTY) LTD.** will furthermore:

- ensure that the physical and chemical stability of the rehabilitated site will be such that risk to the environment is not increased by naturally occurring forces to the extent that such increased risk cannot be contended with by the installed measures;
- subscribe to the optimal exploitation and utilization of South Africa's mineral resources (Granite);
- ensure that the mining site is closed efficiently and cost effectively.
- ensure that the operation is not abandoned but closed in accordance with the relevant requirements;
- ensure that the interest of all interested and affected parties will be considered;
- ensure that the all-relevant legislation regarding mine closure will be adhered to, and all relevant application procedures followed.

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

Yes, the disturbance that will take place and the rehabilitation thereof were discussed on the site visit with the landowner.

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

**Rehabilitation:**

The clearing of soil surface areas would be restricted to what is really necessary for the construction of infrastructure. During rehabilitation of these sites, or where vegetation is lacking or compacted, the areas would be ripped or ploughed and levelled in order to re-establish a growth medium and if necessary appropriately fertilised to ensure the regrowth of vegetation and the soil ameliorated based on a fertilizer recommendation (soil sample analysed).

**Rehabilitation of access roads**

- Whenever a mining permit is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the permit or right, any access road or portions thereof, constructed by the holder and which will no longer be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.
- Any gate or fence erected by the holder which is not required by the landowner/tenant, shall be removed and the situation restored to the pre-Mining situation.
- Roads shall be ripped or ploughed, and if necessary, appropriately fertilised (based on a soil analysis) to ensure the regrowth of vegetation. Imported road construction materials which may hamper regrowth of vegetation must be removed and disposed of in an approved manner prior to rehabilitation.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the Mining operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.

**Rehabilitation of the surface mining site**

On completion of operations, all buildings, structures or objects on the camp/office site shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), which states:

*(1) When a Mining right, mining right, retention permit or mining permit lapses, is cancelled or is abandoned or when any Mining or mining operation comes to an end, the holder of any such right or permit may not demolish or remove any building, structure, object -*

*(A & B) which may not be demolished in terms of any other law;*

*(C) which has been identified in writing by the Minister for purposes of this section; or*

*(c) which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing.*

*(2) The provision of subsection (1) does not apply to bona fide mining equipment which may be removed*

The surface area shall be ripped or ploughed to a depth of at least 300mm and the topsoil previously stored adjacent the site, shall be spread evenly to its original depth over the whole area.

**Waste Rock Dumps**

**Rehabilitation of the new topographical landscape in such a way that it would blend in with the** surrounding landscape and allow normal surface drainage to continue. As soon as a section of the mining site would not be mined anymore it should be rehabilitated (planned and phased manner).

As far as possible a mixture of soil/overburden material (containing some rock fragments) should be used during rehabilitation of waste rock dumps and quarry area, due to the fact that the topsoil resource is scarce as the result of previous alienation of the resource by the construction of waste

rock dumps and the utilization of the available topsoil/overburden material should be stretched. It is very important that the rock dumps are not entirely covered with topsoil, because waste rock dumps need to resemble the natural occurring castle hills that occur in the area. The amount of soil should be sufficient to sustain plant growth.

Implement water control systems in order to prevent erosion on the slopes. Seed the area (see C. (below) for recommended seed mixture).

Visual impact would be addressed by means of;

- vegetation of waste rock dumps (trees, shrubs, grasses);
- planting of trees around the base of certain dumps that could otherwise not sustain plant growth in order to create visual screens;
- the placement of waste rock dumps to create a screening affect from the active quarries;
- the spraying of Ferric Chloride on exposed waste rock in order to create a similar colour as the natural weathered norite (application in the dry months) , to reduce visual impact and to ensure that the man-made "hill" blend in with the surrounding environment.
- removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact.

**Quarries**

No mitigation exists except to backfill certain quarries with the granite waste material. Certain amount of waste material end-up on the waste rock dumps. When a certain quarry has been back-filled (not possible in all cases, as the dimensions of the quarries makes it really difficult) or waste rock constructed, a certain amount of overburden material and topsoil would be placed on the areas. This will not restore the geology, but will mitigate the impact, allowing waste rock dumps also to be used for mining purposes again.

Since the quarries represent a safety hazard (also in terms of drowning) it is proposed that adequate measures be put in place to prevent inadvertent access. Fencing is prone to being stolen and not considered to be effective in the long term. Consequently rock berms around quarries should be put in place. Shallow borrow pits could be easily backfilled and finally covered with a mixture of topsoil/overburden layer that would be appropriately ameliorated and seeded with a seed mix (C).

**Fertilising of Areas to be Rehabilitated**

If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a seed mix to his or her specification.

**Seeding of Grass Seed Mixture and planting of Woody Species**

The eventual seed mixture takes into account the availability of seed, different soil situations and the prevailing climatic conditions of the area. The following mixture will be applicable to the mining permit site:

- ✓ *Cenchrus ciliaris*
- ✓ *Cynodon dactylon*
- ✓ *Digitaria eriantha*
- ✓ *Heteropogon contortus*
- ✓ *Panicum maximum*

**a. Demolition of infrastructure/buildings**

On completion of operations, all buildings, structures or other on the mining terrain shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act,2002 (Act No. 28 of 2002). There will be no permanent buildings.

**b. Invasive and alien control programme**

Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species. Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.

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

The entire pit area will be sloped, rehabilitated and vegetated to be stable and sustainable.

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

The total application area is 3.5 hectares, but only 0.3 hectares will be disturbed by opencast excavations at any given time. These figures were used for the calculation of the quantum, according to DMRE current 2022 tariffs, which will amount in a total of **R 147'106.79** needed for the rehabilitation guarantees. **R 147'106.79** will be sufficient for rehabilitation. See quantum attached as **Appendix 4**.

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

The financing for this project will be done from the account TASHMARIE GRANITE (PTY) LTD. the applicant himself out of own funds. The guarantee will be provided in the form of Bank Guarantee after confirmation of the amount.

## g) MECHANISMS FOR MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREON, INCLUDING

**vii. Monitoring of Impact Management Actions**
**viii. Monitoring and reporting frequency**
**vx. Responsible persons**
**x. Time period for implementing impact management actions**
**xi. Mechanism for monitoring compliance**

| SOURCE ACTIVITY | | IMPACTS REQUIRING MONITORING PROGRAMMES | FUNCTIONAL REQUIREMENTS FOR MONITORING | ROLES AND RESPONSIBILITIES | MONITORING AND REPORTING FREQUENCY and TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS |
|---|---|---|---|---|---|
| | **Environmental Aspect** | | | | |
| 2.1 Vegetation clearance, topsoil/overburden mixture removal & stockpiling next to opencast mine focus area<br>2.2) Mechanically excavating topsoil/overburden material/ and rocks with an excavator and loading onto trucks and transport to topsoil/overburden material dump mixture and waste rock dump or direct placement on benches.<br>2.2) Drilling , blasting and also cutting of granite with a diamond saw into granite blocks.(Mining) | Geology | • The progress with the mining operation. | • Update mining plan<br>• Visual inspections in order to verify if stripping and stockpiling is done as stipulated in the EMP. | • Mine manager | • Weekly update of mining plan<br>• Daily |
| | Topography | See soil | | • Mine manager | |
| | Soil | • During the initial site preparation for mine infrastructure (where required) **all topsoil/overburden, will be removed and stockpiled.**<br>• The stockpile area is therefore alienated | • Daily visual inspection to verify if the placement of the material is as stipulated in the EMP and surface areas compacted is kept to a minimum.<br>• Diesel/oil/lubricant spillages are | • Mine manager | • Daily<br>• Immediately |

| | Environmental Aspect | | | | |
|---|---|---|---|---|---|
| | | (although only temporarily) and will be compacted.<br>• Soil erosion from compacted sites<br>• In the process of removing topsoil the soil layers are mixed and the original structure may be disturbed.<br>• Vehicle equipment breakages and oil/lubricant/diesel spills may contaminate soil.<br>• Loss of soil fertility | handled as stipulated in the EMP. | | |
| | Land Capability | Existing loss of land capability to support agricultural activity such as grazing. | • Weekly update of mining plan (progress on operation & rehabilitation of sites).<br>• Visual inspections in order to verify that the EMP is implemented. | • Mine manager | • Weekly<br>• Daily |
| | Land Use | Existing loss of land capability to support agricultural activity such as grazing. | • . Weekly update of mining plan (progress on operation & rehabilitation of sites).<br>• Visual inspections in order to verify that the EMP is implemented. | • Mine manager | • Weekly<br>• Daily |
| | Vegetation | • Vegetation clearance, disturbance and trampling.<br>• Destruction of habitats for vegetation.<br>• Due to a disturbed ecosystem, bare ground and spreading of exotics can follow.<br>• Surface area disturbance must be restricted to mining sites .<br>• Dust coverage of plants | • Daily visual inspections to verify that the surface area disturbance is always kept to a minimum as required in the EMP.<br>• Daily visual inspection of the active mining area to verify if dust suppression is done on the roads and trucks on a daily basis. | • Mine manager | • Daily<br>• Daily |
| | Wildlife/Animals | • Injury and death to wildlife & domesticated animals (cattle/sheep, etc.)<br>• Animals may fall in excavations/trenches. | • Daily visual inspection on the roads travelled and mining site. | • Mine manager | • Daily |

| | Environmental Aspect | | | | |
|---|---|---|---|---|---|
| | Surface Water | • The clearance of vegetation and the traffic on access roads will contribute to an increased silt load.<br>• Spillages from vehicles, excavator and also surface water run-off that is not adequately diverted away from the mining sites.<br>• Surface run-off from mining sites if not adequately contained on site could end-up in the adjacent undisturbed natural veld. | • Daily visual inspection of potential spillages and also to determine if sufficient containment structures have been constructed. | • Mine manager | • Daily |
| | Ground Water | • Possible spillages from diesel, earth moving equipment, truck, etc., if not handled responsibly, could become a source of groundwater pollution. | • Visual inspection of the roads, Mining sites for any indication of oil/diesel/lubricant spillages on a daily basis. | • Mine manager | • Daly |
| | Dust | • Dust will be generated during the mining & loading and transportation and also movement on gravel roads. | • Visual inspection of the mining area should be done and also verify if dust suppression is done on the roads on a daily basis. | • Mine manager | • Daily |
| | Noise | • Noise will be generated during the mining operation and transportation. | • Visual inspection of all equipment, trucks on a daily basis in order to determine if maintenance is required. | • Mine manager | • Daily |
| | Sensitive landscapes | • N/A. | • N/A | | |
| | I & APs | • Speeding of vehicles (accidents/killing animals) | • Daily visual inspection of mining site and surrounding environment with regard to any fire danger or damage.<br>• Drivers should be given specific instructions on driving and regularly reminded on the movement on mine and public roads. | • Mine manager | • Daily |
| | | EMP implementation | • Compile a site checklist (based on the EMP requirements).<br>• Regularly verify that EMP requirements are implemented.<br>• Regularly appoint an independent third party to assess EMP performance. | • Mine manager | • Weekly<br>• Annually |

**h) INDICATE THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT/ENVIRONMENTAL AUDIT REPORT.**

Annually

**i) ENVIRONMENTAL AWARENESS PLAN**

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

**TASHMARIE GRANITE (PTY) LTD.**will contract DERA Environmental Consultants to inform the employees after the EMP was approved. The following guidelines will be used:

- Communication
- Urge
- Leadership
- Teamwork
- Understanding
- Recognition
- Empowerment (CULTURE).

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

The risks will be dealt with by proper management actions as described in 1d.

| Aspect | Objectives | Description | Time/period | Responsible person/party |
|---|---|---|---|---|
| Communication | Describe the manner in which the applicant intends to inform his or her employees of any environmental risks which may result from their work and;<br>The manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment | Method:<br>How do the employees receive the information?<br>• Workplace meetings with the Operations Manager<br>• At safety training sessions;<br>• Induction programmes;<br>• Regular publications and information leaflets;<br>• Bulletin boards (posters),<br>• Electronic mail messages,<br>• Forum meetings, which involves the local I & AP's and the DME.<br>The mine engages and communicates with communities, with due regard and respect for local interests, cultures and customs, and contribute meaningfully to the economic, social and educational well-being of the communities in which they operate. | Ongoing | Project Manager |
| Information | | Information from internal (EMP, etc.) and external sources will be communicated in a language understandable to every worker.<br>Environmental information will be communicated via the methods spelled out above. | Ongoing | Project Manager |
| Training | | All employees should receive basic environmental awareness training, either as induction training or later at a special training session. Different levels of responsibility in relation to individual's potential impact on the environment must be addressed in the training session.<br>The further motivation of the workforce would be achieved through in-house and training through attending short courses with regard to environmental management, etc.<br>Appropriate training relevant to the implementation of the environmental management plan should be provided to all personnel. Employees should have an appropriate knowledge base. The company should also ensure that the contractors working on site provide evidence that they have the requisite knowledge and skills to perform the work in an "environmentally responsible manner".<br>Education and training is needed to ensure that the employees knowledge of regulatory requirements, internal standards and the mine's policies and objectives is current.<br>Issues to be considered during training:<br>• handling of topsoil<br>• prevention of oil/diesel spillages<br>• handling of industrial and domestic waste<br>• dust suppression<br>• rehabilitation | Ongoing | Project Manager<br>Environmental consultant |

| Aspect | Objectives | Description | Time/period | Responsible person/party |
|---|---|---|---|---|
| | | • use of chemical toilets<br>• use of water<br>• surface run-off control<br>• invasive and alien control programme<br>Make game catching, traps, snares, poaching and any other unnecessary disturbance of animals a disciplinary offence. | | |
| Reporting | | Every environmental incident that might happen and which the workers become aware off should be reported to the manager.<br>The worker can only report on incidents if he is made aware off the possible environmental risks through the communications methods indicated in section 1.<br>A written reporting format should be put in place.<br>Communication includes establishing processes to report internally and, where desired, externally on the environmental activities of the mine in order to:<br>Demonstrate management commitment to responsible environmental management;<br>Deal with concerns and questions about environmental issues (handled within the Forum);<br>Raise awareness of the organization's environmental policies, environmental management program; and<br>Inform internal or external interested parties about the mine's management system;<br>A formal complaints/concerns reporting system to address I &AP's interaction with the mine must be put in place (complaints register);<br>The mine must regulatory communicate with the affected community. This communication must address new developments, problems, achievements and all other relevant aspects of mutual interest. | Ongoing | ALL |

### j) SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

The quantum for rehabilitation liability will be reviewed with the performance assessment on annual basis.

## 2. UNDERTAKING

The EAP herewith confirms

**(i) The correctness of the information provided in the reports;**

**(ii) The inclusion of comments and inputs from stakeholders and I&APs;**

**(iii) The inclusion of inputs and recommendations from the specialist reports where relevant; and**

**(iv) 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:

**DERA Environmental Consultants (Pty) Ltd**

Name of company:

**11th November 2022**

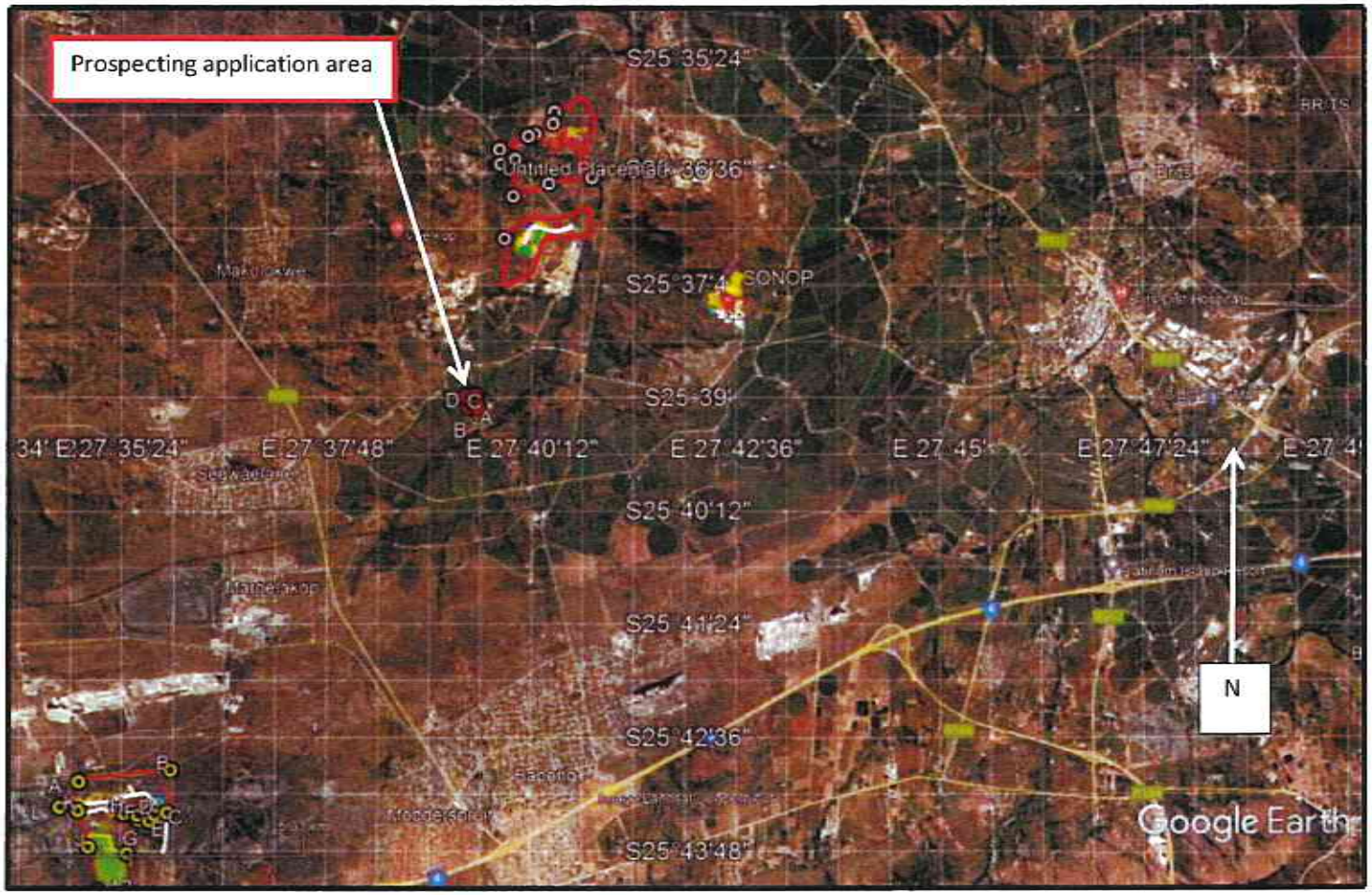
Date:

-END-

JERRY DEAN MENIN
OFFICE MANAGER / AUDITOR
COMMISSIONER OF OATHS / KOMMISSARIS VAN EDE
Appointed in terms of Section 5(1) of Act 16 of 1963
Aangestel in terme van Artikel 5(1) van Wet 16 van 1963
Centrallaan 32 Central Avenue, Flamwood, Klerksdorp
Appointed/Aangestel: 23 Oktober 2012
Reference/Verwysing: 9/1/8/2 Klerksdorp

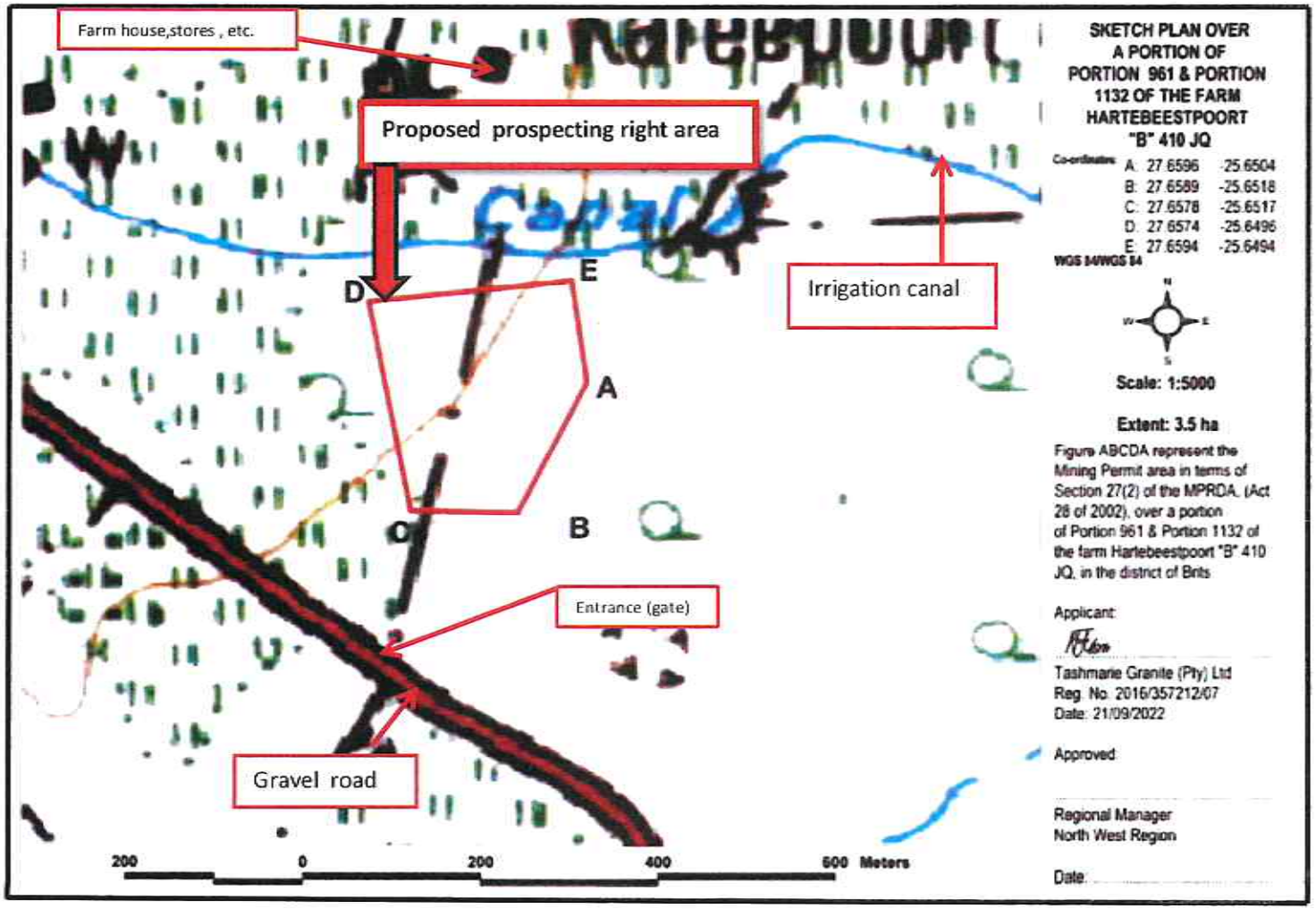
# LOCALITY MAP: APPENDIX 1(A) & INFRASTRUCTURE AND ACTIVITY MAP: APPENDIX 1(B) & APPENDIX 1(C)

## General location of Mining Permit application area ( 3,5 ha)



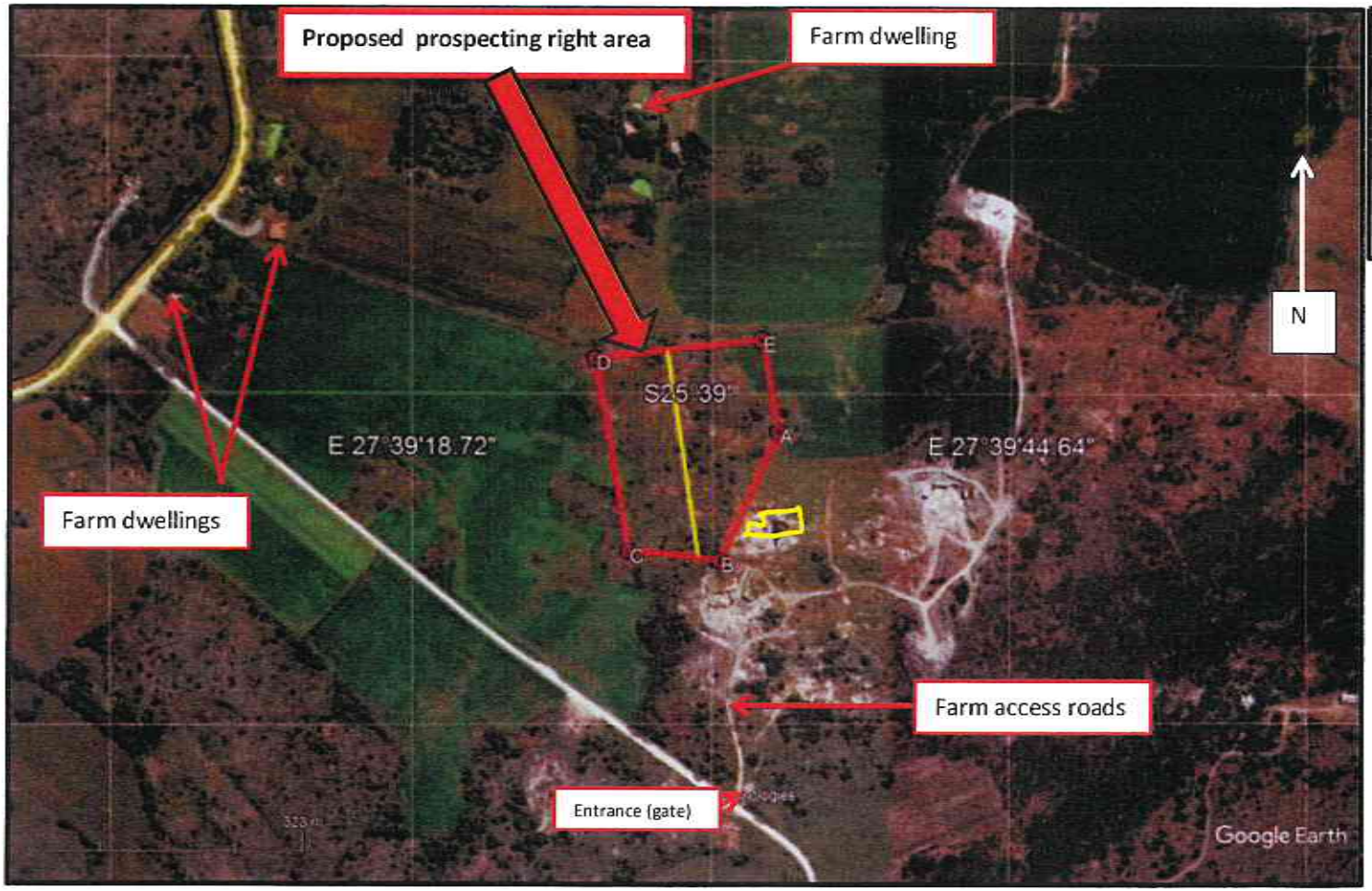

MAP 1A

# SURFACE INFRASTRUCTURE MAP/PLAN




**MAP/PLAN 1 b1**

## SURFACE INFRASTRUCTURE PLAN (Google satellite image)

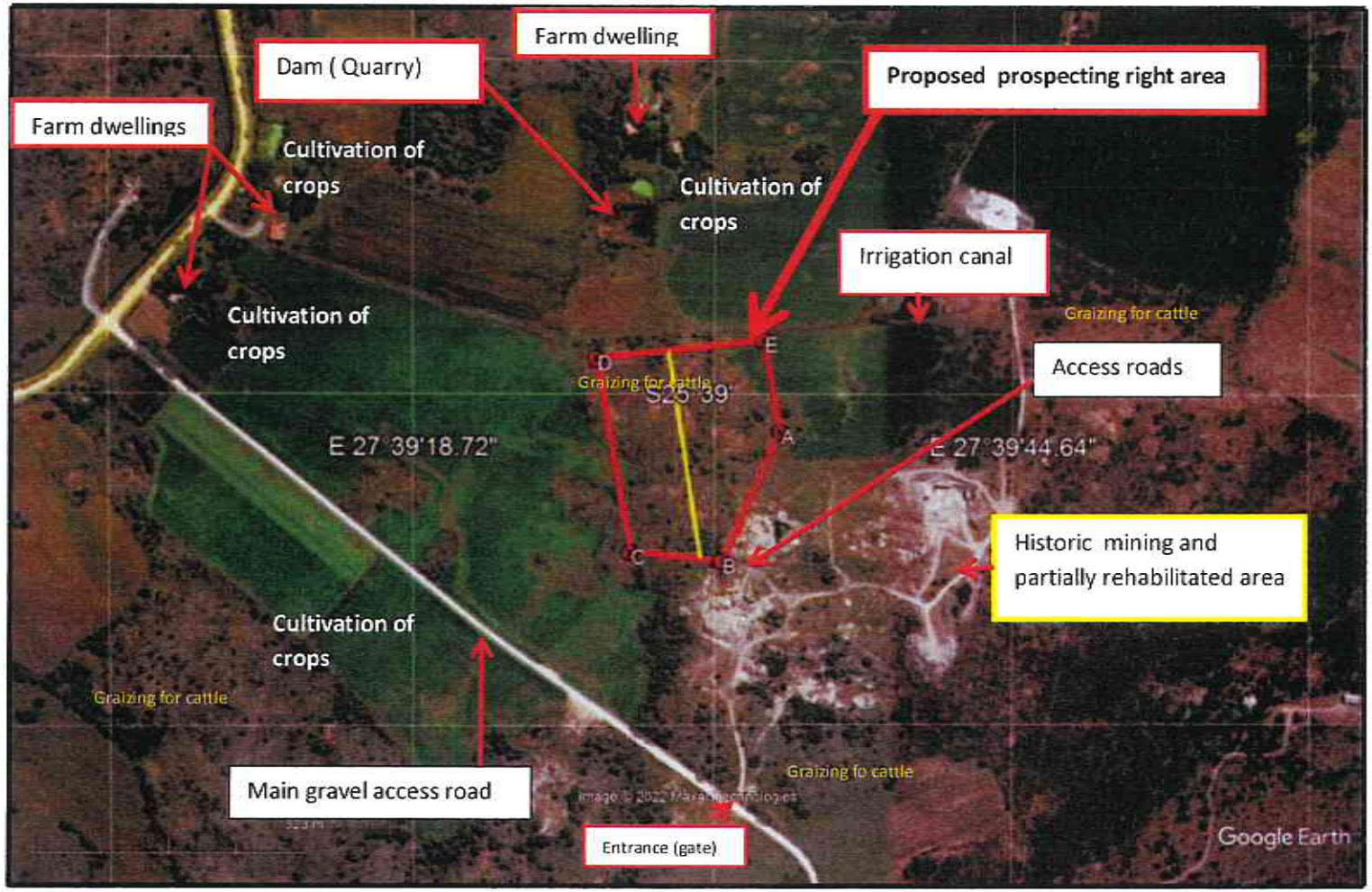



| Co-ordinates: | | |
|---|---|---|
| | A: 27.6596 | -25.6504 |
| | B: 27.6589 | -25.6518 |
| | C: 27.6578 | -25.6517 |
| | D: 27.6574 | -25.6496 |
| | E: 27.6594 | -25.6494 |

WGS 84/WGS 84

**MAP/PLAN 1b (2)**

**LAND USE COMPOSITE MAP**




**MAP/PLAN 1C**

# PROOF OF CONSULTATION: APPENDIX 2

# APPENDIX 2: DETAILS OF THE PUBLIC PARTICIPATION PROCESS

| Interested and Affected Parties<br>List the names of persons consulted in this column, and Mark with an "X" where those who must be consulted were in | | Date sent and/or Commen | Issues raised | EAP's response to the applicant |
|---|---|---|---|---|
| AFFECTED PARTIES | | | | |
| **Landowner/s** | X | | | |
| H.J. Bruwer(Landowner on Pt 961 & Neighbour)<br>P.O. Box 215, Sonop, 0258<br>Cell: 082 775 9220 E-mail: bruwerboerdery@gmail.com | | 11 Nov 2022<br>23 Nov 2022 | Consultation letter sent<br>No objection, see signed consultation form | |
| F.J. Grimmit (Landowner on Pt 1132)<br>Mrs. J.D. Grimmit & Mrs. M. Grimmet<br>Private Bag X5094, Brits, 0250<br>Cell: 072 950 1907 & 076 755 4183 Fax: 086 697 0462 E-mail: joanne@magaliescitrus.co.za & mary-ann@magaliescistrus.co.za | | 11 Nov 2022<br>25 Nov 2022 | Consultation letter sent<br>No objection, see signed consultation letters | |
| **Lawful occupier/s of the land** | | | | |
| | | | | |
| **Landowners or lawful occupiers on adjacent** | X | | | |
| M.R. Bruwer(Neighbour)<br>P.O. Box 345, Sonop, 0258<br>Cell: 083 678 7579 E-mail: marbruwer@gmail.com | | 11 Nov 2022<br>23 Nov 2022 | Consultation letter sent<br>No objection, see signed consultation letter | |
| Municipal councilor | | | | |
| | | | | |
| **Municipality** | X | | | |
| Madibeng Local Municipality<br>LED officer: Johanna Motswatswe<br>Tel: 012 318 9503 Fax: 012 318 9665 E-mail: Johanna.Motswatse@madibeng.gov.za cc munman@madibeng.gov.za | | 11 Nov 2022<br>18 Nov 2022 | Consultation letter was sent to Johanna Motswatswe (LED Manager) via e-mail | |
| Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, Eskom | | | | |
| Communities | | | | |
| N/A | | | | |
| **Dept. Land Affairs** | X | | | |
| Mr. Keatbetswe Mothupi, Office of the Regional Land Claims Commissioner, N W Province; Private Bag X08, Mmabatho, 2735; Fax: 018 389 9641 E-mail: keabetswe.mothupi@dalrrd.gov.za | | 11 Nov 2022<br>18 Nov 2022 | E-mail sent to Keabetswe Mothupi for verification of any land claims on the land. | |
| Traditional Leaders | | | | |
| N/A | | | | |
| **Dept. Economic Development, Environment, Conservation and Tourism** | X | | | |

| | | | | |
|---|---|---|---|---|
| Ms Ouma Skosana<br>Agricentre Building, Cnr. Dr James Moroko Drive & Stadium Road, Mmabatho, 2735<br>Tel: 014 597 3597; E-mail: oskosana@nwpg.gov.za | | 11 Nov 2022 | BAR sent with Fastway couriers for comments | |
| **Dept. Water and Sanitation** | X | | | |
| Cornia Theunissen<br>Old Rustenburg Road, Hartebeespoort, 0216<br>Tel: 012 253 1026; E-mail: theunissenc@dwa.gov.za | | 11 Nov 2022 | BAR sent with Fastway couriers for comments | |
| **Dept. Agriculture, Forestry and Fisheries** | X | | | |
| Maurice Vukeya<br>Louis le Grange Building, Cnr Peter Mokaba & Wolmarans street, 3rd Floor, Office 318, Potchefstroom, 2520<br>Tel: 018 389 5156; E-mail: MauriceV@daff.gov.za | | 11 Nov 2022 | BAR sent with Fastway couriers for comments | |
| **Dept. Rural Development and Landform** | | | | |
| | | | | |
| Other Competent Authorities | | | | |
| **OTHER AFFECTED PARTIES** | | | | |
| **INTERESTED PARTIES** | | | | |

**Notice published in Brits Pos 11 November 2022**

P O Box 6499
Flamwood
2572
Tel: 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: dera.office@dera.co.za
daane@dera.co.za

# DERA

Environmental Consultants

11 November 2022

**To whom it may concern**

**CONSULTATION WITH INTERESTED AND AFFECTED PARTIES WITH REGARD TO AN APPLICATION FOR A MINING PERMIT IN TERMS SECTION 27(2) OF THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AND NEMA, EIA 2014: THE PROPOSED MINING AREA IS OVER A CERTAIN PORTION 961 AND PORTION 1132 OF THE FARM HARTEBEESTPOORT "B" 410 JQ, IN THE DISTRICT OF BRITS.**

You are herewith informed that **Tashmarie Granite (Pty) Ltd.** has submitted an application in terms of Section 27(2) of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002), and NEMA, EIA 2014 to the Regional Manager: Mineral Regulation, North West Region in respect of Granite/Syenite (MA) in the magisterial district of Brits.

**Tashmarie Granite (Pty) Ltd.** is in the process of compiling the Basic Assessment Report, which needs to be submitted at the Regional Office of DMR and will be available for I&AP's for comments.

In terms of Section 10 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002), and in terms of Regulation 39(1) of the regulations published in the Government Notice No. R10328 (of 4 December 2014) under Chapter 6 of the NEMA, EIA 2014, the landowner or legal occupier of the land, as well as any other interested party must be notify and must be consulted with in terms of the proposed project.

**Tashmarie Granite (Pty) Ltd.** deem it necessary to consult with inter alia yourself / your company/ your organization, and you are therefore kindly requested to comment very clearly and unambiguously with regard to the proposed mining project. You are requested to put in writing any interest/ objection and/or comments you may have and send it back to the appointed consultants (**Reference no. NW30/5/1/3/2/11135MP**) within 30 days from the date of receipt of this letter. If no correspondence is received from you within the mentioned period, the applicant shall accept that you have no objection in the proposed mining activities.

Please call me if any further information is needed.

Your co-operation will be appreciated.

Yours faithfully
P.P.
**Esna Erasmus**
**DERA Environmental Consultants**

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS:**
**PROPOSED MINING PERMIT APPLICATION ON A CERTAIN PORTION OF PORTION 981 AND PORTION 1132 OF THE PARM HARTEBEESTPOORT "B" 410 JQ, MAGISTERIAL DISTRICT OF BRITS.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel: 018-468 5365
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: dera.office@dera.co.za or daane@dera.co.za

**PERSONAL INFORMATION:**

Title/Titel: MR Initials/Voorletters: H.J First Name/Eerste naam: Hendrik

Surname/Van: Bruwer

E-mail/E-pos: bruwerboerdery@gmail.com

Telephone/Telefoon: 082 775 9220 Fax/Faks:

Organisation (if applicable)/Organisasie(indien van toepassing):

Capacity (member, etc.)/Kapasiteit (lid ens):

Landowner/Grondeienaar/Buurman/Neighbour/Interested and/or affected parties on the farm/op die plaas: Landowner / Neighbo

Postal Address/ Posadres: PO BOX 215

Town/City/Dorp/Stad: SONOP Code/Kode: 0258

**COMMENT/OBJECTION:**

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgenome projek?

Landowner / Neighbour.

2. Do you have any ground for objection towards the proposed project/Het u enige gronde tot beswaar t.o.v. die bogenoemde projek?

NO

YES/NO JA/NEE

If "Yes", please list shortly/Indien "JA", lys asseblief kortliks.

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgenome projek 'n negatiewe impak kan he op uself of die omgewing? NO

YES/NO JA/NEE

If "Yes", please describe shortly/Indien "JA", verduidelik asseblief kortliks.

Filled in on/ingevul op 23 day of /dag van November (month/maand) 2022

Hendrik Jacobus Bruwer

**Name and Surname/ Company**
**Naam en Van/Maatskappy**

**Signature/Handtekening**

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS**
**PROPOSED MINING PERMIT APPLICATION ON A CERTAIN PORTION OF PORTION 961 AND PORTION 1132 OF THE FARM HARTEBEESTPOORT "B" 410 JQ, MAGISTERIAL DISTRICT OF BRITS.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel. 018 468 5355
Fax. 018 011 3760
Mobile. 082 895 3516
E-mail: dera office@dera.co.za or deane@dera.co.za

**PERSONAL INFORMATION:**

Title/Titel: MR Initials/Voorletters: MNK First Name/Eerste naam: Marthinus

Surname/Van: Bruwer

E-mail/E-pos: marbruwer@gmail.com

Telephone/Telefoon: 083 678 7579 Fax/Faks:

Organisation (if applicable)/Organisasie(indien van toepassing):

Capasity (member, etc.)/Kapasiteit (lid ens):

Landowner/Grondeienaar/Buurman/Neighbour/Interested and/or affected parties on the farm/op die plaas: Neighbour

Postal Address/ Posadres: PO BOX 345

Town/City/Dorp/Stad: SONOP Code/Kode: 0258

**COMMENT/OBJECTION:**

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgenome projek?

Neighbour

2. Do you have any ground for objection towards the proposed project/Het u enige gronde tot beswaar t.o.v. die bogenoemde projek?

NEE /NO

YES/NO JA/NEE

If "Yes", please list shortly/Indien "JA", lys asseblief kortliks

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgenome projek 'n negatiewe inpak kan he op uself of die omgewing?

YES/NO JA/NEE

If "Yes", please describe shortly/Indien "JA", verduidelik asseblief kortliks

NO

Filled in on/ingevul op: 23 day of /dag van: November (month)/(maand) 2018

Marthinus Bruwer

Name and Surname/ Company
Naam en Van/Maatskappy

Signature/Handtekening

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS PROPOSED MINING PERMIT APPLICATION ON A CERTAIN PORTION OF PORTION 961 AND PORTION 1132 OF THE FARM HARTEBEESTPOORT "B" 410 JQ, MAGISTERIAL DISTRICT OF BRITS.**

Esna Erasmus
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KLERKSDORP
2572

Tel. 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: dera.office@dera.co.za or daane@dera.co.za

## PERSONAL INFORMATION:

Title/Titel: Mrs Initials/Voorletters: J.D. First Name/Eerste naam: Johanna

Surname/Van: Grimett

E-mail/E-pos: joanne@magaliesscitrus.co.za

Telephone/Telefoon: 012 9507907 Fax/Faks: 086 697 0462

Organisation (if applicable)/Organisasie(indien van toepassing: –

Capasity (member, etc.)/Kapasiteit (lid ens): Eienaar van Gedeelte 1132

Landowner/Grondeienaar/Buurman/Neighbour/Interested and/or affected parties on the farm/op die plaas

Postal Address/ Posadres Privaat Sak X5094

Town/City/Dorp/Stad: Brits Code/Kode: 0250

## COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgenome projek?

Eienaar van Gedeelte 1132 waarop die permit uitgereik word.

2. Do you have any ground for objection towards the proposed project/Het u enige gronde tot beswaar t.o.v. die bogenoemde projek?

YES/NO JA/NEE

If "Yes", please list shortly/Indien 'JA', lys asseblief kortliks.

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgenome projek 'n negatiewe inpak kan he op uself of die omgewing?

YES/NO JA/NEE

If "Yes", please descibe shortly/Indien 'JA', verduidelik asseblief kortliks.

Filled in on/Ingevul op 25 day of /dag van Nov (month)/(maand) 2022

Joanne Grimett

**Name and Surname/ Company**
**Naam en Van/Maatskappy**

**Signature/Handtekening**

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS PROPOSED MINING PERMIT APPLICATION ON A CERTAIN PORTION OF PORTION 961 AND PORTION 1 132 OF THE FARM HARTEBEESTPOORT "B" 410 JQ, MAGISTERIAL DISTRICT OF BRITS.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel. 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: dera.office@dera.co.za or daane@dera.co.za

**PERSONAL INFORMATION:**

Title/Titel: Mis Initials/Voorletters: M. First Name/Eerste naam: May-Ann

Surname/Van: Grimett

E-mail/E-pos: may-ann@magaliscitius.co.za

Telephone/Telefoon: ~~072 259~~ 076 155 4183 Fax/Faks: 086 697 0462

Organisation (if applicable)/Organisasie(indien van toepassing): —

Capasity (member, etc.)/Kapasiteit (lid ens): Eienaar van Gedeelte 1132

Landowner/Grondeienaar/Buurman/Neighbour/Interested and/or affected parties on the farm/op die plaas

Postal Address/ Posadres: Privaat Sak X5094

Town/City/Dorp/Stad: Brits Code/Kode: 0250

**COMMENT/OBJECTION:**

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgenome projek?

Eienaar van Gedeelte 1132 waarop die permit uitgereik word.

2. Do you have any ground for objection towards the proposed project/Het u enige gronde tot beswaar t.o.v. die bogenoemde projek?

YES/NO JA/NEE

If "Yes", please list shortly/Indien 'JA', lys asseblief kortliks.

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgenome projek 'n negatiewe inpak kan he op uself of die omgewing?

YES/NO JA/NEE

If "Yes", please descibe shortly/Indien 'JA', verduidelik asseblief kortliks.

Filled in on/Ingevul op 05 day of /dag van November (month)/(maand) 2022

May-Ann Grimett

**Name and Surname/ Company**
**Naam en Van/Maatskappy**

Grimett

**Signature/Handtekening**

## Gerda

**From:** Gerda <dera.office@dera.co.za>
**Sent:** Friday, 18 November 2022 08:14
**To:** 'Johanna.Motswatse@madibeng.gov.za'
**Cc:** 'munman@madibeng.gov.za'
**Subject:** Consultation re proposed Mining Permit application - Madibeng district
**Attachments:** Consultation re proposed Mining Permit application - Madibeng district.pdf

Good day

See attached the consultation letter for Tashmarie Granite (Pty) Ltd on certain Portions of the farm Hartebeestpoort 'B" 410 JQ for a proposed mining permit application.

It will be appreciated if you can complete the attached form and return to dera.office@dera.co.za

Kind regards.

Gerda Els
Cell: 083 225 1593

Esna Erasmus
Dera Omgewingskonsultante (Pty) Ltd.
Reg no: 2014/051013/07
P.O. Box 6499, Flamwood, 2572
VAT no: 4590284073
Tel: 018 468 5355
Fax: 018 011 3760
Cell: 082 895 3516
e-mail: dera.office@dera.co.za

Your message is ready to be sent with the following file or link attachments:

Consultation re proposed Mining Permit application - Madibeng district

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

P O Box 6499
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Fax: 018-011 3760
Cell: 082 895 3516
E-mail: dera.office@dera.co.za
daane@dera.co.za

**DERA**

Environmental Consultants

11 November 2022

**Madibeng Local Municipality**

**Attention: Johanna Motswatse**

**E-mail: Johanna.Motswatse@madibeng.gov.za**

**RE: CONSULTATION WITH INTERESTED & AFFECTED PARTIES**

It is hereby confirmed that Tashmarie Granite (Pty) Ltd. has applied for a mining permit over a certain Portion of Portion 961 & 1132 of the farm Hartebeestpoort "B" 410 JQ, in the Brits district.

The Department of Mineral Resources has requested that Madibeng Local Municipality must be informed about the proposed mining permit application.

Please find attached the consultation letter with the information regarding the proposed mining permit.

It would be highly appreciated if you could return the attached consultation letter to Dera Environmental Consultants at Fax: 018 011 3760 or dera.office@dera.co.za

Should you have any questions regarding the above, please call Mrs. Erasmus at 082 895 3516

DERA Environmental Consultants can be contacted for any further enquiries.

Yours sincerely

p.p.

Esna Erasmus
DERA Environmental Consultants

P O Box 6499
Flamwood
2572
Tel: 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: dera.office@dera.co.za
daane@dera.co.za

**DERA**

Environmental Consultants

11 November 2022

**To whom it may concern**

**CONSULTATION WITH INTERESTED AND AFFECTED PARTIES WITH REGARD TO AN APPLICATION FOR A MINING PERMIT IN TERMS SECTION 27(2) OF THE MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AND NEMA, EIA 2014: THE PROPOSED MINING AREA IS OVER A CERTAIN PORTION 961 AND PORTION 1132 OF THE FARM HARTEBEESTPOORT "B" 410 JQ, IN THE DISTRICT OF BRITS.**

You are herewith informed that **Tashmarie Granite (Pty) Ltd.** has submitted an application in terms of Section 27(2) of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002), and NEMA, EIA 2014 to the Regional Manager: Mineral Regulation, North West Region in respect of Granite/Syenite (MA) in the magisterial district of Brits.

**Tashmarie Granite (Pty) Ltd.** is in the process of compiling the Basic Assessment Report, which needs to be submitted at the Regional Office of DMR and will be available for I&AP's for comments.

In terms of Section 10 of the Minerals and Petroleum Resources Development Act, 2002 (Act 28 of 2002), and in terms of Regulation 39(1) of the regulations published in the Government Notice No. R10328 (of 4 December 2014) under Chapter 6 of the NEMA, EIA 2014, the landowner or legal occupier of the land, as well as any other interested party must be notify and must be consulted with in terms of the proposed project.

**Tashmarie Granite (Pty) Ltd.** deem it necessary to consult with inter alia yourself / your company/ your organization, and you are therefore kindly requested to comment very clearly and unambiguously with regard to the proposed mining project. You are requested to put in writing any interest/ objection and/or comments you may have and send it back to the appointed consultants (**Reference no. NW30/5/1/3/2/11135MP**) within 30 days from the date of receipt of this letter. If no correspondence is received from you within the mentioned period, the applicant shall accept that you have no objection in the proposed mining activities.

Please call me if any further information is needed.

Your co-operation will be appreciated.

Yours faithfully
P.P.
**Esna Erasmus**
**DERA Environmental Consultants**

**REGISTRATION FORM AND COMMENT FOR THE PUBLIC PARTICIPATION PROCESS PROPOSED MINING PERMIT APPLICATION ON A CERTAIN PORTION OF PORTION 961 AND PORTION 1132 OF THE FARM HARTEBEESTPOORT "B" 410 JQ, MAGISTERIAL DISTRICT OF BRITS.**

Esna Erasmus
P.O. Box 6499
KLERKSDORP
2572

Tel. 018-468 5355
Fax: 018-011 3760
Mobile: 082 895 3516
E-mail: dera.office@dera.co.za or daane@dera.co.za

## PERSONAL INFORMATION:

Title/Titel:..... Initials/Voorletters: ..... First Name/Eerste naam:.....

Surname/Van.....

E-mail/E-pos.....

Telephone/Telefoon..... Fax/Faks.....

Organisation (if applicable)/Organisasie(indien van toepassing: .....

Capasity (member, etc.)/Kapasiteit (lid ens): .....

Landowner/Grondeienaar/Buurman/Neighbour/Interested and/or affected parties on the farm/op die plaas.....

Postal Address/ Posadres .....

Town/City/Dorp/Stad: ..... Code/Kode: .....

## COMMENT/OBJECTION:

1. What is the nature of your interest in the proposed project/Wat is u belang in die voorgenome projek?

_____

_____

_____

2. Do you have any ground for objection towards the proposed project/Het u enige gronde tot beswaar t.o.v. die bogenoemde projek?

_____

_____

**YES/NO JA/NEE**

If "Yes", please list shortly/Indien 'JA', lys asseblief kortliks.

_____

_____

_____

3. Do you foresee that this activity will have a negative impact on yourself or the environment/Voorsien u dat die voorgenome projek 'n negatiewe inpak kan he op uself of die omgewing?

**YES/NO JA/NEE**

If "Yes", please descibe shortly/Indien 'JA', verduidelik asseblief kortliks.

_____

_____

Filled in on/Ingevul op..... day of /dag van..... (month)/(maand) 2022

_____ _____

**Name and Surname/ Company**
**Naam en Van/Maatskappy**

**Signature/Handtekening**

## Gerda

**From:** Gerda <dera.office@dera.co.za>
**Sent:** Friday, 18 November 2022 08:29
**To:** keabetswe.mothupi@dalrrd.gov.za
**Subject:** Request for verification of landclaims - Hartebeestpoort
**Attachments:** Request for verification of landclaims - Hartebeestpoort.pdf

Good day Kea

See attached our request for verification of land claims on the farm Hartebeestpoort in the Brits district.

Kind regards.

Gerda Els
Cell: 083 225 1593

Esna Erasmus
Dera Omgewingskonsultante (Pty) Ltd.
Reg no: 2014/051013/07
P.O. Box 6499, Flamwood, 2572
VAT no: 4590284073
Tel: 018 468 5355
Fax: 018 011 3760
Cell: 082 895 3516
e-mail: dera.office@dera.co.za

Your message is ready to be sent with the following file or link attachments:

Request for verification of landclaims - Hartebeestpoort

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

P O Box 6499
Flamwood
2572
Tel: 018 468 5355
Fax. 018-011 3760
Cell. 082 895 3516
E-mail:dera.office@dera.co.za
daane@dera.co.za

**DERA**

Environmental Consultants

11 November 2022

**Department of Land Affairs & Rural Development**

**Attention: Keabetswe Mothupi**

**Re: Verification of Land Claims**

We are Environmental Consultants situated in Klerksdorp and has applied on behalf of Tashmarie Granite (Pty) Ltd. for a mining permit application on the following farm in the Brits district.

- A certain Portion of Portion 961 & 1132 of the farm Hartebeestpoort "B" 410 JQ

  Madibeng Local Municipality

Could you please be so kind to verify if there are any land claims over the farms as mentioned above?

It would be highly appreciated if you could help us in this matter as soon as possible.

Please feel free to contact the office of Dera Environmental Consultants or Mrs Erasmus on his cell: 082 895 3516 for any further information.

Yours truly.

p.p.

Esna Erasmus

## PUBLIC NOTICE

## APPLICATION FOR AN ENVIRONMENTAL AUTHORIZATION FOR THE PROPOSED ACTIVITIES.

Notice is given for the following application:

1) Environmental authorization application for mining.

- **Proponent:** The applicant is Tashmarie Granite (Pty) Ltd.
- **Ref. no:** NW30/5/1/3/2/11135MP
- **Property description:** The proposed mining area is over a certain portion of portions 961 and 1132 of the farm Hartebeestpoort 'B' 410 JQ, in the district of Brits. The total extent of the prospecting area is 3.5 hectares. (21 SG digital codes: T0JQ00000000041000961 & T0JQ00000000041001132)
- **Location:** The property is situated ±25 km west of Brits.
- **Project description:** The purpose of the application is to obtain the required authorisation from the Department to successfully: undertake opencast mining.
- **Process of Basic Assessment is followed and the document will be available on request.**
- **Activity applied for:** the following activities as listed in terms of NEMA (Act No. 107 of 1998) as amended and EIA Regulations, 2014 was applied for under Listing Notice 1 – GNR 327 of 2014, Activity 21 and Listing Notice 1 – GNR 327, Activity 27
- **Minerals applied for:** Granite/Syenite (MA)
- **Date submitted:** 22 September 2022
- **Stakeholder involvement:** Stakeholders are invited to register as interested and affected parties and to participate in the application process by identifying issues of concern and suggestions for consideration in the BAR/EMPr. Please submit your written comments by mail, fax or e-mail in this 30 day of this notice to:

Mrs. Esna Erasmus of DERA Environmental Consultants
PO Box 6499
Flamwood
2572
E-mail: daane@dera.co.za
Tel: 018 468 5355
Fax: 018 011 3760
Cell: 082 895 3516;

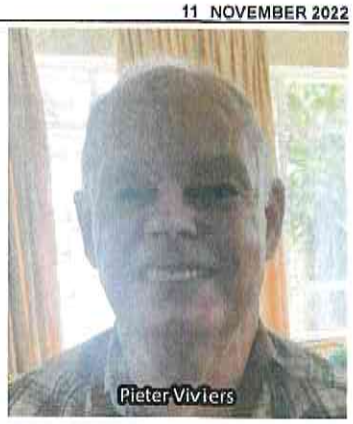
Date of advertisement: Friday 11 November 2022

# Verjaardae gevier

Inwoners van Brits Rusoord het die verjaardae van mede-inwoners wat in Oktober en November verjaar, saam gevier. God's rykste seën word hulle toegewens: Daleen du Plessis (67) 10 Okt, Stoffel de Nysschen (89) 15 Okt, Pieter Viviers (69) 23 Okt, Annetjie Theron (84) 4 Nov, Sera Gouws (82) 9 Nov en Elli Heymans (85) 29 Nov. (Foto's verskaf)

Daleen du Plessis

Stoffel de Nysschen


Pieter Viviers

Annetjie Theron

Sera Gouws

Elli Heymans

TALISMAN Hire
BUILDING A BETTER FUTURE
Level 3 & Construction activities D1-4
Operating hours:
7h00 - 17h00
Brits
012 252 3884
c/o Murray Avenue & Herrington Street
brits@taliman.co.za
Hartbeespoort
012 259 0509
Meadowstar Place
Ou Wapad, Melodie X2
hartbeespoort@taliman.co.za

WASKAS WASSERY
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Fenskorgebou Elandsrand tussen
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## PUBLIC NOTICE

**APPLICATION FOR AN ENVIRONMENTAL AUTHORIZATION FOR THE PROPOSED ACTIVITIES.**

Notice is given for the following application:
1) Environmental authorization application for mining

- **Proponent:** The applicant is Tashmarie Granite (Pty) Ltd.
- **Ref. no:** NW30/5/1/3/2/11135MP
- **Property description:** The proposed mining area is over a certain portion of portions 961 and 1132 of the farm Hartebeestpoort 'B' 410 JQ, in the district of Brits. The total extent of the prospecting area is 3.5 hectares. (21 SG digital codes: T0JQ00000000041000961 & T0JQ00000000041001132)
- **Location:** The property is situated ±25 km west of Brits.
- **Project description:** The purpose of the application is to obtain the required authorisation from the Department to successfully: undertake opencast mining.
- **Process of Basic Assessment is followed and the document will be available on request.**
- **Activity applied for:** the following activities as listed in terms of NEMA (Act No. 107 of 1998) as amended and EIA Regulations, 2014 was applied for under Listing Notice 1 – GNR 327 of 2014, Activity 21 and Listing Notice 1 – GNR 327, Activity 27
- **Minerals applied for:** Granite/Syenite (MA)
- **Date submitted:** 22 September 2022
- **Stakeholder Involvement:** Stakeholders are invited to register as interested and affected parties and to participate in the application process by identifying issues of concern and suggestions for consideration in the BAR/EMPr. Please submit your written comments by mail, fax or e-mail in this 30 day of this notice to:

Mrs. Esna Erasmus of DERA Environmental Consultants
PO Box 6489 Flamwood 2572
E-mail: daane@dera.co.za
Tel: 018 468 5355
Fax: 018 011 3760
Cell: 082 895 3516;

Date of advertisement: Friday 11 November 2022

## LOST OR DESTROYED DEED

Notice is hereby given in terms of regulation 68 of the Deeds Registries Act, 1937, of the intention to apply for the issue of a certified copy of **DEED OF TRANSFER T3603/1985** passed by **STEPHANUS JOHANNES VAN VUUREN, Identity Number 220326 5064 004, Married out of community of property** in favour of **ROBERT ANDREW BEAUMONT, Identity Number 391113 5034 00 2, Married out of community of property** in respect of certain

1. **PORTION 504 (A PORTION OF PORTION 177) OF THE FARM ROODEKOPJES OF ZWARTKOPJES 427 REGISTRATION DIVISION J.Q., TRANSVAAL**
2. **REMAINING EXTENT OF PORTION 505 (A PORTION OF PORTION 177) OF THE FARM ROODEKOPJES OF ZWARTKOPJES 427 REGISTRATION DIVISION J.Q., TRANSVAAL**

which has been lost or destroyed.

All interested persons having objection to the issue of such copy are hereby required to lodge the same in writing with the Registrar of Deeds at **PRETORIA** within two weeks after the date of the publication of this notice.

Dated at HARTBEESPOORT on this 07th day of November 2022.

APPLICANT
**ROBERT ANDREW BEAUMONT**
**C/O LANGENHOVEN PISTORIUS MODIHAPULA ATTORNEYS**
**10 NVIRO BUSINESS HUB, OU WAPAD ROAD, IFAFI, HARTBEESPOORT, 0216**
**E-mail address: transfers@langenhovens.co.za**
**Contact Number : 012 259 1166**

Brits Pos
Contact us:
Tel: 012 252 4095 012 252 4096 Fax: 012 252 0349
E-mail: mailbag@britspos.co.za
Address: 50 Ludorf Street, Brits

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## APPLICATION FOR AN ENVIRONMENTAL AUTHORIZATION FOR THE PROPOSED ACTIVITIES.

Notice is given for the following application:

1) Environmental authorization application for mining.

- **Proponent:** The applicant is Tashmarie Granite (Pty) Ltd.
- **Ref. no:** NW30/5/1/3/2/11135MP
- **Property description:** The proposed mining area is over a certain portion of portions 961 and 1132 of the farm Hartebeestpoort 'B' 410 JQ, in the district of Brits. The total extent of the prospecting area is 3.5 hectares. (21 SG digital codes: T0JQ00000000041000961 & T0JQ00000000041001132)
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Mrs. Esna Erasmus of DERA Environmental Consultants
PO Box 6499 E-mail: daane@dera.co.za
Flamwood Tel: 018 468 5355
2572 Fax: 018 011 3760
Cell: 082 895 3516;

Date of advertisement: Friday 11 November 2022

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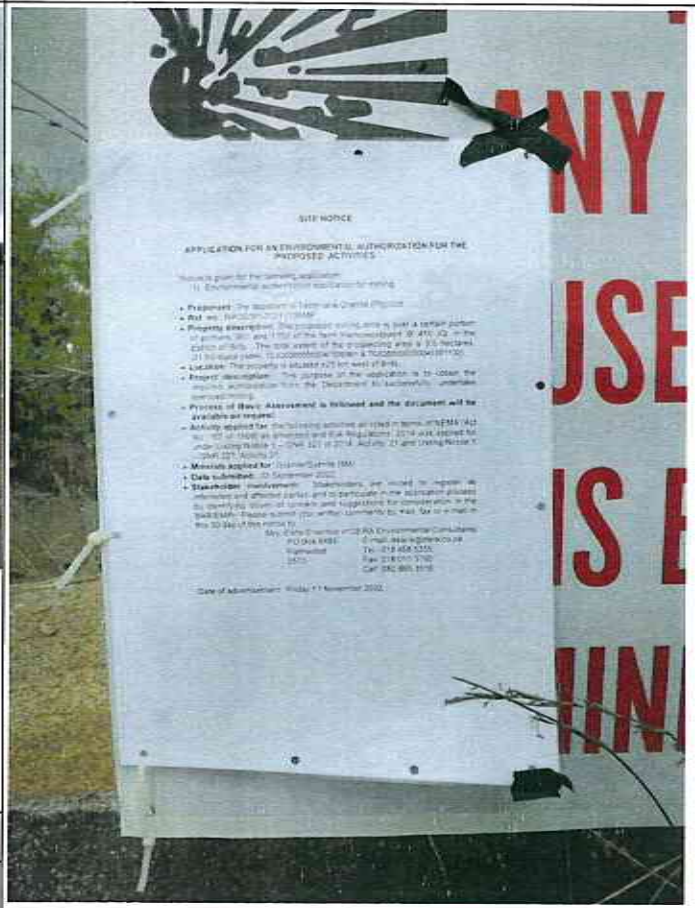
|---|---|---|
| | |  |
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E-mail: dera.office@dera.co.za
daane@dera.co.za

# DERA

Environmental Consultants

**11 November 2022**

**Department of Rural Environment & Agriculture Development**
**Agricentre Building**
**Cnr Dr James Moroko Drive & Stadium Road**
**Mmabatho**
**2735**

**Attention: Ms Ouma Skosana**

**RE: Basic Assessment Report (BAR) & EMP report**

**Reference Number: Number: NW30/5/1/3/2/11135MP**

It is hereby confirmed that Tashmarie Granite (Pty) Ltd. has applied for a mining permit over a certain Portion of Portion 961 & 1132 of the farm Hartebeestpoort "B" 410 JQ, situated in the district of Brits, North West Province.

The Department of Mineral Resources have requested that the Department Rural, Environment and Agricultural Development (North West Regional Office) must be consulted about the proposed mining permit. See attached BAR & EMP report.

Should you have any questions regarding the above, please call Mrs. Erasmus at 082 895 3516

DERA Environmental Consultants can be contacted for any further enquiries.

Yours sincerely

Esna Erasmus
DERA Environmental Consultants

Tashmarie Granite Pty Ltd - BAR/EMPr - NW11135MP

**To**

Company Name:

Street Address: (no PO Boxes)

**TO:**

**Department of Rural, Environment and Agricultural Development**

Agricentre Building

Cnr Dr James Moroka Drive & Stadium Road

Office no. E36

Mmabatho

2735

**Phone: 018 389 5095/5156** **Attention: Ms. Ouma Skosana**

**No Dangerous Goods Declaration**

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Signature: E Krüger

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daane@dera.co.za

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# DERA

Environmental Consultants

**11 November 2022**

**Department of Water and Sanitation**
**Old Rustenburg Road**
**Hartebeespoort**
**0216**

**Attention: Cornia Theunissen**

**RE: Basic Assessement Report (BAR) & EMP report**

**Reference Number: Number: NW30/5/1/3/2/11135MP**

It is hereby confirmed that Tashmarie Granite (Pty) Ltd. has applied for a mining permit over a certain Portion of Portion 961 & 1132 of the farm Hartebeestpoort "B" 410 JQ, situated in the district of Brits, North West Province.

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Should you have any questions regarding the above, please call Mrs. Erasmus at 082 895 3516

DERA Environmental Consultants can be contacted for any further enquiries.

Yours sincerely

Esna Erasmus
DERA Environmental Consultants

Tasmanie Granite (Pty) Ltd - BAR/EMR - NW11135MP

**To**

Company Name:

Street Address: (no PO Boxes)

**To:**

**Department of Water and Sanitation**

Old Rustenburg Road

Hartbeespoort, 0216

Phone: 012 253 1026 Attention: Cornia Theunisse

Cell: 087 943 3741 / 082 889 7930

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Fax: 018-011 3760
Cell: 082 895 3516
E-mail: dera.office@dera.co.za
daane@dera.co.za

# DERA

Environmental Consultants

**11 November 2022**

**Department of Agriculture, Forestry and Fisheries**
**Louis le Grange Building**
**Cnr Peter Mokaba & Wolmarans Street**
**3rd Floor, office nr 318**
**Potchefstroom**
**2520**

**Attention: Maurice Vukeya**

**RE: Basic Assessment Report (BAR) & EMP report**

**Reference Number: NW30/5/1/3/2/11135MP**

It is hereby confirmed that Tashmarie Granite (Pty) Ltd. has applied for a mining permit over a certain Portion of Portion 961 & 1132 of the farm Hartebeestpoort "B" 410 JQ, situated in the district of Brits, North West Province.

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Should you have any questions regarding the above, please call Mrs. Erasmus at 082 895 3516

DERA Environmental Consultants can be contacted for any further enquiries.

Yours sincerely

Esna Erasmus
DERA Environmental Consultants

Tashmarie Granite (Pty) Ltd - BAR/EMP-NW 11135MR

**To**

Company Name:

Street Address: (no PO Boxes)

**To: Department of Agriculture, Forestry & Fisheries**

Louis Le Grange Building (Court Building)
Cnr Peter Mokaba & Wolmarans Street
3rd Floor
Office nr 318
Potchefstroom
2520
Phone: 018 299 6739 Attention: Maurice Vukeya
Cell: 082 459 6479

**No Dangerous Goods Declaration**

I hereby certify that this consignment does not contain any dangerous or prohibited goods, eg. explosives, flammables, corrosives, aerosols or poisonous substances.

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Signature: Krüger

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# SCREENING REPORT: APPENDIX 3

# SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

**EIA Reference number:**

**Project name:** Hartebeestpoort B 410 JQ

**Project title:** Mining Permit

**Date screening report generated:** 22/09/2022 07:53:35

**Applicant:** Tashmarie Granite (Pty) Ltd

**Compiler:** DERA Omgewingskonsultante (Pty) ltd

**Compiler signature:** .....

**Application Category:** Mining|Mining Permit

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Cadastral details of the proposed site ..... 4

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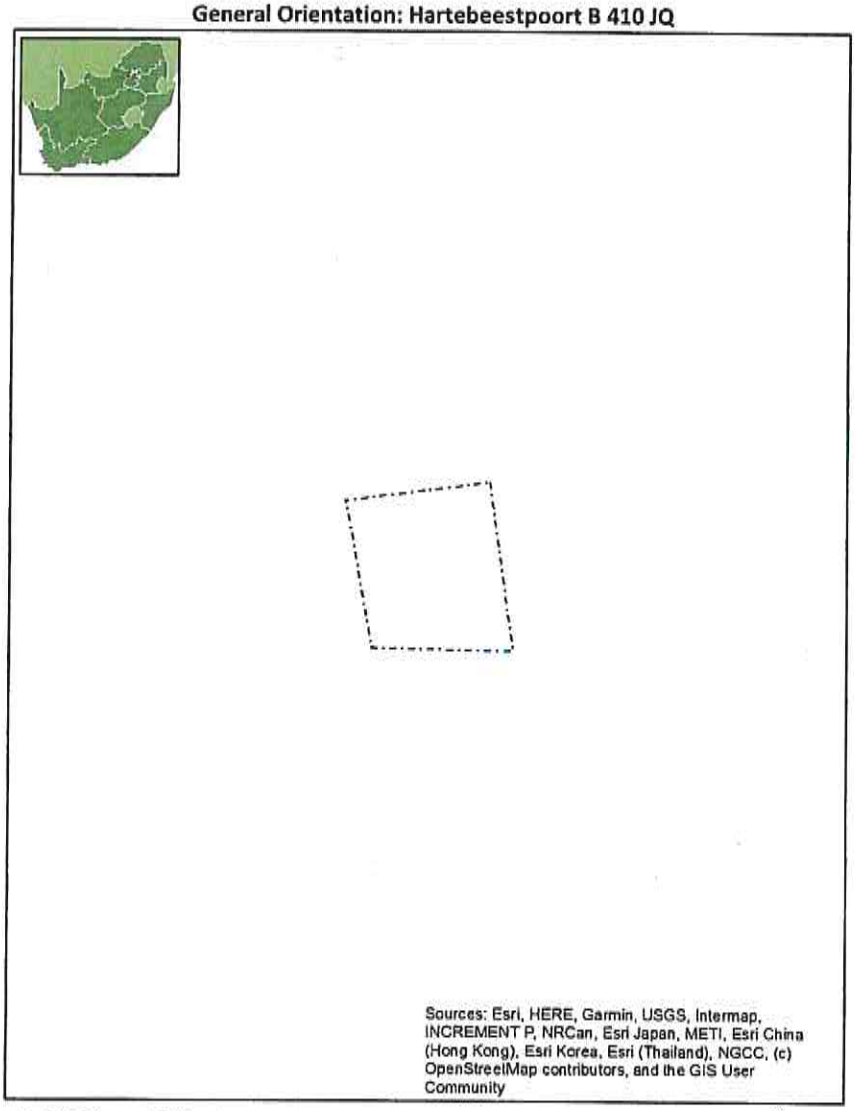
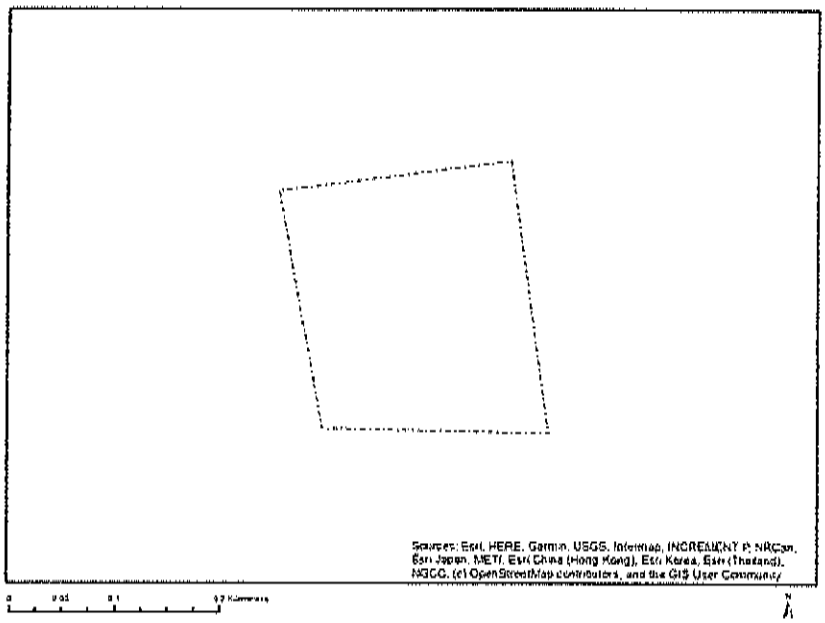
# Proposed Project Location

## Orientation map 1: General location

**General Orientation: Hartebeestpoort B 410 JQ**



## Map of proposed site and relevant area(s)




## Cadastral details of the proposed site

Property details:

| No | Farm Name | Farm/ Erf No | Portion | Latitude | Longitude | Property Type |
|---|---|---|---|---|---|---|
| 1 | HARTEBEESTPOORT B | 410 | 0 | 25°36'31.79S | 27°40'23.74E | Farm |
| 2 | HARTEBEESTPOORT B | 410 | 961 | 25°39'5.05S | 27°39'22.3E | Farm Portion |
| 3 | HARTEBEESTPOORT B | 410 | 1132 | 25°39'7.78S | 27°39'36.62E | Farm Portion |

Development footprint[1] vertices:
No development footprint(s) specified.

## Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

| No | EIA Reference No | Classification | Status of application | Distance from proposed area (km) |
|---|---|---|---|---|
| 1 | 14/12/16/3/3/1/1297 | Solar PV | Approved | 8.5 |

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.



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*22/09/2022*

| | | | | |
|---|---|---|---|---|
| 2 | 14/12/16/3/3/1/491 | Solar PV | Approved | 29.8 |
| 3 | 12/12/20/2145 | Solar PV | Approved | 28.5 |
| 4 | 14/12/16/3/3/2/850 | Solar PV | Approved | 29.7 |
| 5 | 12/12/20/2283 | Solar PV | Approved | 28.6 |
| 6 | 14/12/16/3/3/1/492 | Solar PV | Approved | 29.8 |

## Environmental Management Frameworks relevant to the application

No intersections with EMF areas found.

# Environmental screening results and assessment outcomes

The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Mining | Mining Permit.**

## Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

| Incentive, restriction or prohibition | Implication |
|---|---|
| Air Quality-Waterberg-Bojanala Priority Area | https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/gg39489_nn1207a.pdf |
| Strategic Gas Pipeline Corridors-Phase 3: Richards Bay to Gauteng | https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_GAS.pdf |

Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones

**Project Location: Hartebeestpoort B 410 JQ**

## Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

| Theme | Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|---|
| Agriculture Theme | | X | | |
| Animal Species Theme | | | X | |

| | | | | |
|---|---|---|---|---|
| Aquatic Biodiversity Theme | | | | X |
| Archaeological and Cultural Heritage Theme | | | | X |
| Civil Aviation Theme | | | X | |
| Defence Theme | | | | X |
| Paleontology Theme | | | X | |
| Plant Species Theme | | | X | |
| Terrestrial Biodiversity Theme | X | | | |

## Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

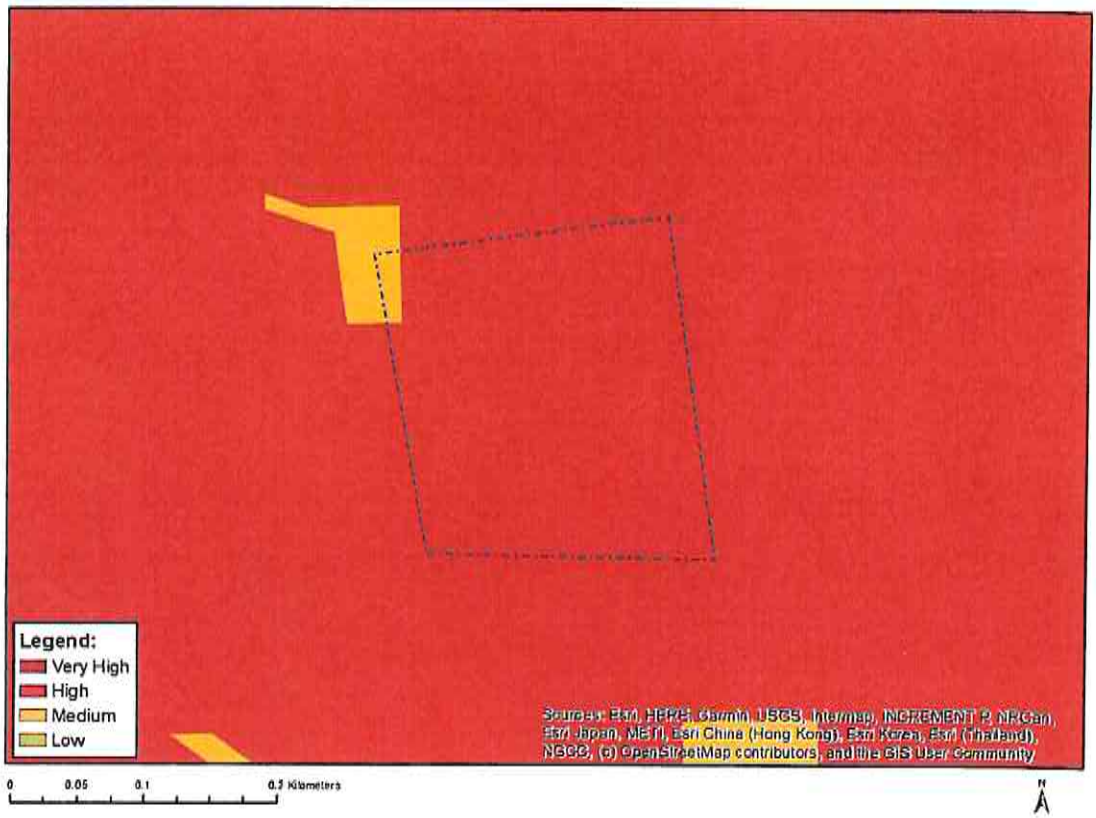
| No | Specialist assessment | Assessment Protocol |
|---|---|---|
| 1 | Agricultural Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf |
| 2 | Archaeological and Cultural Heritage Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 3 | Palaeontology Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 4 | Terrestrial Biodiversity Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf |
| 5 | Aquatic Biodiversity Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf |
| 6 | Hydrology Assess | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |

| | | |
|---|---|---|
| | ment | |
| 7 | Noise Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf |
| 8 | Radioactivity Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 9 | Traffic Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 10 | Geotechnical Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 11 | Socio-Economic Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 12 | Plant Species Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf |
| 13 | Animal Species Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf |

# Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

## MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

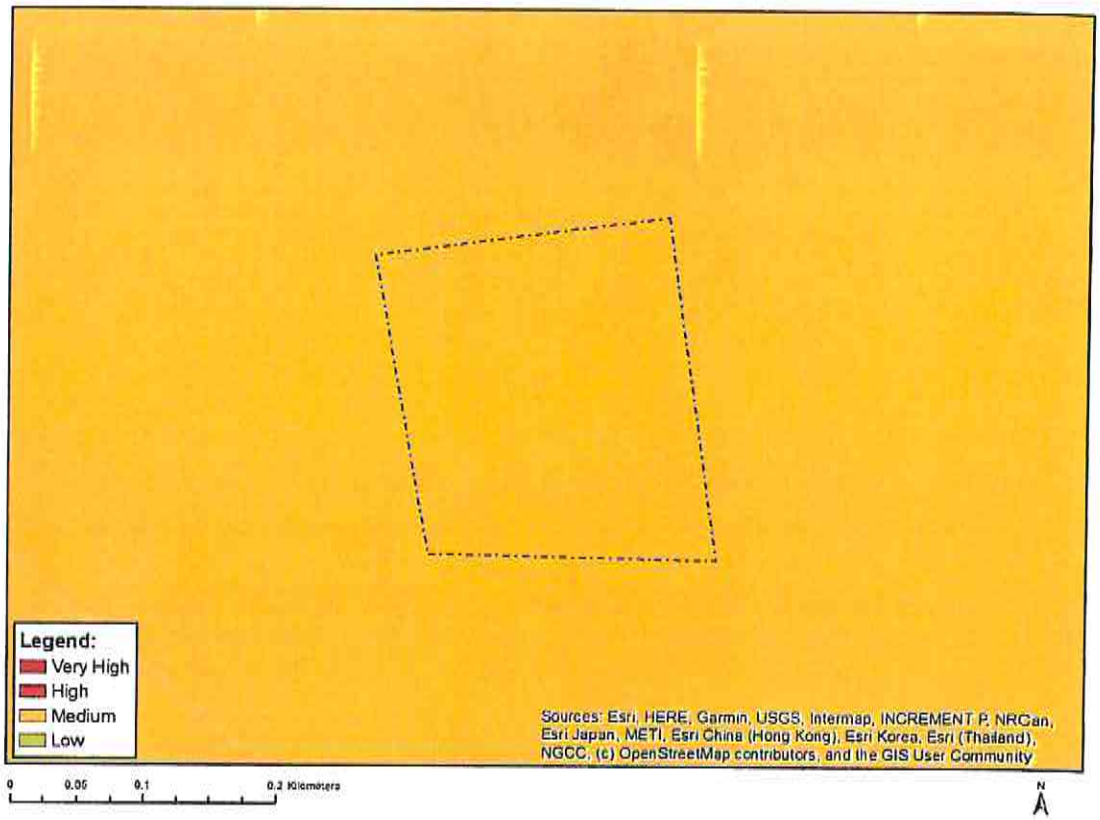



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | X | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| High | Land capability;09. Moderate-High/10. Moderate-High |
| High | Annual Crop Cultivation / Planted Pastures Rotation;Land capability;09. Moderate-High/10. Moderate-High |
| Medium | Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate |

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY




Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | X | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Medium | Aves-Sagittarius serpentarius |
| Medium | Mammalia-Chrysospalax villosus |
| Medium | Mammalia-Crocidura maquassiensis |
| Medium | Mammalia-Dasymys robertsii |



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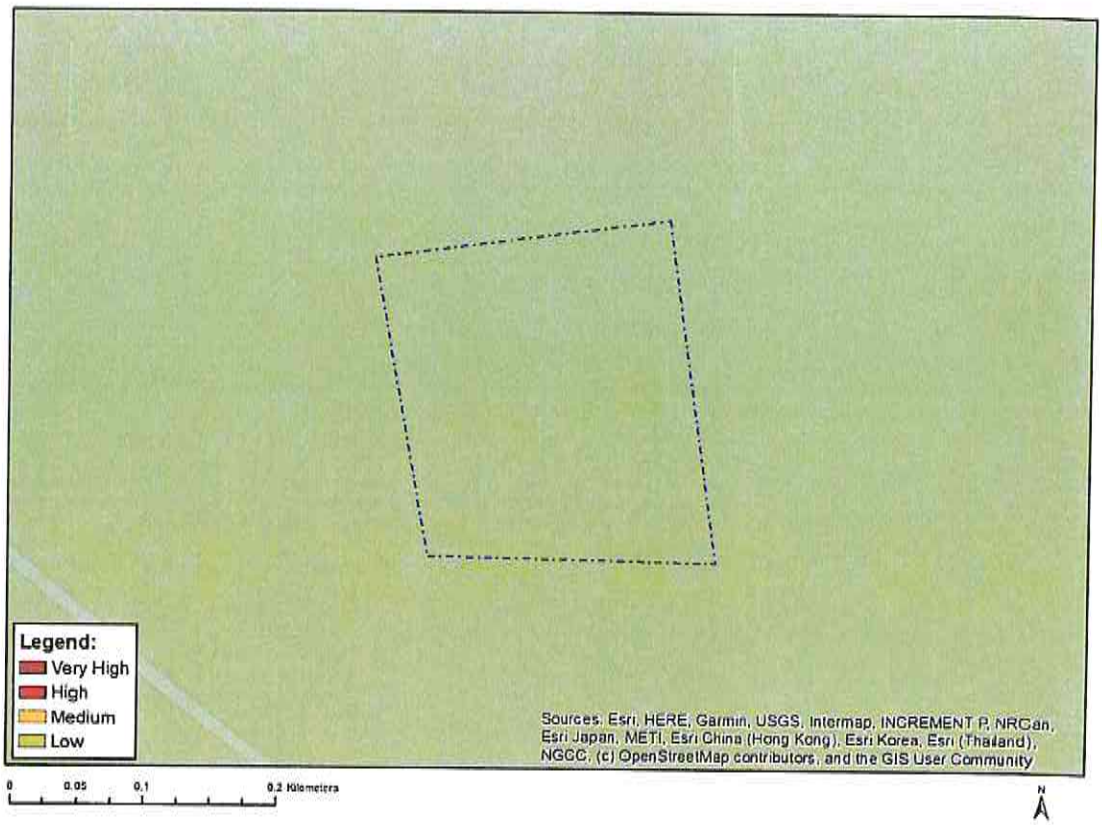
*22/09/2022*

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

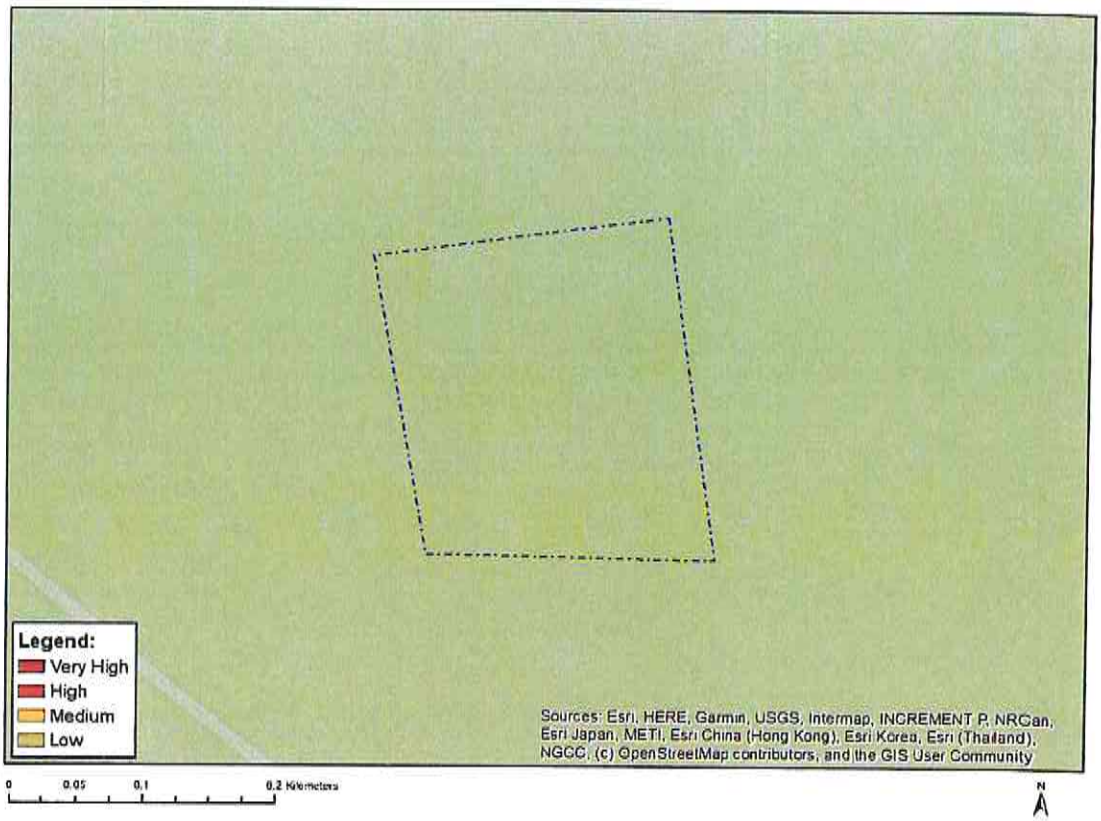



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | | X |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low sensitivity |

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

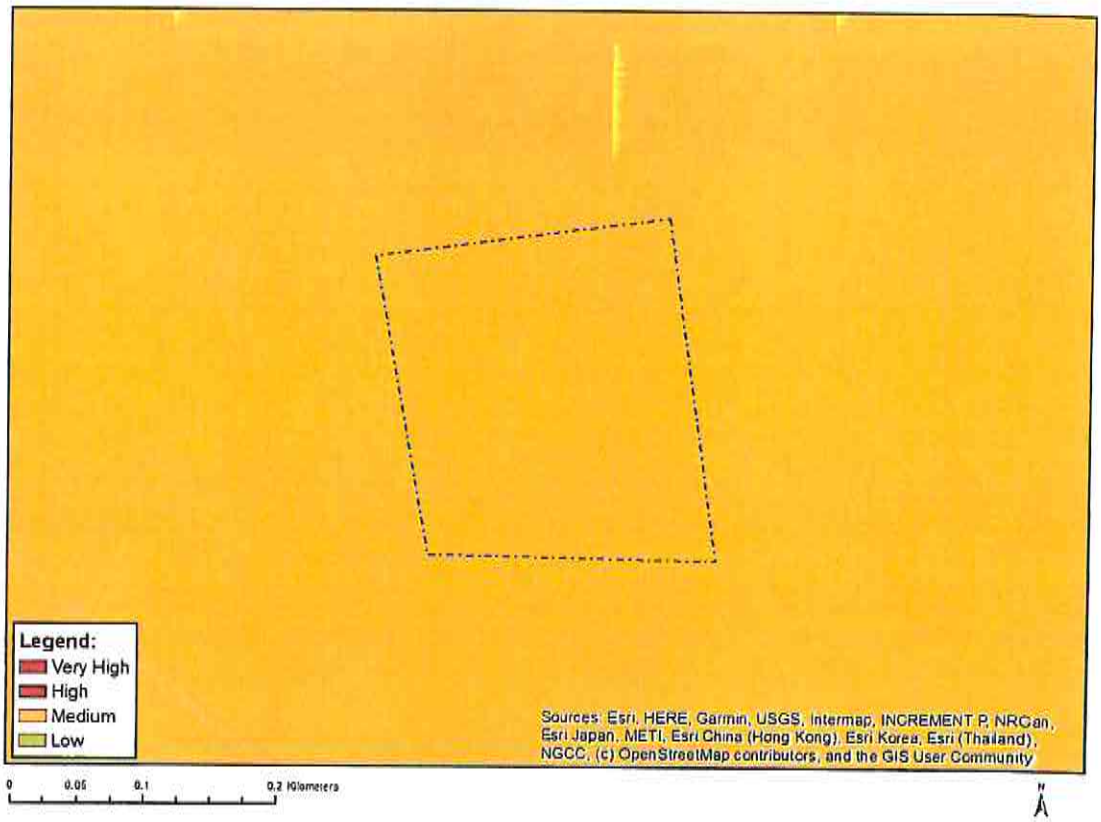



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | | X |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low sensitivity |

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

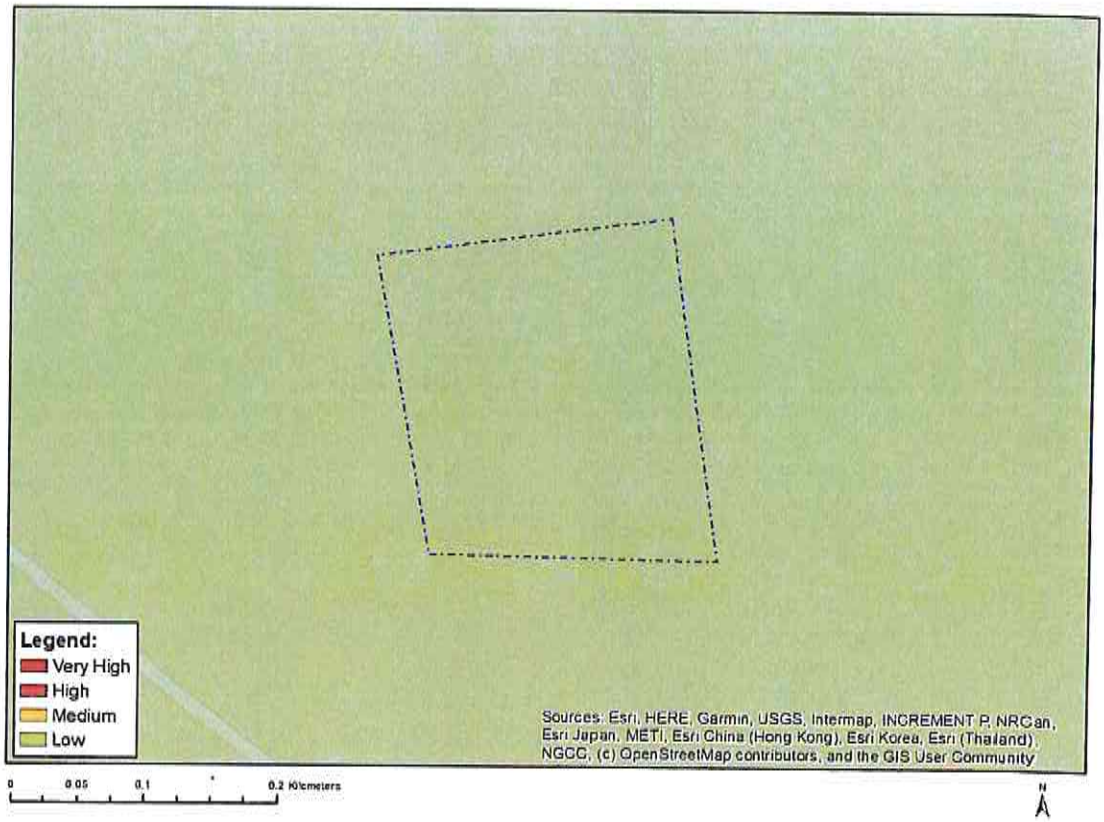



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | X | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Medium | Between 8 and 15 km of other civil aviation aerodrome |

MAP OF RELATIVE DEFENCE THEME SENSITIVITY




| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | | X |

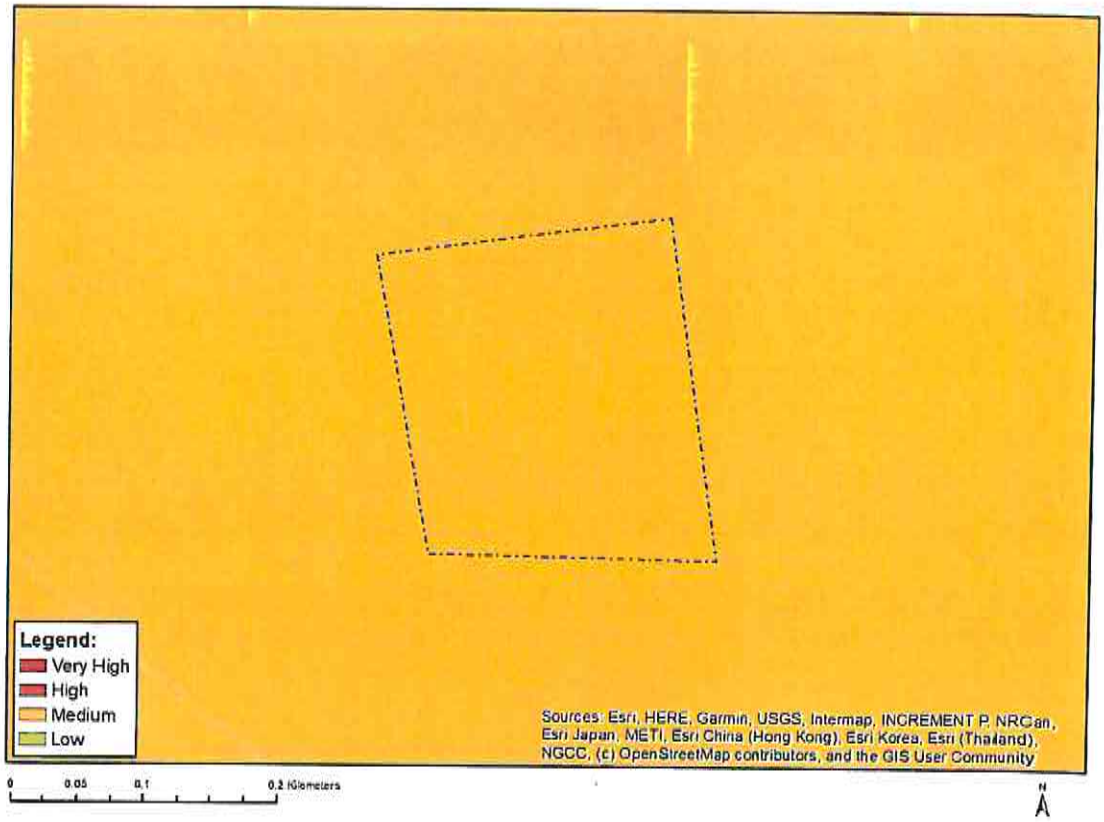
**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low Sensitivity |



*Disclaimer applies*
*22/09/2022*

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

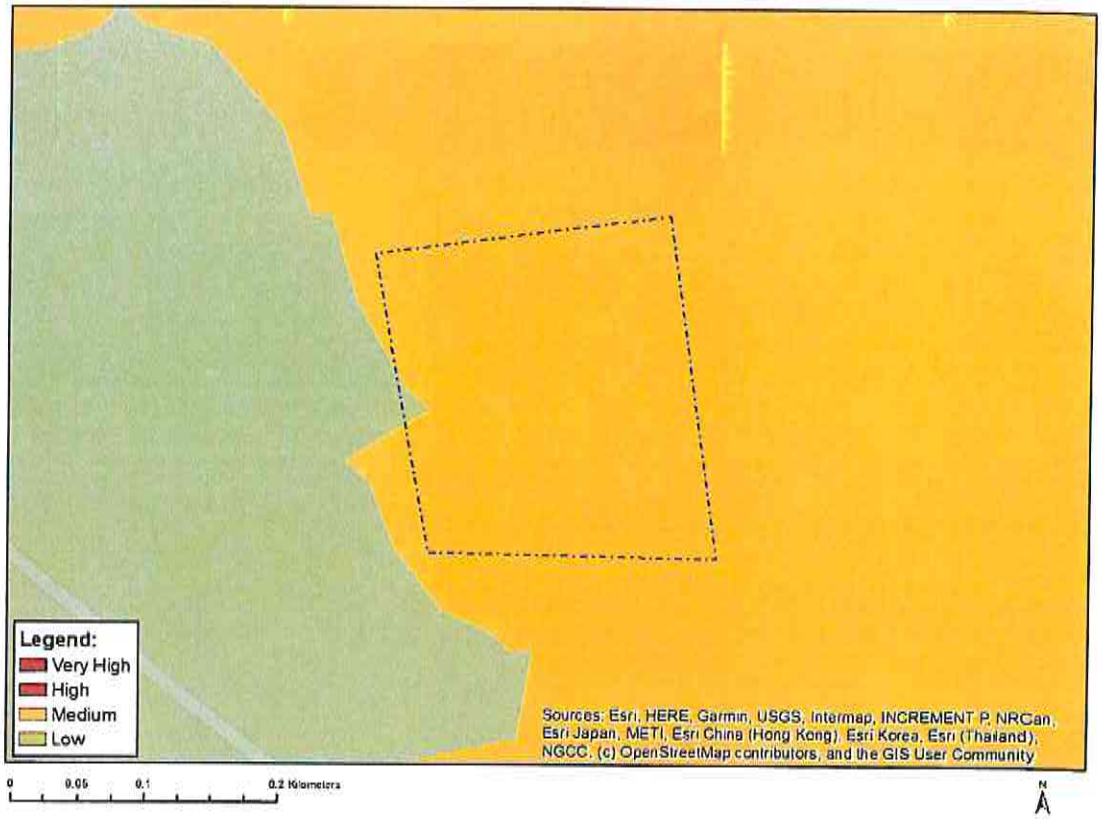



| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | X | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Medium | Features with a Medium paleontological sensitivity |

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



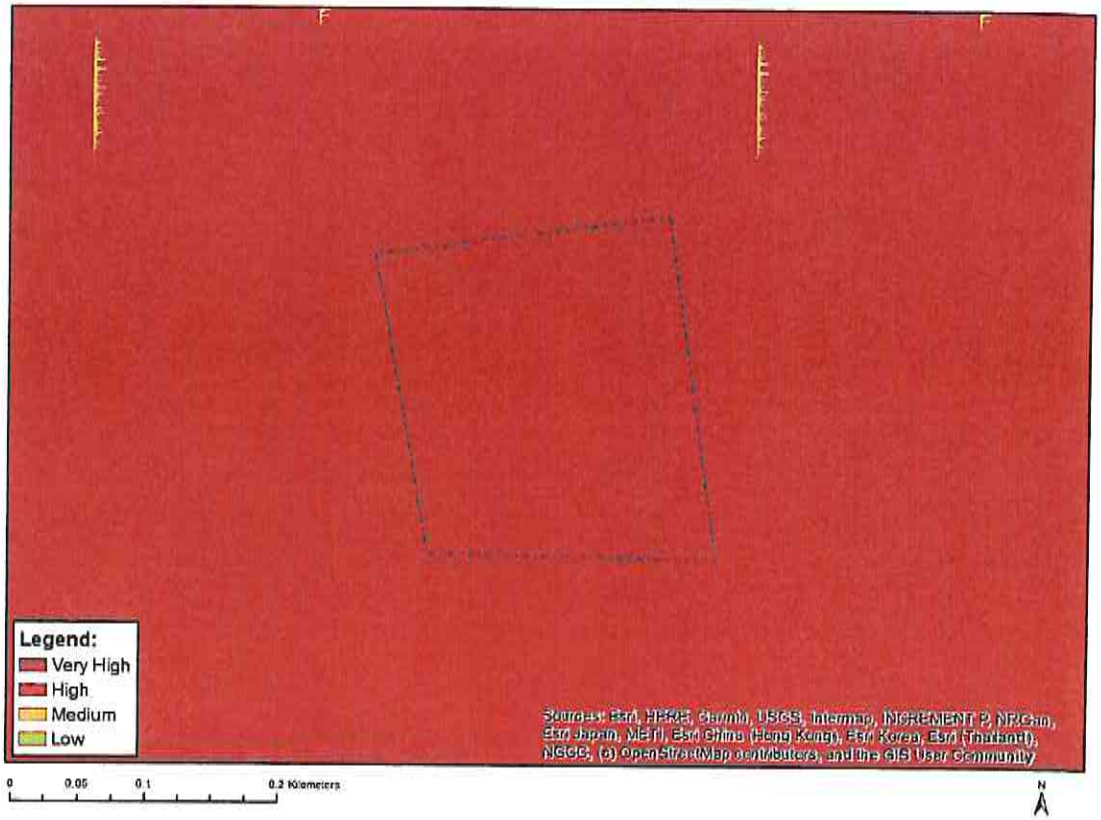

Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their unique identifiers for which information is required. The name has been withheld as the species may be prone to illegal harvesting and must be protected. SANBI will release the actual species name after the details of the EAP or specialist have been documented.

| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| | | X | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Low | Low Sensitivity |
| Medium | Sensitive species 1248 |

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY




| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|---|---|---|---|
| X | | | |

**Sensitivity Features:**

| Sensitivity | Feature(s) |
|---|---|
| Very High | Critical biodiveristy area 2 |
| Very High | Ecological support area 2 |
| Very High | Protected Areas Expansion Strategy |
| Very High | Vulnerable ecosystem |

# QUANTUM CALCULATION: APPENDIX 4

| Calculation of the Financial Provision | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mine : Tashmarie Granite (Pty) Ltd | | | | Location: Hartebeestpoort "B" 410 JQ | | | |
| | | | | NW 30/5/1/3/2/11135 MP | | | |
| No | Description | Unit | Quantity (A) | Master Rate (B) | Multiplication Factor (C) | Weighting Factor (D) | Amount (E)=A*B*C*D |
| 1 | Dismantling of the Processing Plant and related Structures (Including Overland conveyors and power lines) | $m^3$ | - | 17.91 | 1 | 1 | - |
| 2 (A) | Demolition of Steel buildings and structures (including floor slabs) | $m^2$ | - | 249.45 | 1 | 1 | - |
| 2(B) | Demolition of reinforced concrete buildings and structures | $m^2$ | - | 367.62 | 1 | 1 | - |
| 3 | Rehabilitation of access Roads | $m^2$ | 50.00 | 44.64 | 1 | 1 | 2,232.00 |
| 4 (A) | Demolition and rehabilitation of electrified railway lines | m | - | 433.26 | 1 | 1 | - |
| 4 (B) | Demolition and rehabilitation of non-electrified railway lines | m | - | 236.33 | 1 | 1 | - |
| 5 | Demolition of housing and facilities (including floor slabs) | $m^2$ | - | 498.91 | 1 | 1 | - |
| 6 | Opencast Rehabilitation (including final voids and ramps) | ha | 0.30 | 253,918.43 | 1 | 1 | 76,175.53 |
| 7 | Sealing of shafts and adits and inclines (including concrete cap) | $m^3$ | - | 133.92 | 1 | 1 | - |
| 8 (A) | Rehabilitation of Overburden and Spoils | ha | - | 174,355.57 | 1 | 1 | - |
| 8 (B) | Rehabilitation of processing waste Deposits an eveporation ponds (basic, salt-producing waste) | ha | - | 217,156.72 | 1 | 1 | - |
| 8 (C) | Rehabilitation of processing waste Deposits an eveporation pond (acidic, metal-rich waste) | ha | - | 630,726.04 | 1 | 1 | - |
| 9 | Rehabilitation of subsided areas | ha | - | 145,996.53 | 1 | 1 | - |
| 10 | General Surface Rehabilitation, including grassing of all denuded areas | ha | 0.20 | 138,119.02 | 1 | 1 | 27,623.80 |
| 11 | River diversions | ha | - | 138,119.02 | 1 | 1 | - |
| 12 | Fencing | m | - | 157.55 | 1 | 1 | - |
| 13 | Water Management (Separating clean and dirty water and managing the impact on groundwater, including treatment, when required) | ha | - | 52,516.74 | 1 | 1 | - |
| 14 | 2 to 3 Years of Maintenance and aftercare | ha | 0.20 | 18,380.86 | 1 | 1 | 3,676.17 |
| 15 (A) | Specialist Study | Sum | - | | | | - |
| 15(B) | Specialist Study | Sum | - | | | | - |
| **Total Sum of all Items** | | | | | | | **109,707.51** |

| | | | |
|---|---|---|---|
| | | 12% of subtotal | |
| 1 | **Preliminary and General** | 6% of subtotal | 6,582.45 |
| 2 | **Contigencies** | 10% Contingency | 11,629.00 |
| | | Subtotal 1 plus sum of Management and contigency) | **127,918.95** |
| | | VAT@15% of the Total | 19,187.84 |
| | | Grand Total | **147,106.79** |