DRAFT SCOPING REPORT

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PROJECT DETAILS

Title	:	Application for a Mining Right and Environmental Authorisation for the Active Blue Aggregates & Dimension Stone Quarry near Nquthu, KwaZulu-Natal
DMR Reference Number	:	KZN 30/5/1/2/2/10088MR
Authors	:	ZN Geo Services (Pty) Ltd Ms. Zama Ndumo Ms. Dilona Somai
Applicant	:	Active Blue Trading 226 (Pty) Ltd Mr. Xolani Gamede
Report Status	:	Draft Scoping Report
Public & Authority Review Period	:	04 June 2018 – 05 July 2018

When used as a reference this report should be cited as: ZN Geo Services (2018) Draft Scoping Report: Application for a Mining Right and Environmental Authorisation for the Active Blue Aggregates & Dimension Stone Quarry near Nquthu, KwaZulu-Natal.

EXECUTIVE SUMMARY

PURPOSE OF THE SCOPING REPORT

This document has been compiled to provide Interested and Affected Parties ("I&APs"), with the following:

- Contact details for the independent environmental assessment practitioner;
- Information on the proposed development;
- Information on the Baseline Environment;
- Information on the S&EIA Process that will be conducted; and
- Details on how you can be involved in the S&EIA Process.

BACKGROUND

Active Blue Trading 226 (Pty) Ltd currently holds a Prospecting Right (KZN 30/5/1/3/2/10224PR) on a Portion of Reserve No. 18 No. 15838. Having completed the prospecting phase, the Active Blue Trading 226 (Pty) Ltd applied for and holds a Mining Permit (KZN 30/5/13/2/10019MP) on Portion 19 within Reserve No. 18 No. 15838, measuring 1, 5 hectares in extent. Active Blue Trading 226 (Pty) Ltd is now preparing to apply for a Mining Right on Remainder of Portion 17 within Reserve No. 18 No. 15838. The Mining Right application will cover an area of approximately 38 hectares, however. The minerals Aggregate and Granite / Syenite are being applied for under the Mining Right application.

Active Blue Trading 226 (Pty) Ltd (Reg. No. 2014/027575/07), trading as Real Stone Quarries ("RSQ"), was previously registered as Active Blue Trading CC (Reg. No. 2010/105652/23), and the Prospecting Right and Mining Permit holder is noted as Active Blue Trading CC. Through RSQ, Active Blue Trading (Pty) Ltd is a 100% black-owned company. In keeping with the company's broader philosophy, their approach is to include host communities in the shareholding of all their operations. This inclusive approach has resulted in a share participation with the Molefe Tribal Authority and has helped cementing a harmonious relationship. On ownership, RSQ has allocated shareholding of 10% in the Nquthu Quarry (operated under the Mining Permit 10019MP) which is held by the Molefe Community Development Trust.

A Scoping and Environmental Impact Assessment ("S&EIA") is required in support of a Mining Right Application ("MRA") and Environmental Authorisation ("EA") on the abovementioned properties.

Extraction of aggregate at Nquthu quarry is currently being carried out by drill and blast methods. Holes are drilled within the intact rock boulders and charged with explosives. Once blasted, the unconsolidated material is transported to the crusher via the haul roads. Material that is too large to go through the primary crusher is further broken down to ±300mm with a mechanised Pecker. The typical primary mining fleet for this mining method consists of excavators, dump trucks and drill rigs. The typical ancillary fleet assisting the mining fleet for this mining method include: graders, water trucks, diesel bowsers, front-end loaders, bulldozers, supervision light-duty vehicles, lighting plants and mobile diesel water pumps. The mining direction is from the current mining pit to the east. At this juncture two mining cuts are in place, separated by a haul road. As mining proceeds and the top ±25m has been extracted for production of aggregate, dimension stone mining

will occur below these current pits. Aggregate mining will then advance northwards to exploit the available resource.

LEGAL REQUIREMENTS

Listed activities identified in GNR. 326 Environmental Impact Assessment (EIA) Regulations, 2014 (amended 2017) apply to the proposed mining project. The MRA itself falls within the ambit of Listed Activity No. 17 of GNR. 325 Listing Notice 2 of the EIA Regulations, 2014 (amended 2017):

Any activity including the operation of that activity which requires a mining right as contemplated in Section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource, including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

Listed activities contained within GNR. 325 Listing Notice 2 of the EIA Regulations, 2014 (amended 2017) require that the Scoping and Environmental Impact Reporting ("S&EIR") process be followed for the EA application. Since the primary listed or specified activity requiring environmental authorisation is the extraction and processing of a mineral resource, the Department of Mineral Resources ("DMR") will, in accordance with Section 24C(2A) of National Environmental Management Act (107/1998) ("NEMA"), be the competent authority ("CA") responsible for the EA.

The specialist studies required to inform the EIR and EMPr will be undertaken in Phase 2. It is anticipated at this stage that the following specialist studies will be required to inform the application for EA:

- Terrestrial Ecology Assessment;
- Geology Assessment;
- Groundwater Assessment;
- Surface Water Assessment and Storm Water Management Plan;
- Soils, Land Capability and Land Use Assessment;
- Heritage Impact Assessment;
- Socio-Economic Impact Assessment;
- Social and Labour Plan

The National Water Act (36/1998) ("NWA") specifies certain activities that require registration or licensing from the Department of Water and Sanitation (DWS). Given the nature of the receiving environment and the planned activities it is likely that the mine will require a Water Use Licence (WUL). The EIA and a separate Technical Motivation Report are required to inform the decision to issue a Water Use Licence. This application will be made at a later stage, but will be informed by the current EIA process, including stakeholder engagement.

BASELINE ENVIRONMENT

Climate

Nquthu's climate is classified as warm and temperate. The mean annual rainfall for Nquthu varies from 919mm in the southeast to 646mm in the southwest, while the northern and central areas receive in the region of 738mm. The mean annual temperature is 16.7˚C, with warm to hot summers experiencing a mean maximum of 23.2˚C but reaching 25.7˚C along the Buffalo River. Winters are cool with colds spells, and moderate to light frosts. The summers here have a good deal of rainfall. This location is classified as Cwb by Köppen and Geiger.

Topography

The Nquthu municipal area is characterised by rolling to partly broken terrain with slopes of between 5% and 12%. The terrain becomes more broken and steep (>12%) in the south, with valleys along the Buffalo River its south-western boundary. The mean elevation (m above sea level) ranges from 689 above sea level, to 1,551m above sea level. The largest part of the Municipality is relatively even, with a decline in altitude on the eastern border towards the White-Mfolozi River, as well as on southern border of the municipality towards a number of arterial rivers. Only Nondweni is situated on the lower lying areas, whilst most of the settlements are situated in the western areas of the Municipality.

Regional Geology

The regional geology consists mainly of the 2.1Ma Karoo Supergroup, which consists of intercalated sandstone and shale sediments intruded by dolerite dykes. The gravel and dimension stone are hosted within the intrusive dolerite dykes of the Beaufort Group.

Local Geology

The local geology consists of a thick, massive dolerite dyke that spans over the entire project area and beyond the property boundaries. The dolerite forms part of the Beaufort Group which intruded the Ecca Group within the region. Dolerite is an igneous rock made up of mainly olivine, hornblende and potassium feldspar minerals. This dolerite is relatively medium- grained (2-3mm grains) dark-grey with a greenish tint on surface, becoming finer grained (0.5-1mm grains) and lighter-grey in colour in depth. The rock becomes consistent in grain size and colour from a depth of approximately 5-7m in depth.

Land Capability

The Nquthu municipal area comprises 14 different bio resource units. Representative units of the different areas within Nquthu, are TUc1 and Tc9 in the north, Uc12 and Tc8 centrally, Sb3 and Tc8 in the southwest and Yd14 and Wd7 in the south-eastern area. The data provided by the KwaZulu-Natal Department of Agriculture and Environmental Affairs Bioresource Programme was analysed and used to provide an overview of the agricultural land use potential of Nquthu based on its natural resources.

Soils

The soils in the study area are generally considered highly susceptible to erosion, with only 15% of the area considered arable. The central and northern area is characterized by shallow duplex soils (40-50%) and soils of moderate to poor drainage (70-75%), which present erosion, hazard if not properly managed. Along the

south-western boundary the occurrence of shallow soils (78.2%) increases, as do soils of moderate to poor drainage (74.2%), with areas of arable soils decreasing to 8%. Care should be taken to identify areas containing arable soils for primary food production and development.

Land Use Potential

The climatic capability class rating for Nquthu is C4 to C7 indicating a moderate to severely restricted potential for agricultural production. This is as a result of low rainfall, making dryland production risky and cool temperatures, associated with the occurrence of frost that shortens the growing season. Water is poorly distributed, and the erodibility of the soils may eliminate the possibility of dam construction. Where high potential soils are situated close to a reliable source of water, the potential for crop farming under irrigation is good.

There is great variation in the soils, ranging from deep, well-drained apedal forms to plinthic soil forms, which are moderately to poorly drained. The potential for cropping varies considerably with maize, soya beans and wheat being important crops that could potentially be grown as part of the livelihood strategy of households. While 20% of the Nquthu area could be regarded as arable, only 9% is regarded as having a high potential. On these soils, in favourable seasons, crop production can be very good, however with the rainfall tending to be unreliable, irrigation is a limiting feature of crop production in the area. Knowledge of the quality of the soils is essential in landuse planning. Abandoned lands, generally referred to as "old lands", are widespread. These unproductive cropping areas have been abandoned because of poor productivity resulting from the ploughing of shallow duplex soils, which were seen as arable owing to a lack of stones and the easy terrain.

Vegetation

The project site falls within the Savanna Biome and two vegetation types: Income Sandy Grassland and Northern KwaZulu-Natal Moist Grassland (with the later predominant over the site). Both vegetation types are considered to be vulnerable. It must be noted in the context of the project, mining has been taking place under the Mining Permit, therefore sections of the project area are disturbed.

Fauna

Fauna expected to occur on site include assemblages within terrestrial ecosystems: mammals, birds and reptiles. Each of these assemblages occurs within unique habitats, the ecological state of these habitats directly relates to the number of species found within them. The likelihood of species of conservation concern within the propose project area will be determined and assessed during the impact assessment. It must be noted that given current mining under the Mining Permit, it is anticipated that fauna would have dispersed during the operation of the quarry.

Surface Water

The project site falls within the Thukela Water Management Area (“WMA”). From a water resources point of view, irrigation is a significant land use. Another important land-use that has an impact on the water resources of the Thukela River catchment is commercial timber. Mining activities in the Thukela WMA do not use significant amounts of water, but do impact on the water quality, especially in the Buffalo River and Sundays

River catchments. Industry as a land-use is not significant in the Thukela WMA. The Jojosi River lies ±1-2km south-east of the proposed project area.

Air Quality

As the area is predominantly rural and untransformed, air quality is not directly affected by industrial processes. The air quality in the area is therefore mainly impacted on by increased dust levels from mining, farming and household (i.e. burning fires at homes) activities. It is expected that the current levels of dust fallout in the region are low during summer but increase during the winter months; due to a generally drier atmosphere and strong winds. The air quality in the area is also impacted on by the occasional veld fires during winter months.

Noise

It is expected that the ambient noise levels are low in the area, due to its rural nature. Mainly machinery, such as tractors, operating on the farms cause high noise levels but are intermittent. Another intermittent noise source which is expected to impact on the ambient noise levels are vehicular activities but is of low significance because of the low frequency of the vehicular traffic. Current mining activities add to the noise levels, albeit being intermittent.

Heritage

The Environmental Management Plan ("EMP") prepared for the Mining Permit indicated no archaeological and cultural resources. Graves are located within the project site. it is important to note that since archaeological artefacts generally occur below surface, the possibility exists that culturally significant material and skeletal remains may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist (See National Heritage and Resources Act, (25/1999) section 36 (6)). A Heritage Impact Assessment will be undertaken as part of the EIA. This assessment determines the archaeological significances of all the identified resources as well as the possible impacts that the proposed development might have.

Socio-Economic

The project site falls within Ward 16 of the Nquthu Local Municipality and falls within the Umzinyathi District Municipality ("UDM"). The Nquthu Local Municipality shares its border with the Abaqulusi Local Municipality. According to the census 2011 information, the population in the Nquthu Local Municipality was 165 307 (representing 32.4% of the total population in the UDM). Approximately 42% of the population are 14 years and younger, while 53% of the population are aged between 15 and 64 years and 5.1% people with 65+. This indicates a youthful population which places pressure on the need for education and social facilities. Nquthu consists of a large rural population (over 90%), with less than 10% of its people living in the semiurban areas of Nquthu Town (3.44% living in Nquthu Town), Nondweni, Isandlwana and Ngolokodo. Employment levels are exceptionally low with only 9 946 of the economically active population being employed. Of the total population, 55 954 are not economic active as this include people with disability, school children and pensioners while 12 918 are discouraged work seekers and the rest of the potential labour force is not economically active (students, housewives etc). With such high unemployment the dependency levels are

also very high, and it is estimated that for every employed person there are 28 unemployed people who are in need of support.

Nquthu Town and Nondweni are the only two urban settlements found within Nquthu Municipality. The former is located on erf 100 and comprises of residential the residential areas, area is characterized by a half of it being land with little gradient (the northern sector) and the rest of it, or southern sector, being dominated by mountains and streams, by far the major portion of the area being utilization for farming practices. There is practically no commercial farming enterprise in the area, and mostly subsistence farming is practiced. Land management practices are often found wanting and would have to be addressed as is indicated through potential agriculture projects. The only urban node in the area is Nquthu village, offering the widest range of opportunities in respect of services. Even though this is situation, the town is underdeveloped as a result of low-income levels prevailing in the area.

POTENTIAL IMPACTS IDENTIFIED

A summary of the predicted positive and negative impacts prior to implemented mitigation measures are summarised below.

Negative

- Noise – Blasting and Drilling, movement of vehicles, crushers;
- Possible groundwater contamination from hydrocarbon spills and the establishment of and mine residue deposits;
- Disturbance/loss of fauna species due to construction and operational activities;
- Elevated PM10, PM2,5 and total dust;
- Change to Surface Topography at the Site Due to Infrastructure Establishment During the Construction Phase; and
- Disturbance/Loss/Sterilisation of Land Capability and Land Use.

Positive

- Procurement of local goods and services;
- Employment opportunities for local communities as well as other South African citizens;
- Income generation;
- Skills development and education opportunities;
- GDP improvement and wealth creation; and
- Distribution of revenue and wealth.

ASSUMPTIONS AND LIMITATIONS

As is standard practice, this Scoping Report is based on a number of assumptions and is subject to certain limitations. These are as follows:

- It is assumed that information provided by the applicant and specialists is accurate;
- A more detailed project description will be presented in the Impact Assessment Phase; and
- Detailed assessment of the potential positive and negative environmental impacts of the proposed development will only be undertaken during the Impact Assessment Phase.

Notwithstanding the above, ZN Geo Services (Pty) Ltd is confident that these assumptions and limitations do not compromise the overall findings of this report.

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1 | INTRODUCTION & BACKGROUND

Active Blue Trading 226 (Pty) Ltd currently holds a Prospecting Right (KZN 30/5/1/3/2/10224PR) on a Portion of Reserve No. 18 No. 15838. Having completed the prospecting phase, the Active Blue Trading 226 (Pty) Ltd applied for and holds a Mining Permit (KZN 30/5/13/2/10019MP) on Portion 19 within Reserve No. 18 No. 15838, measuring 1, 5 hectares in extent. Active Blue Trading 226 (Pty) Ltd is now preparing to apply for a Mining Right on Remainder of Portion 17 within Reserve No. 18 No. 15838. The Project is located approximately 10km north of the town of Nquthu in Kwa-Zulu Natal Province, approximately 40km southwest of Vryheid, 43km east of Dundee and 80km southeast of Newcastle. The Project falls within the Nquthu Local Municipality under the jurisdiction of the UMzinyathi District Municipality ("UDM"). See Figure 1.

The Mining Right application will cover an area of ±38 hectares. The minerals Aggregate and Granite / Syenite are being applied for under the Mining Right application.

Active Blue Trading 226 (Pty) Ltd (Reg. No. 2014/027575/07), trading as Real Stone Quarries ("RSQ"), was previously registered as Active Blue Trading CC (Reg. No. 2010/105652/23), and the Prospecting Right and Mining Permit holder is noted as Active Blue Trading CC. Through RSQ, Active Blue Trading (Pty) Ltd is a 100% black-owned company. In keeping with the company's broader philosophy, their approach is to include host communities in the shareholding of all their operations. This inclusive approach has resulted in a share participation with the Molefe Tribal Authority and has helped cementing a harmonious relationship. On ownership, RSQ has allocated shareholding of 10% in the Nquthu Quarry (operated under the Mining Permit 10019MP) which is held by the Molefe Community Development Trust.

A Scoping and Environmental Impact Assessment ("S&EIA") is required in support of a Mining Right Application ("MRA") and Environmental Authorisation ("EA") on the abovementioned properties. This Scoping Report ("SR") describes the proposed development associated with the Proposed Active Blue Aggregate Quarry Project as well as the EA process associated with the proposed development.

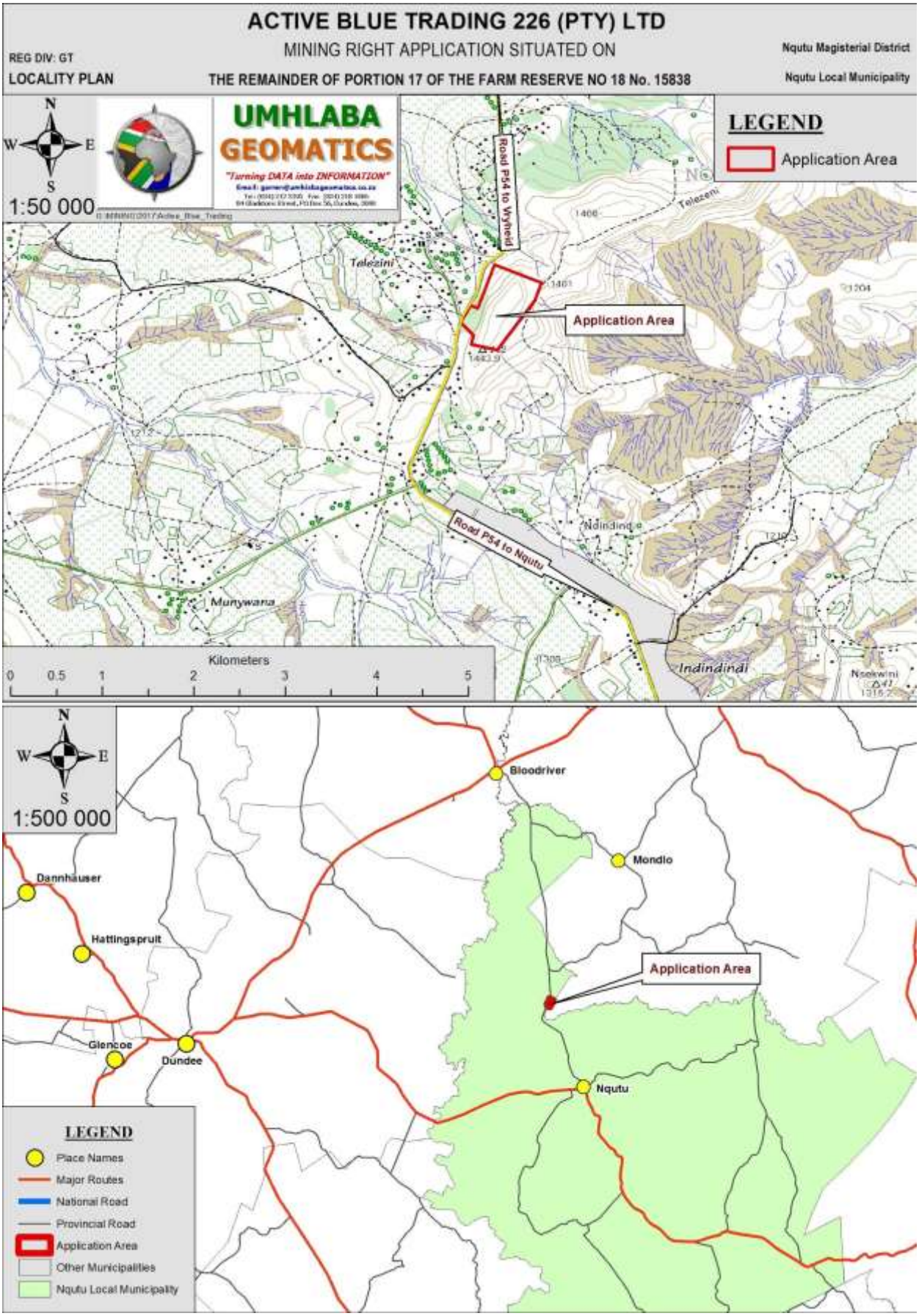

Figure 1: Locality Map

1.1. Project Description

Active Blue Trading 226 (Pty) Ltd currently holds a Prospecting Right (KZN 30/5/1/3/2/10224PR) on a Portion of Reserve No. 18 No. 15838. Having completed the prospecting phase, Active Blue Trading 226 (Pty) Ltd applied for and holds a Mining Permit (KZN 30/5/13/2/10019MP) on Portion 19 within Reserve No. 18 No. 15838, measuring 1, 5 hectares in extent.

Active Blue Trading 226 (Pty) Ltd is now preparing to apply for a Mining Right on a portion within Remainder of Portion 17 within Reserve No. 18 No. 15838, near the town of Nquthu in the Province of KwaZulu-Natal. The Mining Right Application ("MRA") will cover an area of ±38 hectares. The minerals Aggregate and Granite / Syenite are being applied for under the MRA.

Desktop assessment and prospecting indicated that the local geology consists of a thick, massive dolerite dyke (dyke is a tabular igneous rock bodies that cut across pre-existing rock layers or bodies) that spans over the entire current mining permit area, the mining right project area and beyond the property boundaries. The dolerite forms part of the Beaufort Group which intruded the Ecca Group within the region (see Figure 2 and Figure 3). Dolerite is an igneous rock made up of mainly olivine, hornblende and potassium feldspar minerals. This dolerite is relatively medium-grained (2-3mm grains) dark-grey with a greenish tint on surface, becoming finer grained (0.5-1mm grains) and lighter-grey in colour in depth. The rock becomes consistent in grain size and colour from a depth of approximately 5-7m in depth as shown in Figure 4.

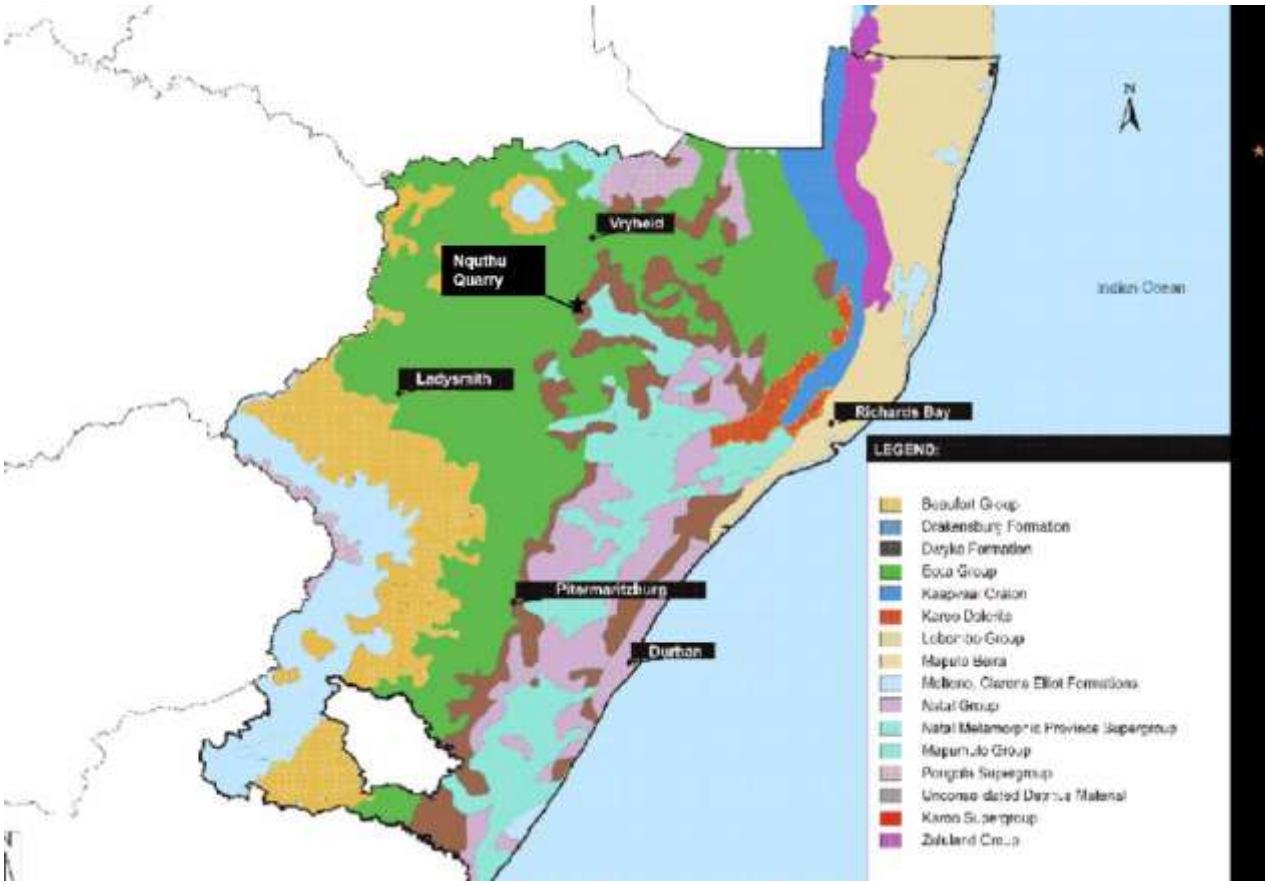

Figure 2: Regional Geology

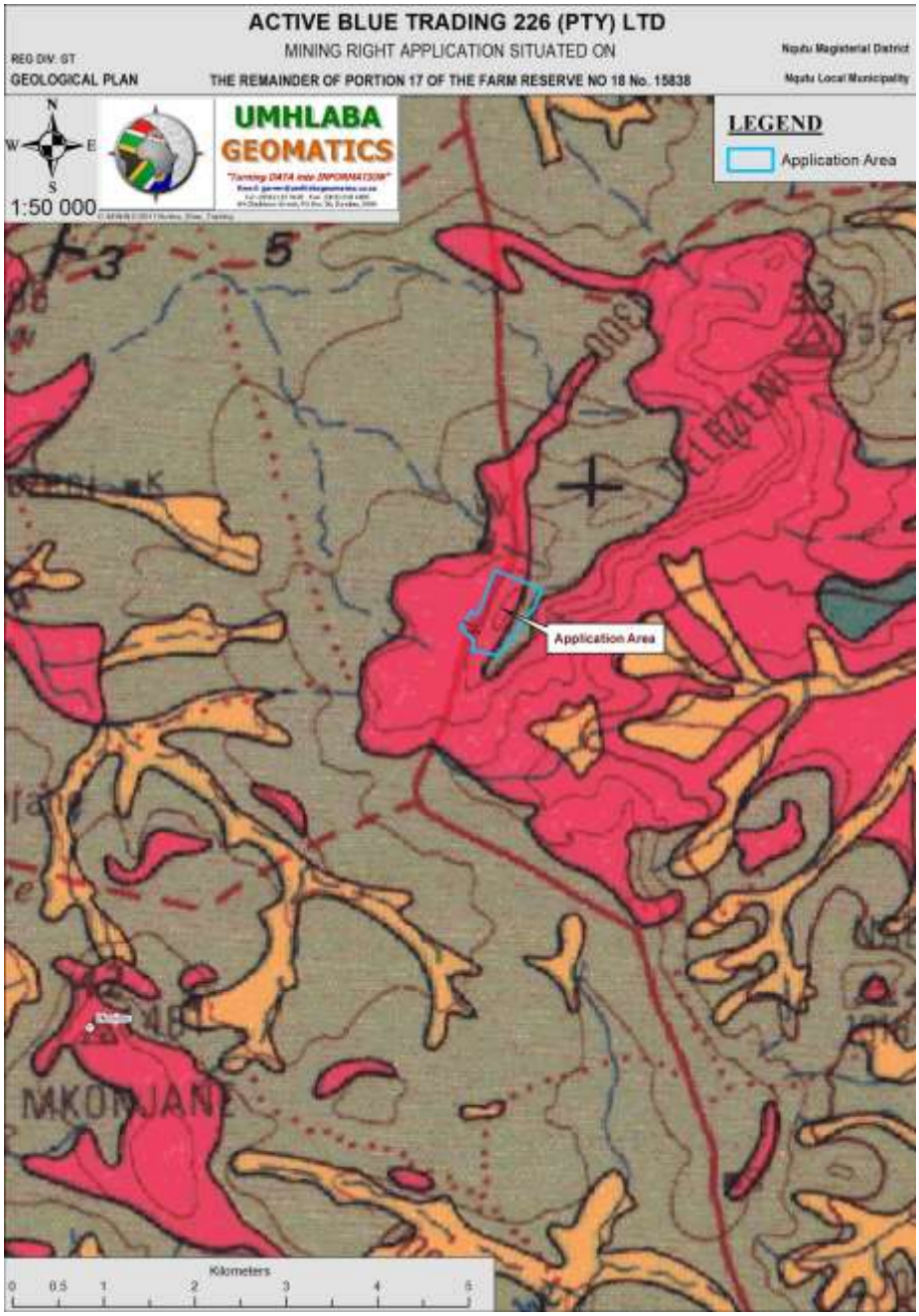

Figure 3: Local Geology

Figure 4: Existing Quarry Mining Cut

1.2. Purpose of the report

In terms of relevant legislation, the proponent may not commence prior to a suite of authorisations. This document is the Scoping Report, the purpose of which is to provide stakeholders with the preliminary results of the Scoping Phase of the study and with an opportunity to verify that all issues have been identified and, if not, provides an opportunity for stakeholders to raise them and for them to be captured and considered in the EIA process.

1.3. Assumptions and Limitations

As is standard practice, this Scoping Report is based on a number of assumptions and is subject to certain limitations. These are as follows:

- It is assumed that information provided by the applicant and specialists is accurate;
- A more detailed project description will be presented in the Impact Assessment Phase; and
- Detailed assessment of the potential positive and negative environmental impacts of the proposed development will only be undertaken during the Impact Assessment Phase.

Notwithstanding the above, ZN Geo Services (Pty) Ltd is confident that these assumptions and limitations do not compromise the overall findings of this report.

2 | PROPONENT & PRACTITIONER DETAILS

2.

2.1. Project Proponent

Project applicant:	Active Blue Trading 226 (Pty) Ltd		
Registration no (if any):	2014/027575/07		
Trading name (if any):	Real Stone Quarries		
Responsible Person, (e.g. Director, CEO, etc):	Director: Xolani Gamede		
Contact person:	Xolani Gamede		
Physical address:	Thelezini Building,119 Heeren Street, Vryheid, 3100		
Postal address:	P. O. Box 1000, Vryheid, 3100		
Postal code:	3100	**Cell:**	079 509 2130
Telephone:	087 170 0887	**Fax:**	086 514 3032
E-mail:	xolanig@realstonequarries.co.za		

2.2. Environmental Assessment Practitioner ("EAP")

EAP:	Ms. Dilona Somai		
Professional affiliation/registration:	South African Council for Natural Scientific Professions (SACNASP) Registration Number: 100235/14		
Contact person (if different from EAP):	Ms. Zama Ndumo		
Company:	ZN Geo Services (Pty) Ltd		
Physical address:	20 Park Lane, Hyde Park, Ladysmith		
Postal address:	20 Park Lane, Hyde Park, Ladysmith		
Postal code:	3370	**Cell:**	0834673532
Telephone:	0834673532	**Fax:**	0866203833
E-mail:	zama.ndumo@gmail.com		

2.3. Expertise of the EAP

(with evidence and CV attached as Appendix A)

(i) *ZN Geo Services Company Experience*

ZN Geo Services (Pty) Ltd is a Level 1 (100% black, women-owned) management consultancy, based in Ladysmith, KwaZulu-Natal. ZN Geo Services is committed to enhancing profitability through pro-active environmental, health and safety management. In doing so, we utilize a wide network of specialist services allowing us to offer a comprehensive solution to any environmental, health and/ or safety problem. ZN Geo Services has a particularly strong focus on project management and strategic environmental management. Our focus is, not only to provide boutique management consulting services to private and public entities, but to provide a platform for professionals and aspiring professionals (mainly historically disadvantaged women and youth) to enter the workplace and drive career growth. Given our focus, we are able to consistently hand pick

the most inspired team with a strong set of values to drive this outcome. Our environmental-related services include:

- Environmental Impact Assessments
- Environmental Control Officer
- Environmental Management Programmes
- Environmental Compliance Auditing (against EAs, EMPr, WUL and all relative legislation)
- Compliance Frameworks, relative SHE requirements
- Water Use License Applications
- Waste Management License Applications
- Prospecting and Mining Right Applications
- Social and Environmental Due Diligence
- Environmental Screening Assessments

We also offer services related to Health and Safety, including:

- Develop and implement checklists, registers and related documentation
- Conduct SHE Monitoring Inspections and Audits
- Compile monitoring and audit reports after each monitoring or audit event is undertaken
- Provide site specific SHE input into projects
- Coordinate SHE training requirements
- Coordinate Statutory monitoring and measurements
- Ensure that clients are proactive, up to date and comply with current SHE legislation and best practice
- Assist with the investigation of incidents
- Conduct Root Cause analysis and implement preventative measures
- Develop and maintain a ‘continuous improvement’ ethos in the approach to SHE issues in the workplace

(ii) *The Qualifications of Ms. Somai (with evidence)*

Bachelor of Science Honours Environmental Management; registered with the SACNASP. See Figure 5.

(iii) *Summary of Ms. Somai's past experience (in carrying out the Environmental Impact Assessment Procedure):*

Ms. Somai is an Environmental Consultant with approximately 7 years' experience. She holds an Honours BSc in Environmental Management and is a registered with the South African Council of Natural Scientist Profession for Environmental Science (100235/14). She has undertaken environmental compliance/ permitting (including basic assessments, S&EIR, WULAs, WMLs, social and environmental due diligence, social and environmental management systems and mining and prospecting right applications) and public participation /stakeholder engagement. Please refer to Appendix A for Ms. Somai's CV which provides a detailed list of projects which illustrate Ms. Somai's competence in carrying out the EIA process.

Figure 5: EAP Degree & SACNASP certificates

(iv) *The Qualifications of Ms. Ndumo (with evidence):*

BSc. Hons Geology (Ore Deposits), UKZN, 2011, MSc Environmental Management (in progress); registered with the SACNASP. See Figure 6.

(v) *Summary of Ms. Ndumo's past experience (in carrying out the Environmental Impact Assessment Procedure):*

Ms. Ndumo, the Managing Director of ZN Geo Services has approximately 6 years of experience. She holds a Bachelor of Science Honors in Geology (Ore deposits) and is currently completing her Masters in

Environmental Management. Ms Ndumo is a registered with the South African Council of Natural Scientist Profession for Geological Science (400112/7). Please refer to Appendix A for Ms. Ndumo's CV.

Figure 6: EAP Degree & SACNASP certificates

3 | DESCRIPTION OF THE PROPERTY

The Nquthu Aggregate Quarry (operational under the Mining Permit 10019MP) is located approximately 10km north of the town Nquthu (norther KwaZulu-Natal), approximately 40km southwest of Vryheid, approximately 43km east of Dundee and approximately 80km southeast of Newcastle. The closest village, Mkhonjane, is approximately 2,1km south-west of the Project Area. Africa. The project is located within the Umzinyathi District Municipality and Nquthu Local Municipality. The mineral assets are located on Remainder of Portion 17 within Reserve No. 18 No. 15838. This includes a large open pit (quarry) mine as well as various stockpiles of mined materials containing aggregate. The Project is currently held under Prospecting Right (KZN 30/5/1/3/2/10224PR) and Mining Permit (KZN 30/5/13/2/10019MP) to Active Blue Trading 226 (Pty) Ltd. The proposed Mining Right Area under consideration includes a portion within Remainder of Portion 17 of Reserve No. 18 No. 15838 (see Figure 1, Figure 7 and Figure 8).

Farm Name:	Remainder of Portion 17 of the Farm Reserve No. 18, Reserve No. 15838
Application area (Ha):	±38,9274 ha
Magisterial district:	Nquthu Local Municipality in the Umzinyathi District, Kwa-Zulu Natal

Distance and direction from nearest town:	Located approximately 10km north of the town Nquthu in Kwa-Zulu Natal Province, approximately 40km southwest of Vryheid, 43km east of Dundee and 80km southeast of Newcastle.			
21 digit Surveyor General Code for each farm portion:	**Farm**	**Farm Portion**	**SG Code**	**Title Deed No.**
	Farm Reserve No. 18, Reserve No. 15838	Portion within Remainder of Portion 17	N0GT00000001583800017	G7638_1909 T64285_2000
Owner:	Ingonyama Trust			

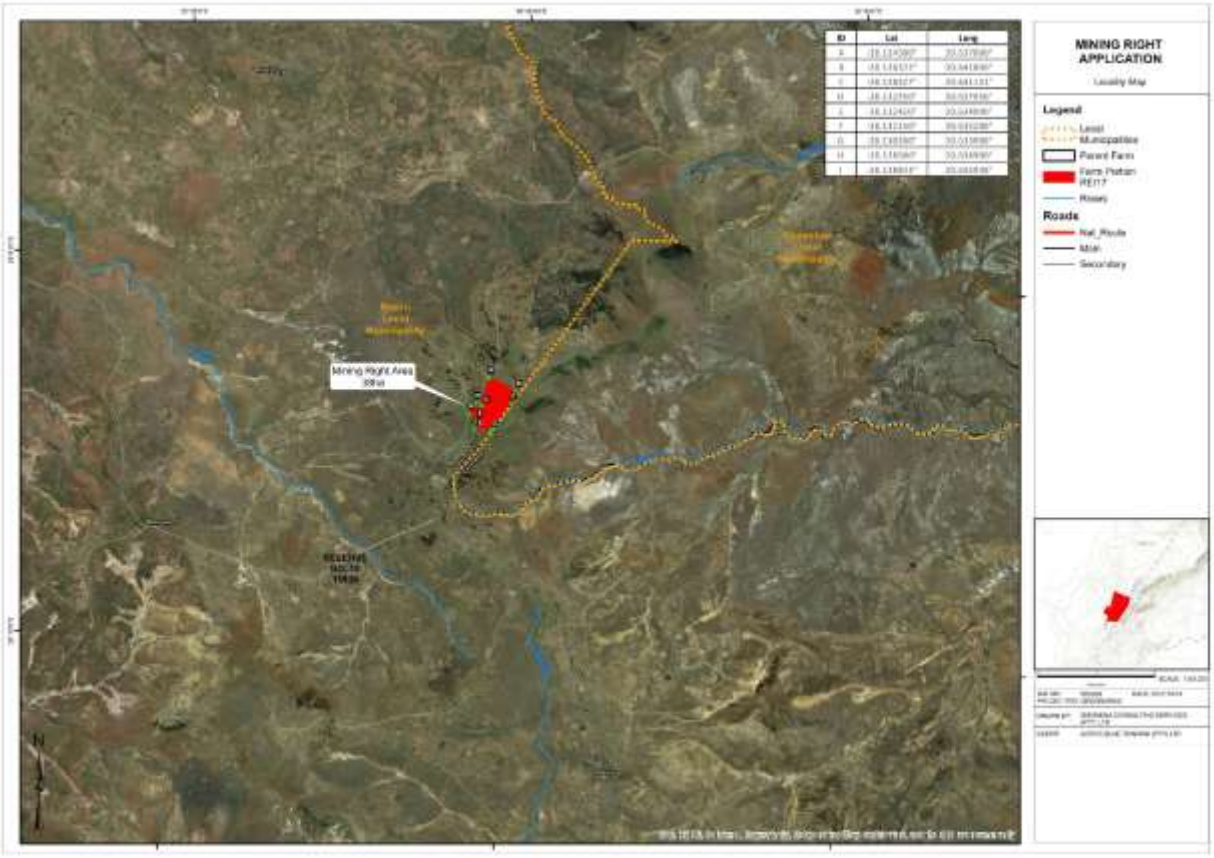

Figure 7: Mining Right Application Area

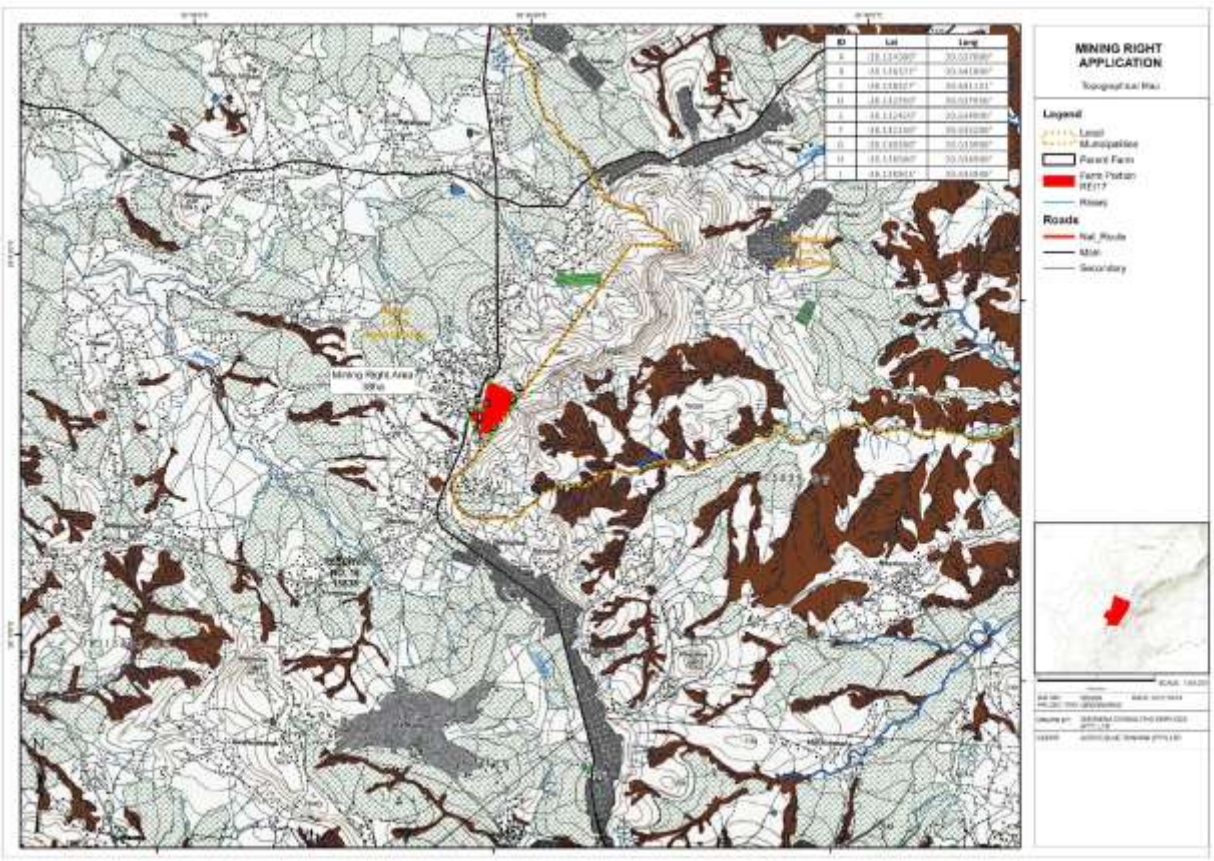

Figure 8: Topographic Map

4 | PROJECT INFORMATION

3.

4.

4.1. Overview of Aggregate Mining

Extraction of aggregate at Nquthu quarry is currently being carried out by drill and blast methods. Holes are drilled within the intact rock boulders and charged with explosives. Once blasted, the unconsolidated material is transported to the crusher via the haul roads. Material that is too large to go through the primary crusher is further broken down to ±300m with a mechanised Pecker.

The typical primary mining fleet for this mining method consists of excavators, dump trucks and drill rigs. The typical ancillary fleet assisting the mining fleet for this mining method include: graders, water trucks, diesel bowsers, front-end loaders, bulldozers, supervision light-duty vehicles, lighting plants and mobile diesel water pumps.

The mining direction is from the current mining pit (see Figure 9 and Figure 10) to the east. At this juncture two mining cuts are in place, separated by a haul road. As mining proceeds and the top ±25m has been extracted for production of aggregate, dimension stone mining will occur below these current pits. Aggregate mining will then advance northwards to exploit the available resource material.

Figure 9: Current Mining Boundary and Reserve

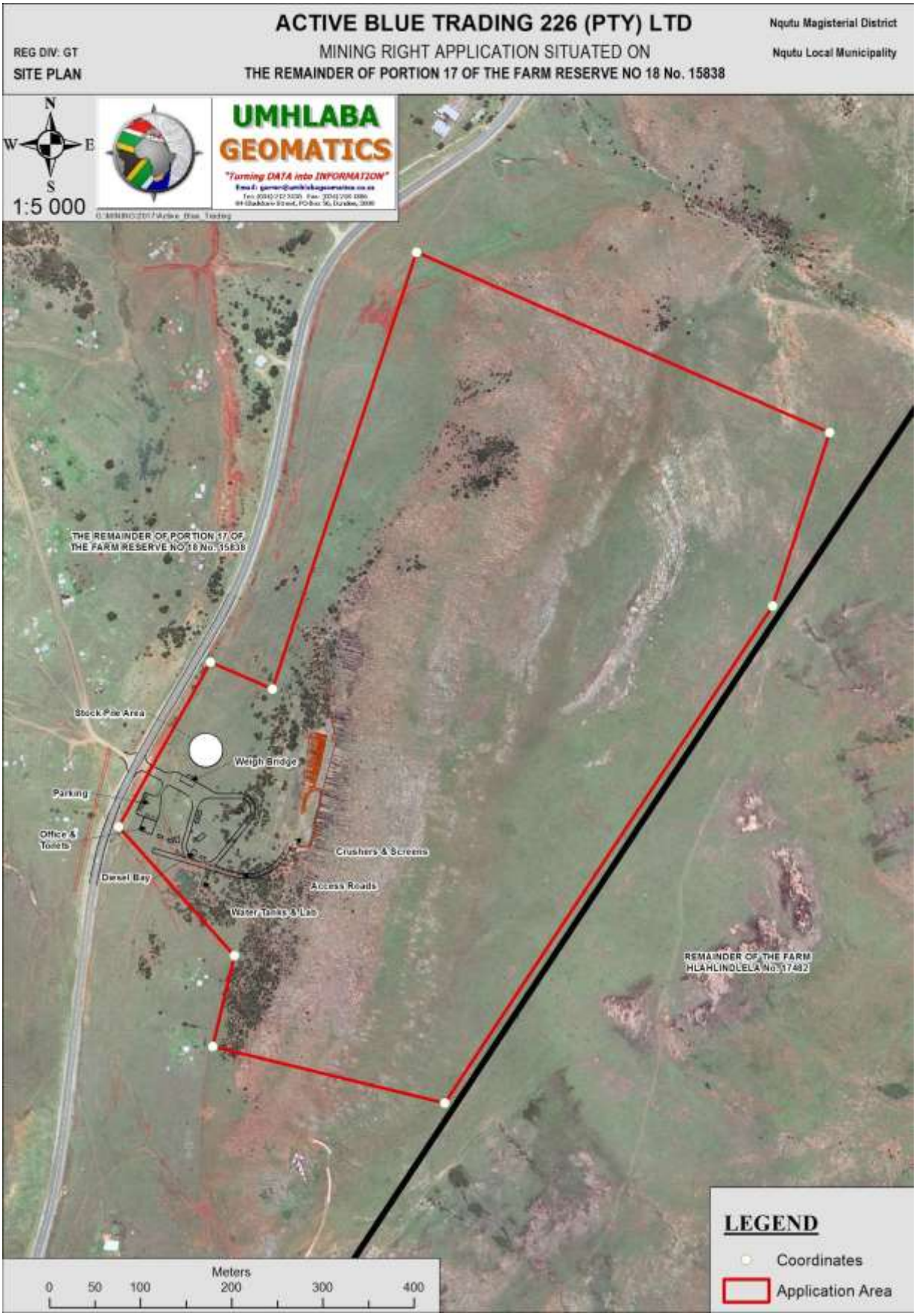

Figure 10: Site Layout

4.2. Dimension Stone Mining

The mining methods utilised in the extraction of dimension stone range from relatively simple and low technology methods. Granite tends to utilise more low-tech drilling and splitting technologies. The splitting techniques are generally the oldest of techniques used in dimension stone extraction. Today, all of the splitting techniques involve drilling of a series of small diameter co-planar holes in the stone in order to introduce a splitting agent. In many cases, holes are notched using a special tungsten carbide drilling bit in order to enhance the direction of split. Splitting can be achieved by using either plugs and feathers, expansive motar or Blasting Gun Powder. While the latter is very costly, it remains the most effective way, especially for large rock splits.

The techniques of cutting stone have been developed in relatively recent times. They were developed initially in response to the problems incurred when splitting relatively solid formations of stone, where the necessity of splitting in more than one direction simultaneously often lead to damage to the stone as a result of one splitting line running past the other into the remaining stone. One of the earliest developed techniques, the use of helicoidal wire sawing was the forerunner of the development of diamond wire sawing which is now the most prevalent of the cutting techniques.

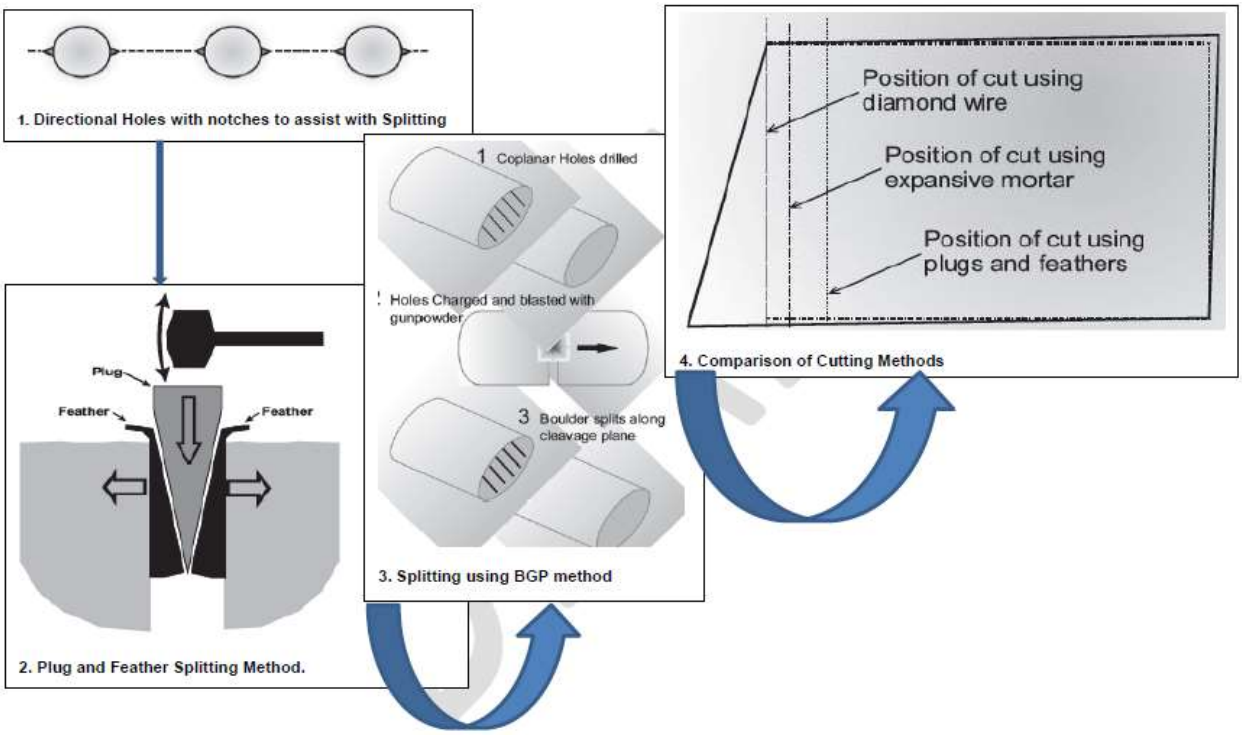

Figure 11: Dimension Stone Splitting and Cutting Techniques

4.3. Description of the Processing Plant

Processing of aggregate is by means of a three step crushing circuit including:-

- Primary Jaw Crusher – Stage 1
- Secondary Cone Crusher – Stage 2
- Tertiary Vertical Impact Crusher – Stage 3

4.3.1. Crushing and Screening

The plants will operate a closed-circuit system on the crushing and screening side. Material is loaded into the feed bin. From there it is transported to a jaw crusher 1st stage where the material is crushed to a maximum size of 50mm. The material then passes through a primary screen which is a double deck screen. The double deck screen works in three stages. Please take note that water is added on the screen to assist in stages 1, 2 and 3 to aid in dust suppression.

- Stage 1: Primary Jaw Crusher (for breaking down rocks to ±150mm)
- Stage 2: Secondary Crusher and screening (for breaking down rocks to fragments of less than ±19mm)
- Stage 3: Tertiary Crusher and screening (for shaping and producing small diameter stone of ±4mm)

4.3.2. Water Recycling

The process as described in Section 4.3.1 is reliant of water; especially for dust suppression. In order to optimise and preserve water the plant is set-up to continuously use recycled water. Water supplies are drawn from a borehole. The water pumped from here and stored in tanks. The plant uses this recycled water as a means of dust suppression.

The average water consumption for mining operations is approximately 400 litres /hr, while domestic consumption amounts to about 25 litres /day. In addition to recycling of water (as described above), water is also supplied to the mine via a borehole. The borehole is owned and maintained by the mine.

4.4. Exploration Results

The first exploration was undertaken by Geoworld Investement CC in September 2014 on behalf of Active Blue Trading CC. A total of eight (8) diamond drill holes were completed to a depth of 150m with the aim of confirming the extent of the mineral resource around the Mining Permit area. The positions of the drill holes are provided in Figure 12.

The drilling was carried out using an NQ size diamond drill core to complete the drill holes. The exploration team were guided by the prominent dolerite hill whose extremities were used to delineate a mineable resource within the lease area. It was concluded from the boreholes that no other rock types occur and that the dolerite extends from surface and beyond the 150m drill depth. The rock, does, however improve in quality from surface to the 150m base through even grain size, no or few cracks and joints and consistent light grey colour.

Figure 12: Drill hole Map of the existing Nquthu Quarry

Exploration commenced with outline mapping of the resource, which, due to the monotonous sandstone and shale surrounding, yielded only a map of the massive dolerite ridge (Figure 13) with no structures, metamorphism or directionality recorded due to its igneous nature.

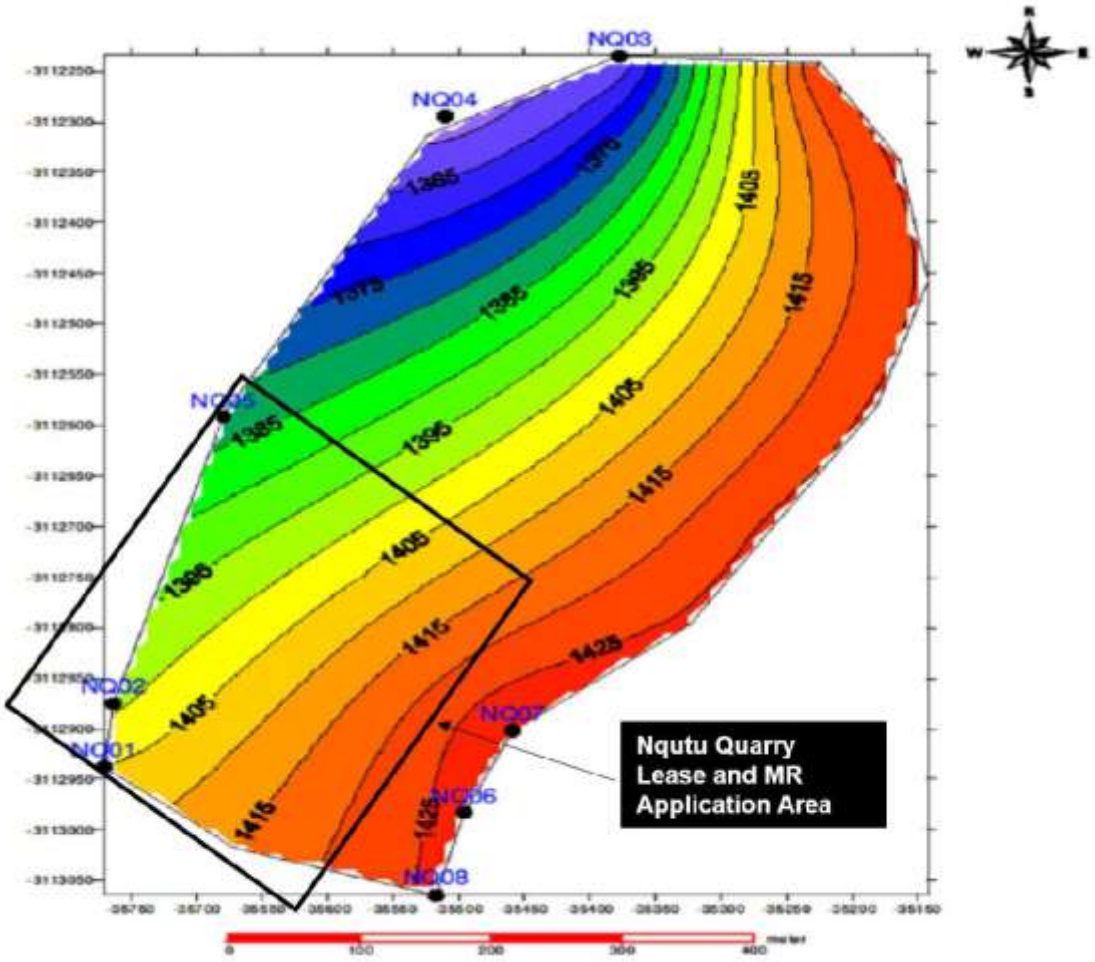

Figure 13: Elevation Map of Nquthu Quarry

4.5. Resource Statement

A resource estimate was carried out by M3 Technical Statement in March 2017 and is provided in Table 1 (and, see Figure 4: Existing Quarry Mining Cut) for the purposes of financing the previous Mining Permit and associated requirements.

Table 1: Mineral Resource Estimate for financing Mining Permit

AREA	SG	WIDTH (m)	HEIGHT (m)	LENGTH (m)	TONNAGE (t)
A	2.99	2.00	75.00	200	662,798
B	2.99	5.00	75.00	200	1,656,996
C	2.99	5.00	75.00	200	1,656,996
D	2.99	138.00	75.00	200	45,733,085
				TOTAL	49,709,875

For the mining right application, a revised estimate of the mineral resources was carried out. The classification still remains as “Exploration Target” in accordance to international Mineral Resource Reporting Codes and is reported in Table 2.

Table 2: Mineral Resource Estimate for the Mining Right Application

AREA	SG	WIDTH (m)	HEIGHT (m)	LENGTH (m)	EST RECOVERY (%)	QUANTITY (m^3)	TONNAGE (t)
A	2.99	2.00	100.00	500	95%	95 000	284 050
B	2.99	5.00	100.00	500	95%	237 500	710 125
C	2.99	5.00	100.00	500	95%	237 500	710 125
D	2.99	138.00	100.00	500	70%	1 050 000	3 139 500
					TOTAL	**1 620 000**	**4 843 800**

The following broad assumptions were applied:-

- An SG of 2,99g/cm^3;
- A mining cut-off of 100m depth; and
- An estimated recovery of 95% for gravel stone and 70% for dimension stone.

A total mineable tonnage of 4,8Mt was estimated over the mining right application area. It should be noted that it is about 10% of the total estimated resource which is in line with global standards for this type of mineral commodity.

4.6. Infrastructure Requirements

4.6.1. Surface Infrastructure

The surface infrastructure of the mine includes the following (See Figure 14: Site Layout Plan):

- Haul roads, mine and access road of the main road
- Stockpiled ore located in the plant area
- Stores located in the plant area
- Crushing/ Plant
- Administration Offices
- Truck and Light vehicle parking bay

4.6.2. Electricity

A 132kV Eskom line supplies power to the Nquthu Quarry switchyard situated adjacent to the plant. These overhead supply lines originate from existing switches and provide a reliable power supply to the project area. Supply lines leading from these switches to the Nquthu Quarry switchyard are the sole property of Eskom.

4.6.3. Water

Please see Section 4.3.2. Water supply is an essential service as various steps in the mining and particularly the processing processes are heavily reliant on the usage of water. Apart from the mining and process requirements, water will also be required for use as potable water. The water sources on the Project Area will include mainly boreholes (owned and maintained by the mine), water from pit dewatering activities and rainfall

run-off. Potable water will be sourced from boreholes. Service and process make up water will mainly consist of water from pit dewatering, and collected rainfall run-off and will be supplemented by recycled water.

Water supply infrastructure designs will have to cater for the following requirements:

- Mining operations, including dust suppression, approximately 400 litres /hr
- Domestic consumption approximately 25 litres / person /day.

All clean rainfall run-off will be diverted from dirty and contaminated areas to minimise the risk of environmental and water pollution. Trenches and berms will be constructed to divert clean run-off, collect dirty run-off and route dirty water to suitable storage dams. A stormwater management plan will be included in Phase 2 Impact Assessment.

Government Notice 704 of the National Water Act, Act 36 of 1998 is aimed at the protection of water resources associated with mining and related activities. This is achieved through an inter alia the following and shall be implemented at the mine site:

- Separation of clean water from dirty water;
- Collect the water arising within any dirty area, including water seeping from mining operations, outcrops or any other activity, into a dirty water system;
- Design, construction, maintenance and operation of the clean water and dirty water management systems so that it is not likely for either system to spill into the other more than once in 50 years;
- Prevent the erosion or leaching of materials from any residue deposit or stockpile from any area and contain material or substances so eroded or leached in such area by providing suitable barrier dams, evaporation dams or any other effective measures to prevent this material or substance from entering and polluting any water resources.

4.6.4. Access, Roads and Routes

The Project is serviced and accessed by a tarred P54 road. From this road, a project access road has been constructed onto the Project Area as part of the Mining Permit Phase. The access road caters for light delivery vehicles and haul trucks. Areas such as the process plant and mining area will have their own dedicated roads. These will all have their own specific design criteria suiting the needs and requirements of each area. Various other smaller gravel roads service the rural area.

4.6.5. Security and Access Control

Active Blue Trading 226 (Pty) Ltd aims to erect a perimeter fence around the total Project Area; initially fencing off the mining and processing areas. The fence will be a minimum of 1.8m high wire mesh with a razor mesh topping. Access control points with mobile office units and posted guards and gates will be placed at the main entrance to the Project Area as well as at the entrances to the process plant and mine site.

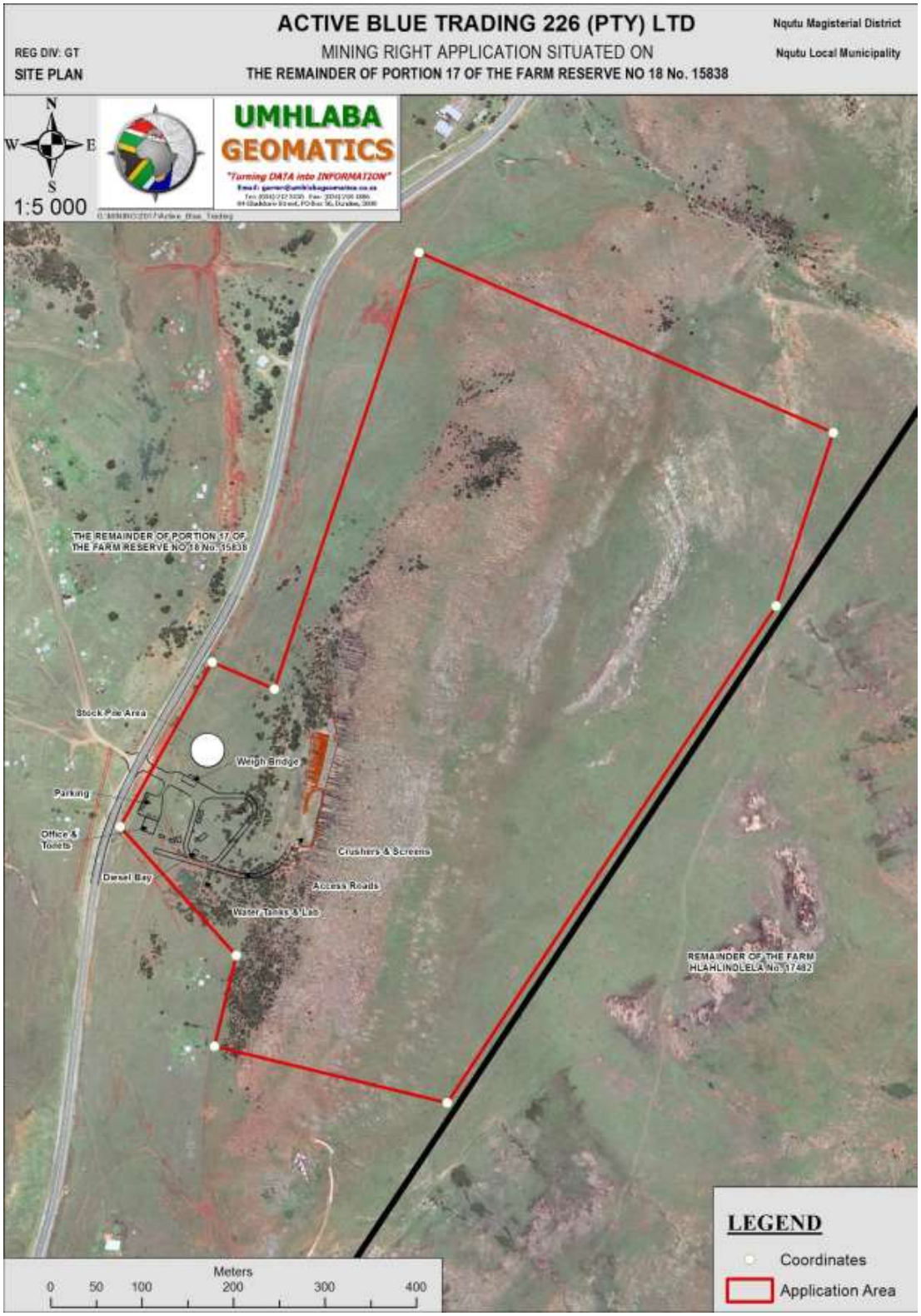

Figure 14: Site Layout Plan

4.7. Bush Clearing and Grubbing

Bush clearing will involve the removal of vegetation on the areas earmarked for mining and infrastructure placement.

4.8. Top Soil Removal

Once the vegetation is removed, the top soil is removed as mining progress, or as required, and stored at a designated area. The top soil will be reused for rehabilitation purposes.

4.9. Load and Hauling

The same excavators and trucks will be used for the loading and hauling of waste. The waste / overburden will mainly be used to create a safety berm around the pit, which can also aid with the diversion of water from the pit areas. All access overburden waste will be stored separately at the designated waste management area in skips, which will be used for rehabilitation at the end of mining operations, if required.

4.10. Mine Design Map

4.10.1. Plan View of Anticipated Mining

The mine plan for Nquthu Quarry is demonstrated in Figure 4 and Figure 9. Mining will proceed first east from the current mining area, then northwards as the opencast-able resources are depleted in the current mining area. The plan is to drill and blast the material for gravel in the first 25m, and as the hard rock is encountered, build benches to extract dimension stone to a level of approximately 75m. Aggregate mining will then advance northwards to exploit the available resource material.

5 | Policy & Legislative Context

The legal requirements that apply to the Active Blue Aggregates and Dimension Stone Project is summarised in Table 3.

Table 3: Environmental policies, legislation, guidelines and standards applicable to the proposed

APPLICABLE LEGISLATION & GUIDELINES USED TO COMPILE THE REPORT *(A description of the policy & legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks & instruments that are applicable to this activity & are to be considered in the assessment process)*	REFERENCE WHERE APPLICABLE
National Environmental Management Act, 1998 (107/1998 as amended) ("NEMA")	The NEMA provides 18 specific principles relating to environmental management. Of key importance are the precautionary principle and the polluter pays principle. The 18 principles of NEMA are to be recognised during the undertaking of the Impact Assessment Process and play a key role during the decision-making process. Section 24 of NEMA requires environmental authorisation to be obtained for certain activities

	identified in three listing notices, published on 4 December 2014 (amended 2017). The procedure for obtaining an environmental authorisation requires either a basic assessment (activities in Listing Notice 1 and 3) or S&EIR (activities in Listing Notice 2) process to be undertaken to inform the application for authorisation. This Scoping Report is being submitted to DMR in compliance with the above-mentioned criteria.
Mineral and Petroleum Resources Development Act, 2002 (28/2002 as amended) ("MPRDA")	In terms of the MPRDA, an application for a mining right must be supported by an EIA process. In terms of the EIA Regulations, 2014 (amended 2017) a scoping report, in compliance with Appendix 2 of GNR.326, must be submitted to the DMR, followed by an environmental impact assessment report complying with Appendix 3 and an environmental management programme complying with Appendix 4 of GN R.326.
National Environmental Management: Waste Act, 2008 (59/2008 as amended) ("NEM:WA")	The NEM: WA provides for the reform of waste management legislation and repeals or amends the legislation under which waste was previously regulated. Part 4 of the NEM: WA pertains to listed waste management activities. In accordance with section 19(2) of the NEM: WA, the Minister published a schedule of listed waste management activities in GNR 921 of 29 November 2013. These are considered activities that have or are likely to have a detrimental effect on the environment. According to regulation 2 of GN 921, no person may commence, undertake, or conduct a listed waste management activity unless a licence is issued in respect of that activity. Any person who stores waste must at least take steps, unless otherwise provided by this Act, to ensure that (a) The containers in which any waste is stored, are intact and not corroded or in any other way rendered unlit for the safe storage of waste; (b) Adequate measures are taken to prevent accidental spillage or leaking; (c) The waste cannot be blown away; (d) Nuisances such as odour, visual impacts and breeding of vectors do not arise; and (e) Pollution of the environment and harm to health are prevented.
Occupational Health and Safety Act, 1993 (85/1993 as amended) ("OHSA")	The objective of the Act is to cover all aspects relating to health and safety in the workplace. The proposed development, with all appropriate controls in place, will not conflict with the Act. The EMPr will provide details in this regard.
The National Water Act, 1998 (36/1998) ("NWA")	The NWA identifies 11 consumptive and non-consumptive water uses, which must be authorised under a tiered authorisation system, which include Scheduled uses, General Authorisations, or Licenses. It allows for the "Reserve" and provides for public consultation processes in the establishment of strategies and making decisions, and guarantees the

	right to appeal against such decisions. In terms of the National Water Act, the following water uses are identified: a) Taking water from a water resource; b) Storing water; c) Impeding or diverting the flow of water in a watercourse; d) Engaging in a stream flow reduction activity contemplated in section 36; e) Engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1); f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit; g) Disposing of waste in a manner which may detrimentally impact on a water resource; h) Disposing in any manner of water which contains waste from, or which has been heated in, any industrial or power generation process; i) Altering the bed, banks, course or characteristics of a watercourse; j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and k) Using water for recreational purposes. There are five water use entitlements provided for in the NWA, namely as follows: ▯ Scheduled permissible water use; ▯ Existing lawful use; ▯ General authorisation (GA); ▯ Licensing is waived; or ▯ Licensing. An application will be submitted to the Department of Water and Sanitation (“DWS”) for the required water use licenses.
National Environmental Management: Air Quality Act 2004 (39/2004) (“NEM: AQA)	The main objectives of the NEM: AQA are to protect the environment by providing reasonable legislative and other measures to: ▯ Prevent air pollution; and ▯ Promote conservation and secure ecologically sustainable development. Dust Control Regulations promulgated in November 2013 may require the implementation of a dust management plan.
Hazardous Substances Act	The objective of the Act is to provide for the control of substances which

(15/1973)	may cause injury or ill health to or death of human beings due to their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure. In terms of the Act, substances are divided into schedules, based on their relative degree of toxicity and the Act provides for the control of importation, manufacture, sale, use, operation, application, modification, disposal and dumping of substances in each schedule.
Department of Environmental Affairs Guideline Series 7: Public Participation (2012)	The public participation guideline outlines the importance of public participation as well as the minimum legal requirements for the public participation process, the steps to be taken and the guideline for planning a public participation process. The public participation conducted for this application has incorporated relevant requirements of the guideline.
Department of Environmental Affairs Guideline Series 9: Need and Desirability (2012)	The need and desirability guideline highlights the importance of establishing and assessing the need and desirability for a project. The consideration of need and desirability in the EIA decision making process requires the consideration of the strategic importance of the development alongside the broader societal need and public interests. The need and desirability description for the proposed development has taken cognisance of this guideline.

5.

5.1. Listed Activities Identified in terms of NEMA

Table 4: Listing Notices Applicable to the Project

REGULATION	ACTIVITY NO.	DESCRIPTION
GNR. 325 Listing Notice 2	17	Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including— a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource; or b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case Activity 6 in this

		Notice applies.

The proposed Active Blue mining project requires the following main approvals before the project may commence with the expansion of the mine beyond the Mining Permit:

- Mining right and Environmental authorisation from the DMR in terms of the MPRDA (28/2002) and NEMA (107/1998): EIA, 2014 (amended 2017)
- Approval of an environmental management programme, in terms of the MPRDA (28/2002) by the DMR.
- A water use licence in terms of the NWA (36/1998)

In addition to the main legal approvals, the following approvals may be required:

- The South African Heritage Resources Agency ("SAHRA") needs to approve a heritage impact assessment ("HIA"), to be conducted as part of the overall EIA process, in terms of the National Heritage Resources Act (25/1999). Permits will be required for the destruction or removal of any heritage resources affected by the mining development.
- Should protected species be affected, permits will have to be obtained for their removal, relocation or destruction. This is in terms of the National Environmental Management: Biodiversity Act (10/2004).

5.2. Scoping Requirements

As per Appendix 2 of the EIA Regulations, 2014 (amended 2017), the following is required in a Scoping Report. Please refer to Table 7 to see how it has been addressed in this Report.

Table 5: Requirements in Appendix 2 of the EIA Regulations, 2014 (amended 2017)

NO.	APPENDIX 2 OF GNR.326 - THE EIA REGULATIONS, 2014 (AMENDED 2017)	COMMENTS
a	i) details of the EAP who prepared the report	Section 2.2 & 2.3.
	ii) the expertise of the EAP, including a curriculum vitae	Section 2.2, 2.3 and Appendix A
b	The location of the activity	
	i) the 21-digit Surveyor General code of each cadastral land parcel	Section 3
	ii) where available, the physical address and farm name	Section 3
	iii) where the required information in item (i) and (ii) is not available, the coordinate of the boundary of the property or properties.	N/A
c	A plan which locates the proposed activity or activities applied for at an appropriate scale	Figure 1, 7 & 10
	i) A linear activity, a description and coordinate of the corridor in which the proposed activities are to be undertaken	N/A
	ii) On land where the property has not been defined, the coordinate within the activity is to be undertaken.	N/A
d	A description of the scope of the proposed activity, including	
	i) All listed and specified activities triggered	Section 5.1.
	ii) A description of the activities to be undertaken, including associated structures and infrastructure;	Section 4
e	A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development, planning frameworks and instruments that are application to this activity and are to be considered in the assessment process.	Section 5
f	A motivation for the need and desirability for the proposed development including	Section 7

	the need and desirability of the activity in the context of the preferred location.	
g	A full description of the process followed to reach the proposed preferred activity, site and location of the development footprint within the site, including	
	i) Details of all the alternatives considered	Section 9
	ii) Details of the public participation process undertaken in terms of regulation 41 of the regulations, including copies of the supporting document and inputs	Section 10 & Appendix C
	iii) A summary of issues raised by interested and affected parties, and an induction of the manner in which the issues were incorporated, or the reasons for not including them	Section 10.6
	iv) The environmental attributes associated with the alternative focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Section 12
	mpact and risk which have informed the identification of each alternative, including the nature, significance, consequence, extent, duration and probability of such identified impacts, including the degree to which these impacts - (aa) Can be reversed (bb) May cause irreplaceable loss of resources; and (cc) Can be avoided, managed or mitigated	Section 13
	methodology used in identifying and ranking the nature, significance, consequence, extent, duration and probability of potential environmental impact and risk associated with the alternative.	Section 13
	itive and negative impact that the proposed activity and alternative will have on the environment and on community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspect.	Section 13
	possible mitigation measures that could be applied and level of residual risk	Section 10
	outcome of the site selection matrix	Section 9
	alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and	Section 9
	ncluding statement indicating the preferred alternatives, including preferred location of the activity	Section 9
h	A plan of study for undertaking the environmental impact assessment process to be undertaken, including	
	i) A description of the alternative to be considered and assessed within the preferred site, including the option of not proceeding with the activity	Chapter 8
	ii) A description of the aspects to be assessed as part of the environmental impact process	
	iii) Aspect to be assessed by specialist	
	iv) A description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialist	
	v) A description of the proposed method of assessing duration and significance	
	vi) An indication of the stages at which the competent authority will be consultant	
	vii) Particular of the public participation process that will be conducted during the environmental impact assessment process	
	viii) A description of the task that will be undertaken as part of the environmental impact assessment process	
	ix) Identify suitable measures to avoid ,reverse, mitigate or manage identified impacts and to determine the extent of the residual risk that need to be managed and monitored	

i	An undertaking under oath or affirmation by the EAP in relation to-	
	i) The correctness of the information provided in the report	Appendix A
	ii) The inclusion of comments and inputs from stakeholders and interested and effected parties and;	Appendix C
	iii) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comment or inputs made by interested or affected parties	Appendix C
j	An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and affected parties on the plan of study of undertaking the environmental impact assessment	Appendix A
k	Where applicable, any specific information required by the competent authority; and	Section 14.5
l	Any other matter required in terms of section 24(4)(a) and (b) of the Act	N/A

6 | Description of the Scope of the Proposed Overall Activity

NAME OF ACTIVITY *(E.g. for mining,- excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)*	Aerial extent of the Activity *Ha or m²*	LISTED ACTIVITY *(Mark with X where applicable or affected)*	APPLICABLE LISTING NOTICE *(GNR 544, GNR 545 or GNR 546)*	WASTE MANAGEMENT AUTHORISATION *(Indicate whether an authorisation is required in terms of the Waste Management Act)* *(Mark with X)*
Water Tanks, Ablution facilities, Site offices, Crushers and Screeners, Lab, Parking area/ parking bay, Waste Management Area, Access paths / gravel paths	±2ha	-	-	-
Mining Area	±10ha	x	GNR 325; Activity 17	-

6.

6.1. Description of the Activities to be undertaken

The proposed development is described in some detail in the Project Information section of this report. Activities associated with the plant and the process to be followed is summarised below.

Construction

- Grubbing / De-bushing;
- Topsoil stripping and stockpiling;
- Construction of perimeter fence;

- Casting concrete slabs, trenches and bunded areas;
- Installation of process plant structures;
- Installation of various process plant equipment;
- Installation of prefabricated office units;
- Placing of shipping containers for workshops, labs and stores;
- Commissioning of process plant.

Operation

- Receiving and stockpiling of aggregates;
- Feed aggregates into plant;
- Screening and crushing of aggregates;
- Dimension stone process
- Other activities will include: General daily and weekly inspections and maintenance, repairs of breakdowns, taking of samples for testing in laboratory.

Other activities that will be undertaken as part of the proposed project during construction and operation include:

- Drilling and blasting;
- Excavation, loading, hauling and transport of aggregates and Granite / Syenite;
- Stockpiling of aggregates and Granite / Syenite;
- Construction of storm water control systems;
- Construction of plant infrastructure (workshops, change houses, offices, fencing etc.);
- Primary and secondary crushing; and
- Environmental monitoring.

7 | NEED AND DESIRABILITY FOR THE PROPOSED QUARRY

The Active Blue Aggregates & Dimension Stone Project area is located in the Nquthu region in northern KwaZulu-Natal Province of the Republic of South Africa.

Active Blue Trading 226 (Pty) Ltd focuses on mining and the packaging of different types of aggregate material, various brick type, ready – mix concrete and logistics. Active Blue Trading 226 (Pty) Ltd has its head office in Vryheid, KwaZulu-Natal but with focus on the national as well as the international market. The company was founded by a team of investors with extensive involvement in the mining industry. The Mining division is the cornerstone of Active Blue Trading 226 (Pty) Ltd business. Through this division the company acquires, develops and manages mining rights and carries out primary mining activities such as excavation and crushing of aggregate stones. Currently the business manages a quarry operation near the town of Nquthu, northern KwaZulu-Natal. The aim is to realise sustainable and successful operation of this quarry.

Vision

To build market-leading and ground breaking business, founded on a strong commitment to innovative and

environment friendly principles.

Mission

To become a major role player in the aggregate industry within the South Africa and beyond. This will be achieved through innovative ways of doing business, be based on strong corporate values and a focused commitment to environmental sustainability and beneficiation.

Corporate Social Investment

We are committed to the improvement of the communities wherever our business projects are located. This commitment stems from our awareness that in all our operations we are part of communities, and our objective should therefore to be involved in supporting sustainable livelihoods of these communities.

Needs and Desirability for the proposed expansion of the Mine from a Mining Permit to a Mining Right

Dolerite has been used both for dimension stone and aggregate for centuries, primarily due to its physical properties that renders the material hard and resistant to the elements. The leading uses for dimension stone and aggregate are in the building and construction industry.

Dimension stone has been used for its aesthetic quality which gives it its value. The demand thereof is thus determined by market trends and popularity within the construction industry. It is for this reason that quarries have to stay dormant for a period of time while demand remains low, this sometimes can stretch to five years or more.

Aggregate by its nature, can only be produced on a small scale. The fact that demand dictates production, means that small operations, by largely local companies are in existence. It also follows that these quarries stay in production for the duration of the demand and is kept under care and maintenance until such time that a new customer comes.

The demand for aggregate and dimension stone can be directly correlated to activity within the construction industry. It is industry norm to only produce the quantity and quality dictated by offtake agreements, therefore there is never a case when there's a surplus or shortage of production. It therefore follows that the production is identical to the demand.

In the aggregate business, the demand has shown positive growth from 1999 to 2007 culminating in a year-on-year increase of 8.5% due to the reasons provided in the previous section. We are now seeing an increase in the demand again, fuelled by major road network upgrades, rapid rail infrastructure construction in Durban, the rapid bus system in Pretoria (Areyeng), expansion of the N14 Highway road network and expansion of the Gautrain to the West Rand, just to name a few.

Dimension stone is essential a luxury item whose demand is dictated by the wealthy, especially in Europe and USA. Product range is vast and the only varieties of stone that have kept relative consistent demand in the last two decades are:-

- the dark types namely Rustenburg Grey, Belfast Black, Impala Black and Zimbabwe black
- the red/pink varieties mainly Capricorn or African Red; and
- the green varieties mainly Verde Bitterfontein and Natal Green

As is the case in aggregate, demand is equivalent to production and mining occurs only with pre-orders from customers.

The quarry is ideally located approximately 40km southwest of Vryheid, 43km east of Dundee and 80km southeast of Newcastle. Although there are other dolerite producing quarries located in Dundee, Vryheid and Newcastle, Active Blue ideally located to service the central Nquthu node which to-date does not have a dedicated aggregates quarry resource. The last decade has seen immense development in Nquthu, such as upgrading the road networks and the construction of the "Plaza" or shopping mall. Construction of housing and roads is earmarked to continue. Active Blue also aims to target the local smaller contractors who conduct home renovations, etc. who until now would rely on aggregates sourced from Dundee or Vryheid. It is imperative that both these prime quarries in Dundee and Vryheid are operated by Afrimat Limited. The presence of Active Blue will offer some competition in the region and can also supply aggregates to the rural surrounds.

Active Quarry would serve as the pivotal granite dimension stone producer in northern KwaZulu-Natal. Dimension stone, unlike aggregates, introduces the potential for trading beyond NwaZulu-natal and maybe even exporting in the future. The numerous utilisations of dimension stone as a construction material or tomb stones, etc make it a viable product to market. Also, the market is not saturated so Active Blue would enjoy a comfortable market advantage. Also, the location of the quarry closer to the Durban port (for export possibilities) makes it a preferred supplier as compared to other dimension stone producers located in areas such as the North West Province or the Free State.

The positive attributes of the proposed mining operations include economic growth and employment and income generation in the area as well as the development of BEE opportunities during construction, operation and eventual closure and rehabilitation. The project will further result in the following positive impacts and opportunities:

- Procurement of local goods and services
- Employment opportunities for local communities as well as other South African citizens and income generation
- Skills development and education opportunities
- GDP improvement and wealth creation, distribution of revenue and wealth

8 | Period for which the Environmental Authorisation is Required

In terms of the MPRDA the maximum period a mining right may be issued for is 30 years, with the option to renew for another 30 years. The application is therefore for a period of 30 years.

9 | Description of the Process Followed to Reach the Proposed Preferred Site

7.

8.

9.

9.1. Details of All Alternatives Considered

According to the Western Cape Department of Environmental Affairs and Development Planning ("WC DEADP") Guideline on alternatives - EIA Guideline and Information Document Series (2011) - feasible and reasonable alternatives have to be identified for a development as required by the NEMA EIA Regulations and applicable to EIA. Each alternative is to be accompanied by a description and comparative assessment of the advantages and disadvantages that such development and activities will pose on the environment and socio-economy. When no feasible and/or reasonable alternatives could be identified and investigated in terms of a comparative assessment during the Scoping phase, the EIAR will then not contain a section with alternative. Alternatives forms a vital part of the initial assessment process through the consideration of modifications in order to prevent and/or mitigate environmental impacts associated with a particular development. Alternatives are to be amended when the development's scope of work is amended. It is vital that original as well as amended alternative identification, investigation and assessment together with the generation and consideration of modifications and changes to the development and activities are documented.

The EIA Regulations (amended 2017) defines alternatives as the different means of meeting the general purpose and requirements of the activity, which may include alternatives to:

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

Although an array of alternatives could be investigated for each project, such alternatives will not necessarily be applicable to each project and/or project phase. However there must always be strived to seek alternatives that maximises efficient and sustainable resource utilisation and minimise environmental impacts.

9.1.1. The property on which or location where it is proposed to undertake the activity

No alternatives have been investigated in terms of location due to the geological formation of the area as well as the availability of resources, relevant studies (resource estimate) have been done and show of the availability of a deposit. Should the proposed mining site be relocated to another location the applicant will not be able to utilise the resource potential.

9.1.2. The type of activity to be undertaken

The method adopted for this project will be open-cast drilling and blasting bench mining. Surface mining is the most common method of aggregates extraction. In this process, Holes are drilled within the intact rock boulders and charged with explosives. Once blasted, the unconsolidated material is transported to the crusher via the haul roads. Processing of aggregate is by means of a three-step crushing and screening circuit including: Stage 1: Primary Jaw Crusher, Stage 2: Secondary Crusher and screening and Stage 3: Tertiary Crusher and screening. Mining will proceed first east from the current mining area, then northwards as the opencastable resources are depleted in the current mining area. The plan is to drill and blast the material for gravel in the first 25m, and as the hard rock is encountered, build benches to extract dimension stone to a level of approximately 75m. This is standard in the aggregates and dimension stone mining industry hence no alternatives where considered.

9.1.3. The design or layout of the activity

There are other possible layout design possibilities but the current design is the most efficient for this type of mining activity.

9.1.4. The technology to be used in the activity

Recycling:
The mining project will in its operational phase implement recycling policies and measures for optimal utilisation of resources and minimisation of waste generation.

Water:
Water utilisation will be maximised through recycling of dirty water within the process operations.

Energy:
Fuel types will be investigated as well as energy conserving measures will be implemented.

9.1.5. The operational aspects of the activity

Active Blue intend to make use of standard mining methods that enable safe mining which has the lowest risk of causing health risks or environmental degradation.

9.1.6. The option of not implementing the activity

Not undertaking the mining activity for aggregate and dimension stone will lead to sterilisation of resources as well as the potential socio economic benefits that will arise with this opportunity.

10 | MITIGATION MEASURES

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

Potential Environmental Impacts & Sources	Measures to prevent, mitigate, minimize or manage the impacts
CONSTRUCTION PHASE	
Activity: establishment/construction of camp site Impact: **Air pollution** (dust, gaseous emissions) Source: Establishment of camp site, movement of vehicles.	• Dust suppression measures such as spraying with water • Speed limits will be established and enforced • Equipment and vehicles equipped with standard exhaust systems which minimize the amount of emissions
Activity: food preparation Impact: **Destruction of fauna and flora** Source: Open fires	• Restrict open fires • Prohibit hunting and poaching • Collection of firewood will be prohibited • Maintain firebreaks
Activity: maintenance of vehicles Impact: **Water pollution (surface water, groundwater)** Source: spillages from vehicles	• Use oil trays • Use modern vehicles in good working condition • Take vehicles to accredited workshop in town • Use absorbents to trap hydrocarbons
Activity: Disposal of Waste Impact: **Land degradation, land-use and capability** Source: Poor waste management	• Place waste receptacles at strategic points • Monitor housekeeping behaviour and insist on corrective action • Waste will be disposed off in approved site
Activity: establishment/construction of camp site Impact: **Safety and security** Source: Employees	• Employ locals who will be transported home after hours • Make necessary arrangements with the landowner for security measures, access to site and other logistical matters

OPERATIONAL PHASE	
Activity: Preparation of mining area Impact: **Land degradation, land-use and capability** Source: Poor waste management	• Mined areas will be rehabilitated and re-vegetated • Debris will be removed and disposed off in approved site • Areas which do not form part of mining site will not be disturbed.
Activity: Disposal of Waste Impact: **Land degradation, land-use and capability** Source: Poor waste management	• Place waste receptacles at strategic points • Monitor housekeeping behaviour and insist on corrective action • Waste will be disposed off in approved site
Activity: mining and lubrication of equipment	• Operate outside 100 m distance from stream or any water body
Impact: **water pollution** (surface water, groundwater) Source: leaks, spillages from equipment and vehicles	• Control and manage storm water • Prevent soil erosion and keep water channel clean, monitor groundwater
Activity: Vehicle movement during operational hours Impact: **Ecological degradation** Source: Uncontrolled vehicle movement and poor rehabilitation	• Most of the biodiversity will be restored after closure • Re-vegetation of the sites • Movement of vehicles will be restricted to designated areas
Activity: Accidental spillages Impact: **Land pollution** Source: Lack of proper house keeping	• Trays used to trap hydrocarbons • Absorbent agents to be used to trap hydrocarbons and grease • Any spillage will be recorded and remedial action taken immediately • Reporting of significant hazardous spillages
Activity: Mining Impact: **Noise** Source: Machine and Vehicle engines	• The operation will comply with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and its regulations as well as other applicable legislation regarding noise control • Employees will be equipped with ear plugs and other protective gear. All vehicles will be equipped with silencers and maintained in a roadworthy condition
Activity: Mining Impact: **Aesthetic pollution** Source: visibility of site	• Site selection to prioritize areas not to exposed to the public or local residences • Visual impact will be temporary
Activity: Establishment of tailings Impact: **Land degradation** Source: visibility of site	• Backfilling in accordance with original soil profile • Sloping and levelling of land • Re-vegetation of the sites
Activity: Establishment of pads Impact: **Destruction of fauna and flora** Source: visibility of site	• Most of the biodiversity will be restored after closure • Re-vegetation of the sites • Re-introduction of local species where applicable
Activity: Bulk Excavation Impact: **Land degradation** Source: visibility of site	• Backfilling in accordance with original soil profile • Sloping and levelling of land • Re-vegetation of the sites
Activity: Bulk sample Impact: **Land degradation** Source: visibility of site	• Backfilling in accordance with original soil profile • Sloping and levelling of land • Re-vegetation of the sites

DECOMMISSIONING AND CLOSURE PHASE	
Activity: establishment/construction of camp site Impact: **Air pollution** (dust, gaseous emissions) Source: movement of vehicles.	• Speed limits will be established and enforced • Very temporary in nature
Activity: De-establishment / removal of infrastructure Impact: **Noise** Source: vehicle movement	• The operation will comply with the provisions of the Mine Health and Safety Act, 1996 (Act 29 of 1996) and its regulations as well as other applicable legislation regarding noise control

11 | PUBLIC PARTICIPATION PROCESS

This section of the report provides an overview of the tasks undertaken for the Public Participation Process ("PPP") to date. All PPP undertaken is in accordance with the requirements of the EIA Regulations, 2014 (amended 2017). It further provides an outline of the next steps in the PPP and makes recommendations for tasks to be undertaken during the environmental assessment phase of the environmental authorisation process.

The landowner had been identified as mining (under the Mining Permit 10019MP) already takes place. A letter of notification of the Mining Right and Environmental Authorisation application has been sent to the landowner.

The Ward Councillor for Ward 16, Goodwill Fukang Molefe, will be engaged to assist with the notification and liaising with the local community for a public meeting (where applicable). Should it be required, a public meeting with I&AP's can be held at the Nquthu Lutheran Primary School to discuss any issues regarding the published DSR.

In addition to the land owner, other relevant organisations have been identified and notified of the application. This includes municipal and State departments with jurisdiction in the area and Non-governmental Organisations (NGOs) with an interest.

The PPP tasks include:

a) Identification of key Interested and Affected Parties (affected and adjacent landowners) and other stakeholders (organs of state and other parties);
b) Formal notification of the application to key Interested and Affected Parties (all adjacent landowners) and other stakeholders;
c) Consultation and correspondence with I&APs and Stakeholders and the addressing of their comments;
d) Placement of an advertisement in the local newspaper; and
e) Placement of site notices at the site and at public areas.

10.

11.

11.1. I&AP database

Public Participation is the involvement of all parties who are either potentially interested and or affected by the proposed development. The principle objective of public participation is to inform and enrich decision-making. This is also its key role in this EIA process. I&APs representing the following sectors of society has been identified:

- National, provincial and local government;
- Agriculture, including local landowners;
- Community Based Organisations;
- Non-Governmental Organisations;
- Water bodies;

- Tourism;
- Industry and mining;
- Commerce; and
- Other stakeholders

11.2. Formal notification of the Project to stakeholders

The project was announced as follows:

11.2.1. Newspaper advertisement

Publication of an advertisement in the provincial Ilanga newspaper announcing the project, the availability of the DSR and encourage I&AP's to register and submit their comments to ZN Geo Services (Pty) Ltd. The advertisement will be published in the week of 04 June 2018.

11.2.2. Site notice placement

In order to inform surrounding communities and adjacent landowners of the proposed development, site notices were placed on site and at visible locations close to the site. Site notices were placed on 01 June 2018. Site notices contained similar information as the newspaper advertisement including information the proposed mining right application and the availability of the DSR.

11.2.3. Written notification

I&APs and other key stakeholders where notified via email of the project and the availability of the DSR on 04 June 2018. A BID, the DSR and a landowner notification letters will be sent out to the identified I&APs on 04 June 2018.

11.2.4. Background Information Document

A Background Information Document ("BID") will be distributed (by email, fax or post) to I7APs. The BID provides information concerning the proposed project and invites IAPs to register and to comment on the DSR. IAPs are encouraged to distributed the documents to other parties who may be interested or affected by the project.

11.2.5. Public Meeting

The Ward Councillor for Ward 16, Goodwill Fukang Molefe, will be engaged to assist with the notification and liaising with the local community for a public meeting (where applicable). Should it be required, a public meeting with I&AP's can be held at the Nquthu Lutheran Primary School to discuss any issues regarding the published DSR.

11.3. Consultation and correspondence with stakeholders and addressing comments

Acknowledgements from I&APs, queries or registration requests are expected from stakeholders. A PPP report and a Comments & Responses Report (CRR) will be compiled and submitted with the Final Scoping Report ("FSR").

11.4. Release of the DSR for a 30-day public review and comment period

This DSR is being released to the public for public review and comment. All stakeholders are being notified of the report's availability for comment for 30 days from 04 June 2018 to 05 July 2018. A hard copy (printed copy) of the DSR will be made available at a public venue and an electronic copy will be uploaded onto Dropbox.

Additional electronic copies will be made available to interested and affected parties and stakeholders who request for them. Hardcopies of the report will also be submitted to all organs of state and relevant authorities.

11.5. PPP for the Impact Assessment Phase

All comments and responses received and sent throughout the entire process will be updated and included in the comments and responses report which will be submitted to the DMR. Note that this PPP Report shall be updated at each phase as required.
The draft and final EIAR/EMPr will be released for public review for 30 days each excluding public holidays. I&APs on the project database will be notified regarding the availability of the draft EIAR/EMPr. A final Consultation report with stakeholder comments from each phase will be submitted.

11.6. Summary of issues raised by IAPs

No comments have been received yet as this is the initial phase of public participation. The FSR will be updated with issues, if received.

12 | Baseline Environment Attributes Associated with the Site

The following section is compiled based on information presented in the approved EMP for the Mining Permit 10019MP in favour of Active Blue Trading cc, as compiled by Geoworld Investment CC. Key aspects of the baseline environment that are likely to impact on the scope of the impact assessment and management measures that are implemented as well as project decisions regarding alternatives are listed below.

12.

12.1. Climate

Nquthu's climate is classified as warm and temperate. The mean annual rainfall for Nquthu varies from 919mm in the southeast to 646mm in the southwest, while the northern and central areas receive in the region of 738mm. The mean annual temperature is 16.7˚C, with warm to hot summers experiencing a mean maximum of 23.2˚C, but reaching 25.7˚C along the Buffalo River. Winters are cool with colds spells, and moderate to light frosts. The summers here have a good deal of rainfall. This location is classified as Cwb by Köppen and Geiger.

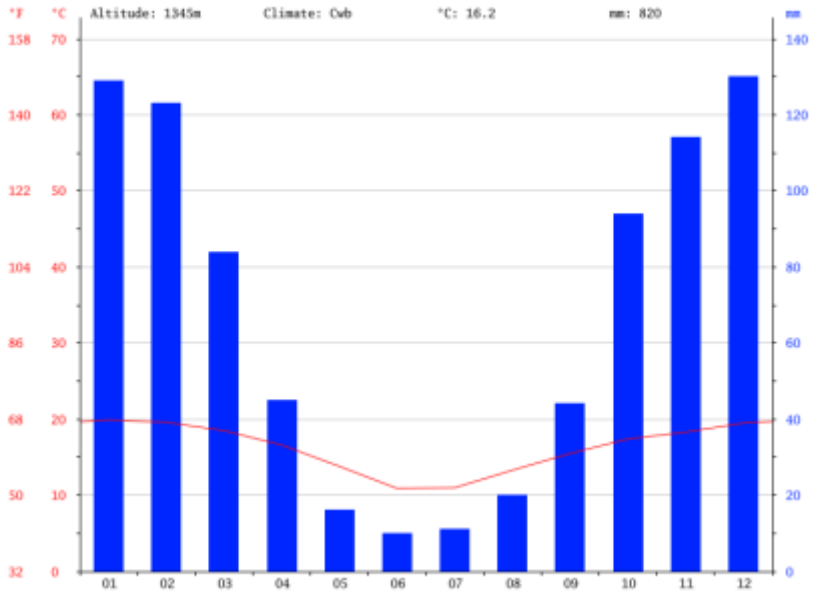

Figure 15: Climograph Nquthu

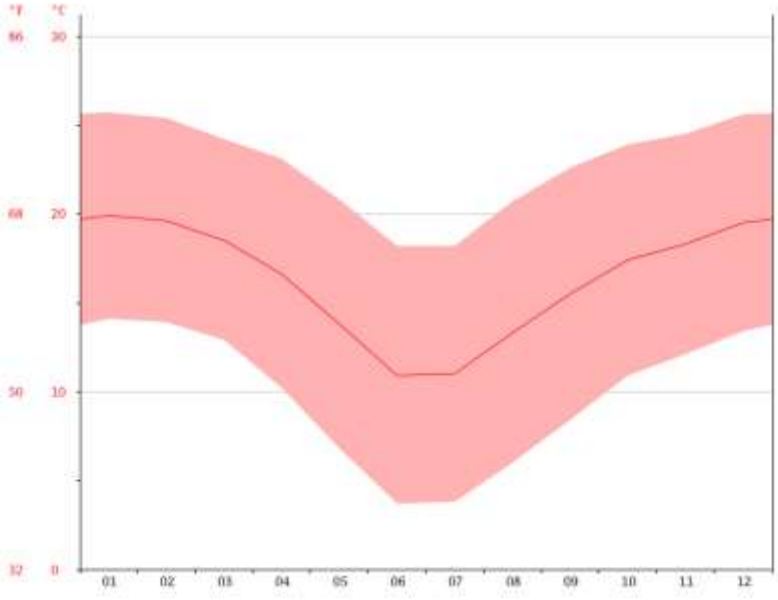

Figure 16: Temperature Graph Nquthu

Table 6: Climate Table//Historical Weather Data Nquthu

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature (°C)	19.9	19.6	18.5	16.6	13.8	10.9	11	13.3	15.5	17.4	18.3	19.5
Min. Temperature (°C)	14.1	13.9	12.9	10.2	6.8	3.7	3.8	6	8.4	10.9	12.1	13.4
Max. Temperature (°C)	25.7	25.4	24.2	23.1	20.8	18.2	18.2	20.7	22.6	23.9	24.5	25.6
Avg. Temperature (°F)	67.8	67.3	65.3	61.9	56.8	51.6	51.8	55.9	59.9	63.3	64.9	67.1
Min. Temperature (°F)	57.4	57.0	55.2	50.4	44.2	38.7	38.8	42.8	47.1	51.6	53.8	56.1
Max. Temperature (°F)	78.3	77.7	75.6	73.6	69.4	64.8	64.8	69.3	72.7	75.0	76.1	78.1
Precipitation / Rainfall (mm)	129	123	84	45	16	10	11	20	44	94	114	130

12.2. Topography

The Nquthu municipal area is characterised by rolling to partly broken terrain with slopes of between 5% and 12%. The terrain becomes more broken and steep (>12%) in the south, with valleys along the Buffalo River its south-western boundary. The mean elevation (m above sea level) ranges from 689 above sea level, to 1,551m above sea level. The largest part of the Municipality is relatively even, with a decline in altitude on the eastern border towards the White-Mfolozi River, as well as on southern border of the municipality towards a number of arterial rivers. Only Nondweni is situated on the lower lying areas, whilst most of the settlements are situated in the western areas of the Municipality.

12.3. Geology

12.3.1. Regional Geology

The regional geology consists mainly of the 2.1Ma Karoo Supergroup, which consists of intercalated sandstone and shale sediments intruded by dolerite dykes. The gravel and dimension stone are hosted within the intrusive dolerite dykes of the Beaufort Group (see Figure 2: Regional Geology).

12.3.2. Local Geology

The quarry is found within the dolerite formations of the Beaufort Group, which is the third stratigraphic formation to be deposited during the massive 120Ma deposition era, marked by prominent hills averaging 1,000mamsl in an otherwise flat surrounding. The Beaufort Group overlies the infamous sandtone and shale formations of the Ecca Group which is widely known for its coal deposits within Southern Africa.

The local geology consists of a thick, massive dolerite dyke that spans over the entire project area and beyond the property boundaries. The dolerite forms part of the Beaufort Group which intruded the Ecca Group within the region (see Figure 3: Local Geology). Dolerite is an igneous rock made up of mainly olivine, hornblende and potassium feldspar minerals.

Within the mine site, a prominent dolerite ridge is found extending beyond the current Mining Permit area. Dolerite is a mafic igneous rock made up of olivine, hornble and feldspar. This dolerite is relatively medium-grained (2-3mm grains) dark-grey with a greenish tint on surface, becoming finer grained (0.5-1mm grains)

and lighter-grey in colour in depth. The rock becomes consistent in grain size and colour from a depth of approximately 5-7m in depth (see Figure 4: Existing Quarry Mining Cut).

12.4. Land Capability

The Nquthu municipal area comprises 14 different bio resource units. Representative units of the different areas within Nquthu, are TUc1 and Tc9 in the north, Uc12 and Tc8 centrally, Sb3 and Tc8 in the southwest and Yd14 and Wd7 in the south-eastern area. The data provided by the KwaZulu-Natal Department of Agriculture and Environmental Affairs Bioresource Programme was analyzed and used to provide an overview of the agricultural land use potential of Nquthu based on its natural resources.

12.5. Soils

The soils in the study area are generally considered highly susceptible to erosion, with only 15% of the area considered arable. The central and northern area is characterized by shallow duplex soils (40-50%) and soils of moderate to poor drainage (70-75%), which present erosion, hazard if not properly managed. Along the south-western boundary the occurrence of shallow soils (78.2%) increases, as do soils of moderate to poor drainage (74.2%), with areas of arable soils decreasing to 8%. Care should be taken to identify areas containing arable soils for primary food production and development.

12.6. Land Use Potential

The climatic capability class rating for Nquthu is C4 to C7 indicating a moderate to severely restricted potential for agricultural production. This is as a result of low rainfall, making dryland production risky and cool temperatures, associated with the occurrence of frost that shortens the growing season. Water is poorly distributed and the erodibility of the soils may eliminate the possibility of dam construction. Where high potential soils are situated close to a reliable source of water, the potential for crop farming under irrigation is good.

There is great variation in the soils, ranging from deep, well-drained apedal forms to plinthic soil forms, which are moderately to poorly drained. The potential for cropping varies considerably with maize, soya beans and wheat being important crops that could potentially be grown as part of the livelihood strategy of households. While 20% of the Nquthu area could be regarded as arable, only 9% is regarded as having a high potential. On these soils, in favourable seasons, crop production can be very good, however with the rainfall tending to be unreliable, irrigation is a limiting feature of crop production in the area. Knowledge of the quality of the soils is essential in landuse planning. Abandoned lands, generally referred to as "old lands", are widespread. These unproductive cropping areas have been abandoned because of poor productivity resulting from the ploughing of shallow duplex soils, which were seen as arable owing to a lack of stones and the easy terrain.

Land use within the project site includes current mining under the Mining Permit, grasslands, Shrubland fynbos, Thicket /Dense bush, Woodland/Open bush and Low shrubland. Villages houses and cultivation are found to the north-west of the project site.

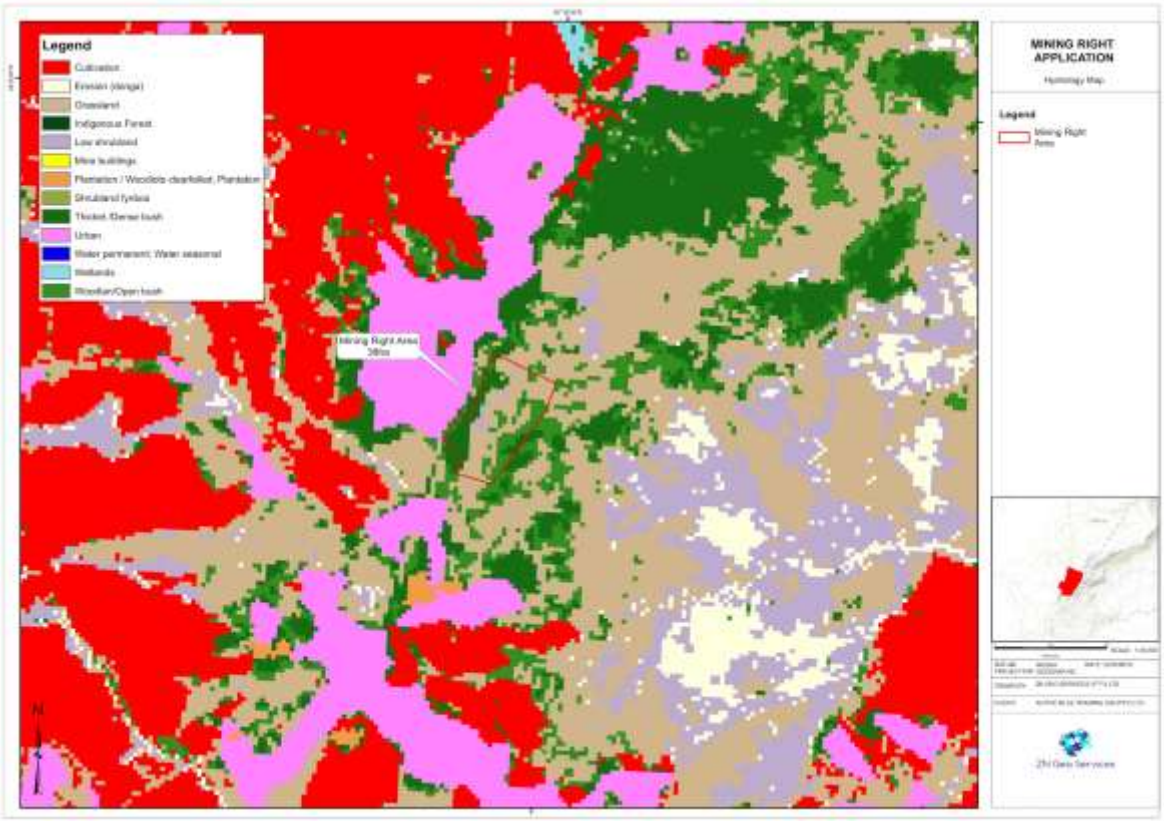

Figure 17: Land Uses

12.7. Vegetation

The project site falls within the Savanna Biome (see Figure 18) and two vegetation types: Income Sandy Grassland and Northern KwaZulu-Natal Moist Grassland (with the later predominant over the site) (see Figure 19).

Figure 18: Biome Map

12.7.1.1. Gs 4 Northern KwaZulu-Natal Moist Grassland

Distribution: Northern KwaZulu-Natal Moist Grassland is distributed in the Northern and north-western regions of the Province, where it forms a discontinuous rim around the upper Thukela Basin and is situated almost entirely within the catchment of the Thukela River. It lies between the drier Gs 6 KwaZuluNatal Highland Thornveld and the moist upland vegetation of mainly Gs 3 Low Escarpment Moist Grassland to the north and Gs 10 Drakensberg Foothill Moist Grassland to the west. The most extensive areas are in the vicinity of Winterton, Bergville, Fort Mistake, Dannhauser, Dundee, north of Ladysmith and west of Newcastle. At higher altitudes this unit is usually surrounded by Gs 3 Low Escarpment Moist Grassland in the north and Gs 10 Drakensberg Foothill Moist Grassland in the west and south. At lower altitudes Gs 6 KwaZulu-Natal Highland Thornveld and SVs 2 Thukela Thornveld usually occur to the east. Altitude ranges from about 1040–1440m.

Conservation: It is considered *vulnerable*, with a conservation target of 24%. Only about 2% statutorily conserved in the uKhahlamba Drakensberg Park as well as in the Chelmsford, Spioenkop, Moor Park, Wagendrift, Ncandu Nature Reserves.

Threats: More than a quarter has already been transformed either for cultivation, plantations and urban sprawl or by building of dams (Chelmsford, Driel, Kilburn, Mtoti, Wagendrift, Windsor and Woodstock). Alien *Acacia dealbata, Rubus*, *Eucalyptus* and *Populus* are invasive in places. Bush encroachment is common. Erosion very low (53%), low (2%) and moderate (20%).

Indicative Plant Species: Important Taxa Small Trees: *Acacia caffra* (d), *Acacia natalitia* (d), *Acacia sieberiana var. woodii, Cussonia paniculata, Euclea crispa* subsp. *crispa, Heteromorpha arborescens var.*

abyssinica, Hippobromus pauciflorus, Scutia myrtina, Ziziphus mucronata. **Tall Shrubs:** *Diospyros lycioides* subsp. *lycioides* (d), *Searsia rehmanniana var. rehmanniana* (d), *Acokanthera oppositifolia Asparagus setaceus, Canthium mundianum, Cephalanthus natalensis, Clerodendrum glabrum, Diospyros whyteana, Euclea natalensis* subsp. *angustifolia, Leonotis leonurus, Lippia javanica, Pavetta gardeniifolia var. gardeniifolia, Searsia dentata, Searsia lucida, Searsia pentheri, Searsia pyroides, Scolopia zeyheri.* **Woody Climbers:** *Clematis brachiata, Dalbergia obovata, Dioscorea sylvatica, Jasminum breviflorum, Rhoicissus tridentata.* **Succulent Woody Climber:** *Sarcostemma viminale.* **Low Shrubs:** *Barleria obtusa* (d), *Anthospermum rigidum* subsp. *pumilum, Artemisia afra, Chaetacanthus burchellii, Euryops pedunculatus, Grewia hispida, Phyllanthus glaucophyllus, Pygmaeothamnus chamaedendrum*. *Succulent Shrub: Euphorbia clavarioides var. clavarioides. Graminoids: Cymbopogon caesius* (d), *Eragrostis racemosa* (d), *Hyparrhenia hirta* (d), *Themeda triandra* (d), *Bothriochloa insculpta, Cymbopogon nardus, Eragrostis curvula, E. plana, Hyparrhenia dregeana and Setaria sphacelata.* **Herbs**: *Acalypha caperonioides, Acalypha punctata, Aster bakerianus, Commelina africana, Conyza obscura, Corchorus confusus, Crabbea angustifolia, Dicoma anomala, Eriosema cordatum, Helichrysum rugulosum, Ipomoea oblongata, Monsonia angustifolia, Selago densiflora* and *Stachys natalensis.* **Geophytic Herbs:** *Cheilanthes hirta, Cheilanthes quadripinnata, Hypoxis rigidula var. pilosissima, Ledebouria ovatifolia, Oxalis obliquifolia, Pellaea calomelanos* and *Raphionacme hirsuta.* **Succulent Herbs:** *Aloe maculata, Crassula alba*.

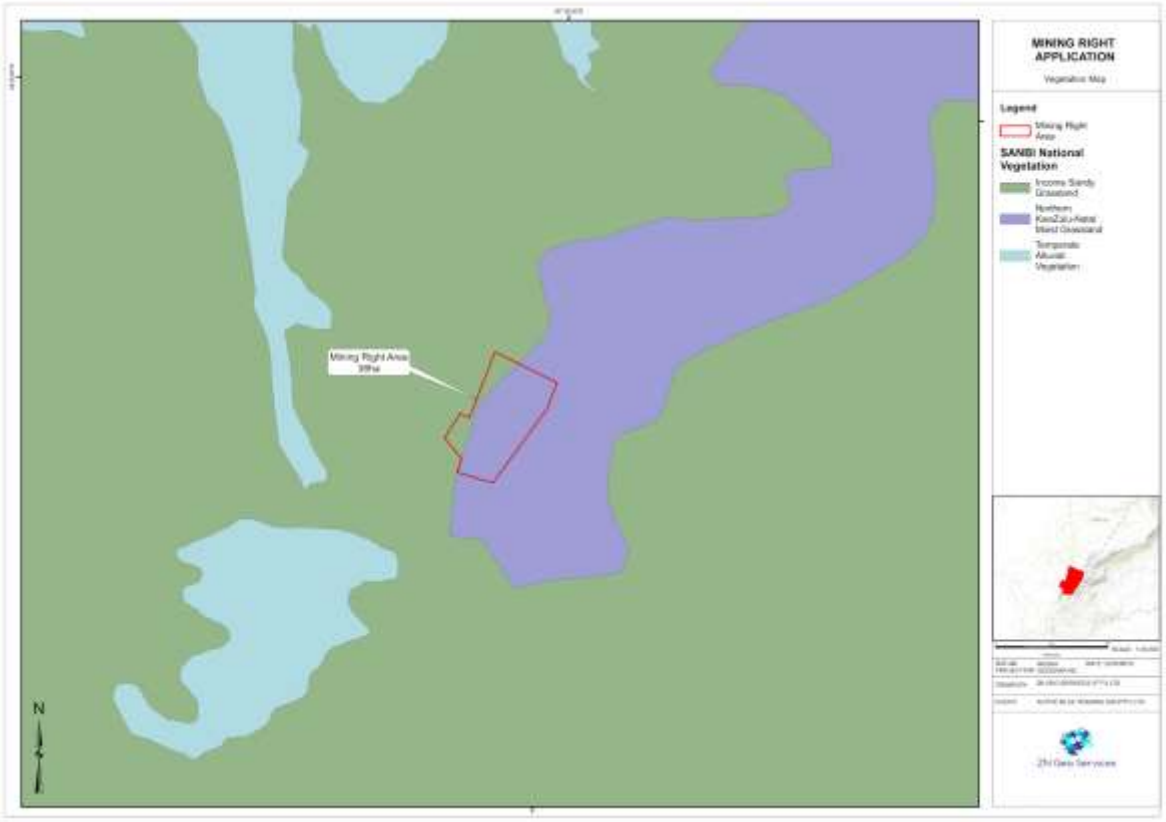

Figure 19: Vegetation Map

12.7.1.2. Gs 7 Income Sandy Grassland

Distribution: Income Sandy Grassland is distributed in a large triangle between Newcastle, Vryheid and Dundee and a larger polygon in the Wasbank area in northern KwaZulu-Natal.

Conservation: It is considered *vulnerable*, with a conservation target of 23%. None conserved in statutory conservation areas.

Threats: Some 27% has been transformed for cultivation, plantations and by urban sprawl. Small portion of the area has been lost to the building of dams (Klipfontein, Mvunyane). No serious invasions of aliens have been observed (probably due to low nutrient status of soils). Erosion moderate (38%), high (30%) and low (15%).

Indicative Plant Species: Graminoids: *Alloteropsis semialata* subsp. *eckloniana, Andropogon appendiculatus,* Andropogon eucomus, Andropogon schirensis, Aristida congesta, Aristida junciformis subsp. *galpinii, Brachiaria serrata, Cymbopogon caesius, Cynodon dactylon, Digitaria monodactyla, Digitaria tricholaenoides, Diheteropogon amplectens, Diheteropogon filifolius, Elionurus muticus, Eragrostis capensis, Eragrostis chloromelas, Eragrostis curvula, Eragrostis gummiflua, Eragrostis plana, Eragrostis planiculmis, Eragrostis racemosa, Eragrostis sclerantha, Harpochloa falx, Heteropogon contortus, Hyparrhenia hirta, Loudetia simplex, Melinis repens* subsp. *repens, Microchloa caffra, Monocymbium ceresiiforme, Panicum natalense, Paspalum scrobiculatum, Perotis patens, Pogonarthria squarrosa, Setaria nigrirostris, Sporobolus africanus, Stiburus conrathii, Themeda triandra, Trichoneura grandiglumis* and *Tristachya leucothrix.* **Herbs:** *Berkheya onopordifolia var. glabra, Berkheya setifera, Chamaecrista mimosoides, Dicoma anomala, Euryops transvaalensis* subsp. *setilobus, Helichrysum caespititium, Helichrysum cephaloideum, Helichrysum rugulosum, Helichrysum simillimum, Hermannia depressa, Hermannia transvaalensis, Kohautia amatymbica, Kohautia virgata, Macledium zeyheri* subsp. *argyrophyllum, Pentanisia prunelloides* subsp. *latifolia, Senecio coronatus* and *Zornia capensis.* **Herbaceous Climbers:** *Anthospermum rigidum* subsp. *pumilum* **Geophytic Herbs:** *Hypoxis rigidula var. pilosissima* **Low Shrubs:** *Rhynchosia totta* and *Stoebe plumose*.

12.8. Critical Biodiversity Areas and Ecological Support Areas

The area where the proposed mining infrastructure will be established is classified as *Critical Biodiversity Area ("CBA"): Optimal* according to the KwaZulu-Natal Critical Biodiversity Areas Map (see Figure 20). CBA: Optimal are areas that are the most optimal to meet the biodiversity conservation targets while avoiding high cost areas as much as possible.

12.9. Fauna

Fauna expected to occur on site include assemblages within terrestrial ecosystems: mammals, birds and reptiles. Each of these assemblages occurs within unique habitats, the ecological state of these habitats directly relates to the number of species found within them. The likelihood of species of conservation concern within the propose project area will be determined and assessed during the impact assessment. It must be noted that given current mining under the Mining Permit, it is anticipated that fauna would have dispersed during the operation of the quarry.

Figure 20: CBA & ESA Map

12.10. Surface Water

The project site falls within the Thukela Water Management Area ("WMA"). The Thukela WMA fully corresponds to the catchment area of the Thukela River, and lies predominantly in the KwaZulu-Natal province. It is a funnel shaped catchment, with several tributaries draining from the Drakensberg escarpment towards the Indian Ocean. From a water resources point of view, irrigation is a significant land use. According to the Thukela WMA Report (DWAF, 2003), the estimated irrigated area is some 276 km^2. Another important land-use that has an impact on the water resources of the Thukela River catchment is commercial timber. Mining activities in the Thukela WMA do not use significant amounts of water, but do impact on the water quality, especially in the Buffalo River and Sundays River catchments. The coal mines scattered all over the northern parts of the Thukela River catchment have either been closed for a number of years or are in the process of closing down. Many of the older mines were never rehabilitated adequately. Consequently, these mines produce acid mine decant that enters the Thukela River system. The worst affected areas are around Newcastle (Buffalo and Ngagane rivers). Industry as a land-use is not significant in the Thukela WMA. Small to medium-sized industries are situated in the peripheral industrial zones in and around Newcastle, Ladysmith and Estcourt. No major future growth in industry is expected unless active Government intervention is brought to bear on the region.

The Jojosi River lies ±1-2km south-east of the proposed project area (see Figure 21).

Figure 21: Hydrology Map

12.11. Air Quality

As the area is predominantly rural and untransformed, air quality is not directly affected by industrial processes. The air quality in the area is therefore mainly impacted on by increased dust levels from mining, farming and household (i.e. burning fires at homes) activities. It is expected that the current levels of dust fallout in the region are low during summer but increase during the winter months; due to a generally drier atmosphere and strong winds. The air quality in the area is also impacted on by the occasional veld fires during winter months.

12.12. Noise

It is expected that the ambient noise levels are low in the area, due to its rural nature. Mainly machinery, such as tractors, operating on the farms cause high noise levels but are intermittent. Another intermittent noise source which is expected to impact on the ambient noise levels are vehicular activities, but is of low significance because of the low frequency of the vehicular traffic. Current mining activities add to the noise levels, al beit being intermittent.

12.13. Heritage

The Environmental Management Plan (“EMP”) prepared for the Mining Permit indicated no archaeological and cultural resources. Graves are located within the project site. It is important to note that since archaeological artefacts generally occur below surface, the possibility exists that culturally significant material and skeletal

remains may be exposed during the development and construction phases, in which case all activities must be suspended pending further archaeological investigations by a qualified archaeologist (See National Heritage and Resources Act, (25/1999) section 36 (6)). A Heritage Impact Assessment will be undertaken as part of the EIA. This assessment determines the archaeological significances of all the identified resources as well as the possible impacts that the proposed development might have.

12.14. Socio-Economic

The project site falls within Ward 16 of the Nquthu Local Municipality and falls within the Umzinyathi District Municipality ("UDM") (see Figure 22). The Nquthu Local Municipality shares its border with the Abaqulusi Local Municipality. According to the census 2011 information, the population in the Nquthu Local Municipality was 165 307 (representing 32.4% of the total population in the UDM). Approximately 42% of the population are 14 years and younger, while 53% of the population are aged between 15 and 64 years and 5.1% people with 65+. This indicates a youthful population which places pressure on the need for education and social facilities. Nquthu consists of a large rural population (over 90%), with less than 10% of its people living in the semiurban areas of Nquthu Town (3.44% living in Nquthu Town), Nondweni, Isandlwana and Ngolokodo. Employment levels are exceptionally low with only 9 946 of the economically active population being employed. Of the total population, 55 954 are not economic active as this include people with disability, school children and pensioners while 12 918 are discouraged work seekers and the rest of the potential labour force is not economically active (students, housewives etc). With such high unemployment the dependency levels are also very high and it is estimated that for every employed person there are 28 unemployed people who are in need of support.

Nquthu Town and Nondweni are the only two urban settlements found within Nquthu Municipality. The former is located on erf 100 and comprises of residential the residential areas, area is characterized by a half of it being land with little gradient (the northern sector) and the rest of it, or southern sector, being dominated by mountains and streams, by far the major portion of the area being utilization for farming practices. There is practically no commercial farming enterprise in the area, and mostly subsistence farming is practiced. Land management practices are often found wanting and would have to be addressed as is indicated through potential agriculture projects. The only urban node in the area is Nquthu village, offering the widest range of opportunities in respect of services. Even though this is situation, the town is underdeveloped as a result of low-income levels prevailing in the area.

Figure 22: Ward Map

13 | Environmental Impact Assessment

13.

13.1. Potential Impacts Identified

The proposed project is anticipated to a have a range of impacts on the biophysical and socio-economic environment. The EIA process will thus be undertaken to determine these impacts and evaluate the significance of these impacts to effectively minimize and mitigate such impacts. The EMPr will be developed to outline project specific mitigation, monitoring and remediation measures to ensure that the proposed project complies to environmental legal systems and best practice guidelines during all phases of the proposed project. A summary of the predicted significant impacts prior to implemented mitigation measures are discussed in more detail in the sections below and summarised as follows:

- **Ecology**: The development will require the removal of vegetation and habitat from areas earmarked for mining of aggregates and dimension stone. The impact is expected to be of a moderate significance and limited to the project site. With careful infrastructure planning and continuous rehabilitation, the impact significance can be reduced.
- **Surface Water:** Runoff from the stockpile area, mine services areas and workshops are likely to contain elevated levels of contaminants and can therefore contaminate surface and ground water resources. The impact can be of significance if not managed and mitigated properly.

- **Ground Water:** The use of explosives as well as solvents, lubricant and fuels on site are likely to have a significant impact on the local ground water quality, if not mitigated. The impact is expected to be of moderate significance and local scale. Mitigation will significantly reduce the impact.
- **Air Quality:** The site activities will result in elevated dust levels, including elevated PM10, PM2,5 and total dust levels in the immediate vicinity of the project. This will be associated with the blasting, excavation, loading, tipping and hauling of material. This impact can be significant if not managed through watering of haul roads and covering of trucks transporting dry product by road.
- **Noise:** The project will result in elevated noise levels due to the blasting, excavation, loading, tipping and hauling of material on site, as well as the operation of the plant and associated infrastructure. Trucks travelling along the road transporting product and supplies to the site will also result in elevated noise levels. The impact is expected to be significant if no mitigation measures are implemented. Mitigation measures will be required.
- **Blast Overpressure, Vibration and Fly rock:** Rock will be drilled and blasted as part of the mining operations. The blast area and number of drill holes will determine the amount of dust emissions emanating from these activities. High air blast sound pressure is associated with mining operations where blasting is required. This is likely to be experienced by residents in the immediate proximity of the site. The impact is typically of short duration. Vibration levels experienced at surface are expected to be well below the levels at which structural damage could occur. Blasting can be controlled to some extent by using different blasting techniques that minimises the dispersion of dust.
- **Cultural and Heritage:** Graves on site. An HIA will be undertaken as part of the EIA to determine the presence of other heritage or cultural sites that are of significant importance.
- **Socio-economic:** The project is likely to have a number of significant positive impacts on the socioeconomic environment in the area, such as the procurement of local goods and services, Employment opportunities for local communities as well as other South African citizens, income generation, skills development and education opportunities, GDP improvement and wealth creation and the distribution of revenue and wealth. The project also has the potential to adversely affect existing economic activities in the area, such as agriculture. Mitigation measures will therefore be required to ensure that these negative impacts are avoided or minimised, while the positive impacts are maximised.
- **Visual:** Due to the topography the project infrastructure is likely to be visible for some distance by neighbouring land users and people travelling by road past the site. The impact can therefore be significant if not managed and mitigated properly. With careful planning, vegetation can be used to mitigate this impact.

13.2. Methodology used in Determining the Significance of Environmental Impacts

The overarching principles that guide the EIA process include:

- To ensure that environmental considerations are explicitly addressed and incorporated into the development decision making process;
- To anticipate and avoid, minimize or offset the adverse significant biophysical, social and other relevant effects of development proposals;

- To protect the productivity and capacity of natural systems and the ecological processes which maintain their functions; and
- To promote development that is sustainable and optimizes resource use and management opportunities.

The following methodology applies to the scoping phase of the EIA, based on best practice guidelines and the requirements of South African legislation (specifically NEMA and MPRDA):

- Undertaking an information review and gap analysis of the information currently available.
- Compare the proposed project description with applicable legislation and determining the legal constraints as well as permitting and licensing requirements. This included determining the compliance criteria for the project.
- Undertake an environmental scoping phase to identify key issues and impacts associated with the project and allow the community an opportunity to provide informed comments on the project and anticipated impacts it may have in the area. The scoping phase also allowed the local, regional and national authorities the opportunity to comment on the EIA undertaken and to ensure that all aspects are addressed in this impact assessment.
- The stakeholder engagement process is being undertaken to ensure that all comments and concerns from the public are captured and addressed in the EIA.
- Environmental and Social Baseline Studies to determine the baseline conditions of the environment that could be affected by the Project.
- Preparation of the Environmental Impact Report (EIR) which documents the process followed to date, the findings of the baseline studies undertaken as well as the anticipated impacts associated with the project and mitigation measures considered.

The methodology that will be used during the Impact Assessment phase of the project is outlined in the section below.

- Potential impacts will be determined from three primary sources:
- Public consultation – includes issues and/or concerns raised by various stakeholders as through public consultation phases.
- Institutional consultation – includes the outcomes from a series of contacts made with various relevant institutions.
- Technical evaluation – includes issues and impacts identified by various technical and social consultants appointed during the EIA process.

This section provides the detailed methodology used for the assessment of the significance of potential environmental impacts in the EIA. This methodology allows for the identified potential impacts to be analysed in a systematic manner, with significance rating (from insignificant to very high) assigned to each potential impact. The significance of an impact is defined as a combination of the consequence of the impact occurring and the probability that the impact will occur. The criteria used to determine impact consequence include extent, intensity and duration of the impact and are presented in Table 7.

Table 7: Criteria for Assessing the Significance of Impacts

Rating	Definition of Rating	Score

A. EXTENT – the area in which the impact will be experienced		
Local	ed to project or study area or part thereof (e.g. site)	1
Regional	gion, which may be defined in various ways, e.g. cadastral, catchment, topographic	2
er(national)	ally or beyond	3
B. INTENSITY – the magnitude or size of the impact		
Low	ecific and wider natural and / or social functions and processes are negligibly altered	1
Medium	ecific and wider natural and / or social functions and processes continue albeit in a modified way	2
High	ecific and wider natural and / or social functions or processes are severely altered	3
C. DURATION – the time frame for which the impact will be experienced		
hort-term	duration of project activities / up to 2 years	1
edium-term	years	2
ong-term	han 15 years	3

The combined score of these three criteria corresponds to a consequence rating, as set out in Table 8 (Note that the lowest possible consequence score is 3).

Table 8: Method used to determine the consequence score

ned Score (A+B+C)	3 - 4	5	6	7	8 - 9
quence Rating	ry Low	Low	edium	High	ry High

Once the consequence is derived, the probability of the impact occurring is considered, using the probability classifications presented in Table 9.

Table 9: Probability classification

Probability of impact – the likelihood of the impact occurring	
able	chance of occurring
le	70% chance of occurring
le	- 90% chance of occurring
e	chance of occurring

The overall significance of impacts is determined by considering consequence and probability using the rating system prescribed in Table 10.

Table 10: Impact significance ratings

		Probability			
		Improbable	Possible	Probable	Definite
Consequence	Very Low	INSIGNIFICANT	INSIGNIFICANT	VERY LOW	VERY LOW
	Low	VERY LOW	VERY LOW	LOW	LOW
	Medium	LOW	LOW	MEDIUM	MEDIUM
	High	MEDIUM	MEDIUM	HIGH	HIGH
	Very High	HIGH	HIGH	VERYHIGH	VERY HIGH

Finally the impacts are considered in terms of their status (positive or negative) and the confidence in the ascribed impact significance rating is noted. The classification for considering the status of impacts and the confidence in assessment is laid out in Table 11.

Table 11: Impact Status and Confidence Classification

of Impact	
on whether the impact is adverse (negative) or beneficial (positive)	+ ve (positive – a 'benefit')
	– ve (negative – a 'cost')
	Neutral
egree of confidence in predictions based on available information, the environmental consultant's judgment and / or specialist knowledge.	Low
	Medium
	High

Different types of impacts were also considered in the impact ratings, as listed in Table 12.

Table 12: Types of Impact

– impacts that result from the direct interaction between a project activity and the receiving environment (e.g. dust generation which affects air quality).
t – impacts that result from other (non-project) activities but which are facilitated as a result of the project or impacts that occur as a result of subsequent interaction of direct project impacts within the environment (e.g. reduced water supply that affects crop production and subsequently impacts on subsistence-based livelihoods).
ative – impacts that act together with current or future potential impacts of other activities or proposed activities in the area / region that affect the same resources and / or receptors (e.g. combined effects of waste water discharges from more than one project into the same water resource, which may be acceptable individually, but cumulatively result in a reduction in water quality quality).

There is no statutory definition of 'significance' and its determination is therefore necessarily partially subjective. Criteria for assessing the significance of impacts arise from the following key elements:

Status of compliance with relevant local legislation, policies and plans, any relevant or industry policies, environmental standards or guidelines and internationally accepted best practice:

- The consequence of the change to the biophysical or socio-economic environment (e.g. loss of habitats, decrease in water quality) expressed, wherever practicable, in quantitative terms. For socio-economic impacts, the consequence must be viewed from the perspective of those affected, by taking into account the likely perceived importance of the impact and the ability of people to manage and adapt to the change;
- The nature of the impact receptor (physical, biological, or human). Where the receptor is physical (e.g. a water resource) its quality, sensitivity to change and importance must be considered. Where the receptor is biological, its importance (e.g. its local, regional, national or international importance) and its sensitivity to the impact must be considered. For a human receptor, the sensitivity of the household, community or wider societal group must be considered along with their ability to adapt to and manage the effects of the impact; and

- The probability that the identified impact will occur. This is estimated based upon experience and / or evidence that such an outcome has previously occurred.

The impact significance rating also reflects the need for mitigation. While low significance impacts may not require specific mitigation measures, high significance negative impacts demand that adequate measures be put in place, to reduce the residual significance (impact significance rating, after mitigation), as described below in Table 13.

Table 13: Definitions of Impact Significance

ficant: the potential impact is negligible and no mitigation measures or environmental management is required.
ow & Low: no specific mitigation measures required, beyond normal environmental good practices.
m - High: specific mitigation measures should be devised, to reduce the impact significance to an acceptable level. If mitigation is not possible, compensation measures should be considered.
High: specific mitigation measures should be identified and implemented, to reduce the impact significance to an acceptable level. If such mitigation is not possible, very high significance negative impacts should be considered in the project's authorisation process.

Note that impact significance will be rated in the prescribed way both without and with the effective implementation of the recommended mitigation measures.

14 | Plan of Study for the Environmental Impact Assessment Process

14.

14.1. Description of Alternatives to be considered including the Option of not going ahead with the Activity

All alternatives including the no-go option have been discussed in Section 9.1 of this document.

14.2. Description of the Aspects to be assessed as part of the EIA Process

Biophysical and socio-economic aspects that will be assessed as part of the impact assessment for the proposed project is as follows:

- Geology
- Soils and Land Uses;
- Terrestrial Ecology (Fauna and Flora);
- Topography;
- Surface Water;
- Ground Water;
- Air Quality;
- Noise and Vibration;
- Heritage and cultural resources;
- Social Impacts;
- Socio-economic
- Visual Impacts.

- Rehabilitation and closure.

14.3. Description of aspects to be assessed by Specialists

The specialist studies required to inform the EIR and EMPr include:

Table 14: Specialist Studies & Scope of Work

STUDY	SCOPE OF WORK
Terrestrial Ecology	Identification of flora and fauna and possible invasive species as part of the areas that have been previously mined.
Surface Water & SWMP	Describe the geological environment and discuss the potential environmental impacts on the geological environment that may be associated with the proposed activity. Quantitative assess the potential negative impacts and provide mitigation measures for the EMPr.
Geology	Identification and Protection of Heritage and historical and land marks and mitigation measures if such artefacts are encountered during mining.
Soils, Land Capability & Land Use	Determining the existing land capability while current land use will be determined and mapped for the project; The identification of the major soils in the area as well as mapping the soils for land capability purposes; and The undertaking of an impact assessment and mitigation measures.
Heritage	Identification and Protection of Heritage and historical and land marks and mitigation measures if such artefacts are encountered during mining.
Socio-economic	The assessment of the possible socio- economic impact of the project area on the local and regional locality both negative and positive impacts are to be outlined.
Social & Labour Plan	The SLP specialist report will comply with the requirements as laid out in the NEMA Regulations (2014). The SLP will comply with the DMR's "Guideline for the Submission of a Social and Labour Plan" (October 2010) and the revised Mining Charter (September 2010), and any other requirements of the DMR. The processes to deliver the SIA and SLP will be conducted in a manner that will be mutually beneficial and cost effective. The social baseline prepared for the SIA, for instance, will be used for the SLP. The methodology will comprise the following steps: - Request the social aspects of the mining development from the client. These aspects will indicate the potential positive and negative social benefits of the development for the surrounding affected communities and provide the basis for identifying the potential changes in the social status of the communities. - Characterise the social status using secondary data from latest approved IDPs of the municipality and Census 2011. Secondary data will be complimented with primary data obtained from: - Comments and responses reports from the EIA/s conducted for previous phase/s; - IAPs through the public participation specialist, following from the public participation processes for the current authorisation process; - Key informant interviews with community representatives and government partners, where there are information gaps in the secondary data sources. For example, the specialist may have to follow up on land claims in the area. - Environmental changes brought about by the planned development can also lead to social impacts.

	Compilation of a SLP Report for submission to the DMR in support of the Mining Right Application.

14.4. Other Information required by the competent Authority

Additional consultation and studies might be requested by the relevant authorities.

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

The socio economic conditions will be identified and descried in the Social and Labour Plan report and this will be incorporated into the SEIR. Preliminary it can be assumed that livelihoods of the adjacent landowners will be minimally impacted by the infusion of capital into the area.

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

There are graves in the vicinity of the study area. Therefore it may be assumed that the potential of existence of heritage resources is possible. In terms of the National Heritage Resources Act, 1999 (Act no. 25 of 1999) a Heritage Impact Assessment will need to be undertaken in order to establish if any localities of heritage significance are present on the property.

14.7. Key Milestones of the Programme for the EIA

The envisaged key milestones of the programme for the EIA Phase are outlined in the following table (and include indicative dates):

TASKS	PROPOSED TIMEFRAME
Make Draft Scoping Report available to the public, stakeholders and authorities	04 June – 05 July 2018
Finalisation of Scoping Report, and submission of the Final Scoping Report to the competent authorities	06 July 21018
Authority acceptance of the Final Scoping Report and Plan of Study to undertake the EIA	43 days from date of receiving FSR
Undertake specialist studies	June – July 2018
Make Draft EIA Report and EMPr available to the public, stakeholders and authorities	July – August 2018
Finalisation of EIA Report, and submission of the Final EIA Report to the competent authorities	August 2018
Authority review period and decision-making (107 calendar days)	September – November 2018