NOTIFICATION OF INTENT TO DEVELOP

FOR MINING AND ASSOCIATED DEVELOPMENTS ON THE REMAINDER OF THE FARM THANDISIZWE NO. 16691, REGISTRATION DIVISION FT, UMSHWATHI LOCAL MUNICIPALITY, PROVINCE OF KWAZULU-NATAL.

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NID - Remainder of The Farm Thandisizwe No. 16691FT

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1. Introduction

Beyond Heritage was requested by Greenmined Environmental to compile a heritage Notice of Intention to Develop (NID) that will be submitted by the EAP to AMAFA as part of the environmental authorization process for a consent use application.

The proposed project triggers listed activities in terms Section 41 of the KZN Heritage Act.

2. Project Location

Project location details are summarised in Table 1.

Table 1. Project location details.

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Province	KwaZulu-Natal Province
District Municipality	UMgungundlovu District Municipality
Property Name and Number	Remainder of the farm Thandisizwe No 16691, Registration Division FT).
1:50 000 Map Sheet	2930CB
GPS Co-ordinates	29°31'9.00"S 30°25'56.00"E

The study area is located in an area zoned as agricultural and has been altered by mining and associated activities.

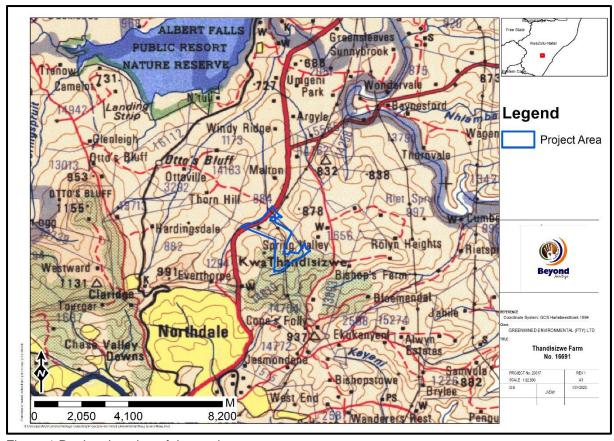


Figure 1.Regional setting of the study area.

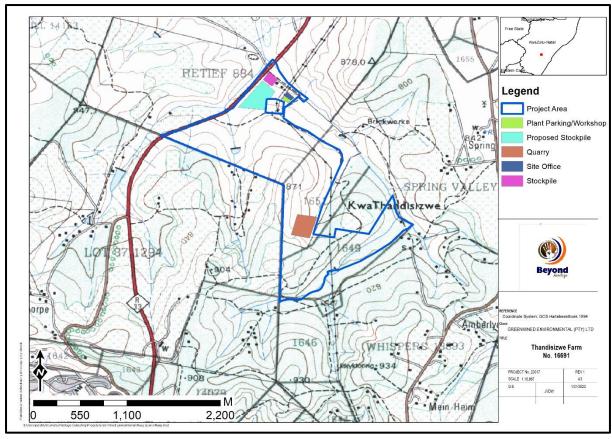


Figure 2. Local setting of the study area.

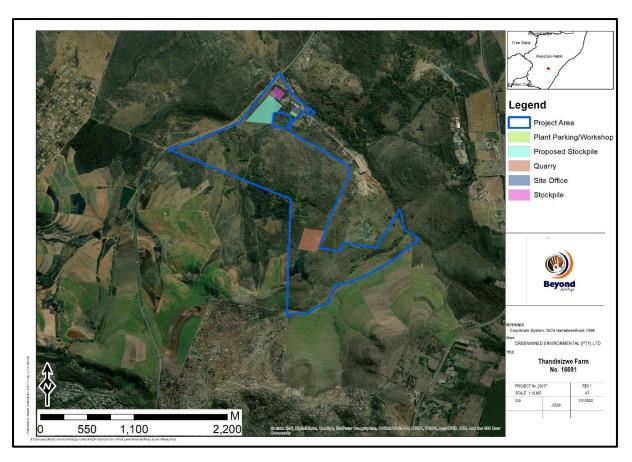


Figure 3. Aerial image of the study area.

3. Project Details

On 15 September 2021 a dolerite mine was authorised on the property described as Remainder of the farm Thandisizwe N 16691, Registration Division FT, by the Department of Mineral Resources and Energy (DMRE) under reference number KZN 30/5/1/3/2/10724 MP to Inzalo Crushing Aggregates (Pty) Ltd a part of the Raubex Group (Appendix 2). A corresponding Mining Permit was issued in terms of the MPRDA2 under permit number 11/2021. The authorisation took consideration of the fact that the owners of the property provided consent and that a lease agreement between Inzalo Crushing Aggregates (Pty) Ltd and the property owners was in place.

The application for the Environmental Authorisation and the Mining Permit was undertaken by Greenmined Environmental (Pty) Ltd. Mining commenced in 2022. After the mine was established in 2022, the company B&E International (Pty) Ltd received a request from the SANRAL appointed National Route 3 (N3) Upgrade construction company, Raubex Construction Group, for aggregate material in different formats (stone and asphalt) to be made available for the N3 upgrade activities. In response to this, B&E International (Pty) Ltd arranged to acquire aggregate from the Dolerite Mine on the property to process to the different formats required by Raubex Group. B&E International (Pty) Ltd then established an area to screen, crush and stockpile the aggregate.

Mining activities (Quarry, crushing, screening and stockpiling activities) are currently operational on the property and the purpose of this application is to regularize activities.

3.2 Receiving Environment

The larger property is utilized for grazing, a Quarry (with an approved Mining Permit Nº 11/2021) and associated activities (including stock piles, crushing and screening activities) with the intention of expanding the quarry into agricultural land as well as. The focus areas of the NID are the existing quarry (MP), Stockpile area and future filling station (located in an area that has been disturbed). These areas have been impacted on by past activities (mining and associated activities) to such an extent that it would have obliterated surface indicators of heritage resources (Figure 4 to 14).



Figure 4. 2017 Google image of the project areas indicating clearing and development activities throughout the site. Yellow polygons indicate farm portions.



Figure 5. 2022 Google image of the study area indicating the study areas as transformed.



Figure 6. 2022 Google image of the Quarry area – the site is completely transformed.



Figure 7. The focus areas have been cleared and levelled. .



Figure 9. General site conditions at the existing quarry.



Figure 11. Stockpile areas



Figure 8. General site conditions – the area has been completely transformed.



Figure 10. General site conditions at the existing quarry..



Figure 12. General site conditions – stockpiles.



Figure 13. Existing roads in the study area.



Figure 14. Existing access roads in the study area.

4. Legislative Framework

For this project the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA) and the KZN Act 4 of 2008 and Act 5 of 2018 are of importance and the following sites and features are protected:

- a. Archaeological artefacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites or scientific or technological value.

The national estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and palaeontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g., archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

Section 34 of the NHRA and Section 37 of the KZN Heritage Act deal with structures that are older than 60 years. Section 35(4) of the NHRA deals with archaeology, palaeontology and meteorites as does Section 40 of the KZN Heritage Act. Section 36 of the NHRA and Section 39 of the KZN Heritage Act, deal with human remains older than 60 years. Unidentified/unknown graves are also handled as older than 60 years until proven otherwise.

The Notification of Intent to Develop (NID) is submitted to AMAFA in terms of Sections 38(1) and 38(8) of the NHRA and Section 41 (1) of the KZN Heritage Act. This NID is submitted to outline what (if any) heritage resources are likely to be affected, how the character of the site will change and what processes need to be followed.

4.1 Heritage Site Significance and Mitigation Measures

The presence and distribution of heritage resources define a Heritage Landscape. In this landscape, every site is relevant. In addition, because heritage resources are non-renewable, heritage surveys need to investigate an entire project area. In all initial investigations, however, the specialists are responsible only for the identification of resources visible on the surface.

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. National and Provincial Monuments are recognised for conservation purposes. The following interrelated criteria were used to establish site significance:

- » The unique nature of a site;
- » The integrity of the archaeological/cultural heritage deposit;
- » The wider historic, archaeological and geographic context of the site;
- The location of the site in relation to other similar sites or features:
- » The depth of the archaeological deposit (when it can be determined or is known);
- » The preservation condition of the site; and
- » Potential to answer present research questions.

The criteria above will be used to place identified sites within the South African Heritage Resources Agency's (SAHRA's) (2006) system of grading of places and objects that form part of the national estate. This system is approved by the Association of South African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region.

Table 2. Heritage Field ratings

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP. A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP. B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

4.2. NHRA Section 38 Triggers

The following aspects of Section 38 of the National Heritage Resources Act (NHRA) and Section 41 of the KZN Heritage Act may be triggered by the proposed project.

Table 3. NHRA and KZN Act Triggers

able 3	S. NHK	A an	d KZN Act Triggers	
				Summary description
	NH	IRA S	Section 38 (1) Activities / Triggers	(e.g. 500 m road, etc.)
	А		v linear development or barrier 00 m	
	b	Any	bridge or similar structure >50 m	
x	С		development or activity that change the character of a :	Consent Use Application
		i	≥5 000m ² in extent	
		ii	Involving ≥3 existing erven/ Subdivisions	
		iii	Involving ≥3 or more erven/ divisions consolidated within past 5 years.	
Х	d	Rezoning of a site ≥10 000m ² in extent.		Current Use is Agricultural, and the intention is to regularize the mining activities which are currently operational on the property by applying for municipal consent for Extractive Industry (the Quarry, crushing, screening and stockpiling activities).
	е	othe	er triggers, e.g.: in terms of er legislation, (i.e.: National vironment Management Act,	

5. Limitations and assumptions

The study area was not subjected to a field survey at this stage in the process. It is assumed that information obtained for the wider area is applicable to the study area. Additional information could become available in future that could change the results of this report.

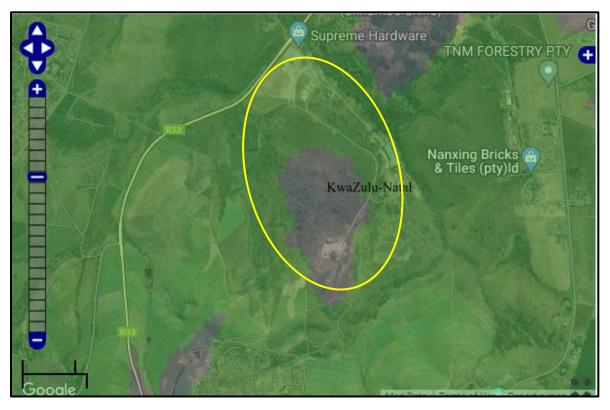
6. Heritage Resources

Heritage resources are defined in Section 2 of the NHRA as "any place or object of cultural significance", where cultural significance can be understood as meaning "aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance". Heritage resources together constitute the National Estate, as defined in Section 3 of the NHRA, and each resource is recognized and protected under the Act.

A variety of heritage resources contribute to the heritage character of the area, and these are briefly outlined below. Categories of potential heritage resources expected was assessed to derive the heritage character of the area. This was done by consultation of known heritage sites lodged at Pietermaritzburg museums archaeological database, and heritage reports captured into SAHRIS.

6.1. Paleontological resources

The study area is indicated as of insignificance to moderate palaeontological sensitivity based on the SAHRA paleontological map (Figure 15). An independent assessment was conducted by Prof Marion Bamford (2023). The assessment concluded that it is extremely unlikely that any fossils would be preserved in the soils and sands of the Quaternary. There is a very small chance that fossils may occur in the shales of the early Permian Pietermaritzburg Formation so a Fossil Chance Find Protocol should be added to the EMPr.



Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map

Figure 15. The approximate study area (yellow polygon) as indicated on the SAHRA paleontological sensitivity map.

6.2. Archaeological background

The archaeology of KwaZulu-Natal can be divided in three main periods namely the Stone Age, Iron Age and Historical period.

6.2.1. Stone Age

South Africa has a long and complex Stone Age sequence of more than 2 million years. The broad sequence includes the Later Stone Age, the Middle Stone Age and the Earlier Stone Age. Each of these phases contains sub-phases or industrial complexes, and within these we can expect regional variation regarding characteristics and time ranges. For (CRM) purposes it is often only expected/possible to identify the presence of the three main phases. Yet sometimes the recognition of cultural groups, affinities or trends in technology and/or subsistence practices, as represented by the sub-phases or industrial complexes, is achievable. The three main phases can be divided as follows;

- » Later Stone Age (LSA); associated with Khoi and San societies and their immediate predecessors. Recently to ~30 thousand years ago.
- » Middle Stone Age (MSA); associated with Homo sapiens and archaic modern human . 30-300 thousand years ago.
- » Earlier Stone Age (ESA); associated with early Homo groups such as Homo habilis and Homo erectus. 400 000-> 2 million years ago.

The surrounding region saw early human occupation throughout the span of the Stone Age. Stone Age sites in the region have been recorded largely at open air sites as well as near water sources including the Msunduze River, Foxhill Spruit, Slangspruit, and Mkhondeni (Prins 2019). Middle Stone Age artefacts are more commonly found within the landscape with MSA blades and flakes being prominently found. This shows evidence of early human occupation and movement through the landscape. Later Stone Age finds in the landscape are largely LSA flakes associated with the San who occupied the region until the arrival of Iron Age communities.

6.2.2. Iron Age

Bantu-speaking people moved into Eastern and Southern Africa about 2,000 years ago (Mitchell 2002). These people cultivated sorghum and millets, herded cattle and small stock and manufactured iron tools and copper ornaments. Because metalworking represents a new technology, archaeologists call this period the Iron Age. Characteristic ceramic styles help archaeologists to separate the sites into different groups and time periods. The Iron Age as a whole represents the spread of Bantu speaking people and includes both the Pre-Historic and Historic periods. It can be divided into three distinct periods:

- » The Early Iron Age (EIA): Most of the first millennium AD.
- » The Middle Iron Age (MIA): 10th to 13th centuries AD.
- » The Late Iron Age (LSA): 14th century to colonial period.

The greater region saw an influx in Iron Age communities around AD 1500 when communities entered the region and settled near the Umngeni River, approximately 12km southeast of the project area. Iron Age ceramics in the region include *Msuluzi*, *Ndondondwane*, and *Ntshekane* and are typically associated with riverside occupation (Huffman 2007). Early Iron Age sites associated with the landscape have been found to be more commonly situated along river valleys below 700m above sea level whilst Later Iron Age sites are more typically found situated along ridges and plateaus (Prins 2019). Evidence of metal working in slag and tuyères have been found within the region spanning from the earliest Iron Age settlements of the region. Later Iron Age communities within this region were direct ancestors of the Zulu people (Huffman 2007). The Umngeni River valley saw large

occupation by different Nguni groups including the Dlanyawo, Nyavu and Njilo from the early 1800s (Bryant 1965). Nguni speakers are the largest group originating from the Eastern Bantu migration stream (Huffman 2004). Nguni communities have been found to have a preference for beehive huts and place high value on cattle and thus settle in areas where separate summer and winter grazing grounds are accessible (Huffman 2004). During the 1820s, most of the Nguni communities became part of Shaka's Zulu Kingdom with the exception of the Nyavu who remained independent from the expanding Zulu Kingdom. Majority of communities within the region adopted a Zulu identify after the end of the Anglo-Zulu war of 1879 and the Bambatha Rebellion of 1911.

6.2.3. Historical Period

In 1838, the town of Pietermaritzburg was founded and named after Voortrekker Generals Piet Retief and Gerrit Maritz. During the Battle of Blood River on December 16th 1838, the Boers prayed every night for victory and promised to build a church if they succeeded. Many Boers as well as General Piet Retief lost their lives to the Zulu and their leader Dingane (www.britannica.com). Although outnumbered by the Zulu army, the Zulu retreated that night and the Boers claimed victory. Thereafter, Pietermaritzburg was established and The Church of the Vow was built to honour the battle, with December 16th being decreed as 'Dingane's Day'. Today it is known as the 'Day of Reconciliation'. The Church of the Vow in Pietermaritzburg is still in use today.

6.3. Identified / Known Heritage Resources

Heritage surveys in the surrounding areas found grinding stones, potsherds, and built structures. Many surveys found no heritage resources. The following Cultural Resource Management (CRM) assessments were conducted in the area and consulted for this report:

Author	Year	Project	Findings
Anderson, G.	2018a	Heritage Survey Of The Ezinkhetheni Development.	No Sites
Anderson, G.	2018b	Heritage Survey Of The Thandisizwe Quarry, Umgungundlovu District Municipality, Kwazulu-Natal.	No Sites.
Whitelaw, G., & Whelan, D.	2008	Cultural Heritage Assessment of the Farm Thandisizwe, Umgungundlovu District, KwaZulu-Natal. Phase 1 Report.	Potsherds, upper grindstones, a lower grindstone.
Prins, F.	2015	Cultural Heritage Impact Assessment of the Proposed Establishment of the Albert Falls Secondary Bulk Water Pipeline, at Albert Falls, within the Umshwathi Local and Umgungundlovu District Municipalities, KwaZulu-Natal.	No Sites.
Prins, F.	2017	Cultural Heritage Impact Assessment of the Proposed Royal Albert Development, Umngeni Municipality, KwaZulu-Natal.	No Sites.
Prins, F.	2019a	Phase One Heritage Of The Proposed Copesville Pipeline Phase 1, Umgungundlovu KZN.	No Sites.
Prins, F.	2019b	Phase One Heritage Impact Assessment of the 24G Application Process, in Terms of Nema, for Activities Located On Rem Of Portion 1 Of The Farm Ottos Bluff No. 13013, Ottos Bluff, KwaZulu-Natal.	No Sites.
Prins, F., & Hall, S.	2016	Cultural Heritage Impact Assessment of the Construction of the Proposed Midlands Biogass Project, Pietermaritzburg.	No Sites.

Information obtained from the Pietermaritzburg museum archaeological database indicate the presence of heritage resources in the larger area (Figure 16) consisting of rock art, graves and scatters of arteafcts. The sites are located away from the study area. According to SAHRIS the study area itself

2930AD 013

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has not been subjected to a HIA. The impact areas considered in this report have been disturbed to such an extent that surface indicators of heritage resources would have been obliterated.

Figure 16. Known sites in the larger area.

3,300

6,600

1,650

7. Potential Impact Assessment

The following categories of heritage resources as defined in Section 3 of the NHRA are protected by the Act and Chapter 8 of the KZN Act of 2008 and could occur within the larger area. Although all heritage resources are relevant to the Heritage Landscape and are non-renewable, it is anticipated that few sites in the study area could have conservation value. These sites should be avoided. As the presence and location of resources in the impact areas still need to be confirmed by a physical survey, at this level, the potential impacts will be assessed based on a worst-case scenario without mitigation measures in place to avoid direct impacts to heritage resources as outlined in Table 4.

Table 4. Potential heritage resources in the study area

	Places, buildings, structures and equipment of cultural significance
3(2)(a)	Description of resource: Religious sites and intangible sites related to specific places on the landscape
	Potential impact: Accidental impact to these features
	Places to which oral traditions are attached or which are associated with living heritage
3(2)(b)	Description of resource: Places associated with oral traditions and living heritage

		Potential impact: Degradation of indigenous knowledge systems, intrinsic cultural significance and alteration to the sense-of-place.
		Historical settlements and townscapes
	3(2)(c)	Description of resource: Built environment.
		Potential impact: Alteration to the cultural landscape and sense-of-place
		Landscapes and natural features of cultural significance
	3(2)(d)	Description of resource: Cultural landscapes.
		Potential impact: Degradation of indigenous knowledge systems, intrinsic cultural significance and alteration to the sense-of-place.
		Geological resources of scientific or cultural importance
х	3(2)(e)	Description of resource: The area is of low to moderate paleontological significance.
		Potential impact: Low
		Archaeology and/or paleontology (Including archaeological sites and material, fossils, rock art, battlefields & wrecks)
	3(2)(f)	Description of resource: Archaeological resources in the larger area include ceramic scatters and grinding stones.
		Potential impact: Damage to and/or destruction of non-renewable archaeological resources.
		Graves and burial grounds (e.g.: ancestral graves, graves of victims of conflict, historical graves & cemeteries)
	3(2)(g)	Description of resource: Burial sites.
		Potential impact: Damage to and/or destruction of burial grounds.
		Other human remains
	3(2)(a)	Description of resource: Unmarked graves.
		Potential impact: Unmarked graves can be accidentally exposed
		Sites of significance relating to the history of slavery in South Africa
	3(2)(h)	Description of resource: None
		Potential impact: None
		Movable objects
	3(2)(i)	Description of resource: None
		Potential impact: None

8. Recommendation

This NID notes that the greater study area is known to include heritage resources and although the study area has not been subjected to a HIA, similar resources can be expected in the immediate area surrounding the project. It should be noted that the focus areas of this study have been historically transformed to such an extent that any surface indicators of heritage resources would have been obliterated.

Although highly unlikely, to mitigate against accidental damage and destruction of heritage sites/features it is recommended that the following management actions should be included in the EMPR of the project as a condition of authorization.

- Any new developments or additional areas that have not been previously disturbed as indicated in this report should be subjected to an HIA;
- A Chance find procedure should be implemented for the duration of the project;

With the implementation of the mitigation measures proposed in this report as a condition of authorisation it is recommended that the Project can commence without a full HIA subject to approval from AMAFA.

9. References

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