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HERITAGE SCREENER

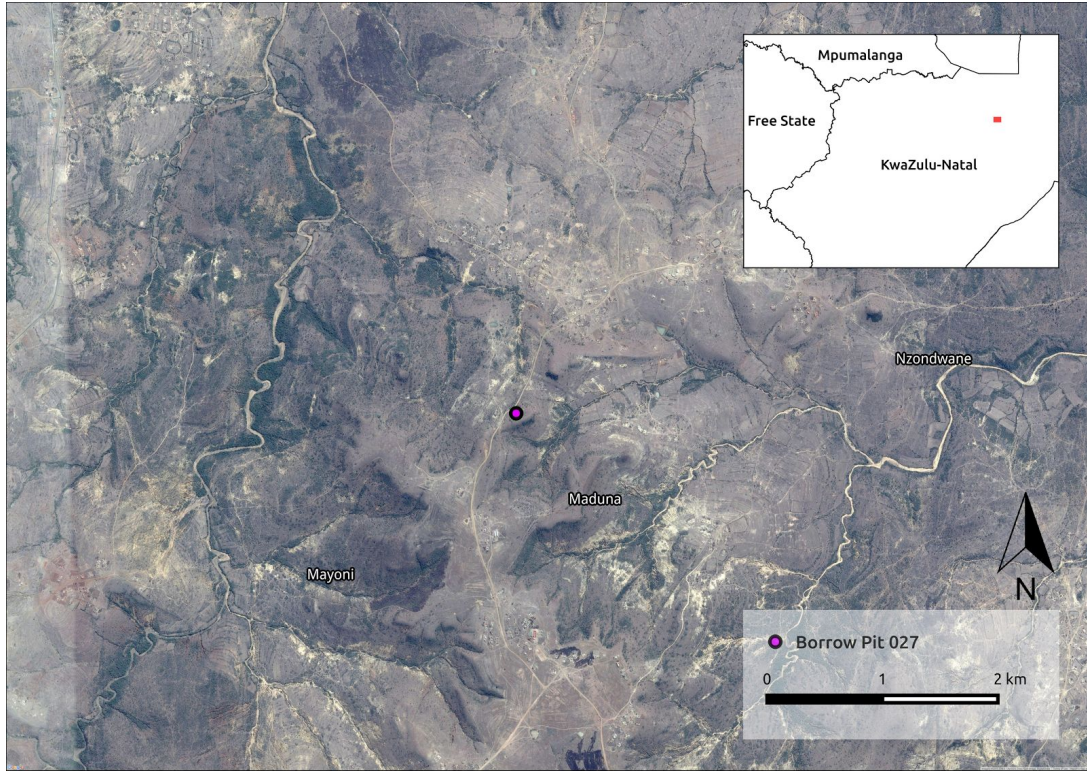
CTS Reference Number:	CTS15_021	
Client:	Green Door Environmental	
Date:	27 October 2015	
Title:	KwaZulu-Natal Nongoma Borrow Pit 27	
Recommendation by CTS Heritage Specialists: (Type 2)	<p>(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources. It is recommended that:</p> <ul style="list-style-type: none">- an Archaeological Impact Assessment should be conducted- a palaeo chance find procedure must be included in the EMP	

Figure 1a. Satellite image with proposed development area indicated in KwaZulu-Natal

1. Proposed Development Summary

Green Door Environmental is undertaking the Basic Assessment Process for the formalization and expansion of borrow pits in the Ulundi and Nongoma municipalities in KwaZulu-Natal on behalf of the Department of Transport. This Heritage Screener is assessing the possible impacts of one of these borrow pits (Borrow Pit 27).

2. Application References

Name of relevant heritage authority(s)	Amafa KwaZulu-Natal
Name of decision making authority(s)	Department of Mineral Resources (DMR)

3. Property Information

Locality and Tribal Authority	Road reserve along an arterial road not far east of the R56 in Maduna, Mandlakazi Tribal Authority
Local Municipality	Nongoma Municipality
District Municipality	Nongoma
Previous Magisterial District	Zululand
Province	KwaZulu-Natal
Current Use	Borrow pit
Current Zoning	Unzoned
Total Extent	1.3 ha

4. Nature of the Proposed Development

Surface area to be affected/destroyed	1.3 ha
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Depth of excavation (m)	Unknown
Height of development (m)	0
Expected years of operation before decommission	About 2 years

5. Category of Development

Triggers: Section 38(8) of the National Heritage Resources Act	X
Triggers: Section 38(1) of the National Heritage Resources Act	
1. Construction of a road , wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.	
2. Construction of a bridge or similar structure exceeding 50m in length.	
3. Any development or activity that will change the character of a site-	
a) exceeding 5 000m ² in extent	X
b) involving three or more existing erven or subdivisions thereof	
c) involving three or more erven or divisions thereof which have been consolidated within the past five years	
4. Rezoning of a site exceeding 10 000m ²	
5. Other (state):	

6. Additional Infrastructure Required for this Development

NA

7. Mapping

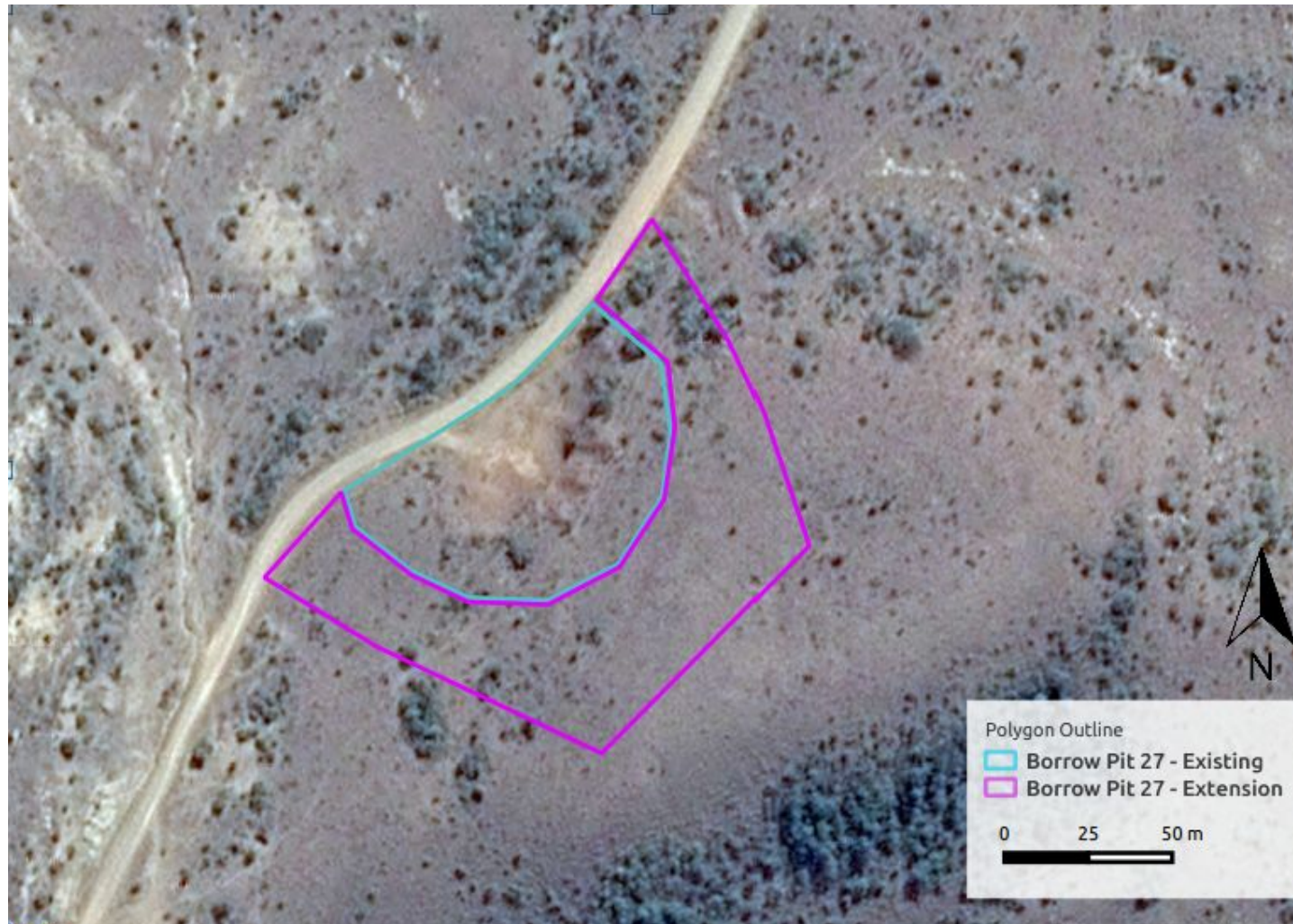


Figure 1b. Overview Map. Satellite image with proposed development indicated.

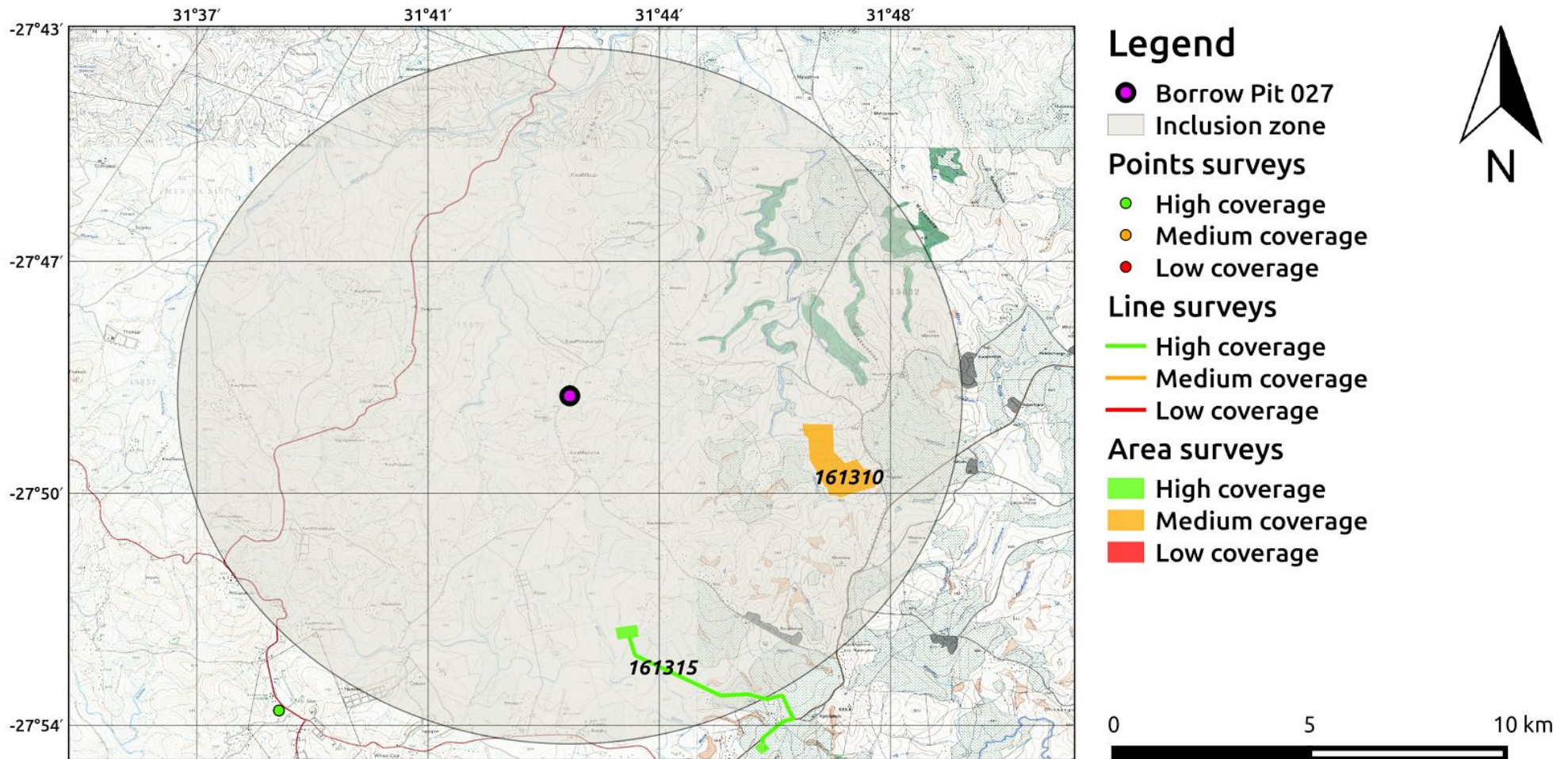


Figure 2a. HIAs Map. Previous Heritage Impact Assessments done in and near the proposed development (excluding PIAs), with SAHRIS NID labels indicated.



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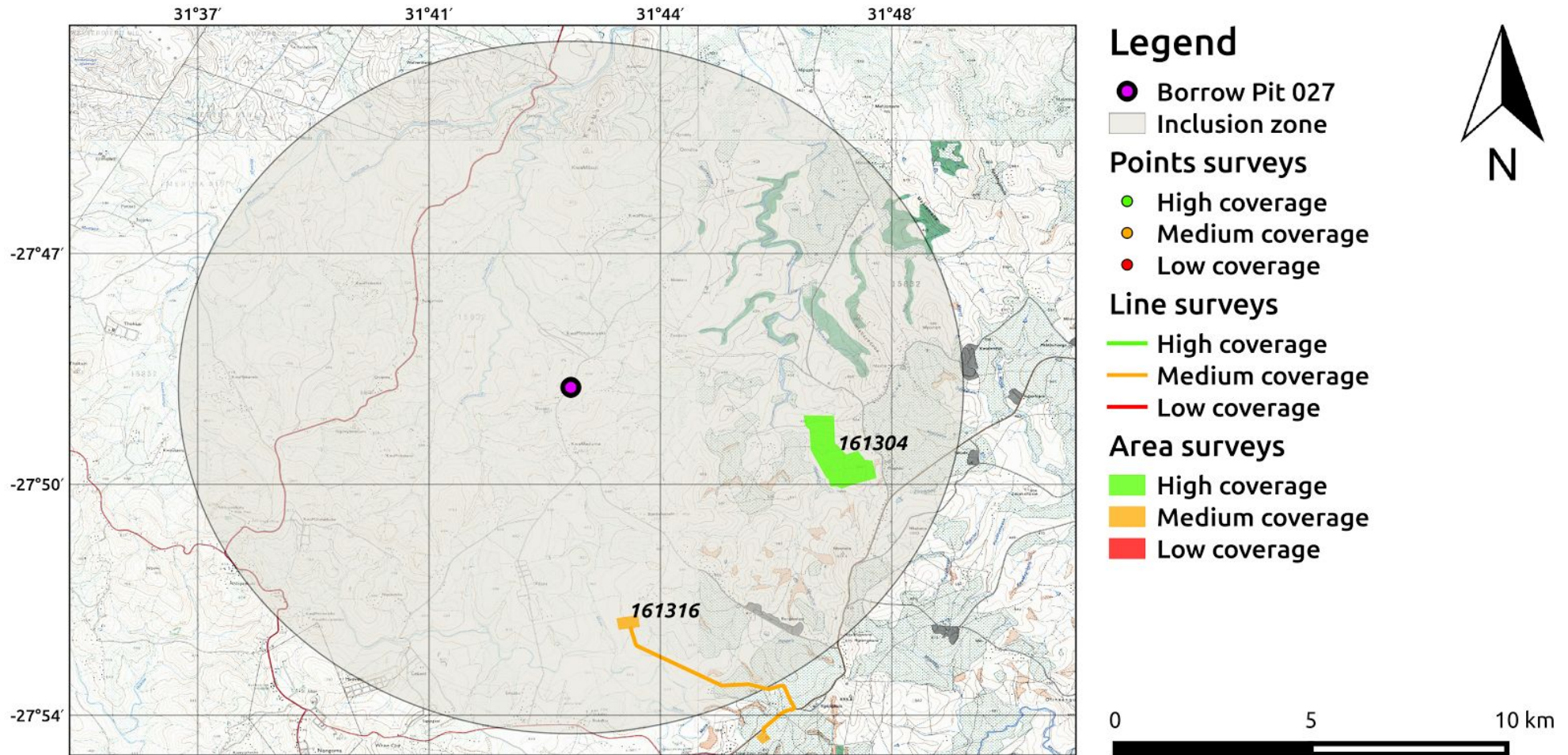
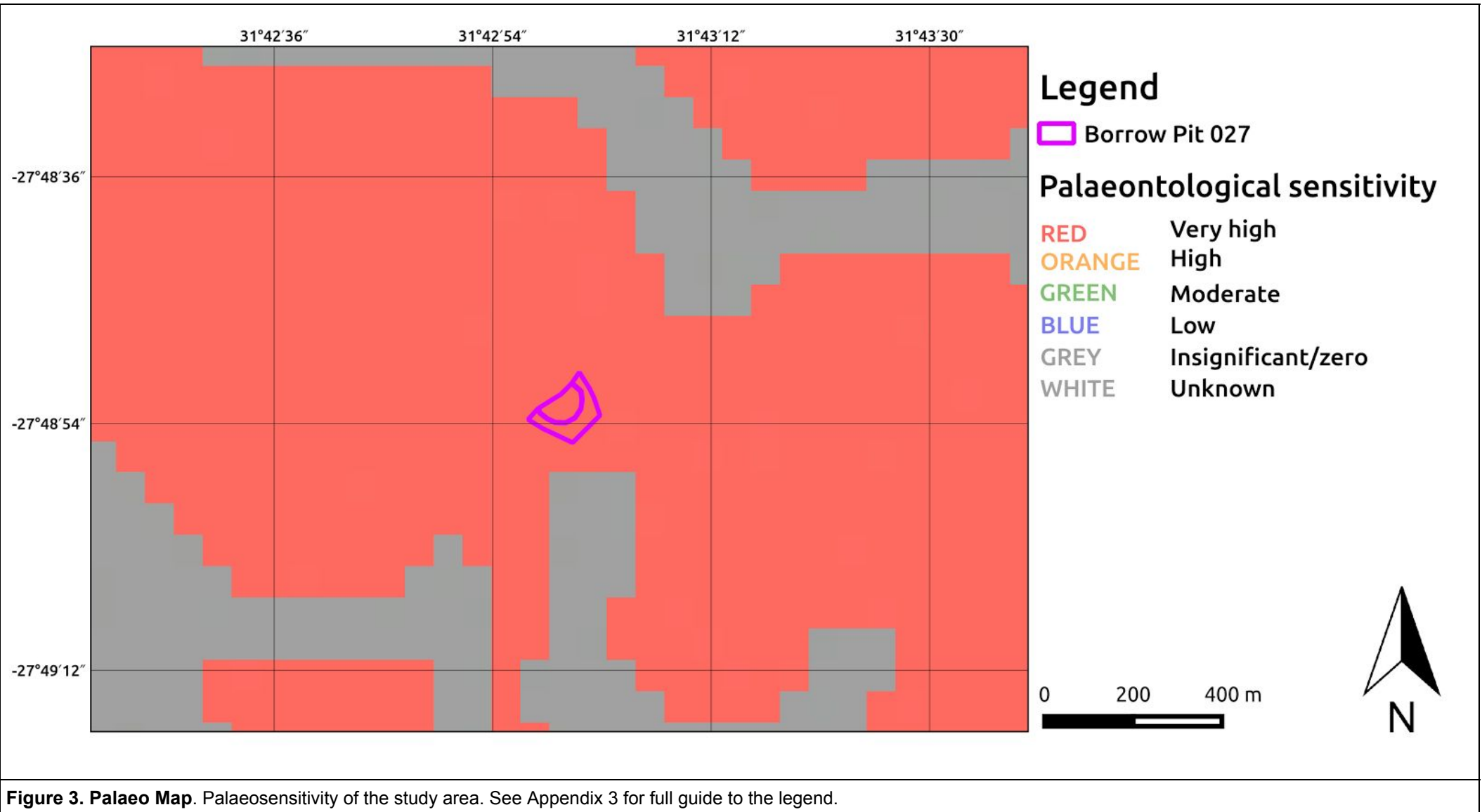


Figure 2b. PIAs Map. Previous Palaeontological Impact Assessments done in and near the proposed development, with SAHRIS NID labels indicated.

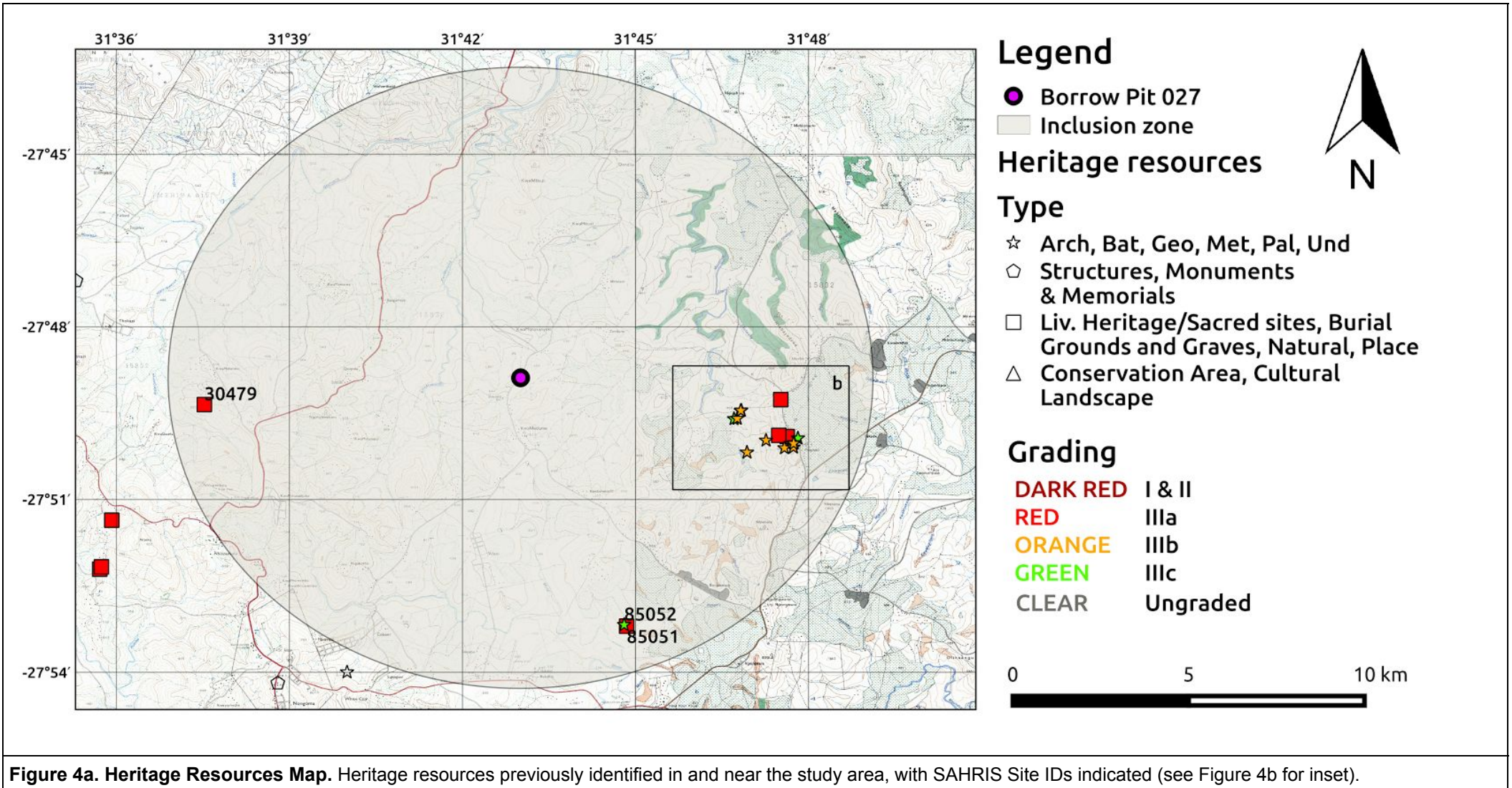


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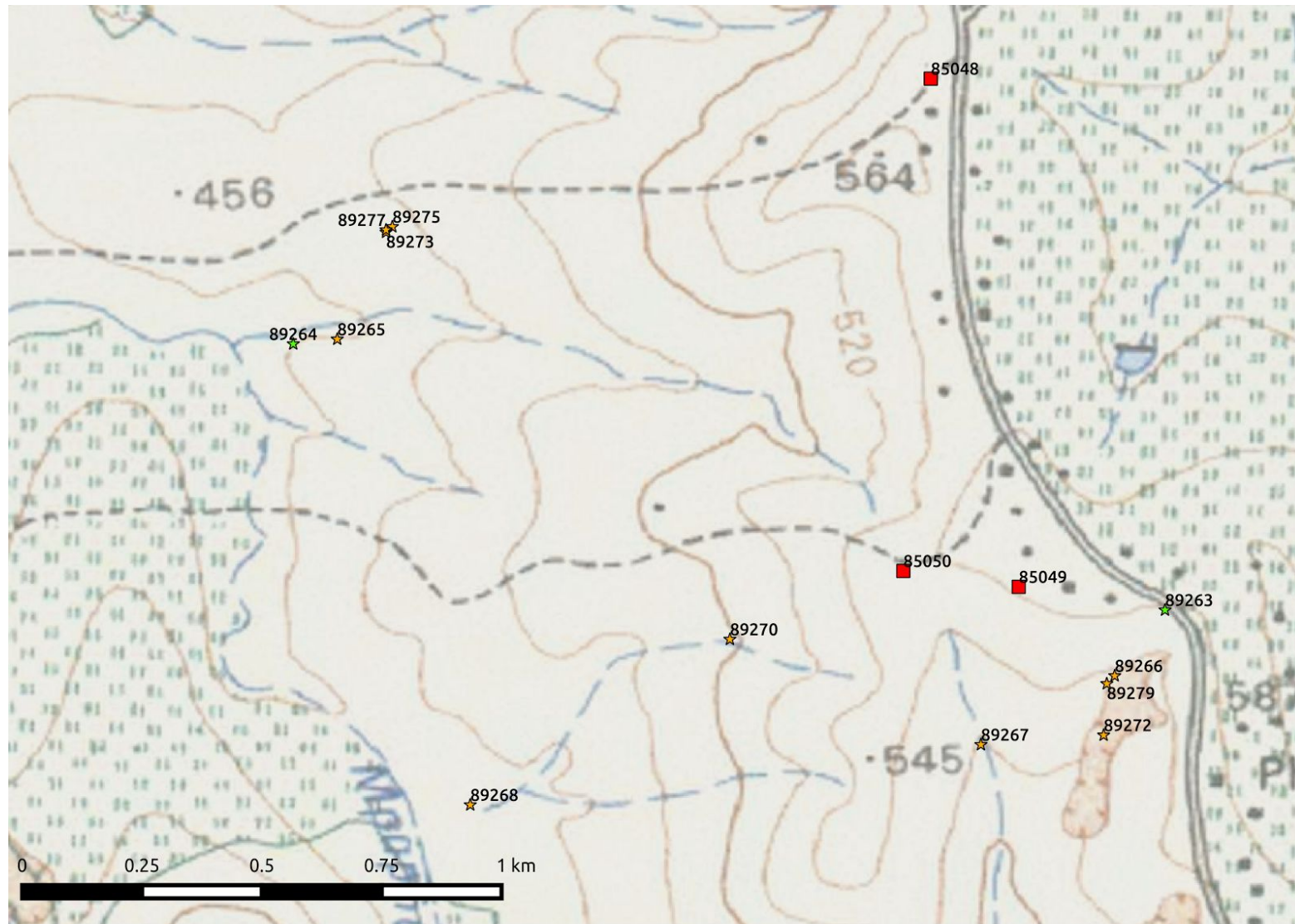


Figure 4b. Inset map.

8. Heritage statement and character of the area

This Heritage Screener is part of a set of 17 screeners for the expansion and formalisation of various borrow pits in the Ulundi and Nongoma municipalities in KwaZulu-Natal. We have therefore evaluated the 17 applications to justify where additional specialist studies are appropriate in light of Section 38 (3)(d):

“an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;”

The formalization and expansion of this borrow pit in Nongoma in KwaZulu-Natal is being assessed on behalf of the Department of Transport. The final size after expansion of the borrow pit will be approximately 1.3ha. The surrounding area is used for subsistence farming. An inclusion zone of 10km was set around the borrow pit in order to assess the surrounding heritage character of the area.

A total of 18 heritage resources have been previously identified in the area surrounding the borrow pit. Five of these are of high local significance, being burial grounds / grave sites. Twelve are palaeontological resources, and there is one possible Iron Age stone walling site. Two Heritage Impact Assessments have been undertaken for the proposed opencast mining at Msebe block and the proposed G-block underground mining (Phase I) at the Proposed Mbila Anthracite Mine in the Nongoma District (van Vollenhoven 2014). It is possible that additional Stone Age sites may be located in the area, as well as additional paleontological resources when excavating more extensively. There are a few small settlements close by which raise the possibility of finding unmarked and buried graves during construction. There is a moderate amount of vegetation and disturbance in the area, and the existing access road run directly past the borrow pit. Since most of the existing and proposed extension of the borrow pit are located on undisturbed land, **an Archaeological Impact Assessment is recommended**. It is expected that no structures are located in proximity to the borrow pit.

The area is underlain mostly by the Vryheid formation of very high fossil sensitivity. Two Palaeontological Impact Assessments (PIAs) have been undertaken in this area (Prevec 2014) which found that plant fossils are highly likely to be unearthed during any excavation in this area and formation. *“It is imperative that onsite monitoring by a trained ECO is conducted at any time bedrock is exposed”* (Prevec 2014). We therefore recommend that the ECO is fully briefed on the types of fossils that are likely to be found in this formation during excavations of the borrow pit and that **a palaeo chance find procedure must be included in the EMP**.



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APPENDIX 1 - Site List

Site ID	Site no	Full Site Name	Site Type	Grading
30479	UMLANDO-P52-3	----	Artefacts, Burial Grounds & Graves	Grade IIIa
85051	MBILA001	Mbila Underground Phase 1 Heritage Impact Assessment 001	Burial Grounds & Graves	Grade IIIa
85048	MSEBE001	Msebe Phase 1 Heritage Impact Assessment 001	Burial Grounds & Graves	Grade IIIa
85049	MSEBE002	Msebe Phase 1 Heritage Impact Assessment 002	Burial Grounds & Graves	Grade IIIa
85050	MSEBE003	Msebe Phase 1 Heritage Impact Assessment 003	Burial Grounds & Graves	Grade IIIa
89265	MSEBE006	Msebe Block Opencast Coal Mining 006	Palaeontological	Grade IIIb
89266	MSEBE007	Msebe Block Opencast Coal Mining 007	Palaeontological	Grade IIIb
89267	MSEBE008	Msebe Block Opencast Coal Mining 008	Palaeontological	Grade IIIb
89268	MSEBE009	Msebe Block Opencast Coal Mining 009	Palaeontological	Grade IIIb
89270	MSEBE010	Msebe Block Opencast Coal Mining 010	Palaeontological	Grade IIIb
89272	MSEBE011	Msebe Block Opencast Coal Mining 011	Palaeontological	Grade IIIb
89273	MSEBE012	Msebe Block Opencast Coal Mining 012	Palaeontological	Grade IIIb
89277	MSEBE014	Msebe Block Opencast Coal Mining 014	Palaeontological	Grade IIIb
89279	MSEBE015	Msebe Block Opencast Coal Mining 015	Palaeontological	Grade IIIb
89275	MSEBE013	Msebe Block Opencast Coal Mining 013	Palaeontological	Grade IIIb
85052	MBILA002	Mbila Underground Phase 1 Heritage Impact Assessment 002	Stone walling	Grade IIIc
89263	MSEBE004	Msebe Block Opencast Coal Mining 004	Palaeontological	Grade IIIc
89264	MSEBE005	Msebe Block Opencast Coal Mining 005	Palaeontological	Grade IIIc



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APPENDIX 2 - Reference List

Nid	Author/s	Date	Report Type	Title
161304	Rose Prevec	31/03/2014	PIA	Phase 1 Palaeontological Impact Assessment - Msebe Block Opencast Coal Mining (PHASE II of mining plan) (Nongoma, Zululand District, KwaZulu-Natal)
161310	Anton van Vollenhoven	19/02/2014	AIA	A report on a cultural Heritage Impact Assessment for the Proposed opencast mining at Msebe block, Nongoma District, KwaZulu-Natal Province
161315	Anton van Vollenhoven	19/02/2014	AIA	A report on a cultural Heritage Impact Assessment for the proposed G-block underground mining (Phase I) at the Proposed Mbila Anthracite Mine, Nongoma District, KwaZulu-Natal Province
161316	Rose Prevec	11/03/2014	PIA	Phase 1 Palaeontological Impact Assessment - Underground Mining at G-Block, Mbila Coal Mine (PHASE I MINING) (Nongoma, Zululand District, KwaZulu-Natal)



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APPENDIX 3 - Keys/Guides

Key/Guide to Acronyms

AIA	Archaeological Impact Assessment
DARD	Department of Agriculture and Rural Development (KwaZulu-Natal)
DEA	Department of Environmental Affairs
DEADP	Department of Environmental Affairs and Development Planning (Western Cape)
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism (Eastern Cape)
DEDECT	Department of Economic Development, Environment, Conservation and Tourism (North West)
DEDT	Department of Economic Development and Tourism (Mpumalanga)
DEDTEA	Department of Economic Development, Tourism and Environmental Affairs (Free State)
DENC	Department of Environment and Nature Conservation (Northern Cape)
DMR	Department of Mineral Resources
GDARD	Gauteng Department of Agriculture and Rural Development (Gauteng)
HIA	Heritage Impact Assessment
LEDET	Department of Economic Development, Environment and Tourism (Limpopo)
MPRDA	Mineral and Petroleum Resources Development Act, no 28 of 2002
NEMA	National Environmental Management Act, no 107 of 1998
NHRA	National Heritage Resources Act, no 25 of 1999
PIA	Palaeontological Impact Assessment
SAHRA	South African Heritage Resources Agency
SAHRIS	South African Heritage Resources Information System
VIA	Visual Impact Assessment

Full guide to Palaeosensitivity Map legend

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/PURPLE:	LOW - no palaeontological studies are required however a protocol for chance finds is required
GREY:	INSIGNIFICANT/ZERO - no palaeontological studies are required
WHITE/CLEAR:	UNKNOWN - these areas will require a minimum of a desktop study.

APPENDIX 4 - Methodology

The Heritage Screener summarises the heritage impact assessments and studies previously undertaken within the area of the proposed development and its surroundings. Heritage resources identified in these reports are assessed by our team during the screening process.

The heritage resources will be described both in terms of **type**:

- Group 1: Archaeological, Underwater, Palaeontological and Geological sites, Meteorites, and Battlefields
- Group 2: Structures, Monuments and Memorials
- Group 3: Burial Grounds and Graves, Living Heritage, Sacred and Natural sites
- Group 4: Cultural Landscapes, Conservation Areas and Scenic routes

and **significance** (Grade I, II, IIIa, b or c, ungraded), as determined by the author of the original heritage impact assessment report or by formal grading and/or protection by the heritage authorities.

Sites identified and mapped during research projects will also be considered.

DETERMINATION OF THE EXTENT OF THE INCLUSION ZONE TO BE TAKEN INTO CONSIDERATION

The extent of the inclusion zone to be considered for the Heritage Screener will be determined by CTS based on:

- the size of the development,
- the number and outcome of previous surveys existing in the area
- the potential cumulative impact of the application.

The inclusion zone will be considered as the region within a maximum distance of 50 km from the boundary of the proposed development.

DETERMINATION OF THE PALAEOLOGICAL SENSITIVITY

The possible impact of the proposed development on palaeontological resources is gauged by:

- reviewing the fossil sensitivity maps available on the South African Heritage Resources Information System (SAHRIS)
- considering the nature of the proposed development
- when available, taking information provided by the applicant related to the geological background of the area into account

DETERMINATION OF THE COVERAGE RATING ASCRIBED TO A REPORT POLYGON

Each report assessed for the compilation of the Heritage Screener is colour-coded according to the level of coverage accomplished. The extent of the surveyed coverage is



labeled in three categories, namely low, medium and high. In most instances the extent of the map corresponds to the extent of the development for which the specific report was undertaken.

Low coverage will be used for:

- desktop studies where no field assessment of the area was undertaken;
- reports where the sites are listed and described but no GPS coordinates were provided.
- older reports with GPS coordinates with low accuracy ratings;
- reports where the entire property was mapped, but only a small/limited area was surveyed.
- uploads on the National Inventory which are not properly mapped.

Medium coverage will be used for

- reports for which a field survey was undertaken but the area was not extensively covered. This may apply to instances where some impediments did not allow for full coverage such as thick vegetation, etc.
- reports for which the entire property was mapped, but only a specific area was surveyed thoroughly. This is differentiated from low ratings listed above when these surveys cover up to around 50% of the property.

High coverage will be used for

- reports where the area highlighted in the map was extensively surveyed as shown by the GPS track coordinates. This category will also apply to permit reports.

RECOMMENDATION GUIDE

The Heritage Screener includes a set of recommendations to the applicant based on whether an impact on heritage resources is anticipated. One of three possible recommendations is formulated:

(1) The heritage resources in the area proposed for development are sufficiently recorded - The surveys undertaken in the area adequately captured the heritage resources. There are no known sites which require mitigation or management plans. No further heritage work is recommended for the proposed development.

This recommendation is made when:

- enough work has been undertaken in the area
- it is the professional opinion of CTS that the area has already been assessed adequately from a heritage perspective for the type of development proposed

(2) The heritage resources and the area proposed for development are only partially recorded - The surveys undertaken in the area have not adequately captured the heritage resources and/or there are sites which require mitigation or management plans. Further specific heritage work is recommended for the proposed development.



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This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:

- improvement on some components of the heritage assessments already undertaken, for instance with a renewed field survey and/or with a specific specialist for the type of heritage resources expected in the area
- compilation of a report for a component of a heritage impact assessment not already undertaken in the area
- undertaking mitigation measures requested in previous assessments/records of decision.

(3) The heritage resources within the area proposed for the development have not been adequately surveyed yet - Few or no surveys have been undertaken in the area proposed for development. A full Heritage Impact Assessment with a detailed field component is recommended for the proposed development.

Note:

The responsibility for generating a response detailing the requirements for the development lies with the heritage authority. However, since the methodology utilised for the compilation of the Heritage Screeners is thorough and consistent, contradictory outcomes to the recommendations made by CTS should rarely occur. Should a discrepancy arise, CTS will immediately take up the matter with the heritage authority to clarify the dispute.

The compilation of the Heritage Screener will not include any field assessment. The Heritage Screener will be submitted to the applicant within 24 hours from receipt of full payment. **If the 24-hour deadline is not met by CTS, the applicant will be refunded in full.**