CTS HERITAGE

HERITAGE SCREENER

CTS Reference Number:	**CTS20_056**
Applicant:	**Saxon Heavy Minerals (Pty) Ltd**
SAHRIS Ref:	**15003**
Date:	**June 2020**
Title:	**THE PROPOSED PROSPECTING RIGHT FOR THE PROSPECTING OF HEAVY MINERALS SANDS AND RARE EARTH ELEMENTS NEAR KLEINZEE ON A PORTION ON THE REMAINING EXTENT OF PORTION 5 OF THE FARM KAMAGGAS 200, REGISTRATION DIVISION: IP, NORTHERN CAPE PROVINCE**

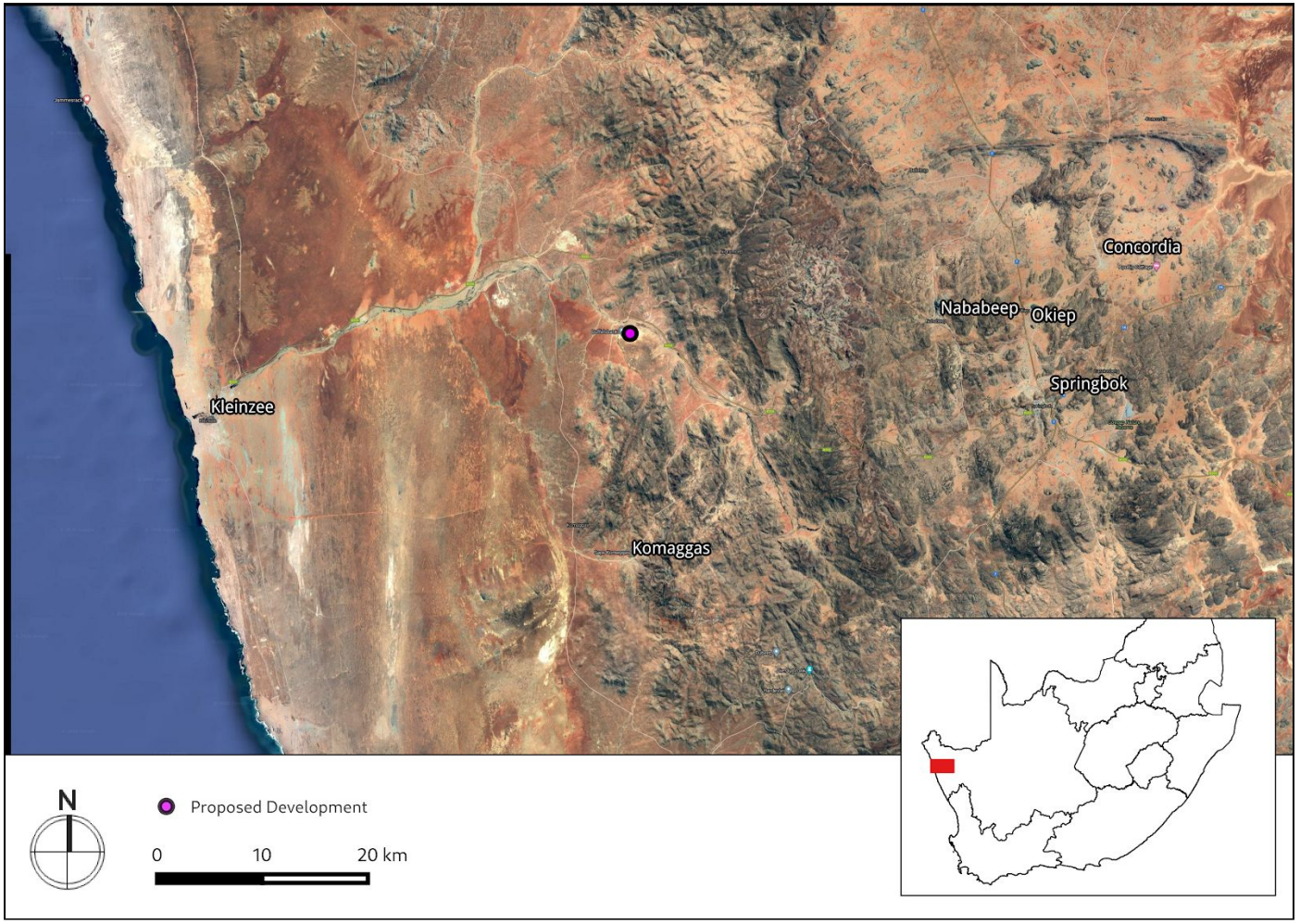

Figure 1a. Satellite map indicating the location of the proposed development in the Northern Cape Province

Recommendation by CTS Heritage Specialists	**RECOMMENDATION:** **Based on the available information, *and the fact that the majority of the site is an existing mine*, it is unlikely that the proposed prospecting will impact significant heritage resources and as such, it is recommended that no further heritage studies are required in terms of section 38 of the NHRA.**

CTS Heritage
16 Edison Way, Century City, 7441
Tel: +27 (0)87 073 5739 **Email:** info@ctsheritage.com **Web:** www.ctsheritage.com

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1. Proposed Development Summary

This application is for the proposed prospecting right for the prospecting of Heavy Minerals Sands and Rare Earth Elements near Kleinzee on A portion on the remaining extent of portion 5 of the farm Kamaggas 200, Registration Division: IP, Northern Cape Province. The property is situated approximately 50km West of Springbok, along the R355 towards Kleinzee and in the Buffels River valley. Existing roads and tracks already traverse the proposed mining site and where practicable, these roads will be used. Access will be obtained from a road off the R355. Drilling will either be conducted by a truck-mounted RC drill rig or by a hand-held engine-powered auger drill. Approximately 75 RC drill holes are anticipated to be drilled to a maximum depth of approximately 40m each. The RC drill uses compressed air that raises the drilled material to the surface for sampling purposes. The hand-held auger has a 30cm core barrel at the end of the drill rods that catches the sediment as is progress in a batch approach. The prospecting right is required for a period of two years (24 months). Drilling is proposed to take place in two 1-month periods separated by an analysis phase. The first phase of drilling will require the drilling of approximately 75 drill holes, followed by a second round of infill drilling. It is anticipated that the drill rig will require between two and three hours to complete drilling activities on each drill site. Note that only one of each drill type (auger and one reverse circulation) will be on site at any one time. No bulk sampling will be conducted as the drilling provides sufficient samples for the test work required for heavy minerals chemical and metallurgical analyses.

2. Application References

Name of relevant heritage authority(s)	SAHRA
Name of decision making authority(s)	DMR

3. Property Information

Latitude / Longitude	29°36'15.80"S 17°29'8.33"E
Erf number / Farm number	Farm Kamaggas 200
Local Municipality	Nama Khoi
District Municipality	Namakwa
Previous Magisterial District	Namakwaland
Province	Northern Cape
Current Use	Agriculture
Current Zoning	Agriculture
Total Extent of Property	459.38ha

4. Nature of the Proposed Development

Total Surface Area of development	0.44375 Ha (combined footprint of disturbance over whole prospecting area for 125 boreholes)
Depth of excavation (m)	15m drill holes
Height of development (m)	4m high drill machine (not permanent)

5. Category of Development

x	**Triggers: Section 38(8) of the National Heritage Resources Act**
	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-
x	a) exceeding 5 000m^2 in extent
	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

A truck-mounted RC drill rig or a hand-held engine-powered auger drill and 4x4 “bakkie”

7. Mapping (please see Appendix 3 and 4 for a full description of our methodology and map legends)

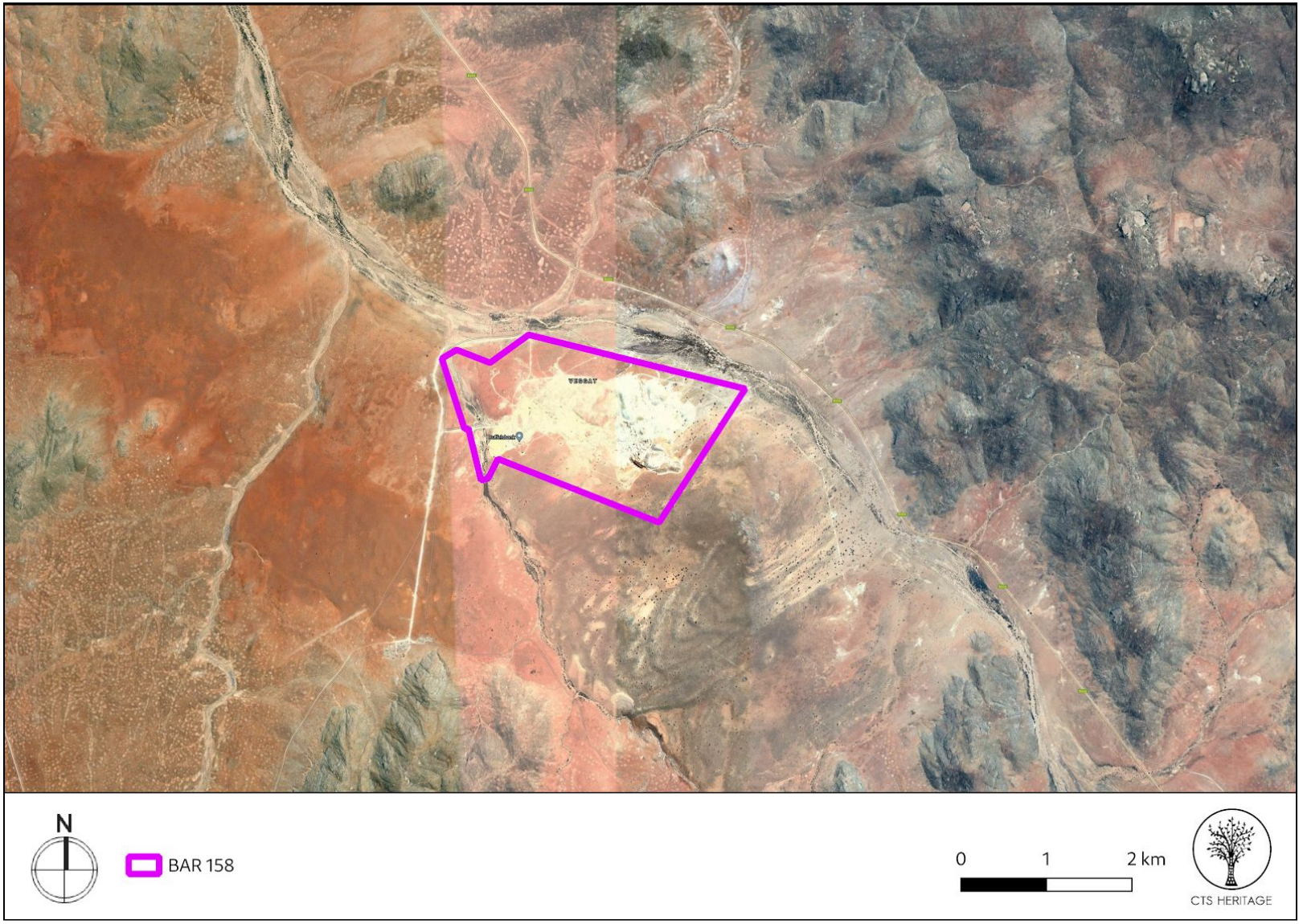

Figure 1b Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

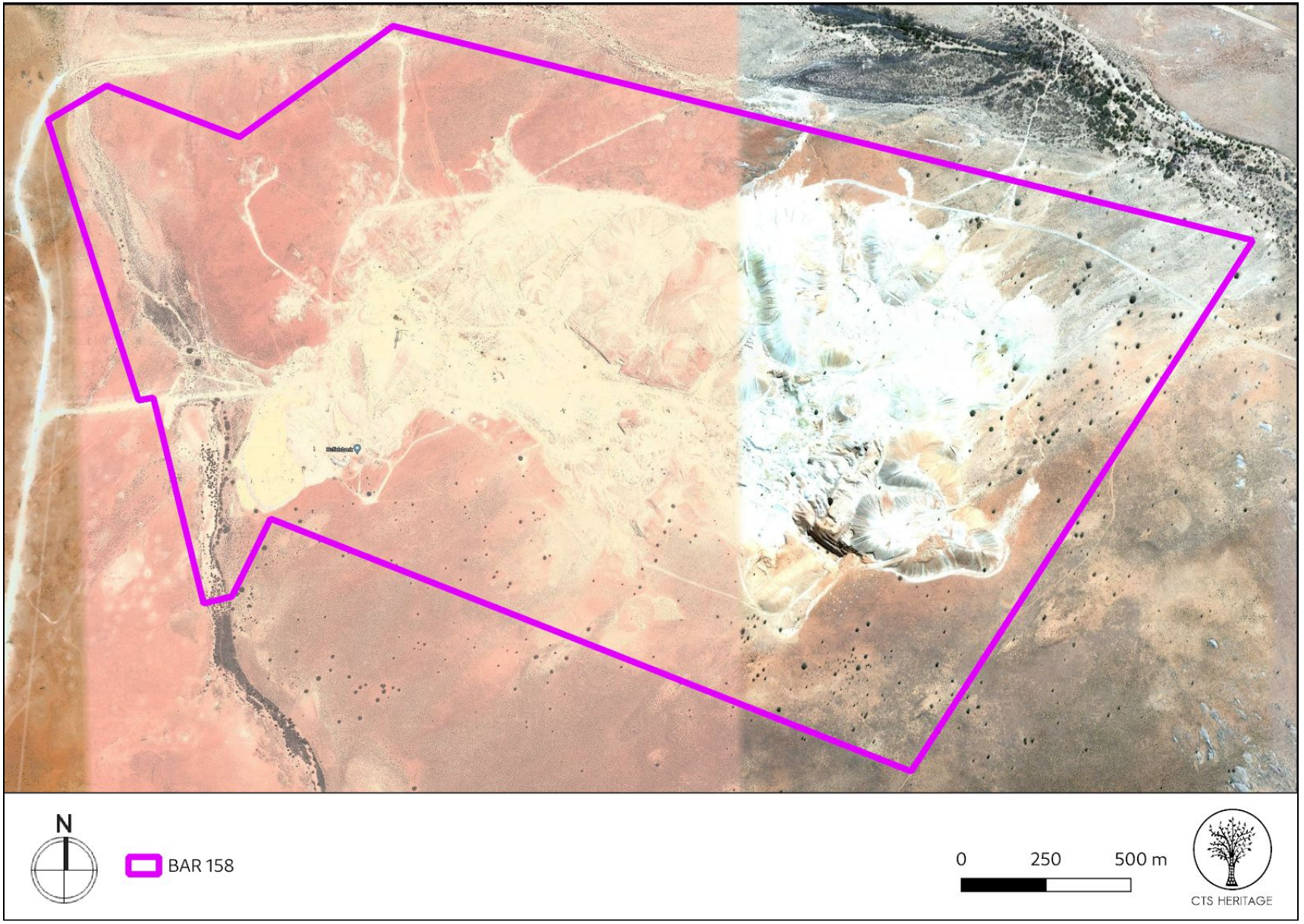

Figure 1c. Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

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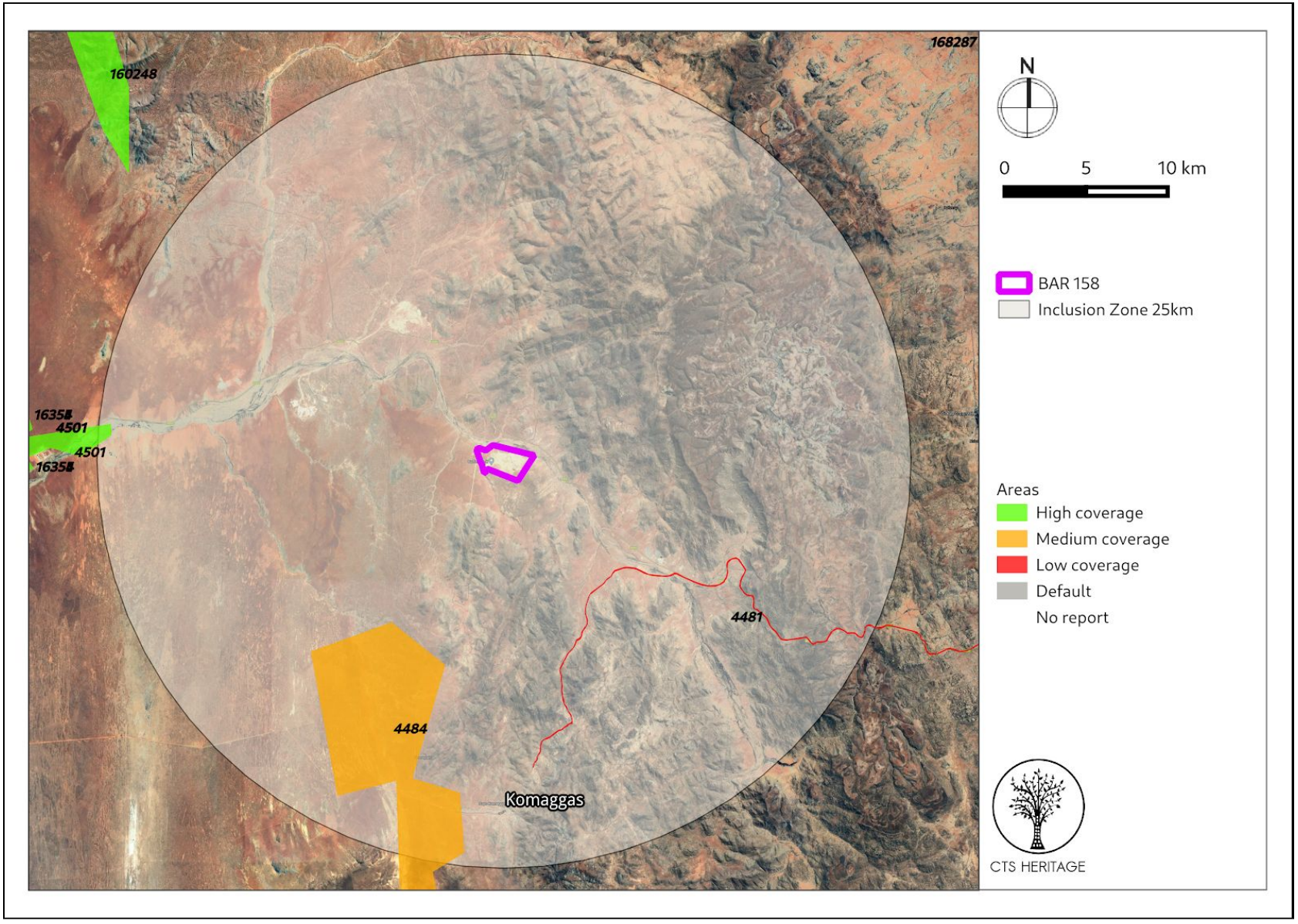

Figure 2a. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 25km, with SAHRIS NIDS indicated. Please see Appendix 2 for full reference list.

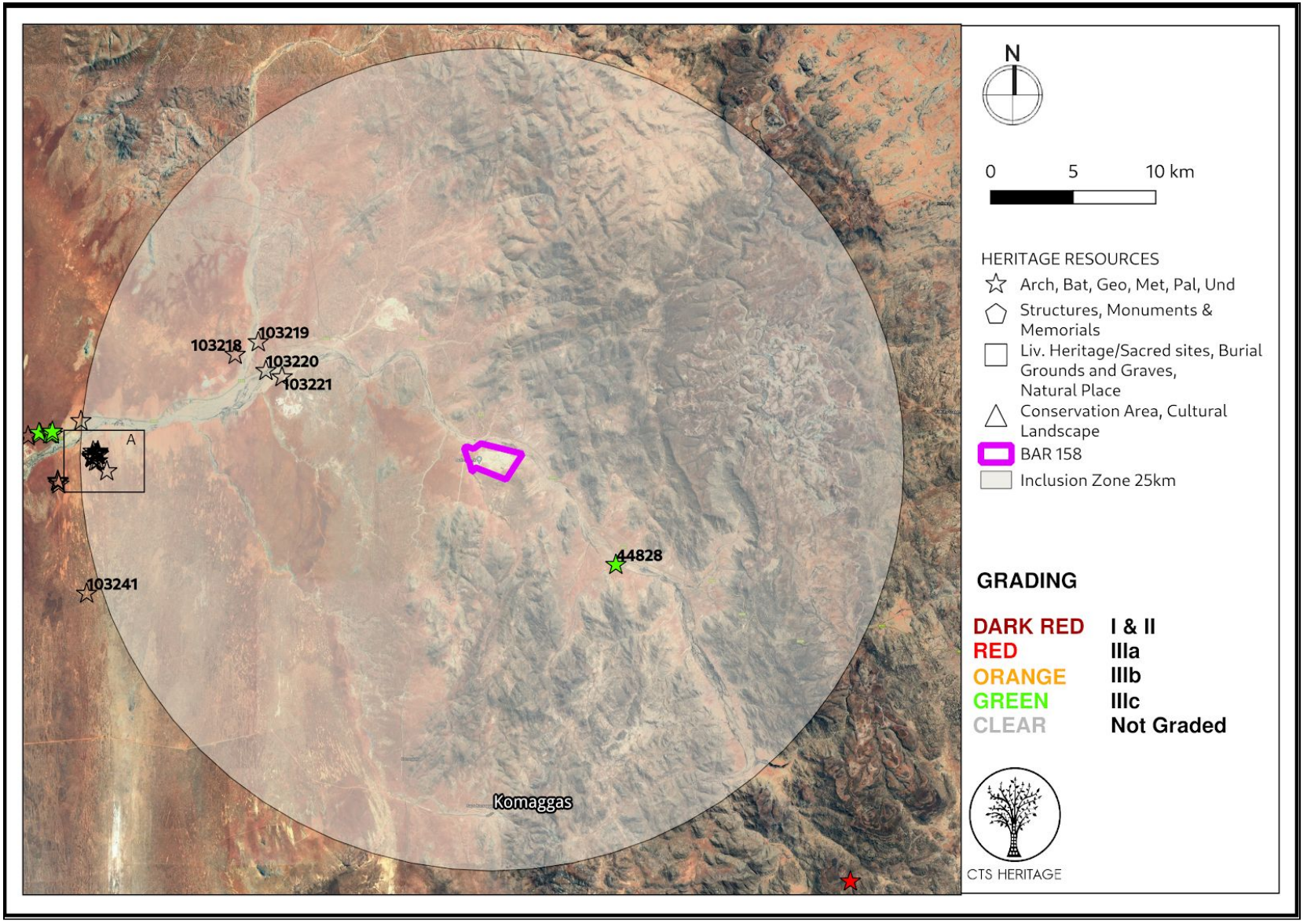

Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

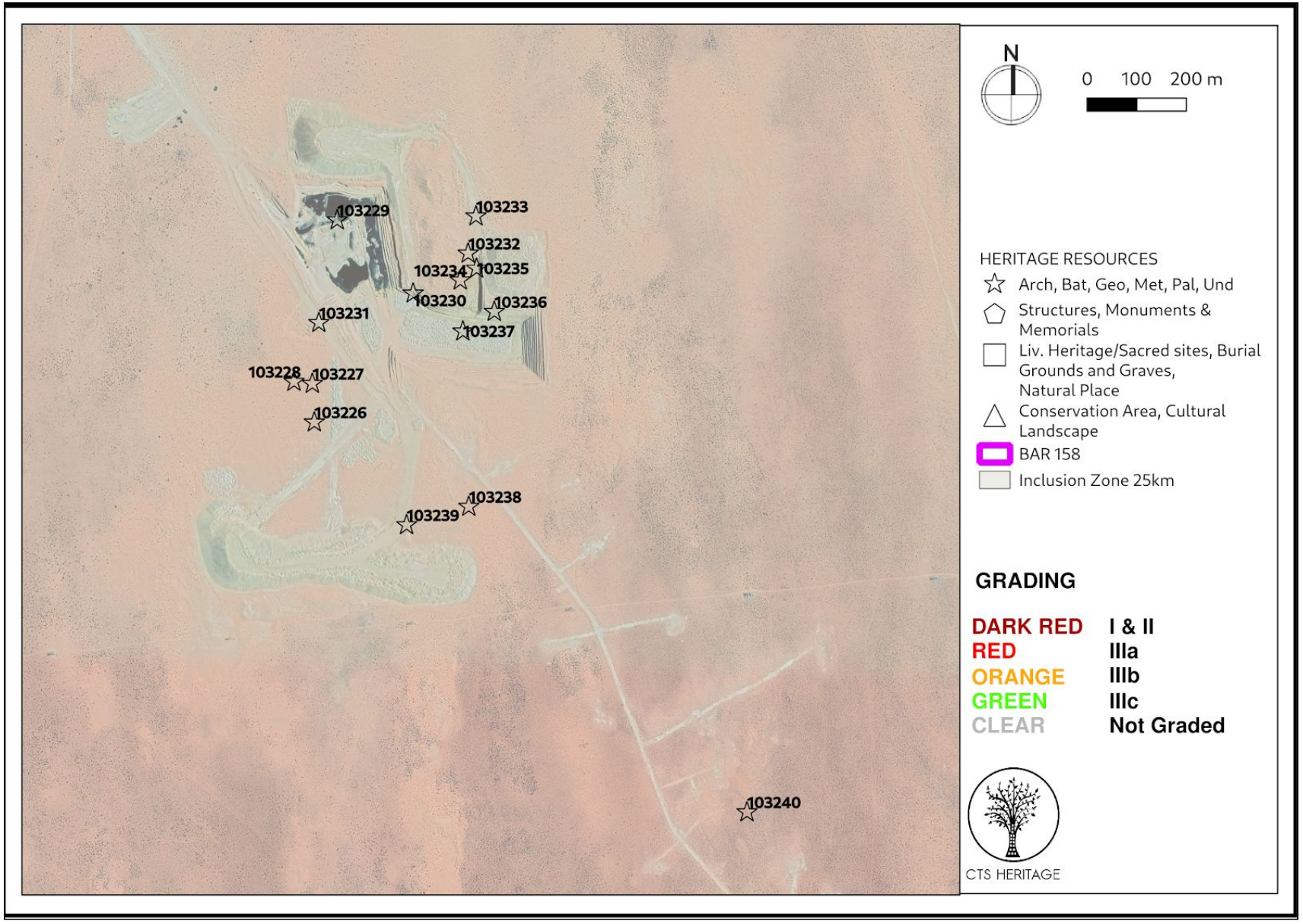

Figure 3a. Heritage Resources Map. Heritage Resources Inset A

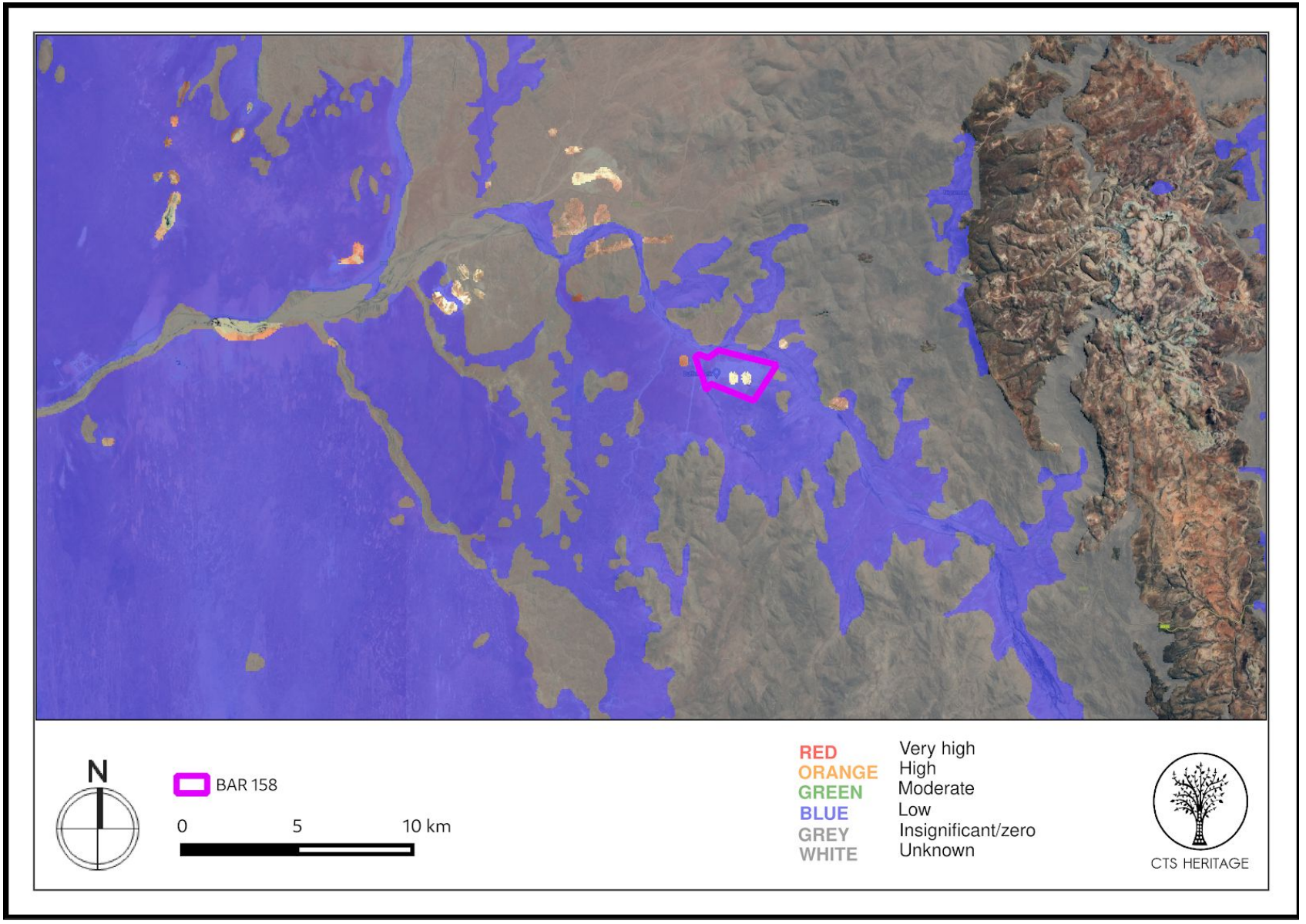

Figure 4. Palaeosensitivity Map. Indicating Low fossil sensitivity underlying the study area. Please See Appendix 3 for full guide to the legend.

8. Heritage statement and character of the area

This application is for proposed prospecting on an ***existing disturbed mine area*** located near to Kleinsee. Kleinsee was established as a small mining town in 1927. According to legend, a teacher by the name of De Villiers from the local farm school had built a new school and was looking for lime deposits with which to whitewash the walls. In his search, accompanied by a builder called Alberts, he kicked at a mound in the veld. This dislodged a diamond which was recorded as the first alluvial diamond found in this area. The resultant diamond rush opened up the Kleinsee 'crater', reminiscent of the 'Big Hole' at Kimberley and subsequently, this area became known as the Diamond Coast.

As a result of mining applications in the area, much is known about the archaeology of the region which is dominated by Early, Middle and Later Stone Age artefact scatters. According to Orton and Webley (2012), “the archaeology of the coastal strip is generally well-understood as a result of the extensive survey and mitigation work carried out there. High quality data have been extracted from these sites, but further inland, very little work has been carried out”. In the immediate context of Kleinsee, Halkett et al (1997 SAHRIS ID 4496) conducted an impact assessment for proposed upgrades to the Kleinsee Golf Course. Halkett et al. identified three Later Stone Age shell midden archaeological sites and in the report, it was noted that none of the three sites contains assemblages which are considered worthy of further study. Just east of Kleinsee, a collection of Early Stone Age artefact sites was noted by De Beers mining staff in 2001. The artefacts were determined to be deflating from the soil vestiges onto the more resistant hardpan deposits below and were therefore no longer *in situ* (Halkett et al. 2002 SAHRIS NID 4482). These artefacts were collected and contribute to the record of archaeological resources from this area. In addition, a number of archaeological sites located to the north east of the proposed mine have been recorded by Orton (2016) on SAHRIS, however no information is available regarding the nature or significance of these archaeological resources (Figure 3b). Orton and Webley (2012, SAHRIS NID 16354) conducted a Heritage Impact Assessment for a proposed Wind Energy Facility located more than 25km from the proposed mining area. According to Orton and Webley (2012), “The survey revealed a large number of archaeological sites including deflated ESA and MSA artefact scatters (one with bone), LSA shell scatters and in situ shell middens, formal graveyards, and old structures. In some areas vast quantities of archaeological material was found to occur and such areas can be considered archaeological cultural landscapes. The local landscape itself also has value... Particularly significant archaeological finds were an ESA/MSA scatter with fossil bones preserved and a massive area of small shell scatters and middens in close proximity to the Buffels River near the point where fresh water was permanently available during historic (and presumably also pre- colonial) times. The ESA material included predominantly flakes, cores and hand-axes but one cleaver was also found. MSA artefacts included flakes and cores and one bifacial point that may well be from the Still Bay period. LSA material included decorated pottery, retouched stone scrapers and in situ occurrences with generally higher research value.” Based on what is known of the area, the archaeological context of the broader landscape is very significant. However, the area assessed in this application has been previously mined and as such, has been extensively disturbed for more than 20 years. As such, its is unlikely that any significant archaeological occurrences remain undisturbed within this area and as such, it is unlikely that the proposed prospecting activities will impact significant archaeological heritage resources.

According to the SAHRIS Palaeosensitivity Map, the area proposed for development is underlain by scree/talus/alluvium grading into piedmont gravel of low palaeontological sensitivity. Pether (2011, SAHRIS NID 16355) conducted a PIA for a proposed development located approximately 25km away from the proposed mine. SImilar geology is present at this site. Pether (2011) noted that terrestrial deposits blanket the area. He goes on to note that “These deposits comprise the loose, surficial coversands and the underlying, older, “dorbank” compact, clayey deposits that also are chiefly aeolian sands, with the soils and pedocretes that have formed in them. Fossil bones are sparsely distributed on the palaeosurfaces within these deposits, but are locally abundant in contexts such as interdune deposits, carnivore bone accumulations in burrows and buried Stone Age sites. Trace fossils are ubiquitous and important palaeoenvironmental indicators. The significance rating is low for fossil potential as a consequence of the low probability of finding fossils in the terrestrial deposits. Further observations in the surrounding area (John Pether) indicate that the deposits are altered by pedogenic processes involving decalcification and the precipitation of pedocrete. Fossil shells are not preserved and fossil bone is very sparse. Given the low palaeontological potential, it is improbable that fossil bones will be encountered and no additional palaeontological study is recommended.

RECOMMENDATION:
Based on the available information, *and the fact that the majority of the site is an existing mine,* it is unlikely that the proposed prospecting will impact significant heritage resources and as such, it is recommended that no further heritage studies are required in terms of section 38 of the NHRA.

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APPENDIX 1

List of heritage resources within the 25km Inclusion Zone from SAHRIS

Site ID	Site no	Full Site Name	Site Type	Grading
103238	MV2007/012	Mannel's Vley	Archaeological	
103239	MV2007/013	Mannel's Vley	Archaeological	
103240	MV2007/014	Mannel's Vley	Archaeological	
44828	DR2955/SPRING-KOM 01	Road DR2955 between Springbok & Komaggas 01	Artefacts	Grade IIIc
103218	STR2004/001	Stryd Rivier	Archaeological	
103219	STR2004/002	Stryd Rivier	Archaeological	
103220	STR2004/003	Stryd Rivier	Archaeological	
103221	STR2004/004	Stryd Rivier	Archaeological	
103226	MV2007/001	Mannel's Vley	Archaeological	
103227	MV2007/002	Mannel's Vley	Archaeological	
103228	MV2007/003	Mannel's Vley	Archaeological	
103229	MV2007/004	Mannel's Vley	Archaeological	
103230	MV2007/005	Mannel's Vley	Archaeological	
103231	MV2007/006	Mannel's Vley	Archaeological	
103232	MV2007/007	Mannel's Vley	Archaeological	
103233	MV2007/008	Mannel's Vley	Archaeological	
103234	MV2007/009west	Mannel's Vley	Archaeological	
103235	MV2007/009east	Mannel's Vley	Archaeological	
103236	MV2007/010	Mannel's Vley	Archaeological	
103237	MV2007/011	Mannel's Vley	Archaeological	
103241	MV2007/015	Mannel's Vley	Archaeological	

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Reference List from SAHRIS

HIAs				
SAHRIS NIDs	**Report Type**	**Author**	**Date**	**Title**
4481	AIA Phase 1	Cobus Dreyer	11/11/2002	Archaeological Assessment of the Proposed Upgrading of the Road (Dr2955) between Springbok and Komaggas, Northern Cape
4484	AIA Phase 1	Hilary Deacon	22/04/2004	Specialist Report Heritage Impact Assessment Kornavlei Prospecting, near Komaggas, Northern Cape
4501	AIA Phase 1	Jayson Orton, Dave Halkett	01/05/2007	Archaeological Impact Assessment of New Mining Areas Along the Buffels River, Namaqualand, Namakwaland Magisterial District, Northern Cape
16355	PIA Desktop	John Pether	22/09/2011	Palaeontological Impact Assessment (Desktop Study) Proposed Wind Energy Facility on Three Project Areas on the Namaqualand Coast, Northern Cape, Including Project Blue Wind Energy Facility, North of Kleinsee
16354	HIA Phase 1	Jayson Orton, Lita Webley	30/05/2012	Heritage Impact Assessment for the Proposed Project Blue Wind Energy Facility, Kleinzee, Namakwa Magisterial District, Northern Cape
160248	Heritage Study	Chrispen Chauke, Vhalinavho Khavhagali	26/03/2014	HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED FOR GROMIS ORANJEMUND RECONDUCTORING Namaqualand Region, Richtersveld Local Municipality, Northern Cape

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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 (National)
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 (National)
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.

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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 PALAEONTOLOGICAL 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.

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.**