

APPLICATION FORM

NOTIFICATION FOR INTENT TO DEVELOP (NID)

Section 38(1) and Section 38(8)

Completion of this form is required by Heritage Western Cape for the initiation of all impact assessment processes under Section 38 (1) & (8) of the National Heritage Resources Act (NHRA).

As per Section 38(1)(e) of the NHRA, submission of the NID must be initiated at the earliest stage of development. Should the development trigger any other legislation, practitioners may submit the NID without formal submission to other statutory bodies in order to comply with the NHRA.

This form is to be read in conjunction with the HWC Notification of Intent to Develop, Heritage Impact Assessment, (Pre-Application), Basic Assessment Reports, Scoping Reports and Environmental Impact Assessments.

All sections of the form must be completed in order to deem the application to be complete.

Making an incorrect statement or providing incorrect information may result in all or part of the application having to be reconsidered by HWC in the future, or submission of a new application.

HERITAGE WESTERN CAPE REFERENCE NO., AS PROVIDED DURING SCRUTINY:

SECTION A

APPLICATION MADE IN TERMS OF:

- Section 38(1) of the NHRA (This development will not require a NEMA application)
- Section 38(8) of the NHRA (This development requires an application with another authority)
- Amendment of approved Site Development Plan (SDP) for endorsement. Endorsements are only reviewed upon submission of an assessment by the heritage practitioner confirming heritage design indicators as approved are not compromised by the revision
- Advice in terms of Section 38(1)

APPLICABILITY OF OTHER LEGISLATION:

Specify the authorised department that makes the final decision in terms of NEMA (National Environmental Act.), i.e. Department of Mineral Resources, Department of Environmental Affairs and Development Planning Western Cape, Department of Forestry, Fisheries and Environment etc.: MPRDA

Reference number of authority / government department: _____

Present phase at which the process with that authority stands: _____

PREVIOUS HWC APPLICATIONS APPLICABLE TO THE SITE AND OR DEVELOPMENT

Provide details of any previous applications submitted to HWC on the site.

HWC Reference No.	NHRA Section	Summary of Proposal	Application Status (Approved, Not Approved, Pending)	Permit / Record of Decision Date

SECTION B

DETAILS OF SITE, PROPERTY OR PLACE

Physical address or Location (e.g., of the R44): 25km North of Papendorp

Erf or Farm Name and No. (including the name of the site): PORTIONS 1, 2, 3 & RE/153 OF THE FARM KLIPVLEY KAROO KOP 153

Coordinates for logical center point (WGS84): 31°26'46.00"S 18° 0'6.32"E

Town: Papendorp District / Municipality: Matzikama

Property Extent: 3 634.92ha Current land Use: Vacant

Current zoning: Agriculture

Predominant land uses of surrounding properties: Mining and agriculture

SECTION C

APPLICANT / AUTHORISED AGENT – Details of person to receive Record of Decision

Name: _____

Company: _____

Address and postal code: _____

Cellular phone number: _____

E-mail: _____

Signature: _____ Date: _____

REGISTERED OWNER OF PROPERTY

Name: _____

Identity number of applicant: _____

Address and postal code: _____

Cellular phone number: _____

E-mail: _____

Declaration: I, _____ am fully aware of this application and accept its contents and declare that I intend to undertake the actions as proposed in this application.

Signature: _____ Date: _____

SECTION D

DETAIL OF PROPOSED DEVELOPMENT

Provide a full description of the nature and extent of the proposed development.

PROPOSED PROSPECTING ON PORTIONS 1, 2, 3 & RE/153 OF THE FARM KLIPVLEY KAROO KOP 153

MATZIKAMA MUNICIPALITY, VREDENDAL DISTRICT, WESTERN CAPE PROVINCE

The existence and possible size of heavy mineral deposits in the application area will be determined as follows:

- Data review and desktop studies
- Mapping and surface sampling
- Reconnaissance Drilling

The prospecting will be conducted in 3 phases, each one dependent on the results of the previous.

- Phase 1 will involve the following desk-top activities: data acquisition from government and private sources, and analysis of any existing/previous prospecting and drilling data, satellite (Landsat) imagery, aerial photos, and terrain data, as well as geological map interpretation. The synthesis and interpretation of such information will contribute towards providing a clearer picture of the location and characteristics of the heavy mineral deposit/s, and will guide the in-field prospecting programme.
- Phase 2: Surface mapping will be conducted by the project geologist and assistants, and will take place over a period of 3 months. Such mapping will encompass GPS controlled traverses, and aerial photo mapping. Surface sampling. Where heavy mineral concentrations are noted on surface 25 liter surface samples will be collected manually with a shovel and plastic sampling bag for concentration and laboratory analysis to determine the type of minerals present and the tenor of mineralization. Each pit will be 50cm x 50cm in size and dug to a maximum depth of 1m. The final number of samples will be determined by the size of surface mineralized areas if any, 200 samples are planned for initially. Each sample locality will be backfilled and fully rehabilitated concurrently with sampling.
- Phase 3 will involve surveying and pegging of the anticipated deposit. This sub-phase will include the following activities: Surveying of the mapped area to be prospected. A grid (average 500m x 500m) will be marked on the map, after which those positions will be marked in the field by a surveyor with labelled droppers (pegs). Shallow small diameter auger drilling will take place at these positions to an average depth of 4m. A total of 100 auger drill holes are planned initially and may be followed up with additional drilling. Access routes to the drill sites will also be located (existing roads will used and new tracks only permitted in exceptional circumstances)
- Phase 4 will be conducted with Air Core drilling method to access the deeper lying sediment package. A total of 250 Air-core holes are planned down to an average depth of 30m. More drilling may be required depending on

results. Drill cutting will be sampled and analysed for heavy mineral content as described above for surface sampling.

- Phase 5 will involve analytical desk-top study. All the data collected will be analysed and compiled into a final report/model in order to determine the potential of the project and to outline possible future drill sampling programs if any.

DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

Where heavy mineral concentrations are noted on the surface 25 litre surface samples will be collected manually with a shovel and plastic sampling bag for concentration and laboratory analysis to determine the type of minerals present and the tenor of mineralization. Each pit will be ~ 50cm x 50cm in size and dug to a maximum depth of 1m. Each sample locality will be backfilled and fully rehabilitated concurrently with sampling.

Auger Drilling.

Hand held engine operated auger drill. The auger is portable and will be walked to site from the closest track. Approximately 100 auger drill holes are anticipated to be drilled. The auger is in essence a corkscrew-type drill where the helical ridge raises the drilled material to the surface for sampling purposes. A total of 100 drill holes are planned for initially to be collected over an estimated 18-month period.

Evaluation Air core Drilling

Air-core drilling uses steel or tungsten blades to bore a hole into unconsolidated ground. The drill cuttings are removed by the injection of compressed air into the hole. This method of drilling is used to drill unconsolidated sands and soft sediments. Where possible, air-core drilling is preferred over RAB drilling as it provides a more representative sample. Air-core drilling is relatively inexpensive and is often used in first pass exploration drill programs. Air-core drilling is limited to depths of 50-60 metres and is drilled using a smaller rig known as an Air-core rig. Such drill is for drilling of deeper holes and use of such will be restricted to existing farm tracks and roads

DEVELOPMENT DETAILS – Indicate which sections of the NHRA, or other legislation which requires a NID

PLEASE TICK THE APPROPRIATE BOX	
<input type="checkbox"/>	Section 38(1)(a) Construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier over 300m in length.
<input type="checkbox"/>	Section 38(1)(b) Construction of a bridge or similar structure exceeding 50m in length.
<input type="checkbox"/>	Section 38(1)(c) Any development or activity that <u>will change the character of a site:</u>
<input type="checkbox"/>	(i) exceeding 5 000m ² in extent.
<input type="checkbox"/>	(ii) involving three or more existing erven or subdivisions thereof.
<input type="checkbox"/>	(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years. *If (i), (ii) and/or (iii) are marked above, describe how the development will change the character of the site
<input type="checkbox"/>	Section 38(1)(d) Rezoning of a site exceeding 10 000m ² in extent.
<input checked="" type="checkbox"/>	Other triggers e.g., in terms of other legislation (NEMA, etc.) – Describe the details: __MPRDA Application__

ESTIMATED CONSTRUCTION COST AND/ OR VALUE OF DEVELOPMENT UPON COMPLETION: R 3.95 Million _____

SECTION E

PROVIDE A SHORT HISTORY OF THE SITE, PROPERTY OR PLACE – Include sources where applicable

See attached desktop assessment _____

ANTICIPATED IMPACTS ON HERITAGE RESOURCES

Section 3 of the NHRA sets out the following categories of heritage resource as forming part of the national estate. Please indicate the known presence of any of these by checking the box alongside and then providing a description of each occurrence, including nature, location, size, type

Failure to provide sufficient detail or to anticipate the likely presence of heritage resources on the site may lead to a request for more detailed specialist information.

IDENTIFICATION OF ALL HERITAGE RESOURCES ON THE SITE, PROPERTY OR PLACE AND ITS ENVIRONMENTS

Please indicate where applicable:

	<p>Places, buildings, structures, and equipment of cultural significance: Description of Heritage Resource: Descriptions of Heritage Impact:</p>
	<p>Places to which oral traditions are attached or which are associated with living heritage: Description of Heritage Resource: Descriptions of Heritage Impact:</p>
	<p>Places to which oral traditions are attached or which are associated with living heritage: Description of Heritage Resource: Descriptions of Heritage Impact:</p>
	<p>Historical settlements and townscapes: Description of Heritage Resource: Descriptions of Heritage Impact:</p>
	<p>Landscapes and natural features of cultural significance: Description of Heritage Resource: Descriptions of Heritage Impact:</p>
	<p>Geological resources of scientific or cultural significance: Description of Heritage Resource:</p>

	Descriptions of Heritage Impact:
<input checked="" type="checkbox"/>	<p>Archaeological resources – Incl. archaeological sites and material, rock art, battlefields, and wrecks etc.:</p> <p>Description of Heritage Resource: The primary sources of risk in terms of heritage are mainly near shore Late Stone Age archaeological sites, Middle Stone Age artefact scatters and buried sites</p> <p>Descriptions of Heritage Impact: Destruction</p>
<input checked="" type="checkbox"/>	<p>Palaeontological resources – i.e., fossils, geological formations etc.:</p> <p>Description of Heritage Resource: The fossil content of the aeolian formations is presumed to be typical of that observed in correlative formations in the wider area. Fossil material most commonly seen is the ambient fossil content of dune sands: land snails, tortoise shells and mole bones. The bones of larger animals are sparse, but are more persistently present along palaeosurfaces which separate units. Rare caches of bones in large burrows are due to the bone-collecting behaviour of hyaenas. Interbedded pan deposits may occur, possibly with aquatic fossils and organic-rich layers. Fossil shells and sparse marine mammal bones occur in the marine formations and rare patches of offshore muds which sometimes include fossil pollens. Alluvia and colluvia in drainages may also include potential fossil pollen-bearing mud layers. The Koingnaas Fm. includes organic peaty beds with fossil pollen and plant remains</p> <p>Descriptions of Heritage Impact: Destruction</p>
	<p>Graves and burial grounds – e.g.: ancestral graves, graves of victims of conflict, historical graves, cemeteries etc.:</p> <p>Description of Heritage Resource:</p> <p>Descriptions of Heritage Impact:</p>
	<p>Sites of significance relating to the history of slavery in South Africa:</p> <p>Description of Heritage Resource:</p> <p>Descriptions of Heritage Impact:</p>
	<p>Other heritage resources:</p> <p>Description of Heritage Resource:</p> <p>Descriptions of Heritage Impact:</p>

PROVIDE A SUMMARY OF THE ANTICIPATED IMPACTS ON HERITAGE RESOURCES

Based on the information available, it is possible that the proposed prospecting will negatively impact on significant heritage resources and as such it is recommended that a Heritage Impact Assessment be completed for this work. _____

SECTION F

RECOMMENDATION

In your opinion, do you believe that a Heritage Impact Assessment (HIA) is required?

Yes **No**

Specialist studies to be provided as part of the HIA:

	Architectural (i.e., fabric analysis, historical analysis, material analysis etc.)
x	Archaeological Impact Assessment
x	Paleontological Impact Assessment
	Townscape Assessment
	Cultural Assessment
	Social Historical Study
	Visual Impact Assessment
	Other:

Recommendations made by: Jenna Lavin

Capacity: Heritage Assessment Practitioner

PLEASE NOTE

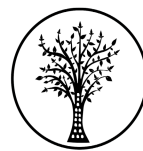
Any further studies which HWC requires should be submitted in the form of a single, consolidated report with a single set of recommendations. Specialist studies must be incorporated in full, either as chapters of the report, or as annexures thereto.

Please refer to the Guidelines for Heritage Impact Assessments required in terms of Section 38 of the National Heritage Resources Act (25 of 1999).

Applications are considered to be public documents and are open to public scrutiny. Should you wish for your application to be kept confidential, please motivate your request on a separate sheet attached to your application form.

For applications that are granted confidentiality, this confidentiality will be limited to one year (12 months).

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HERITAGE SCREENER

CTS Reference Number:	CTS22_251	
SAHRIS Reference:		
Client:	EnviroWorks	
Date:	May 2022	
Title:	<p>PROPOSED PROSPECTING ON PORTIONS 1, 2, 3 & RE/153 OF THE FARM KLIPVLEY KAROO KOP 153</p> <p>MATZIKAMA MUNICIPALITY, VREDENDAL DISTRICT, WESTERN CAPE PROVINCE</p>	
RECOMMENDATION	<p>Based on the information available, it is possible that the proposed prospecting will negatively impact on significant heritage resources and as such it is recommended that a Heritage Impact Assessment be completed for this work.</p>	

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



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1. Proposed Development Summary

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2. Application References

Name of relevant heritage authority(s)	HWC
Name of decision making authority(s)	Department of Mineral Resources and Energy

3. Property Information

Latitude / Longitude	31°26'46.00"S 18° 0'6.32"E
Erf number / Farm number	PORTIONS 1, 2, 3 & RE/153 OF THE FARM KLIPVLEY KAROO KOP 153
Local Municipality	Matzikama
District Municipality	Vredendal
Province	Western Cape
Current Use	Wilderness
Current Zoning	Agriculture
Size of property	3 634.92ha

4. Nature of the Proposed Development

Total Area	3 634.92ha
Depth of excavation (m)	Max 60m
Height of development (m)	NA

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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-
	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

NA

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

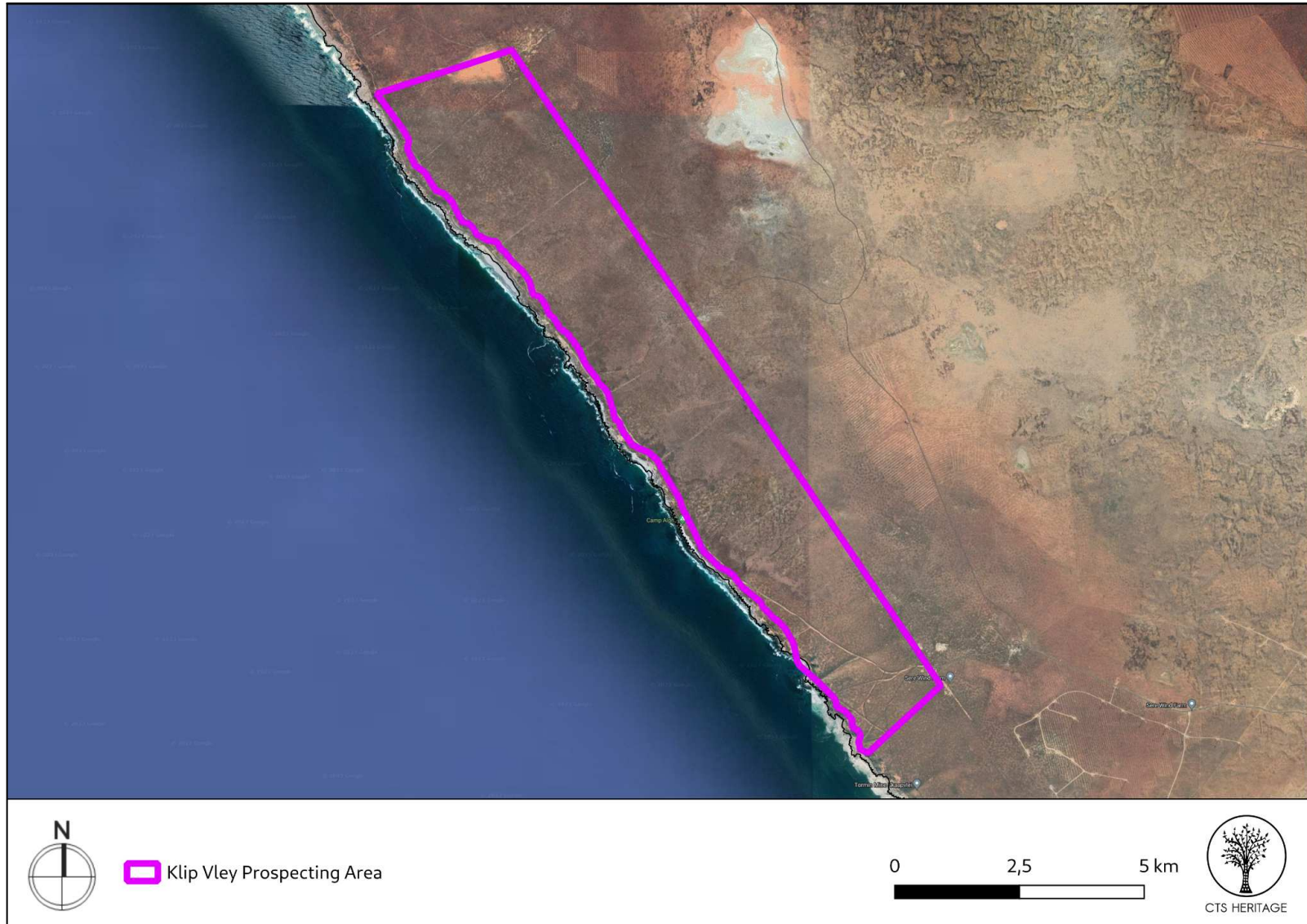
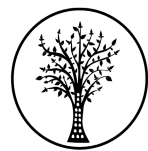


Figure 1b. Overview Map. Satellite image (2023) indicating the proposed development area



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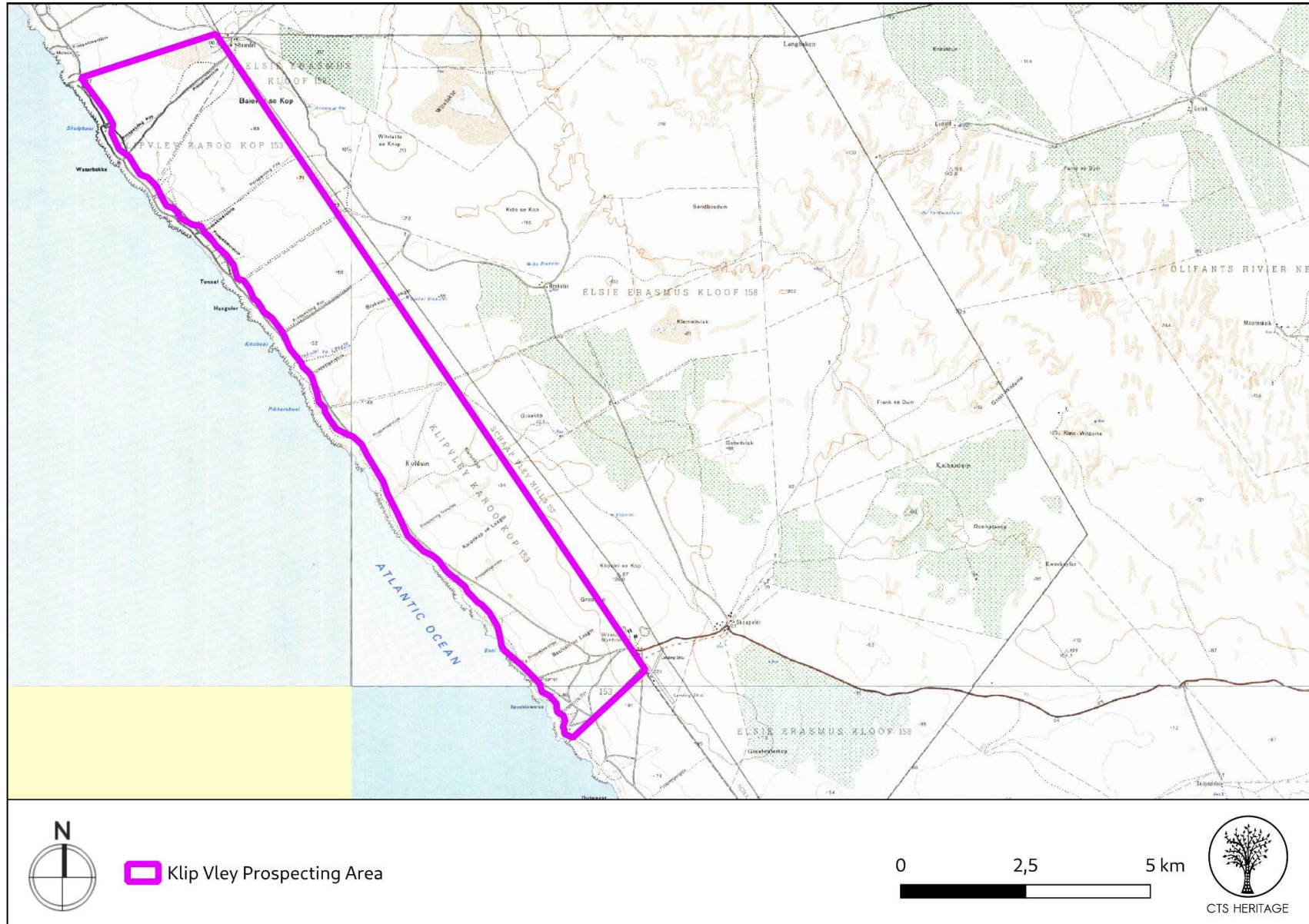


Figure 1c. Overview Map. Extract from the 1:50 000 Topo map indicating the proposed development area

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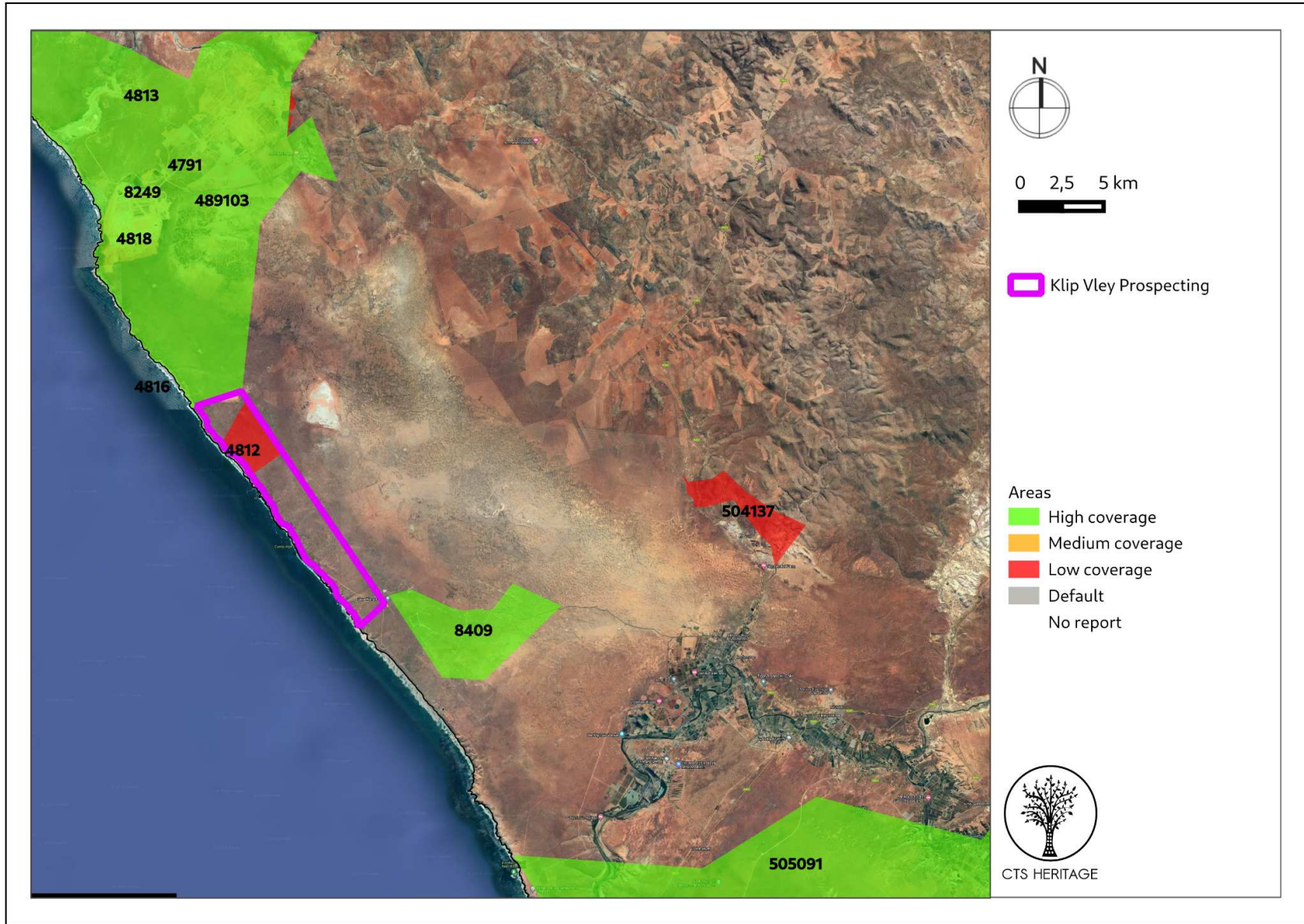
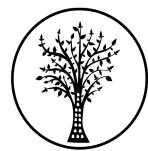


Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments covering the proposed development area with SAHRIS NIDS indicated. Please see Appendix 2 for a full reference list.



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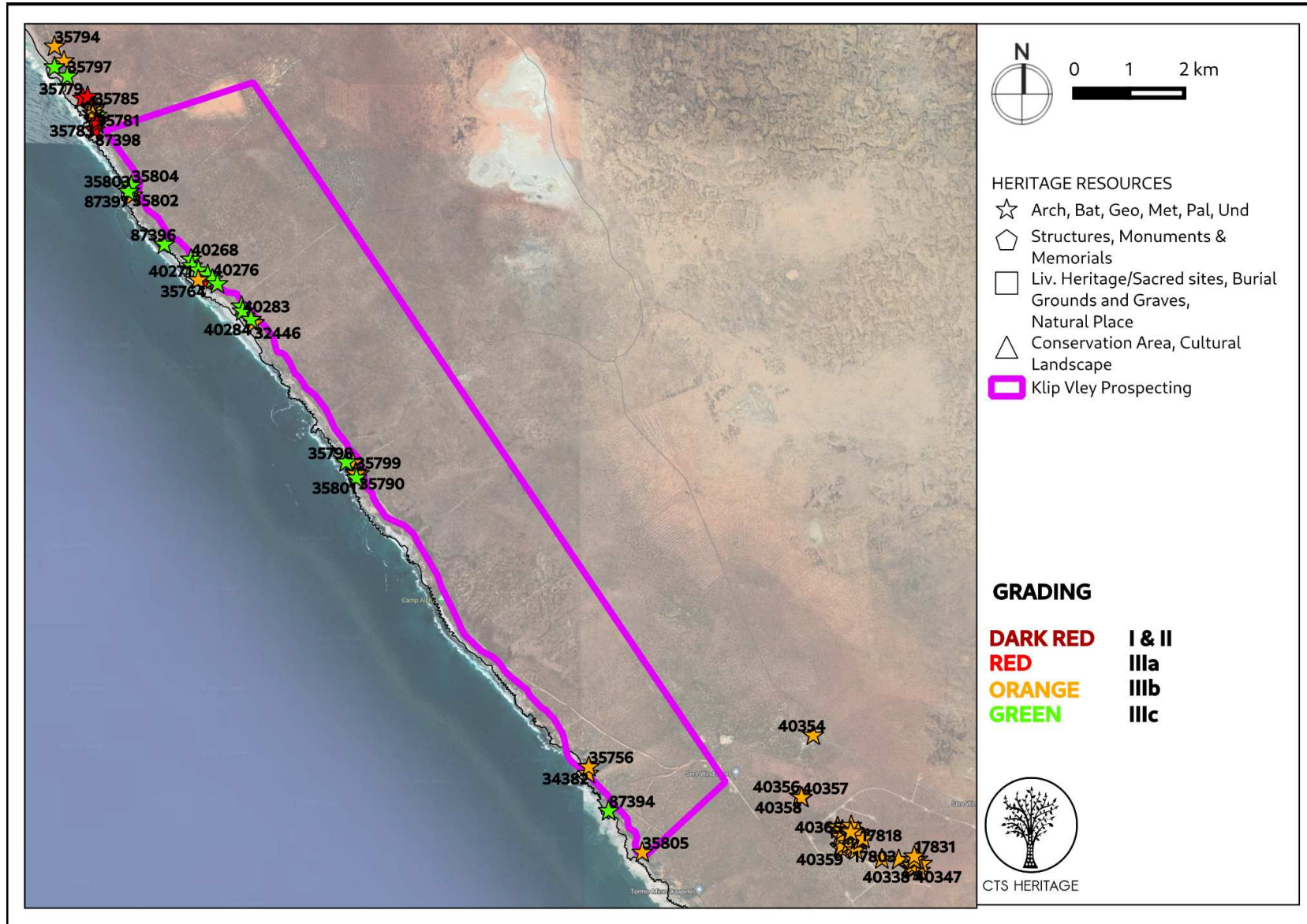
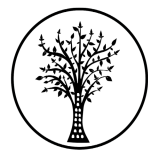


Figure 3. Heritage Resources Map. Heritage Resources previously identified within the study area, with SAHRIS Site IDs indicated in the insets below. Please See Appendix 4 for full description of heritage resource types.



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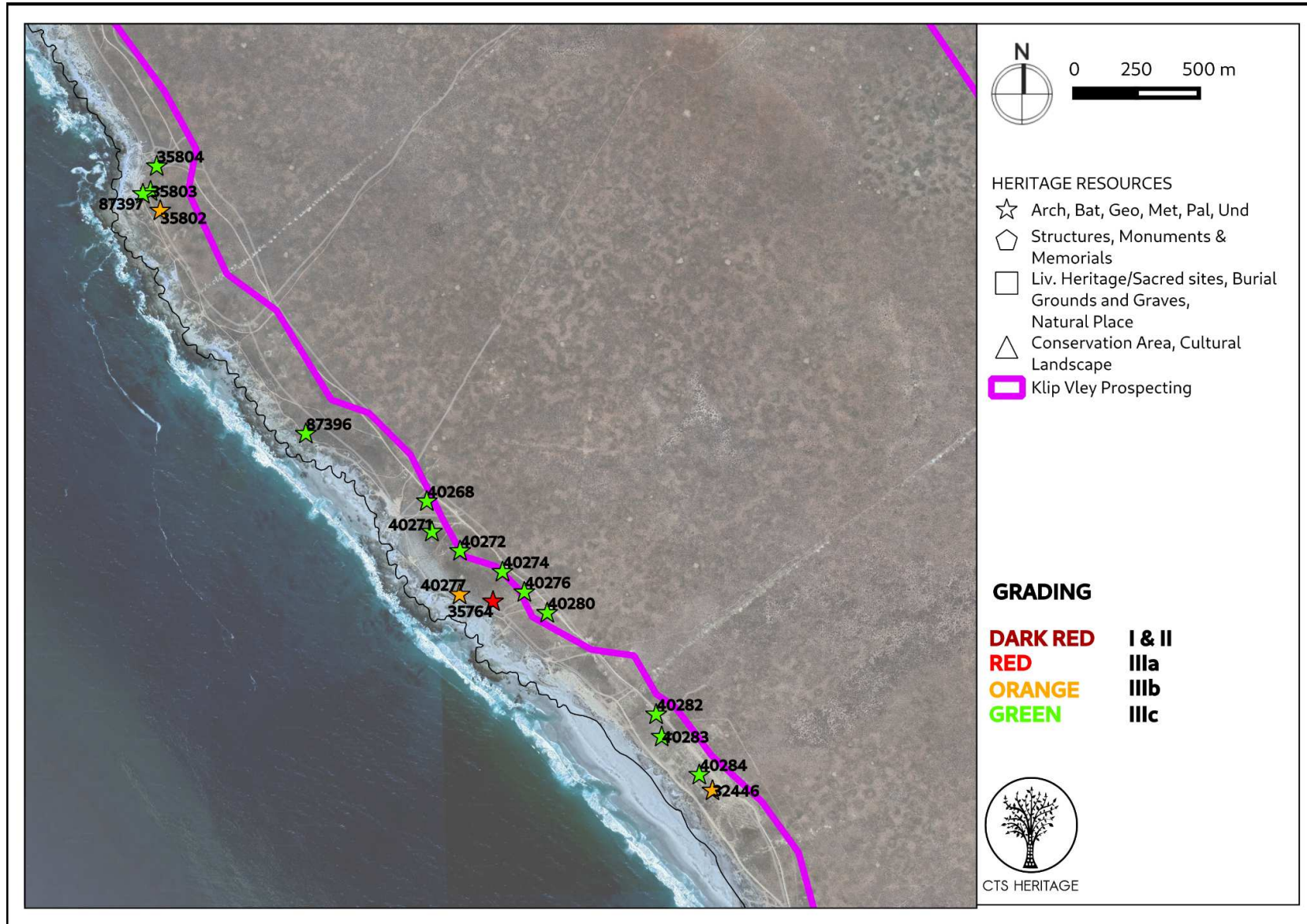


Figure 3a. Heritage Resources Map. Heritage Resources Inset A

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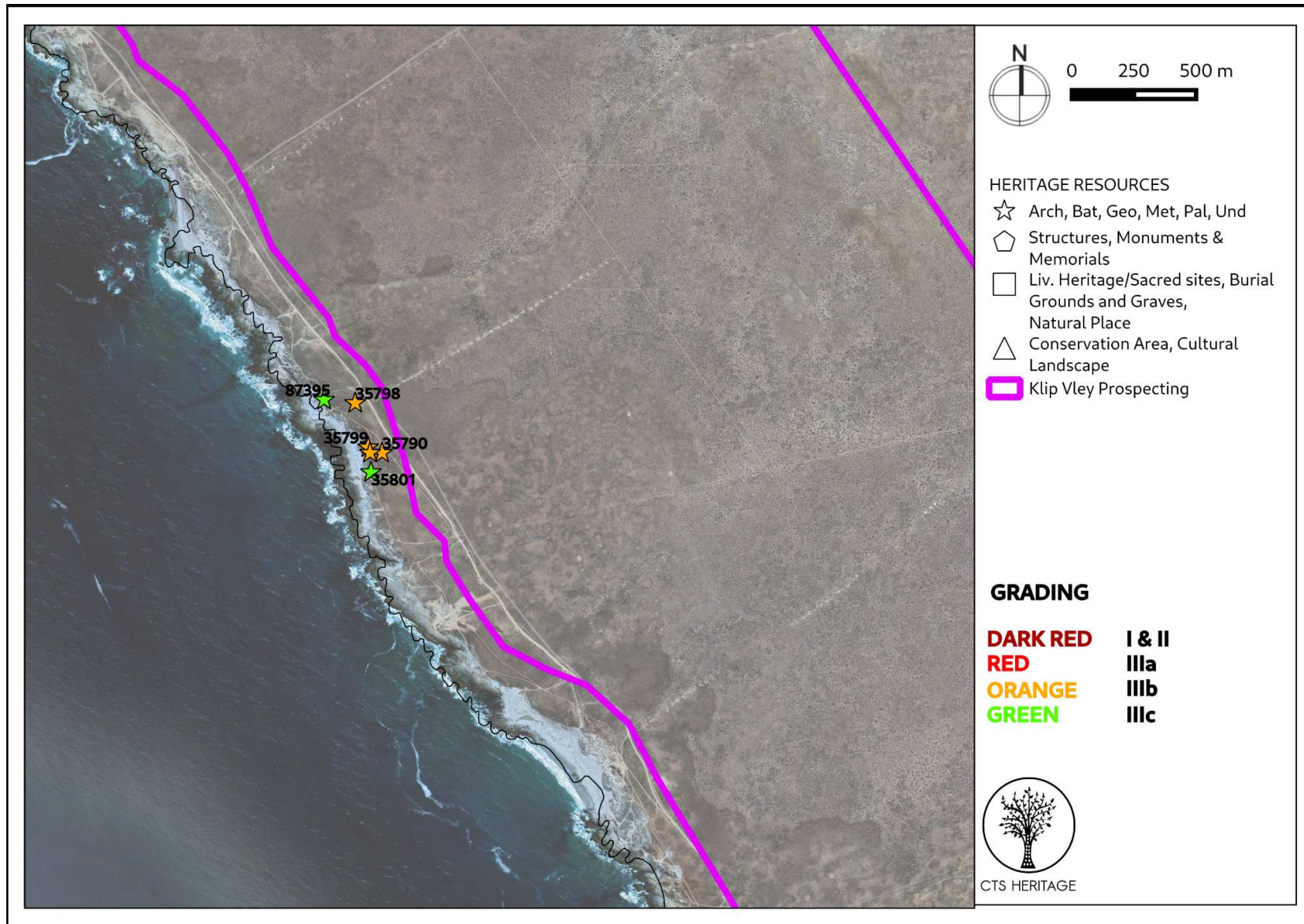
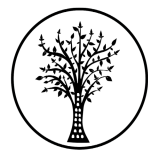


Figure 3b. Heritage Resources Map. Heritage Resources Inset B

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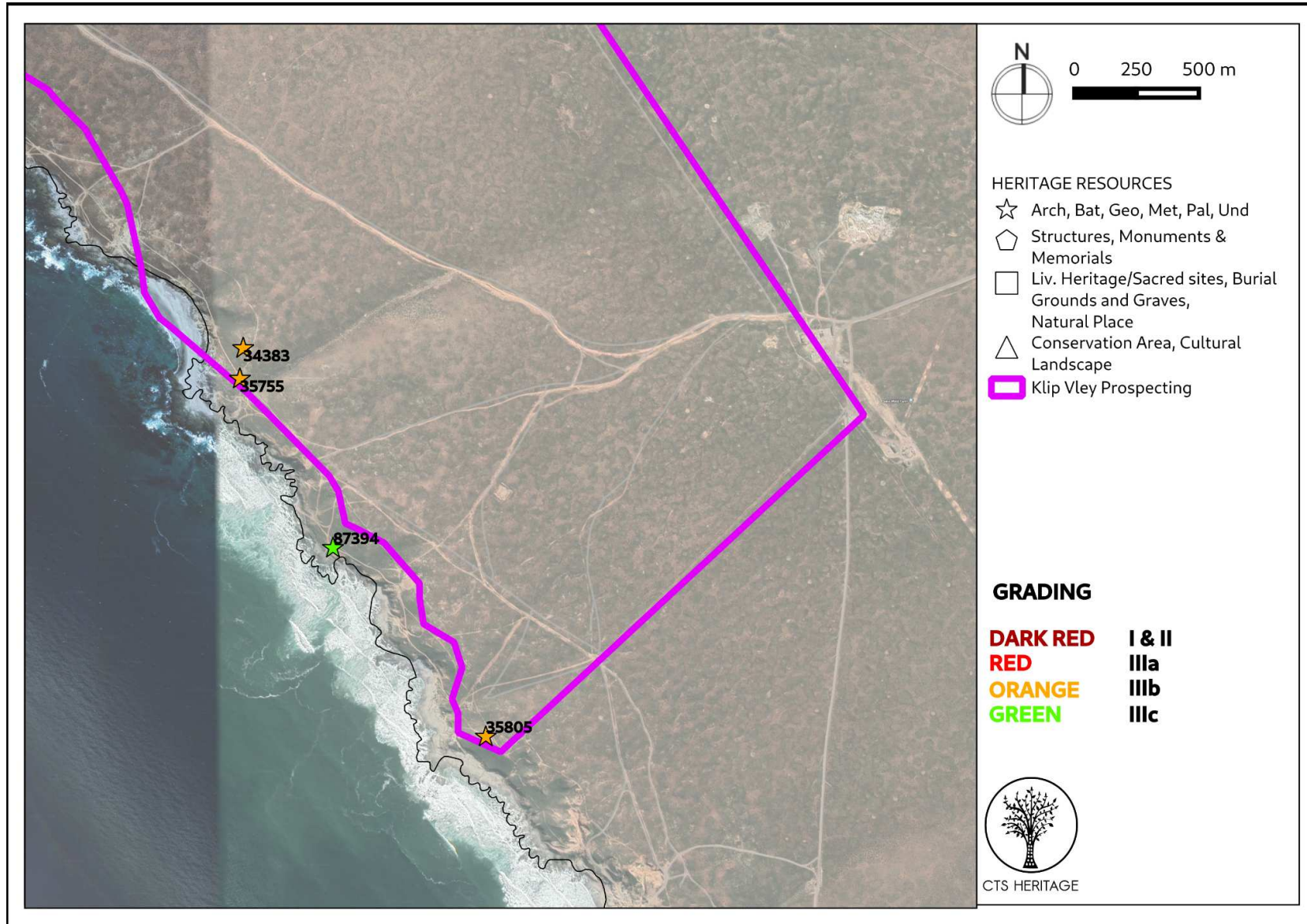
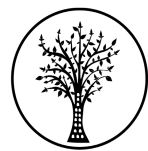


Figure 3c. Heritage Resources Map. Heritage Resources Inset C

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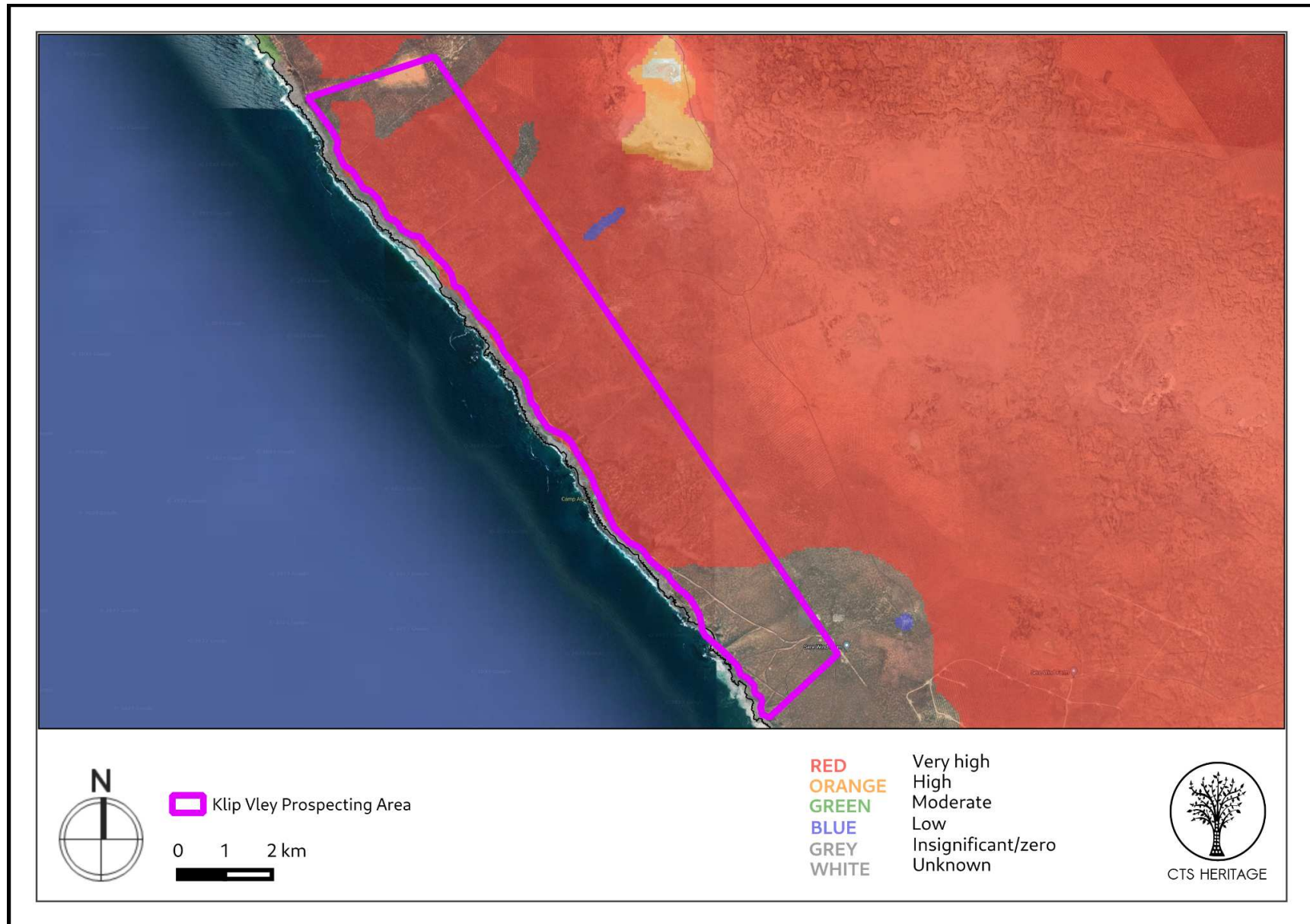


Figure 4a. Palaeosensitivity Map. Indicating fossil sensitivity underlying the study area. Please See Appendix 3 for a full guide to the legend.

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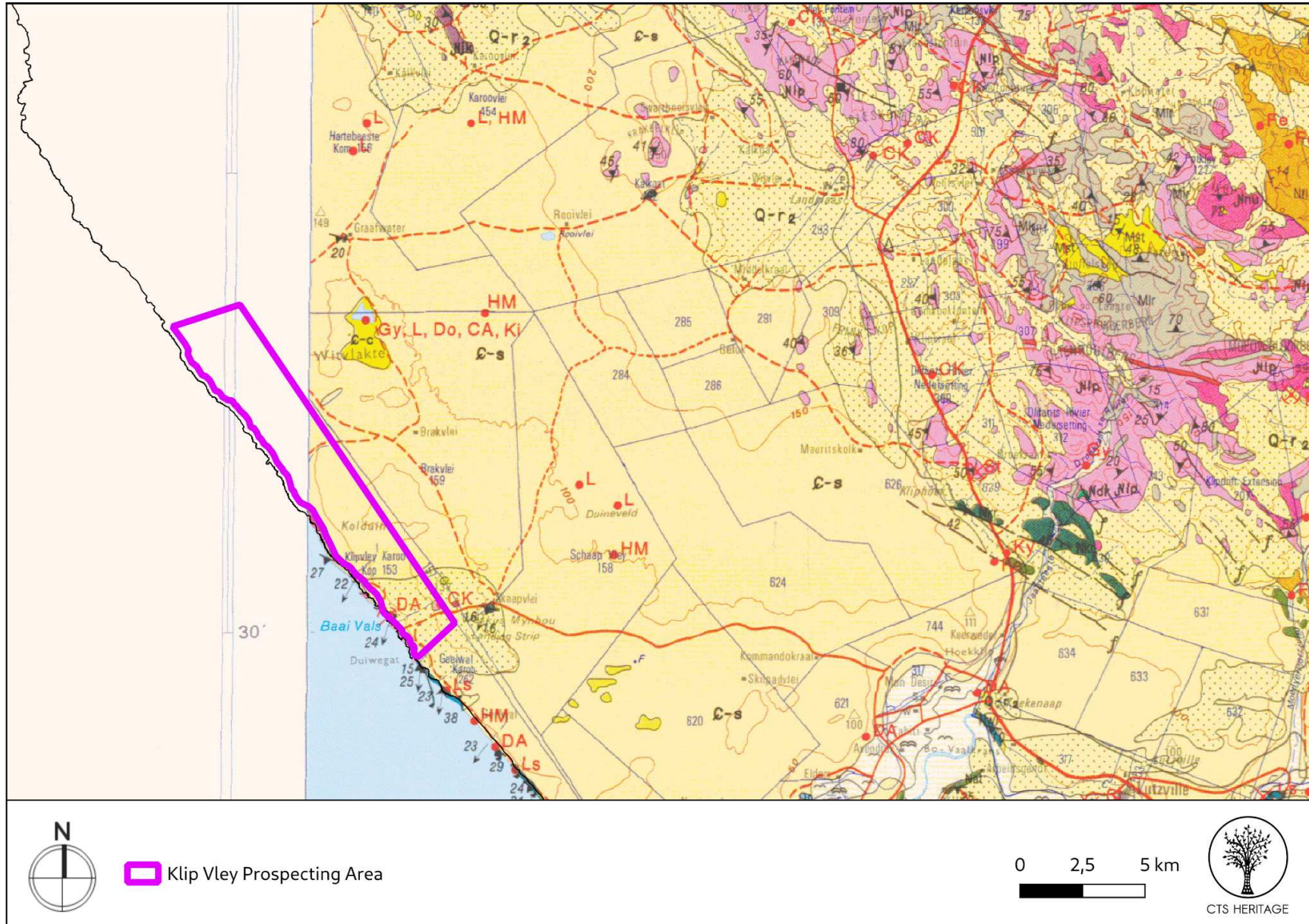


Figure 4b. Geology Map. Extract from the CGS Map for Calvinia 3118 indicating that the area proposed for prospecting is underlain by Quaternary Sands sediments



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8. Heritage Assessment

Background

This application is submitted as part of the assessment process for a proposed prospecting application located approximately 25km north of Papendorp along the west coast of South Africa. Due to the nature and scale of the proposed prospecting, none of the activities listed in section 38(1) of the NHRA is triggered. The area proposed for the prospecting has been previously assessed for impacts to heritage resources by Hart (1999 and 2003). These and other relevant reports are summarised below.

Cultural Landscape and Built Environment Heritage

The area proposed for prospecting is located some distance from any significant towns - with the nearest town being Papendorp located some 25km to the south. The cultural landscape value of the broader area has been identified elsewhere (Winter, 2021) as related to the Sandveld Coastal Region and the Olifants River Estuary which consists of a narrow lagoon, wetlands, coastal dunes and the settlements of Ebenhauser and Papendorp. In particular, the landscape has high local scenic, estuarine and recreational value. The settlements of Ebenhaeser and Papendorp have mostly associational heritage value; Ebenhaeser as an early 19th century mission station, and Papendorp as an early 19th century fishing settlement (Winter and Oberholzer 2014). Despite some associational heritage value, relationship with a natural setting and the mission church at Ebenhaeser being of suggested Grade IIIB value, the settlements in their own right including their access routes off the R362 are not regarded as having considerable heritage value.

As is also noted elsewhere, this part of the West Coast has been subjected to mining activities since the 1960's and as such, the proposed prospecting activities aren't unexpected here. Furthermore, the limited nature and scale of prospecting is unlikely to negatively impact on the significant scenic and wilderness landscape qualities of the Sandveld area. However, should mining activities proceed, a more careful assessment of impacts to the cultural landscape should be undertaken.

Archaeology

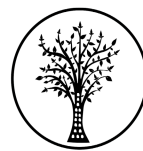
Hart (1999 and 2007) provides a brief synopsis of the archaeological history of the area which is not repeated here. According to Hart (2003), "The coastline consists of large expanses of rocky shore (quartzites) punctuated by small bays and coves. There are two long stretches of sandy beach (Langstrand and Liebenberg Bay). Immediately inland of the rocky shore are the remnants of the coastal dune system, most of which has now been disturbed by small mining operations. The low scrub covered coastal plains slope gently down to the shorelines apart from in the south where the slope breaks rather more steeply down to places such as Baaivals and Sam se Baai. Many informal tracks lead off the coastal road to old diamond diggings resulting in deflated and de-vegetated areas. In general, the area has seen very little development as it was diamond concession land since the early 20th century. The nearest small settlement of any consequence is Koekenaap some 30 km inland. There is one ruined farmhouse situated at Sterkfontein."

Hart (2003) goes on to note that "Pre-colonial archaeological sites are prolific with most Late Stone Age sites located within 1 km of the shoreline. Areas adjacent to rocky shorelines and small bays attracted prehistoric 7 occupation by ancestors of San hunter-gatherers and Khoekhoen herders. The higher slopes and coastal plains show evidence of Early and Middle Stone Age artefact scatters: material is visible in virtually any area where red Aeolian sand have become deflated and the underlying Dorbank (hard calcretised feldspathic soils) exposed. In summary, the heritage of this area is almost entirely archaeological – the cultural landscape consisting of the distribution of a range of pre-colonial archaeological sites from different time periods. The colonial period cultural landscape is almost entirely limited to a legacy of old diggings, prospecting trenches and places where temporary structures were erected to accommodate diamond mining (the exception being a single historical ruin). Virtually all of this recent history is less than 100 years old and does not constitute archaeological material... In summary, the primary sources of risk in terms of heritage are mainly near shore Late Stone Age archaeological sites, Middle Stone Age artefact scatters and buried sites and to a lesser extent, intangible heritage such as visual impacts."

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All of the sites identified by Hart (1999 and 2003) have been mapped relative to the area proposed for prospecting in Figures 3a to 3c. It is clear that most of these sites are located outside of the prospecting area below the coastal ridge. That being said, it is recommended that the areas proposed for prospecting be assessed for impacts to archaeological heritage in order to inform the micro-siting of prospecting locations and to provide information regarding the overall archaeological sensitivity of the prospecting area.

Palaeontology

According to the SAHRIS Palaeosensitivity Map (Figure 4a), the area proposed for prospecting activities is underlain by sediments of very high palaeontological sensitivity. According to the extract from the Council of GeoScience Geology Map for Calvinia (Figure 4b), the sediments underlying the prospecting area consist of late Quaternary surficial sands of the Koekenaap and Hardevlei formations. According to a report completed for prospecting in this area by Pether (2021), "The fossil content of the aeolian formations is presumed to be typical of that observed in correlative formations in the wider area. Fossil material most commonly seen is the ambient fossil content of dune sands: land snails, tortoise shells and mole bones. The bones of larger animals are sparse, but are more persistently present along palaeosurfaces which separate units. Rare caches of bones in large burrows are due to the bone-collecting behaviour of hyaenas. Interbedded pan deposits may occur, possibly with aquatic fossils and organic-rich layers. Fossil shells and sparse marine mammal bones occur in the marine formations and rare patches of offshore muds which sometimes include fossil pollens. Alluvia and colluvia in drainages may also include potential fossil pollen-bearing mud layers. The Koingnaas Fm. includes organic peaty beds with fossil pollen and plant remains."

Pether (2021) concludes that "In the process of the field survey and during the sampling and drilling programme, late Quaternary fossil and archaeological material, including larger mammal bones, may be encountered in deflation areas not discovered during archaeological surveys, or may be noticed in old prospecting excavations and surrounding spoil." Pether (2021) proposed various mitigation measures to limit the negative impact of the prospecting on fossil remains and these recommendations are reiterated here.

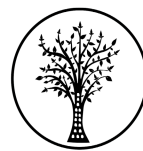
RECOMMENDATION

Based on the information available, it is possible that the proposed prospecting will negatively impact on significant heritage resources and as such it is recommended that a Heritage Impact Assessment be completed for this work.

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Table 2: Impact Assessment Table: Impacts to heritage resources from the proposed prospecting including archaeology, palaeontology, built structures and the cultural landscape

Aspect	Score	Definition
Nature	-1	Likely to result in a negative impact
Extent	1	Impacts limited to the specific activity
Duration	5	Any impacts will be permanent
Magnitude/Intensity	5	Any impacts will be significant
Reversibility	5	Irreversible Impact
Probability	3	Impacts are probable

$$C = (3+5+5+5)/4$$

$$C = 4 \times -1$$

$$C = -4$$

$$ER = -4 \times 1$$

Environmental Risk Score is <9: LOW

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APPENDIX 1

List of heritage resources within close proximity to the development area

Site ID	Site no	Full Site Name	Site Type	Grading
40321	GWK009	Grave Water Kop 009	Artefacts	Grade IIIb
17825	GWK53	Grave Water Kop 53	Artefacts, Shell Midden	Grade IIIb
34383	BAV2	BAAIVALS 2	Artefacts	Grade IIIb
87394	TRAN016	Transhex 016	Artefacts	Grade IIIc
87396	TRAN018	Transhex 018	Artefacts	Grade IIIc
87397	TRAN019	Transhex 019	Shell Midden	Grade IIIc
87398	TRAN020	Transhex 020	Artefacts	Grade IIIa
87399	TRAN021	Transhex 021	Artefacts	Grade IIIa
87400	TRAN022	Transhex 022	Artefacts	Grade IIIa
87395	TRAN017	Transhex 017	Shell Midden	Grade IIIc
40324	GWK010	Grave Water Kop 010	Artefacts	Grade IIIb
32446	NDC Mining-001	NDC Mining	Archaeological	Grade IIIb
17806	GWK36	Grave Water Kop 36	Artefacts, Shell Midden	Grade IIIb
40334	GWK011	Grave Water Kop 011	Artefacts	Grade IIIc
40335	GWK012	Grave Water Kop 012	Artefacts	Grade IIIc
40338	GWK013	Grave Water Kop 013	Artefacts	Grade IIIc

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40339	GWK014	Grave Water Kop 014	Artefacts	Grade IIIc
40341	GWK015	Grave Water Kop 015	Artefacts	Grade IIIc
40347	GWK016	Grave Water Kop 016	Artefacts	Grade IIIc
40348	GWK017	Grave Water Kop 017	Artefacts	Grade IIIc
40350	GWK018	Grave Water Kop 018	Artefacts	Grade IIIc
40352	GWK019	Grave Water Kop 019	Artefacts	Grade IIIc
40354	GWK020	Grave Water Kop 020	Artefacts	Grade IIIc
40355	GWK021	Grave Water Kop 021	Archaeological	Grade IIIc
40356	GWK022	Grave Water Kop 022	Artefacts	Grade IIIb
40357	GWK023	Grave Water Kop 023	Artefacts	Grade IIIc
40358	GWK024	Grave Water Kop 024	Artefacts	Grade IIIc
40359	GWK025	Grave Water Kop 025	Archaeological	Grade IIIc
40360	GWK026	Grave Water Kop 026	Archaeological	Grade IIIc
40361	GWK027	Grave Water Kop 027	Archaeological	Grade IIIc
40362	GWK028	Grave Water Kop 028	Archaeological	Grade IIIc
40363	GWK029	Grave Water Kop 029	Archaeological	Grade IIIc
40365	GWK030	Grave Water Kop 030	Artefacts	Grade IIIc
40366	GWK031	Grave Water Kop 031	Archaeological	Grade IIIc
40367	GWK032	Grave Water Kop 032	Artefacts	Grade IIIc

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40368	GWK033	Grave Water Kop 033	Archaeological	Grade IIIc
40369	GWK034	Grave Water Kop 034	Archaeological	Grade IIIc
40370	GWK035	Grave Water Kop 035	Archaeological	Grade IIIc
40371	GWK036	Grave Water Kop 036	Archaeological	Grade IIIc
40372	GWK037	Grave Water Kop 037	Archaeological	Grade IIIc
40373	GWK038	Grave Water Kop 038	Archaeological	Grade IIIc
40374	GWK039	Grave Water Kop 039	Archaeological	Grade IIIc
40376	GWK040	Grave Water Kop 040	Archaeological	Grade IIIc
40380	GWK041	Grave Water Kop 041	Archaeological	Grade IIIc
40381	GWK042	Grave Water Kop 042	Archaeological	Grade IIIb
40382	GWK043	Grave Water Kop 043	Artefacts	Grade IIIb
40384	GWK044	Grave Water Kop 044	Archaeological	Grade IIIb
40385	GWK045	Grave Water Kop 045	Archaeological	Grade IIIb
40386	GWK046	Grave Water Kop 046	Artefacts	Grade IIIb
40387	GWK047	Grave Water Kop 047	Archaeological	Grade IIIc
40388	GWK048	Grave Water Kop 048	Archaeological	Grade IIIc
40389	GWK049	Grave Water Kop 049	Archaeological	Grade IIIb
40390	GWK050	Grave Water Kop 050	Archaeological	Grade IIIc
40391	GWK051	Grave Water Kop 051	Archaeological	Grade IIIb

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40392	GWK052	Grave Water Kop 052	Archaeological	Grade IIIb
40393	GWK053	Grave Water Kop 053	Archaeological	Grade IIIc
40394	GWK054	Grave Water Kop 054	Archaeological	Grade IIIc
40395	GWK055	Grave Water Kop 055	Archaeological	Grade IIIb
40319	GWK007	Grave Water Kop 007	Artefacts	Grade IIIc
40320	GWK008	Grave Water Kop 008	Artefacts	Grade IIIb
34382	BAV1		Artefacts	Grade IIIb
35755	NDC001	Namakwa Diamond Company 001	Artefacts, Shell Midden	Grade IIIb
35756	NDC002	Namakwa Diamond Company 002	Artefacts	Grade IIIb
35764	NDC010	Namakwa Diamond Company 010	Artefacts, Shell Midden	Grade IIIa
35779	NDC022	Namakwa Diamond Company 022	Artefacts	Grade IIIa
35780	NDC023	Namakwa Diamond Company 023	Artefacts	Grade IIIb
35781	NDC024	Namakwa Diamond Company 024	Artefacts	Grade IIIc
35782	NDC025	Namakwa Diamond Company 025	Artefacts	Grade IIIb
40268	LIEB01	Liebenbergs Bay 01	Artefacts	Grade IIIc
35783	NDC026	Namakwa Diamond Company 026	Artefacts	Grade IIIb
40271	LIEB02	Liebenbergs Bay 02	Artefacts	Grade IIIc
35784	NDC027	Namakwa Diamond Company 027	Artefacts	Grade IIIb
40272	LIEB03	Liebenbergs Bay 03	Artefacts	Grade IIIc

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35785	NDC028	Namakwa Diamond Company 028	Artefacts	Grade IIIb
35786	NDC029	Namakwa Diamond Company 029	Artefacts	Grade IIIb
40274	LIEB04	Liebenbergs Bay 04	Artefacts	Grade IIIc
35787	NDC030	Namakwa Diamond Company 030	Artefacts	Grade IIIb
40276	LIEB05	Liebenbergs Bay 05	Artefacts	Grade IIIc
40277	LIEB06	Liebenbergs Bay 06	Artefacts	Grade IIIb
35790	NDC031	Namakwa Diamond Company 031	Artefacts	Grade IIIb
40280	LIEB07	Liebenbergs Bay 07	Artefacts	Grade IIIc
40282	LIEB08	Liebenbergs Bay 08	Artefacts	Grade IIIc
40283	LIEB09	Liebenbergs Bay 09	Artefacts	Grade IIIc
40284	LIEB010	Liebenbergs Bay 010	Artefacts	Grade IIIc
35795	NDC019	Namakwa Diamond Company 019	Artefacts	Grade IIIb
35796	NDC020	Namakwa Diamond Company 020	Artefacts, Shell Midden	Grade IIIc
35797	NDC021	Namakwa Diamond Company 021	Artefacts, Shell Midden	Grade IIIc
35798	NDC032	Namakwa Diamond Company 032	Artefacts	Grade IIIb
35799	NDC033	Namakwa Diamond Company 033	Artefacts	Grade IIIb
35800	NDC034	Namakwa Diamond Company 034	Artefacts	Grade IIIb
35801	NDC035	Namakwa Diamond Company 035	Artefacts	Grade IIIc
35802	NDC036	Namakwa Diamond Company 036	Artefacts	Grade IIIb

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35803	NDC037	Namakwa Diamond Company 037	Artefacts	Grade IIIc
35804	NDC038	Namakwa Diamond Company 038	Artefacts	Grade IIIc
35805	NDC039	Namakwa Diamond Company 039	Artefacts	Grade IIIb
17778	GWK10	Grave Water Kop 10	Artefacts, Shell Midden	Grade IIIb
17779	GWK11	Grave Water Kop 11	Shell Midden	Grade IIIb
17780	GWK12	Grave Water Kop 12	Artefacts, Shell Midden	Grade IIIb
17781	GWK13	Grave Water Kop 13	Artefacts	Grade IIIb
17782	GWK14	Grave Water Kop 14	Artefacts, Shell Midden	Grade IIIb
17783	GWK15	Grave Water Kop 15	Artefacts, Shell Midden	Grade IIIb
17784	GWK16	Grave Water Kop 16	Artefacts, Shell Midden	Grade IIIb
17785	GWK17	Grave Water Kop 17	Shell Midden	Grade IIIb
17786	GWK18	Grave Water Kop 18	Artefacts, Shell Midden	Grade IIIb
17787	GWK19	Grave Water Kop 19	Artefacts, Shell Midden	Grade IIIb
17789	GWK20	Grave Water Kop 20	Artefacts, Shell Midden	Grade IIIb
17790	GWK21	Grave Water Kop 21	Artefacts, Shell Midden	Grade IIIb
17791	GWK22	Grave Water Kop 22	Artefacts, Shell Midden	Grade IIIb
17792	GWK23	Grave Water Kop 23	Artefacts, Shell Midden	Grade IIIb
17793	GWK24	Grave Water Kop 24	Artefacts, Shell Midden	Grade IIIb
17794	GWK25	Grave Water Kop 25	Artefacts, Shell Midden	Grade IIIb

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17795	GWK26	Grave Water Kop 26	Artefacts, Shell Midden	Grade IIIb
17796	GWK27	Grave Water Kop 27	Artefacts, Shell Midden	Grade IIIb
17797	GWK28	Grave Water Kop 28	Artefacts, Shell Midden	Grade IIIb
17798	GWK29	Grave Water Kop 29	Artefacts, Shell Midden	Grade IIIb
17800	GWK30	Grave Water Kop 30	Artefacts, Shell Midden	Grade IIIb
17801	GWK31	Grave Water Kop 31	Artefacts, Shell Midden	Grade IIIb
17802	GWK32	Grave Water Kop 32	Artefacts, Shell Midden	Grade IIIb
17803	GWK33	Grave Water Kop 33	Artefacts, Shell Midden	Grade IIIb
17804	GWK34	Grave Water Kop 34	Artefacts, Shell Midden	Grade IIIb
17805	GWK35	Grave Water Kop 35	Artefacts, Shell Midden	Grade IIIb
17807	GWK37	Grave Water Kop 37	Artefacts, Shell Midden	Grade IIIb
17808	GWK38	Grave Water Kop 38	Artefacts, Shell Midden	Grade IIIb
17809	GWK39	Grave Water Kop 39	Artefacts, Shell Midden	Grade IIIb
17811	GWK40	Grave Water Kop 40	Artefacts, Shell Midden	Grade IIIb
17812	GWK41	Grave Water Kop 41	Artefacts, Shell Midden	Grade IIIb
17813	GWK42	Grave Water Kop 42	Artefacts, Shell Midden	Grade IIIb
17814	GWK43	Grave Water Kop 43	Artefacts, Shell Midden	Grade IIIb
17815	GWK44	Grave Water Kop 44	Artefacts, Shell Midden	Grade IIIb
17816	GWK45	Grave Water Kop 45	Artefacts, Shell Midden	Grade IIIb

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17817	GWK46	Grave Water Kop 46	Artefacts, Shell Midden	Grade IIIb
17818	GWK47	Grave Water Kop 47	Artefacts, Shell Midden	Grade IIIb
17819	GWK48	Grave Water Kop 48	Artefacts, Shell Midden	Grade IIIb
17820	GWK49	Grave Water Kop 49	Artefacts, Shell Midden	Grade IIIb
17822	GWK50	Grave Water Kop 50	Artefacts, Shell Midden	Grade IIIb
17823	GWK51	Grave Water Kop 51	Artefacts, Shell Midden	Grade IIIb
17824	GWK52	Grave Water Kop 52	Artefacts, Shell Midden	Grade IIIb
17826	GWK54	Grave Water Kop 54	Artefacts	Grade IIIb
17827	GWK55	Grave Water Kop 55	Artefacts	Grade IIIb
17829	GWK7	Grave Water Kop 7	Artefacts, Shell Midden	Grade IIIb
17830	GWK8	Grave Water Kop 8	Artefacts, Shell Midden	Grade IIIb
17831	GWK9	Grave Water Kop 9	Artefacts, Shell Midden	Grade IIIb
104588	LSB2A	Nam Sandveld (other)	Archaeological	
104589	LSB2B	Nam Sandveld (other)	Archaeological	
104590	LSB4A	Nam Sandveld (other)	Archaeological	
104591	LSB9A	Nam Sandveld (other)	Archaeological	

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APPENDIX 2

Reference List with relevant AIAs and PIAs

Heritage Impact Assessments				
Case ID	Report Type	Author/s	Date	Title
4744	AIA Phase 1	Jonathan Kaplan	01/09/2000	Archaeological Study Portion 1 and 2 and the Remainder of the Farm Luiperskop No. 211, Vanrhynsdorp District, Western Cape
4756	AIA Phase 1	Timothy Hart	01/12/1997	An Archaeological Re-Assessment of Boundary Changes, Namakwa Sands Mining Area
4791	AIA Phase 1	John Parkington, Timothy Hart	01/03/1993	Namakwa Sands Main Access Road Archaeological Survey
4812	AIA Phase 1	Timothy Hart	01/09/1999	A Phase One Archaeological Assessment of the Proposed Liebenbergs Bay Mine, Vredendal
4813	AIA Phase 1	Dave Halkett	01/11/2000	An Assessment of the Impacts on Heritage Resources of Proposed Mining on the Farm Karoetjies Kop, Vredendal District
4814	AIA Phase 1	Jonathan Kaplan	01/09/2001	Archaeological Assessment Portion 3 (A Portion of Portion 2) Klip Vley Karoo Kop No. 153 Vredendal District, Cape West Coast
4816	AIA Phase 1	Timothy Hart	01/03/2003	Phase 1 Archaeological Assessment of Proposed Diamond Mining Areas Situated at the Farms Geelwal Karoo, Klipvley Karoo Kop and Graauduinen, Vredendal District, Western Cape
8249	AIA Phase 1	John Parkington, Cedric Poggenpoel	01/01/1991	West Coast Heavy Mineral Sand Project: Archaeological Report
8409	HIA Phase 1	Timothy Hart	01/12/2007	Heritage Impact Assessment (Prepared as Part of an EIA) of a Proposed Wind Energy Facility to Be Situated at Olifants River Settlement 617, 620 and Grave Water Kop 158/5 Situated on the Namaqualand Coast in the Vredendal District, South Western 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 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.

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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.

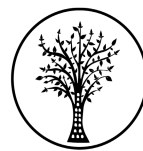
This recommendation is made in instances in which there are already some studies undertaken in the area and/or in the adjacent area for the proposed development. Further studies in a limited HIA may include:

- 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

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- 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.

APPENDIX 5 -Summary of Specialist Expertise

Jenna Lavin, an archaeologist with an MSc in Archaeology and Palaeoenvironments, and currently completing an MPhil in Conservation Management, heads up the heritage division of the organisation since 2016, and has a wealth of experience in the heritage management sector. Jenna's previous position as the Assistant Director for Policy, Research and Planning at Heritage Western Cape has provided her with an in-depth understanding of national and international heritage legislation. Her 8 years of experience at various heritage authorities in South Africa means that she has dealt extensively with permitting, policy formulation, compliance and heritage management at national and provincial level and has also been heavily involved in rolling out training on SAHRIS to the Provincial Heritage Resources Authorities and local authorities.

Jenna is on the Executive Committee of the Association of Professional Heritage Practitioners (APHP), and is also an active member of the International Committee on Monuments and Sites (ICOMOS) as well as the International Committee on Archaeological Heritage Management (ICAHM). In addition, Jenna has been a member of the Association of Southern African Professional Archaeologists (ASAPA) since 2009. Recently, Jenna has been responsible for conducting training in how to write Wikipedia articles for the Africa Centre's WikiAfrica project.

Since 2016, Jenna has drafted over 100 Heritage Impact Assessments and Screening Assessments throughout South Africa.

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