

HERITAGE SCREENER

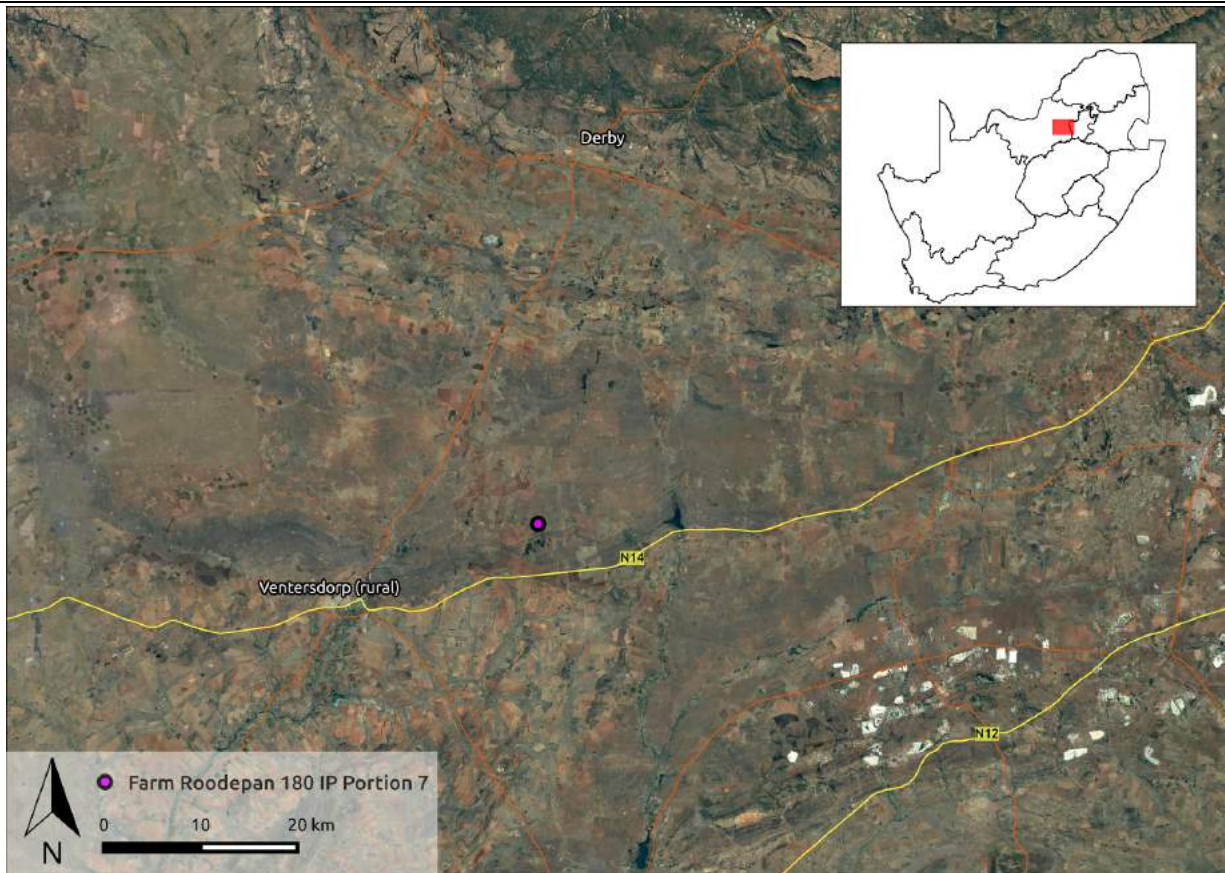
CTS Reference Number:	CTS16_049	
Client:	Ilke Nel	
Date:	03 October 2016	
Title:	Roodepan 180 Portion 7 Manganese Mine Ventersdorp, North West Province	
Recommendation by CTS Heritage Specialists: (Type 3)	<p>RECOMMENDATION: The heritage resources in the area proposed for prospecting have not been sufficiently recorded - unidentifiable features of potential heritage significance appear on the 2016 satellite map. The area has the potential for Iron Age sites and is underlain by formations of very high palaeontological significance, but has not previously been assessed. It is therefore recommended that a Heritage Impact Assessment is required including :</p> <ul style="list-style-type: none">- An assessment of impacts to Stone Age artefact sites, Iron Age stone walling, and burial grounds or graves.- An assessment of impacts to Palaeontological heritage.	

Figure 1a. Satellite Map indicating the location of the proposed development in the North West Province.



1. Proposed Development Summary

It is proposed that prospecting at Roodepan 180 Portion 7 in the North West Province take place for a proposed open-cast manganese mine.

2. Application References

Name of relevant heritage authority(s)	South African Heritage Resources Agency (SAHRA)
Name of decision making authority(s)	Department of Mineral Resources (DMR)

3. Property Information

Latitude / Longitude	27.0103132967 S -26.2471167475 E
Erf number / Farm number	Roodepan 180, Portion 7
Local Municipality	Ventersdorp Local Municipality
District Municipality	Southern Municipality
Previous Magisterial District	Ventersdorp
Province	North West Province
Current Use	Rural/Agricultural
Current Zoning	Agricultural
Total Extent	3220,837 ha

4. Nature of the Proposed Development

Surface area to be affected/destroyed	397,530 ha
Depth of excavation (m)	Unknown
Height of development (m)	None anticipated



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

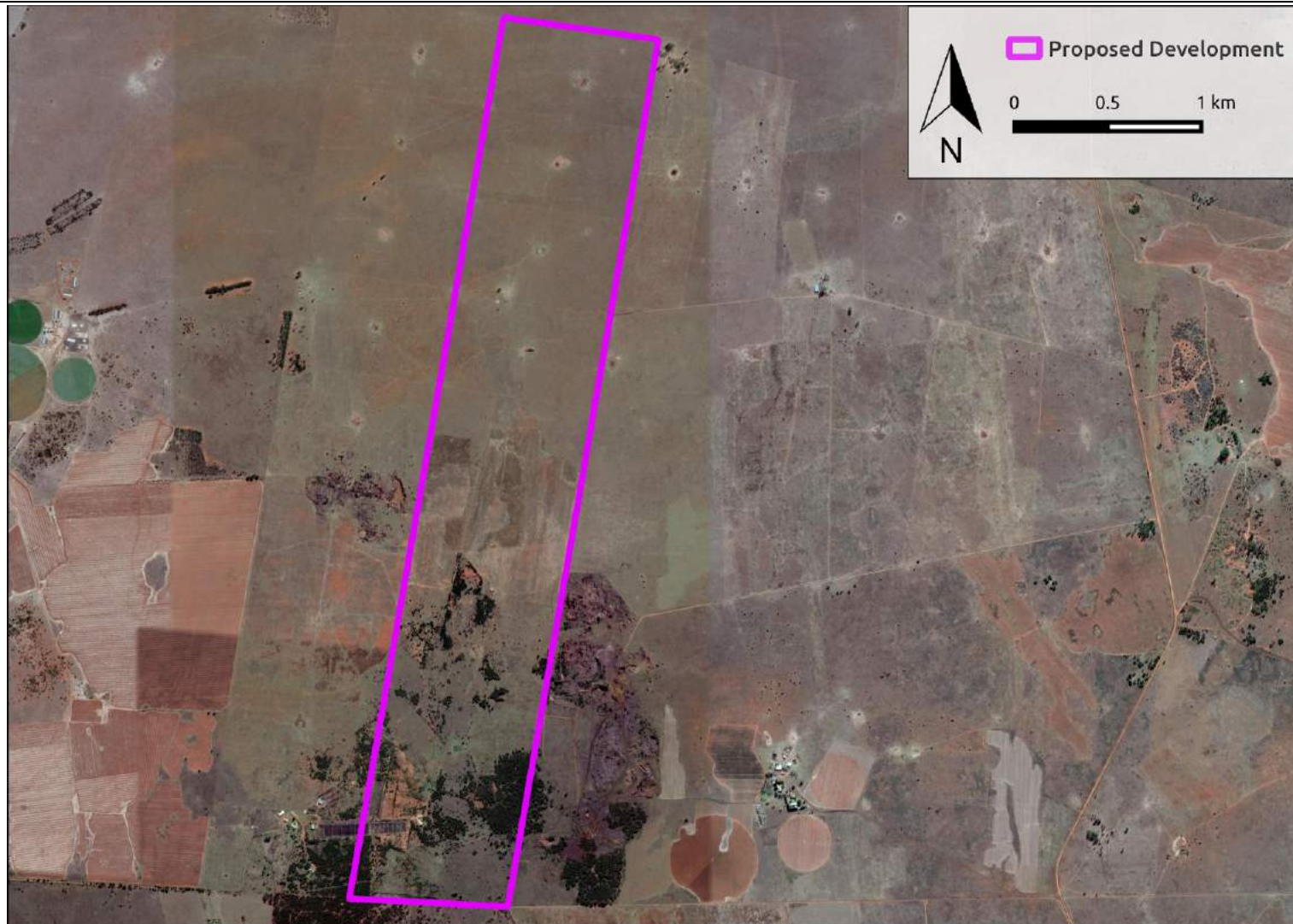


Figure 1b. Overview Map. Satellite image indicating the proposed prospecting area at closer range.



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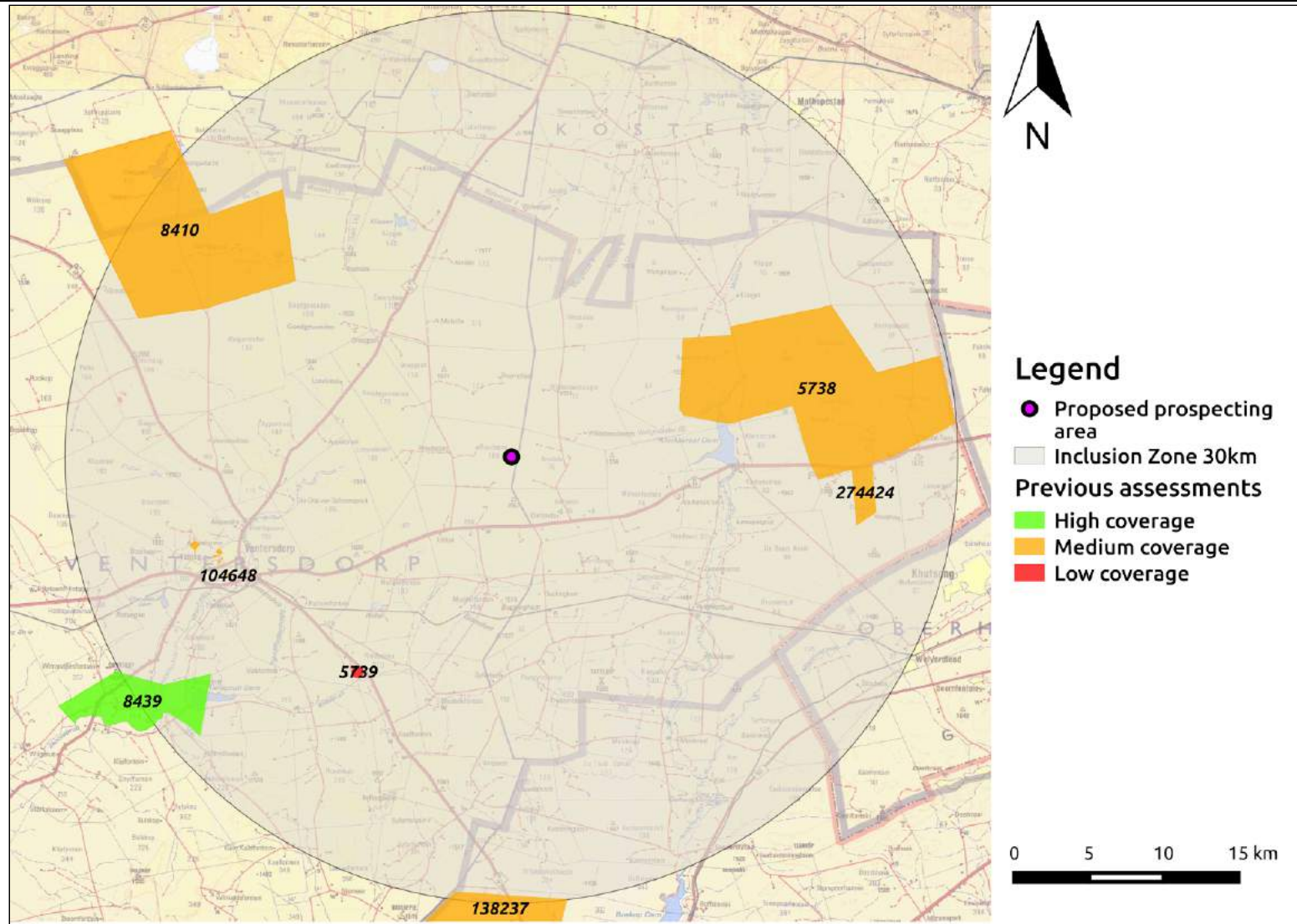


Figure 2a. HIA surveys map. Previous Heritage Impact Assessments surrounding the proposed prospecting area, with SAHRIS NIDS indicated (please see Appendix 2 for full reference list).



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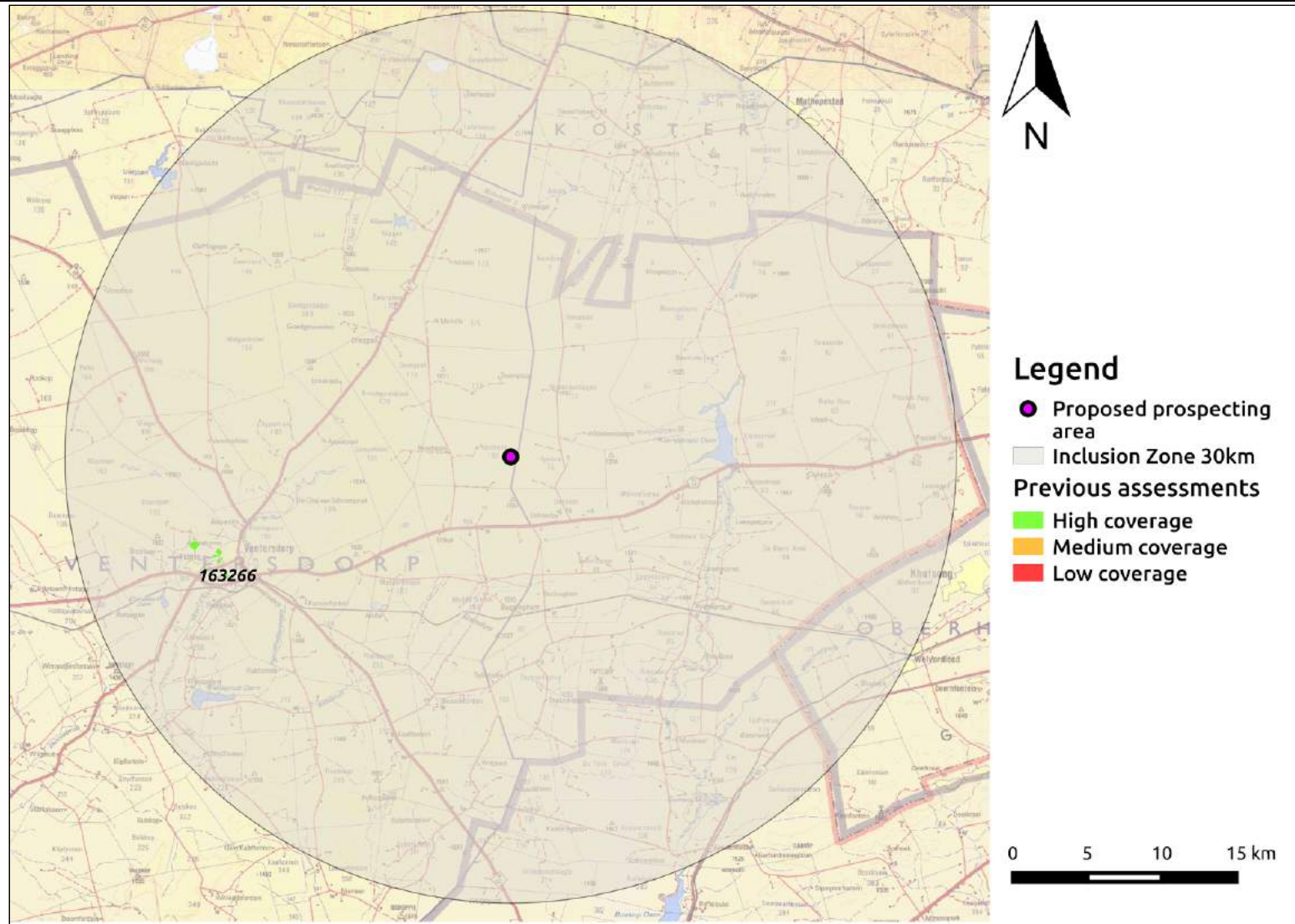


Figure 2b. PIA surveys map. Previous Palaeontological Impact Assessments surrounding the proposed prospecting area with SAHRIS NIDS indicated (please see Appendix 2 for full reference list).



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Figure 3a. Palaeosensitivity Map. Fossil sensitivity of the study area. See Appendix 3 for full guide to the legend.



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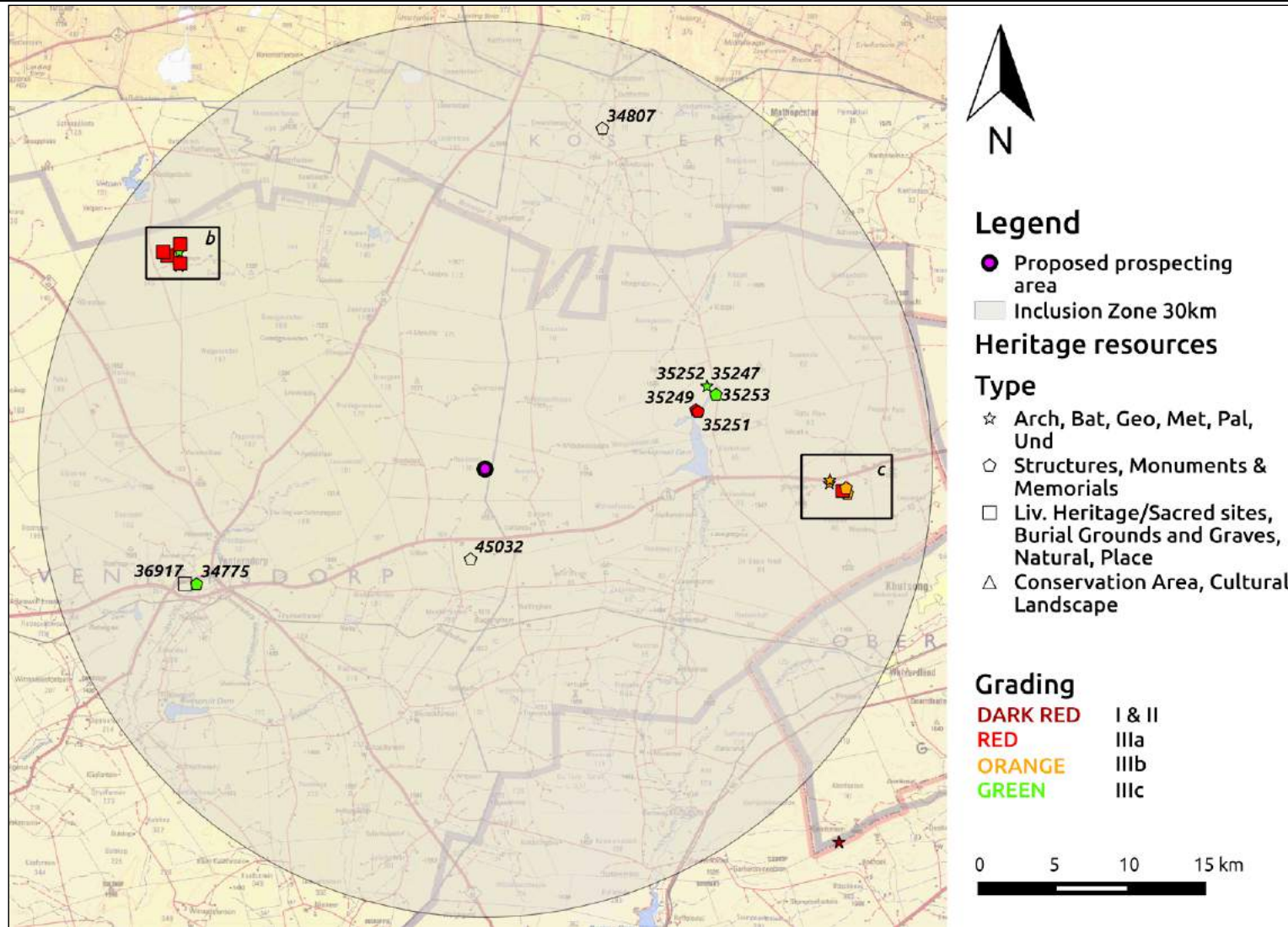


Figure 4a. Heritage Resources Map. Heritage resources previously identified in and near the study area, with SAHRIS Site IDs indicated (see Figures 4b - 4c for insets). See Appendix 4 for full description of heritage resource types.



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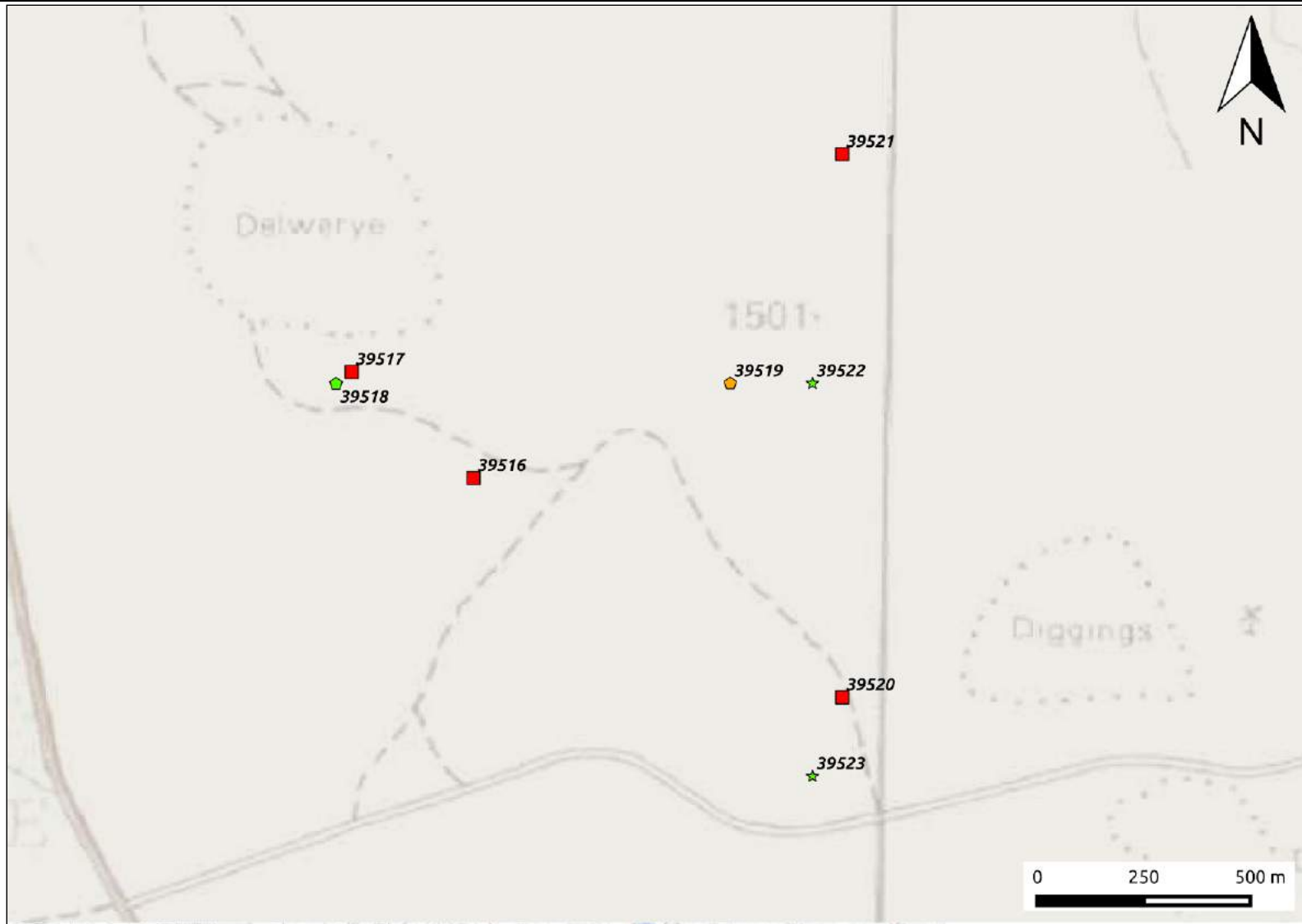


Figure 4b. Inset map.



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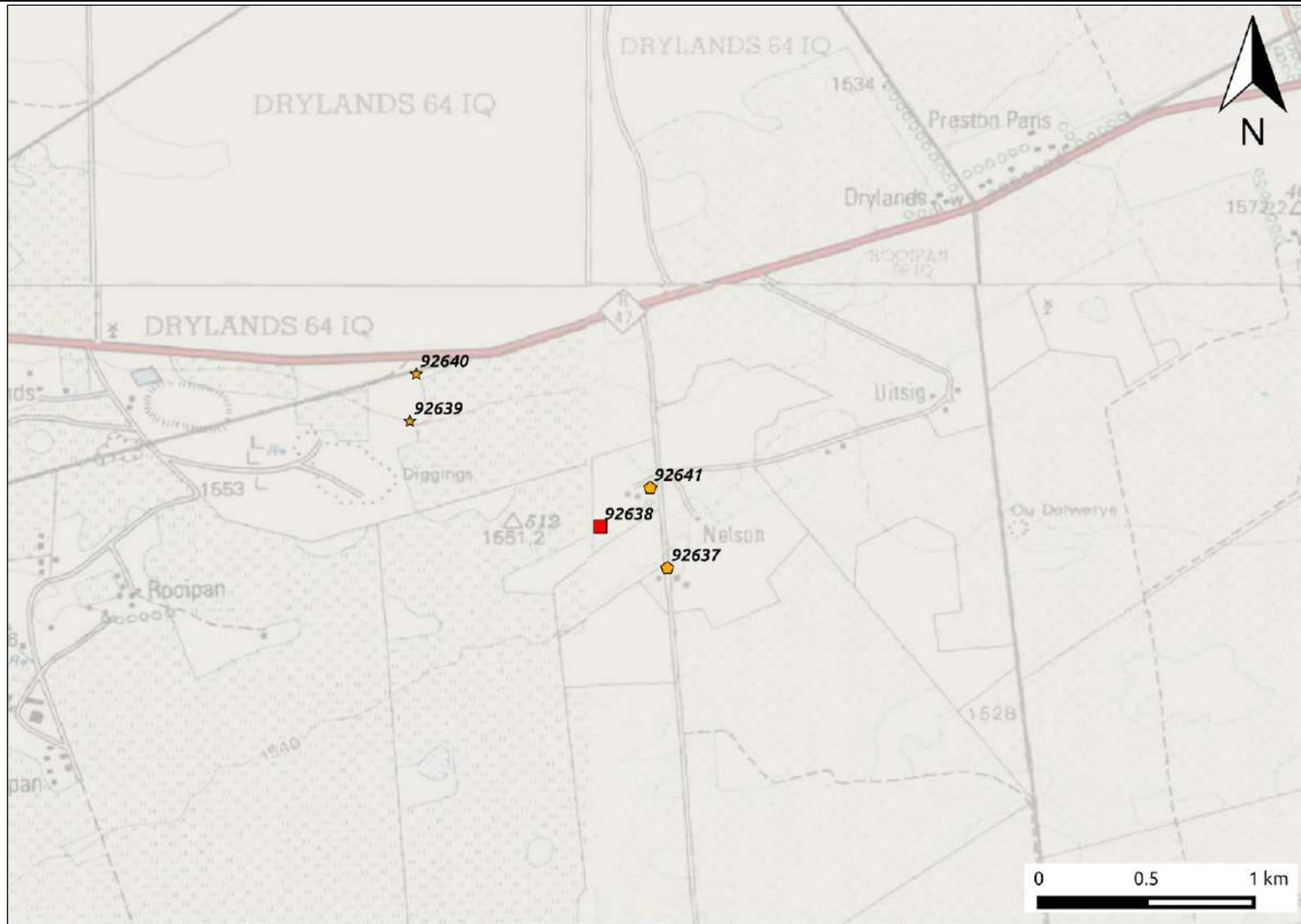


Figure 4c. Inset map.



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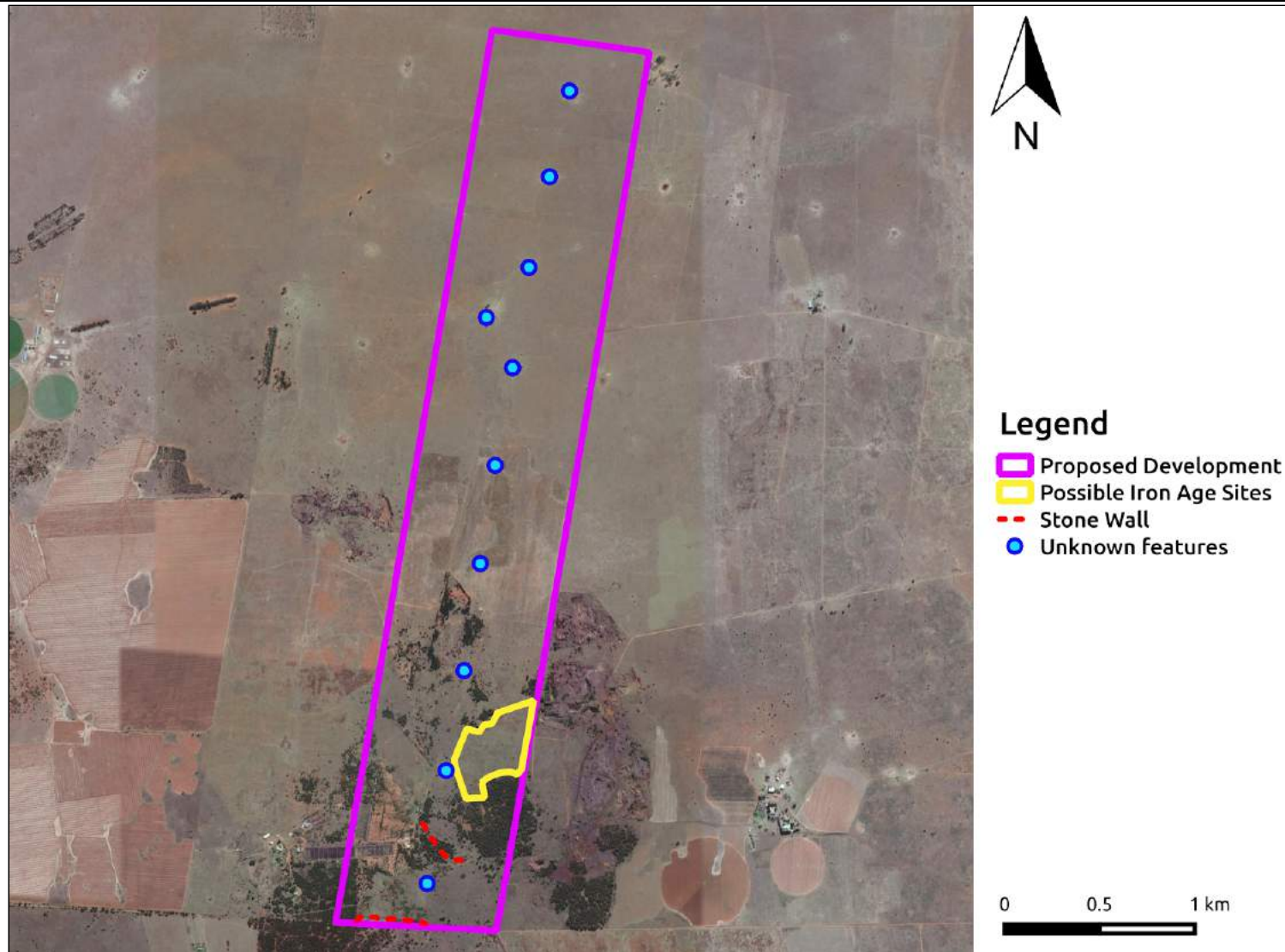


Figure 4d. Satellite map indicating the position of several key features within the proposed prospecting area that should be assessed further with ground-truthing. The yellow polygon surrounds an area that may be sensitive to Iron Age sites.

8. Heritage statement and character of the area

A Prospecting Right Application has been lodged for an open cast manganese mine on the farm Roodepan 180 Portion 7 in the North West Province near Ventersdorp. This Heritage Screening study forms part of the Environmental Management Plan (EMP) which is required under sub-section 27(5) of the Mineral and Petroleum Resources Development Act, 28 of 2002 (MPRDA).

The area is relatively large (Figure 1b), and appears to have been used for agriculture in the past with some dense vegetation occurring in the southern portion. The proposed area is therefore already largely disturbed. While no previous Heritage Impact Assessments (HIAs) fall within the study area (Figure 2a), it can be seen on the satellite map that various features exist on the landscape that cannot be accurately interpreted in a desktop assessment. These features appear to be stone walling, possible remnants of Iron Age sites and other unidentifiable features that may be cattle troughs (Figure 4d). Stone walling of low local significance has been recorded in the surrounding region previously, as have burial grounds and graves of high local significance and Stone Age artefact sites of medium local significance (Figure 4a).

While no previous Palaeontological Impact Assessments (PIAs) have been done within the proposed prospecting area, and the nearest PIA was conducted approximately 21 km away in Ventersdorp (Rubidge 2014, NID # 163266), the SAHRIS Palaeosensitivity map (Figure 3) shows underlying formations of very high and moderate fossil sensitivity. The exact formations are unknown, however the Ventersdorp Supergroup contains Lacustrine stromatolites and possible microfossils. It has been described as a *“Large Igneous Province (LIP) with voluminous eruptions of basaltic and other lavas. Stromatolites recorded from borehole cores. Any surface occurrences would be of considerable interest.”* (SAHRIS October 2013). The Silverton Formation, which occurs nearby, contains marine mudrocks with minor carbonates and volcanic rocks (Machadodorp Member). In the palaeotechnical report for the North West Province by Gideon Groenewald (2014, NID # 163089), it states that *“Stromatolites...have been recorded from borehole data in the Rietgat Formation of the Ventersdorp Supergroup in the Free State Province and any recordings from the rocks in North West Province will be significant.”* (Groenewald 2014, p15).

It is possible that undisturbed burial grounds or graves and additional stone walling may exist in the proposed prospecting area. In addition, considering the very high fossil sensitivity underlying the proposed prospecting area, the proposed development is likely to impact on significant palaeontological resources. As such, it is recommended that an Heritage Impact Assessment is undertaken as part of the assessment of impacts to the environment in terms of section 38(8) of the NHRA (Act 25 of 1999). This HIA must include an assessment of impacts to archaeological heritage resources such as Stone Age artefact sites, Iron Age sites and burial grounds and graves, as well as an assessment of impacts to palaeontological heritage resources.

RECOMMENDATION: The heritage resources in the area proposed for prospecting have not been sufficiently recorded - unidentifiable features of potential heritage significance appear on the 2016 satellite map. The area has the potential for Iron Age sites and is underlain by formations of very high palaeontological significance, but has not previously been assessed. It is therefore recommended that a Heritage Impact Assessment is required including:

- An assessment of impacts to Stone Age artefact sites, Iron Age stone walling, and burial grounds or graves.
- An assessment of impacts to Palaeontological heritage

APPENDIX 1

List of heritage resources within 30km inclusion zone

Site ID	Site no	Full Site Name	Site Type	Grading
35249	BOV005	Bovenste Oog 005	Monuments & Memorials	Grade IIIa
35251	BOV007	Bovenste Oog 007	Monuments & Memorials	Grade IIIa
39516	VNT01	Ventersdorp 01	Burial Grounds & Graves	Grade IIIa
39517	VNT02	Ventersdorp 02	Burial Grounds & Graves	Grade IIIa
39520	VNT05	Ventersdorp 05	Burial Grounds & Graves	Grade IIIa
39521	VNT06	Ventersdorp 06	Burial Grounds & Graves	Grade IIIa
92638	Rooipan 03	Rooipan96/03	Burial Grounds & Graves	Grade IIIa
39519	VNT04	Ventersdorp 04	Stone walling, Structures	Grade IIIb
92637	Rooipan 02	Rooipan96/02	Building	Grade IIIb
92639	Rooipan 04	Rooipan96/04	Artefacts	Grade IIIb
92640	Rooipan 05	Rooipan96/05	Artefacts	Grade IIIb
92641	Rooipan 01	Rooipan96/01	Building	Grade IIIb
39518	VNT03	Ventersdorp 03	Artefacts, Stone walling, Structures	Grade IIIc
39522	VNT07	Ventersdorp 07	Artefacts	Grade IIIc
39523	VNT08	Ventersdorp 08	Artefacts	Grade IIIc
34775	VEN001	VENTERSDORP 001	Building	Grade IIIc
35247	BOV003	Bovenste Oog 003	Stone walling	Grade IIIc
35252	BOV008	Bovenste Oog 008	Stone walling	Grade IIIc
35253	BOV009	Bovenste Oog 009	Structures	Grade IIIc
34807	ROOD021	Roodepoort 021	Building	NA
36917	JB Marks Grave Site	JB Marks Grave Site, Ventersdorp, North West	Burial Grounds & Graves	NA
45032	ALV03	Alveda Extension 03	Structures	NA

APPENDIX 2

Reference List

Impact Assessment References				
Nid	Report Type	Author/s	Date	Title
5738	HIA	Cobus Dreyer	04/03/2006	First Phase Archaeological and Cultural Heritage Assessment of the Proposed Developments at the Farms Bovenste Oog 68 IQ (Mooi River), Digby Plain 63 IQ, Sommerville 62 IQ, Preston Pans 59 IQ and Dryland 64 IQ, Ventersdorp, North West Province
5739	HIA	Richard Munyai	01/03/2007	Heritage Resources Scoping Report. Proposed Construction of Chicken Broilers and Associated Building Structures at Portion 26 and 49 of the Farm Palmietfontein 189 Ventersdorp
8439	HIA	Udo Kusel	17/05/2007	Cultural Heritage Resources Impact Assessment of Portion 9 and 146 of the Farm Klipplaatsdrift 214 IP Ventersdorp, North West Province
8410	HIA	Polke Birkholtz	28/03/2008	Phase 1 Heritage Impact Assessment: Proposed Etruscan Diamonds (Pty) Ltd Development Situated on the Remaining Extent of the Farm Nooitgedacht 131 IP, Zwartrand 145 IP and Hartbeeslaagte 146 IP, Magisterial District of Ventersdorp, North West Province
104648	HIA	Udo Kusel	01/11/2012	Cultural Heritage Resources Impact Assessment Of The Farm Roodepoort 191 Ip Ventersdorp North West Province
138237	HIA	Anton Pelser	01/05/2013	A Report On A Phase I Heritage Assessment For The Proposed Expansion Of The Sun Valley Broiler Facilities, Near Potchefstroom, Northwest Province
274424	AIA	Jaco van der Walt	04/06/2015	Heritage Opinion For the Proposed Prospecting Activities on the farm Rooipan 96 IQ, Ventersdorp, North West Province.
163266	PIA	Bruce Rubidge	29/03/2014	Palaeontological Scoping Report - Ventersdorp proposed township development
Other References				
163089	Palaeotechnical Report	Gideon Groenewald	31/03/2014	Sahra Palaeotechnical Report: Palaeontological Heritage of North West

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)
DEDETA	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.
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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.**