APPENDIX 3: Desktop Heritage Screening Assessment

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HERITAGE SCREENER

CTS Reference Number:	**CTS19_190**
SAHRIS Ref:	**TBA**
Client:	**Savannah**
Date:	**17 January 2020**
Title:	**Proposed development of a 132kV powerline near Olifantshoek, Northern Cape**

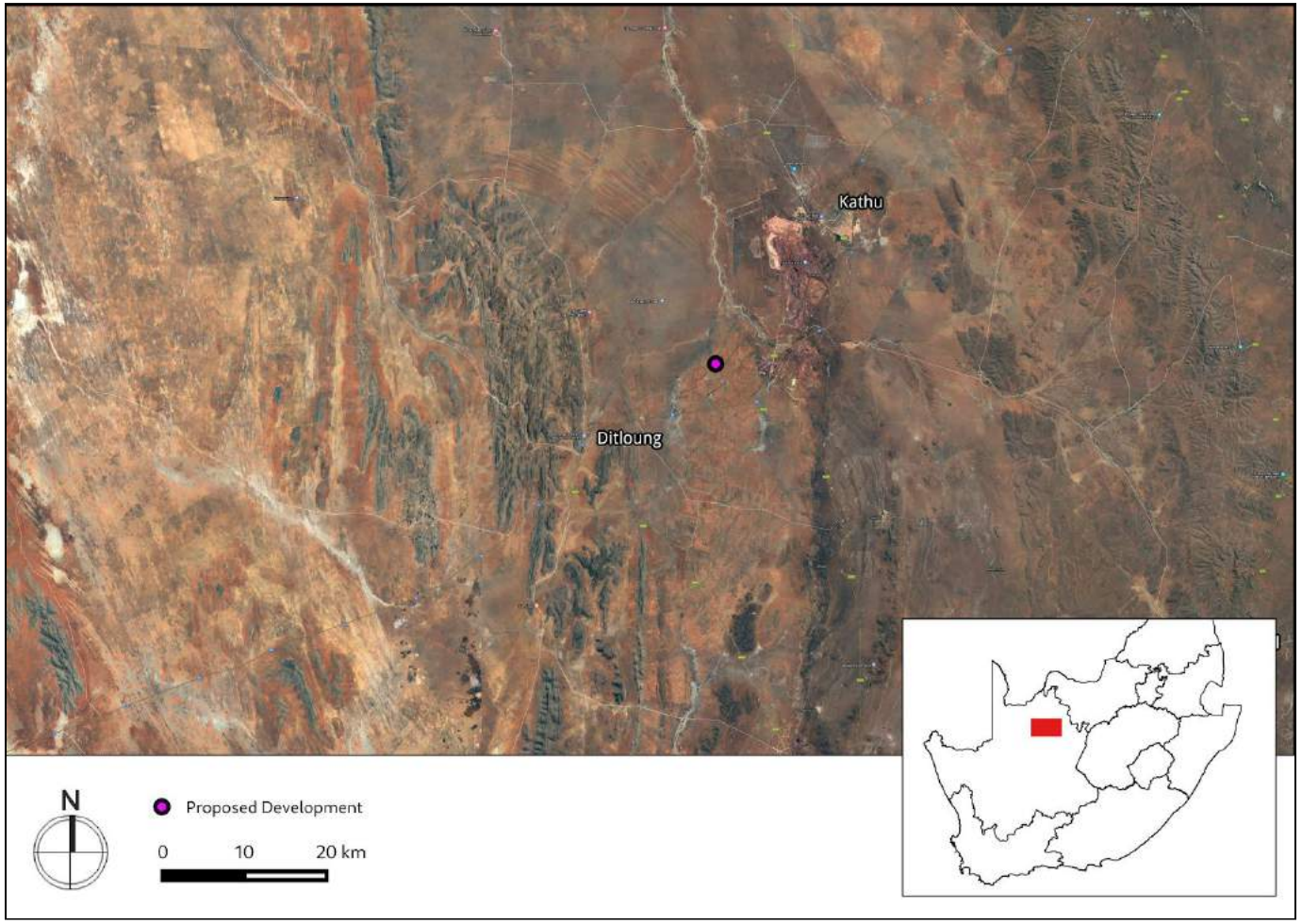

Figure 1a. Satellite map indicating the location of the proposed development in the Northern Cape Province

Recommendation by CTS Heritage Specialists	**RECOMMENDATION:** **As it is likely that any proposed development will impact significant heritage resources, it is recommended that a Heritage Impact Assessment be conducted that assesses impacts to archaeological and palaeontological heritage resources.**

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1. Proposed Development Summary

The Gamagara Local Municipality proposes the construction and operation of a grid connection infrastructure between the existing Elim Substation and the soon-to-be constructed Olifantshoek Substation near the town of Olifantshoek in the Northern Cape Province. The grid infrastructure will be used to strengthen the grid network in the area in order to ensure an adequate supply of electricity for the residents within the Municipality's jurisdictional area. The grid connection infrastructure will only include a single circuit power line with capacity of up to 132kV. The power line is being assessed within a 300m wide and 36km long corridor which will allow for the optimisation of the infrastructure to be developed and to avoid identified environmental sensitivities. The height of the power line pylons will be up to 20m. The servitude of the power line will be 31m in width.

2. Application References

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

3. Property Information

Latitude / Longitude	27°55'52.67"S 22°44'55.33"E
Erf number / Farm number	The grid connection corridor traverses the following affected properties: Remaining Extent of the Farm Fritz 540, Portion 1 of the Farm Fritz 540, Portion 2 of the Farm Fritz 540, Portion 4 of the Farm Fritz 540, Portion 5 of the Farm Fritz 540, Portion 10 of the Farm Fritz 540, Remaining Extent of the Farm Gamagara 541, Portion 1 of the Farm Gamagara 541, Portion 7 of the Farm Gamagara 541, Portion 2 of the Farm Dingle 565, Remaining Extent of the Farm Dingle 565, Remaining Extent of the Farm Smythe 566, Remaining Extent of the Farm Murray 570, Portion 2 of the Farm Murray 570, Remaining Extent of the Farm Cox 571, Portion 1 of the Farm Cox 571, Portion 3 of the Farm Cox 571, Portion 4 of the Farm Cox 571, Remaining Extent of the Farm Hartley 573, Remaining Extent of the Farm Diegaart's Heuwel 765, Portion 1 of the Farm Neylan 574
Local Municipality	Gamagara
District Municipality	Kgalagadi
Previous Magisterial District	Postmasburg
Province	Northern Cape
Current Use	Agriculture - The land use of the properties affected by the proposed power line includes agriculture, conservation and mining-related activities.
Current Zoning	Agriculture

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4. Nature of the Proposed Development

Total Surface Area	300m wide and 36km long corridor
Depth of excavation (m)	Up to 3m
Height of development (m)	Up to 20m

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
x	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

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.

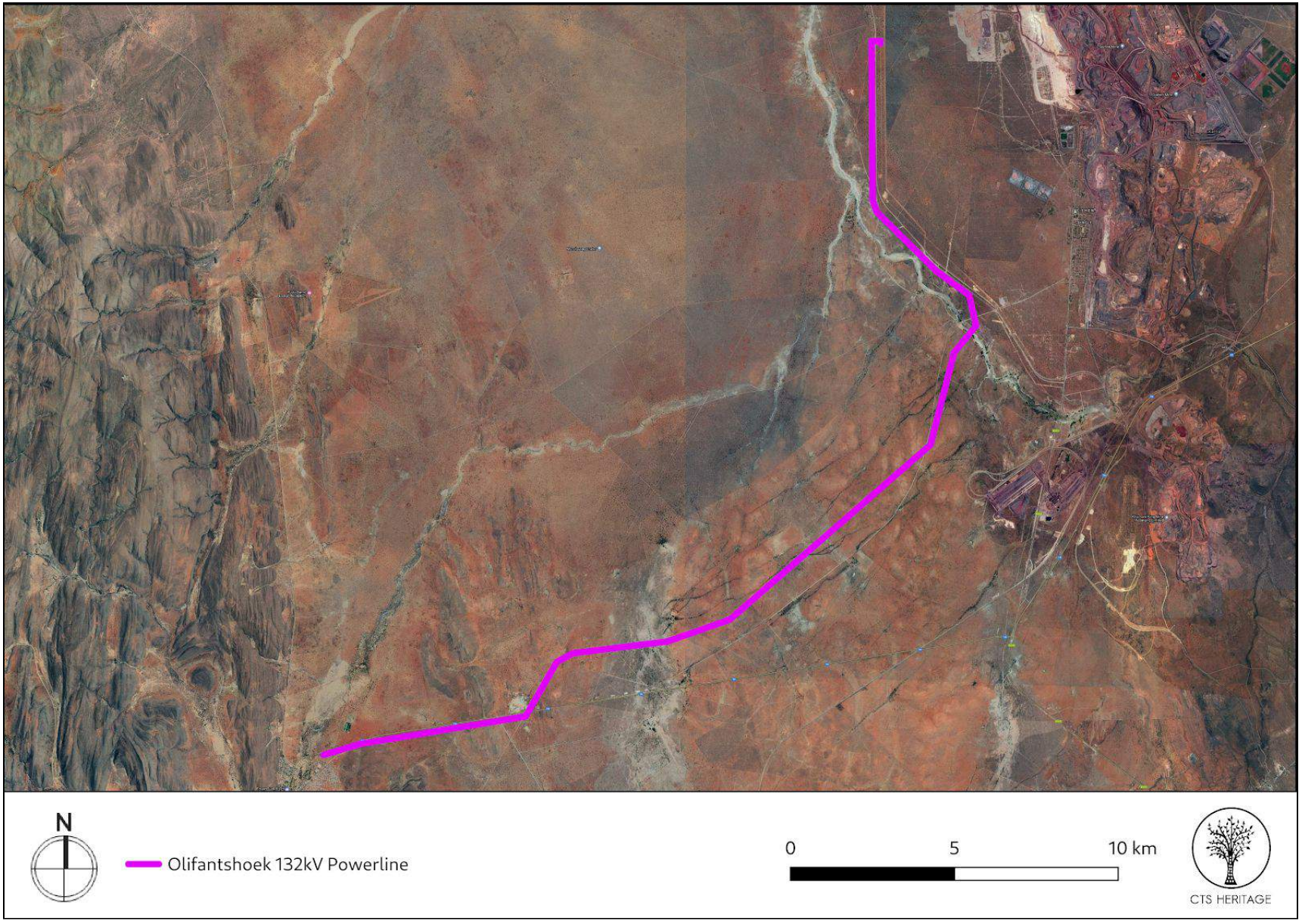

Figure 1c. Overview Map. Satellite image (2019) indicating the proposed development area at closer range.

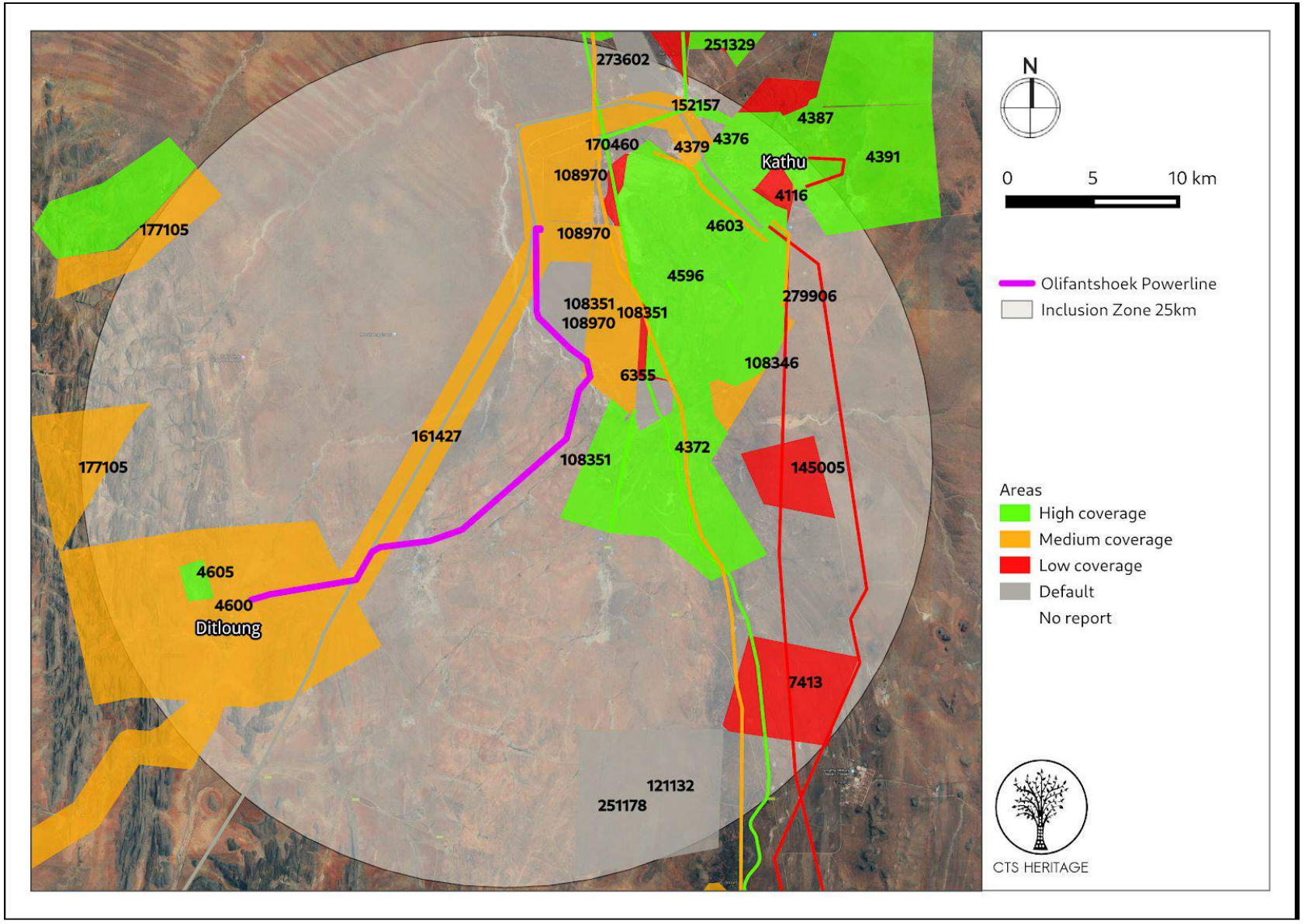

Figure 2. Previous HIAs Map. Previous Heritage Impact Assessments surrounding the proposed development area within 5km, with SAHRIS NIDS indicated. Please see Appendix 2 for full reference list.

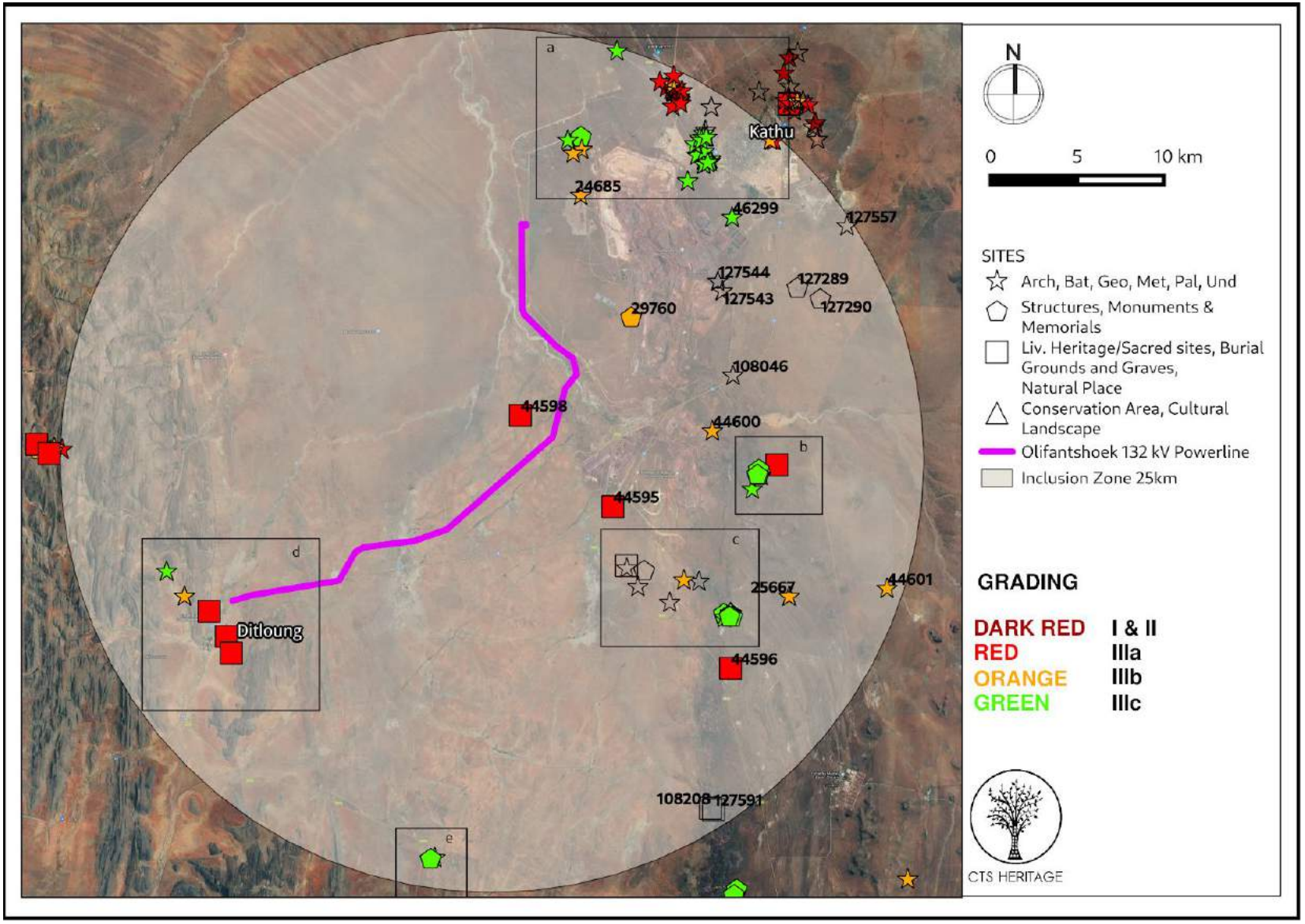

Figure 3. Heritage Resources Map. Heritage Resources previously identified in and near the study area. See insets a to d below with SAHRIS Site IDs indicated. Please See Appendix 4 for full description of heritage resource types.

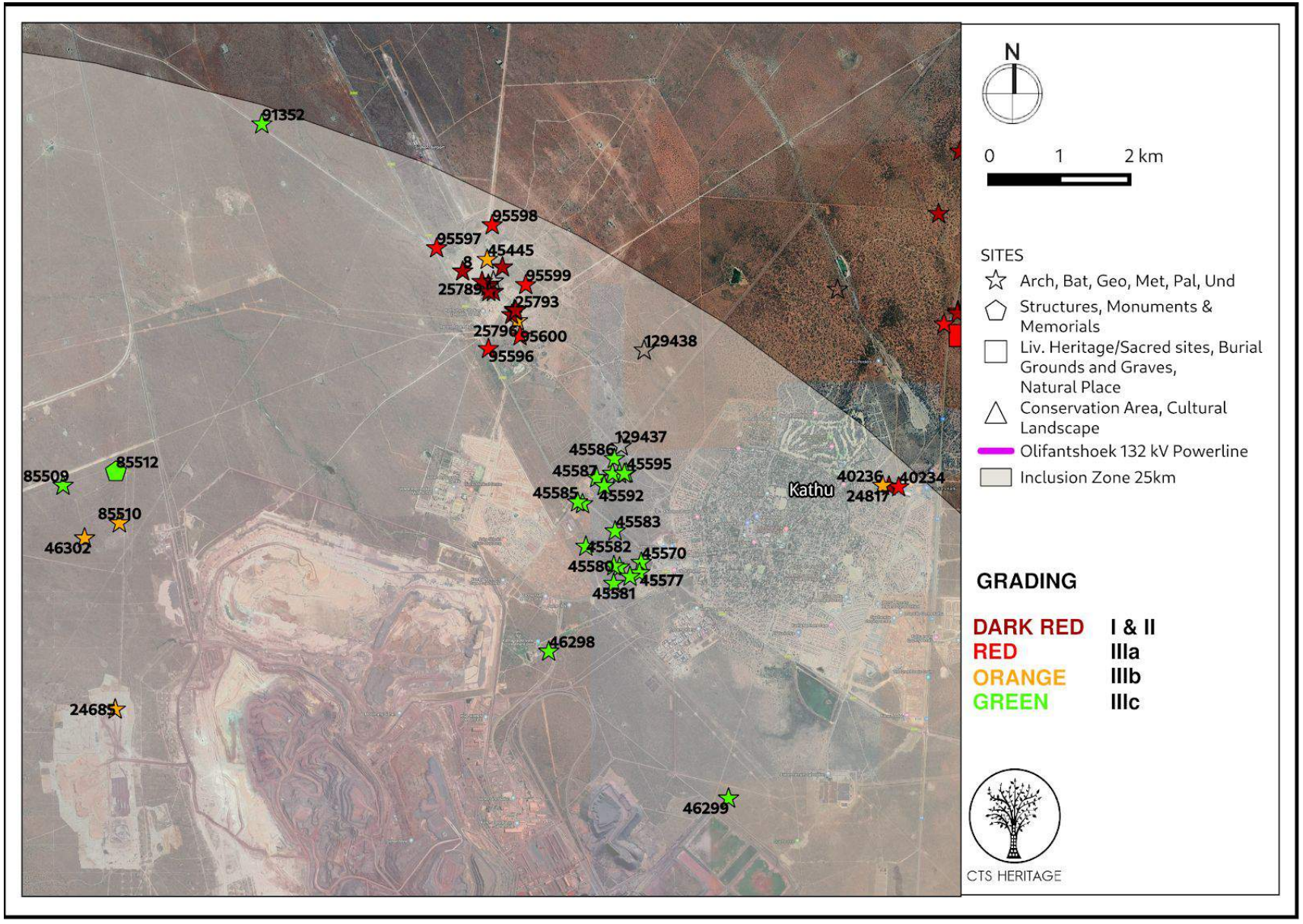

Figure 3a. Heritage Resources Map. Inset

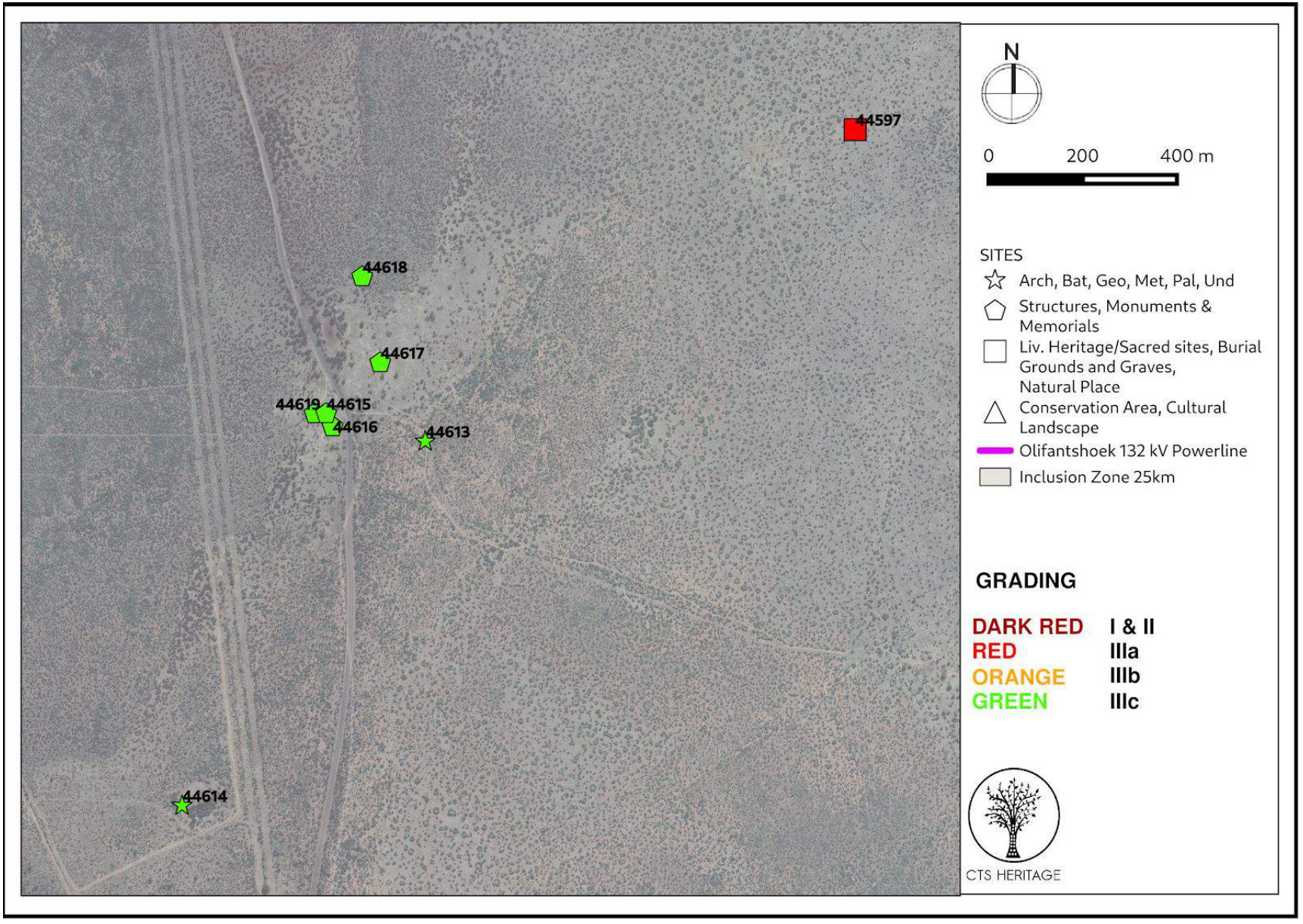

Figure 3b. Heritage Resources Map. Inset

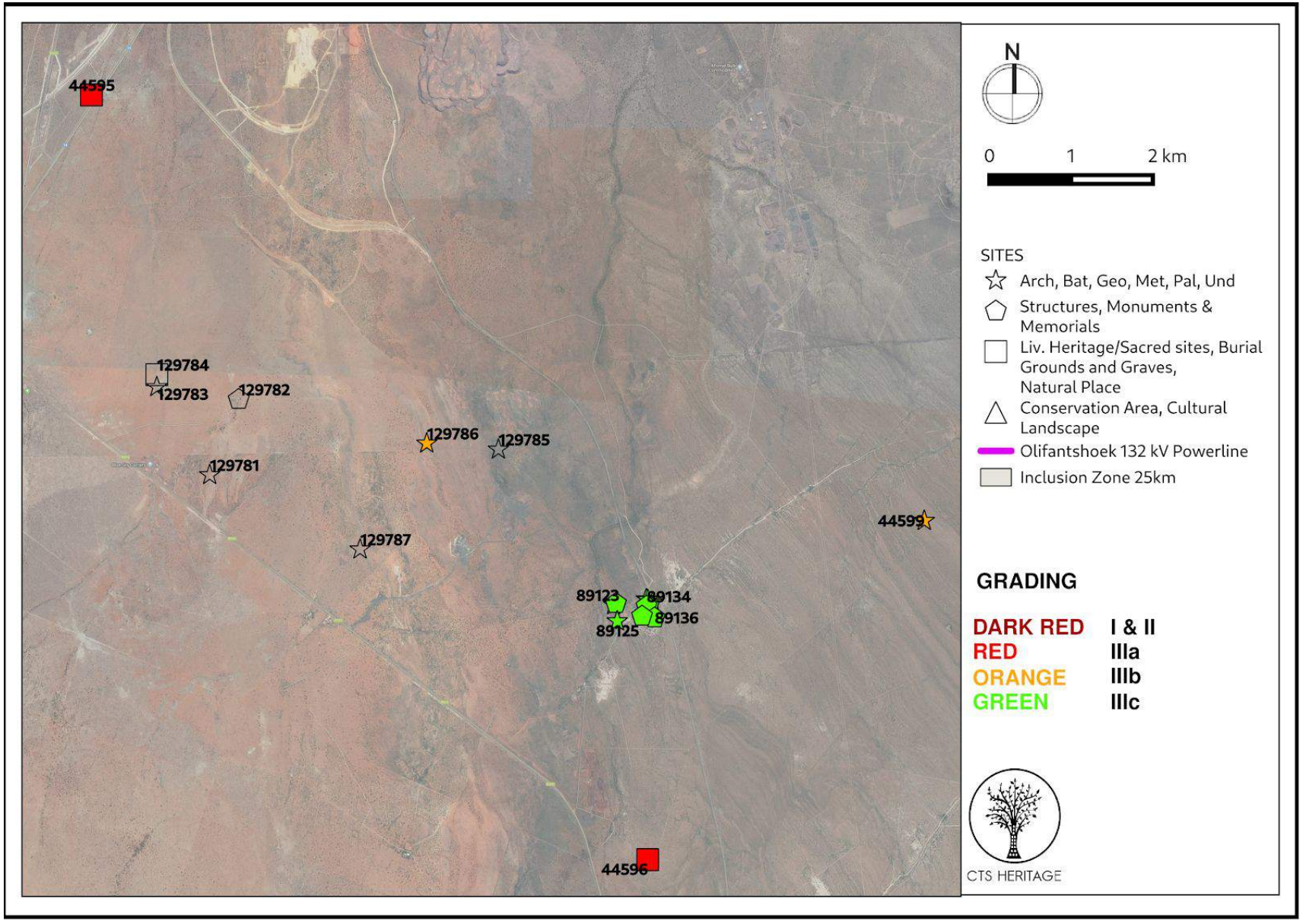

Figure 3c. Heritage Resources Map. Inset

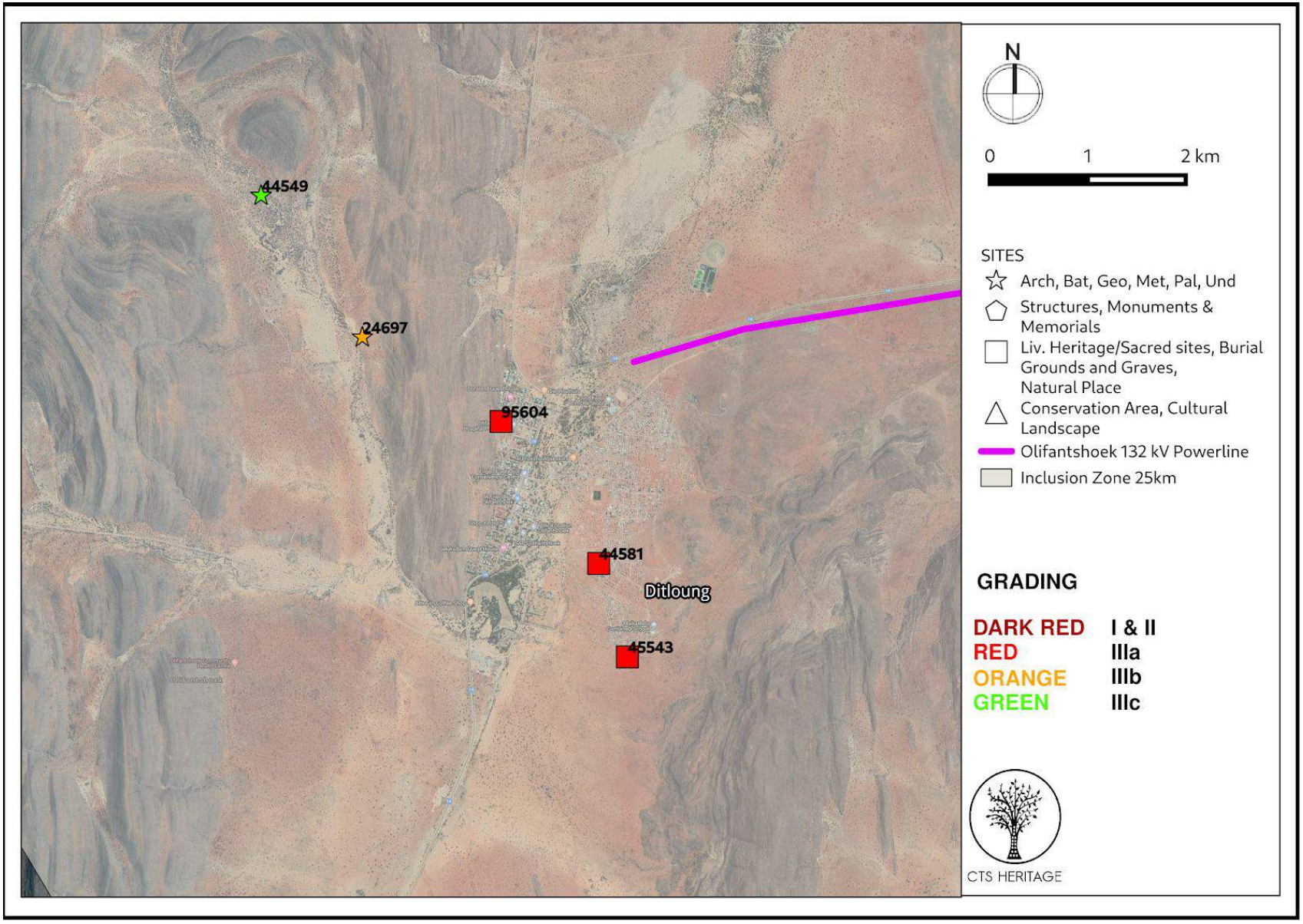

Figure 3d. Heritage Resources Map. Inset

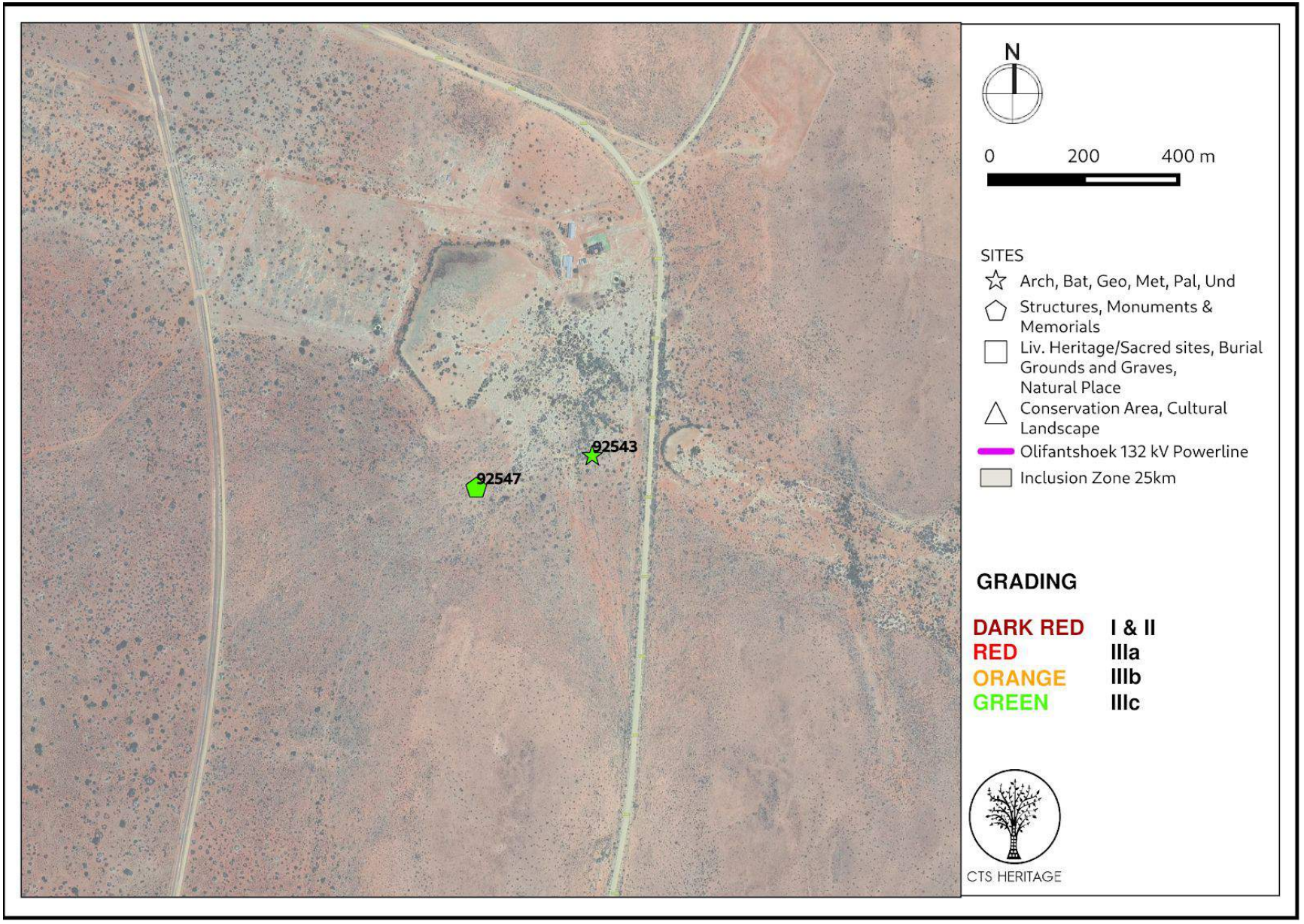

Figure 3e. Heritage Resources Map. Inset

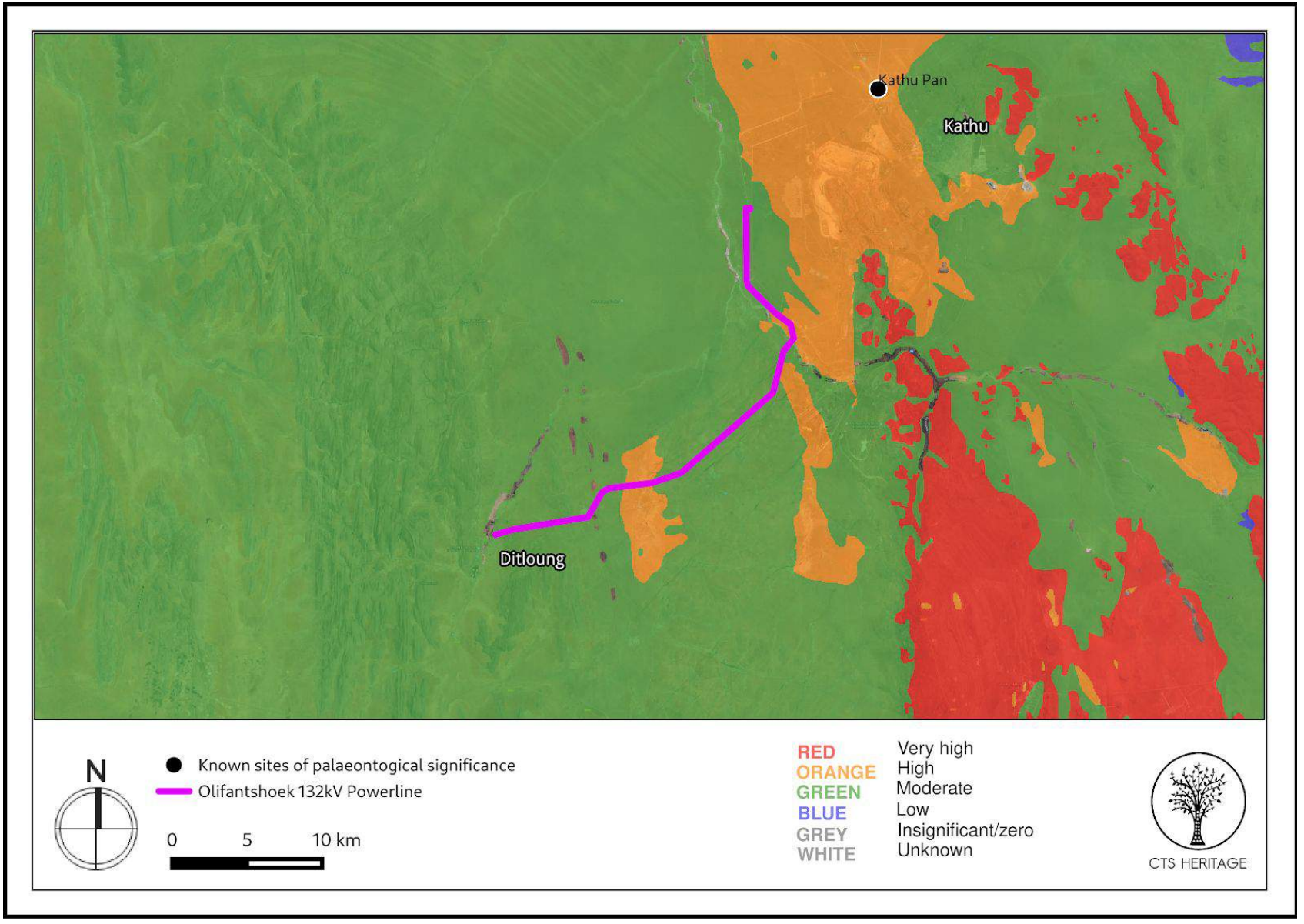

Figure 4. SAHRIS Palaeosensitivity Map. Indicating moderate fossil sensitivity underlying the study area. Please See Appendix 3 for full guide to the legend.

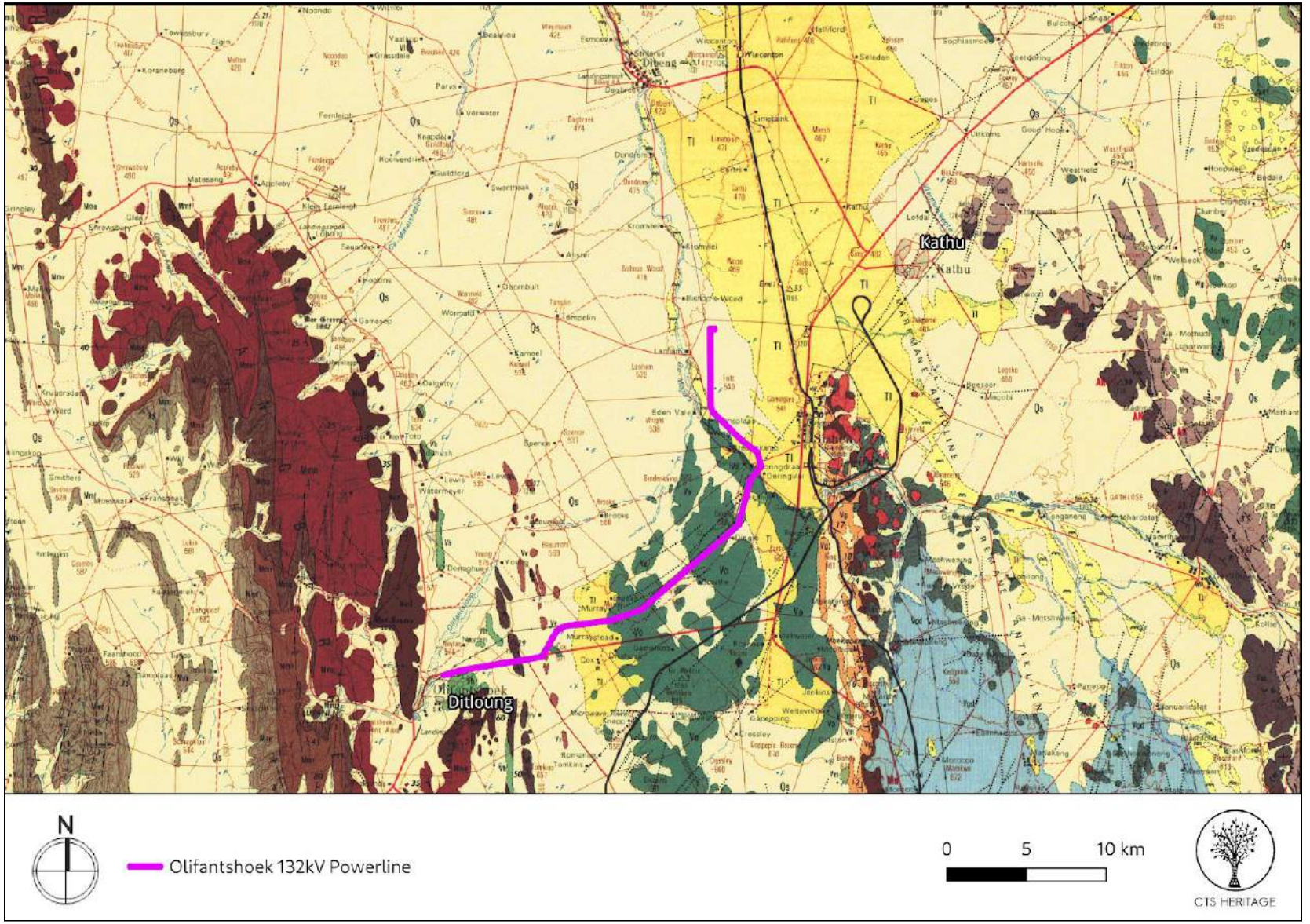

Figure 5a. Geology Map. Indicating the underlying geology across the study area through overlaying the geology maps from the CGS series 2722 Kuruman (Qs: Quarternary Sands; Tl: Tertiary Surface Limestone; Vh: Hartley Formation volcanic rocks; Vl: Lucknow Formation; Vv: Voelwater Formation; Vo: Ongeluk Formation volcanic rocks)

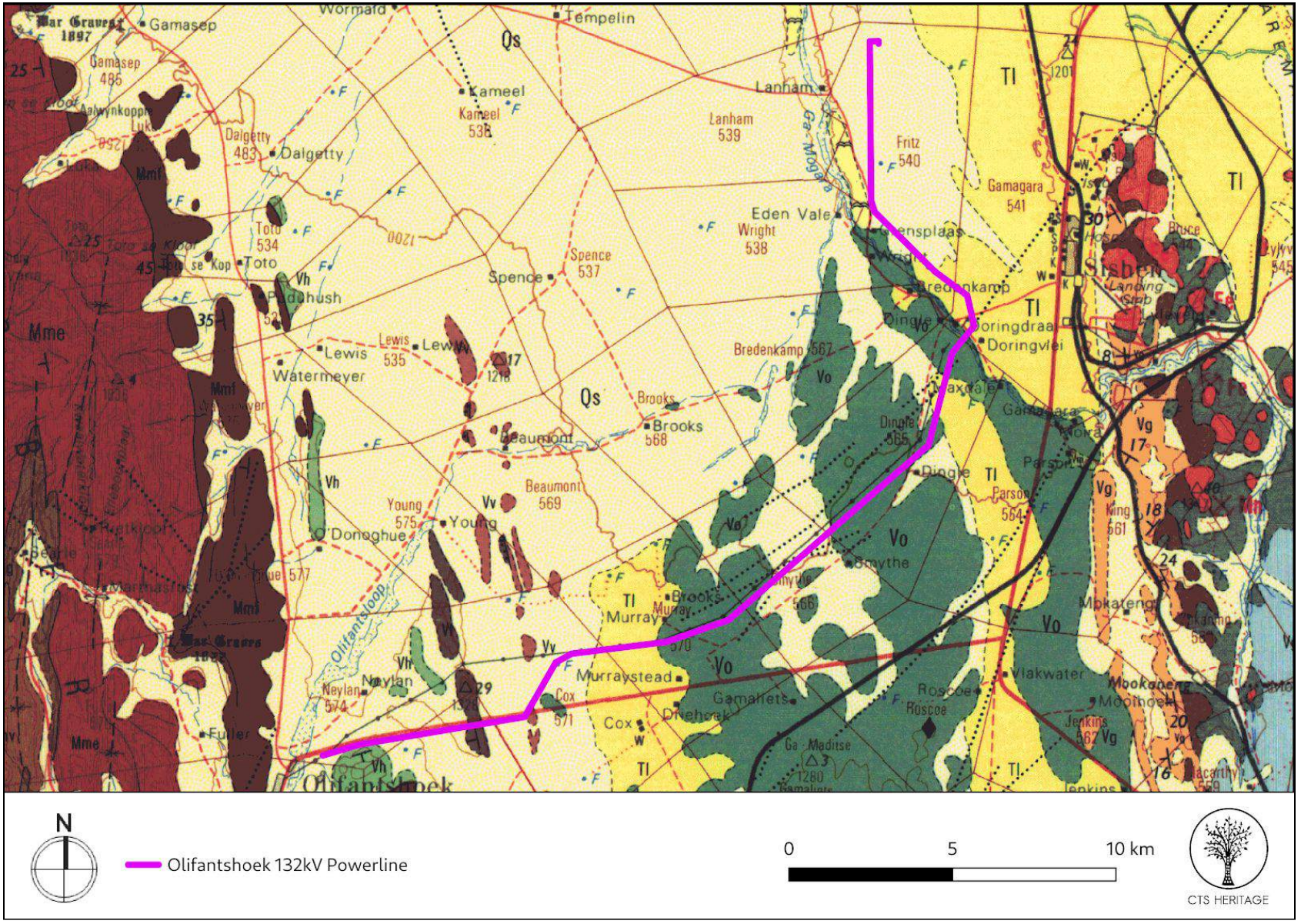

Figure 5b. Geology Map. Zoomed in

8. Heritage statement and character of the area

This application is for the proposed establishment of a 132kV powerline from the Olifantshoek Substation to the Elim Substation located 13 km west of Kathu. The town of Kathu was established in the 1960's and 1970's as a result of the iron ore mining taking place at the neighbouring Sishen mine. It is important to note that the northern portion of the development lies in close proximity to the Grade I Kathu Pan Archaeological site. At Kathu Pan, north west of the town, evidence of early hominin occupation has been observed at multiple sinkhole sites within the pan, and the results of scientific investigation into these sites has been broadly published. These sites are known for its rich collection of Early Stone Age artefacts, and several Archaeological and Heritage Impact Assessments have recorded the area (see Figure 2 Appendix 2). These archaeological resources occur in areas associated with outcrops of banded ironstone, and the localised natural pan, with most coming specifically from sinkholes in the pan itself.

Gaigher (2014) conducted an assessment for the Solar-Ferrum 400kV Power Line (NID 161472) which runs through part of the proposed 132kV alignment. His report concluded that only ephemeral scatters of Stone Age artefacts of low significance were located in the vicinity of the power line, and he recorded no rock engravings or built environment sites - common site types to be found in this region. The only burial grounds site that Gaigher mentions is the Olifantshoek Cemetery (Site ID 95604), which lies roughly 500m to the west of the southern-most tip of the power line (see Figure 3d), but which will not be impacted. Beaumont's (2007) HIA located a burial ground (Site ID 44581) that he concluded to be from the early 1950's or late 1940's. He located some ephemeral stone age artefacts of low significance which he did not record, but found no archaeological or palaeontological sites of value. In his assessment, Kruger (2012, NID 108970) noted that "a few Middle Stone Age (MSA) artefacts, generally made from fine grained specularite and jaspilite, were recorded at three locations around small water pans in the area. These lithics include only rough core and flake artefacts with smoothed surfaces, and no formal stone tools were observed. However, larger amounts of Earlier and Middle Stone Age artefacts including handaxes, cores and flakes were noted." Due to the proximity of the proposed development to the highly significant Kathu Pan archaeological site, it is likely that the proposed development will negatively impact on archaeological heritage resources.

According to the SAHRA Palaeosensitivity map, the area is underlain by formations of moderate, high and unknown palaeontological significance. However Almond and Pether (2009) describe these specific formations as having a low sensitivity for fossils: both the Hartley and the Lucknow Formations have a low fossil sensitivity, and the sensitivity of the Volwater Formation is unknown. The Gordonia Formation of the Kalahari Group consists of aeolian sands and fossils (bones, teeth, petrified wood, palynomorphs) mainly associated with ancient pans, lakes and river systems, however in a Palaeontological Impact Assessment by Almond (2012, NID 114648), it is stated that "*while a wide spectrum of vertebrate remains, invertebrates, trace fossils, plant fossils and microfossils have been recorded from these Kalahari Group sediments, in general they are of low palaeontological sensitivity and of considerable lateral extent so impacts on fossil heritage here are likely to be of low significance*". Considering these factors, and the fact that no deep excavation is anticipated to occur, it is unlikely that palaeontologically sensitive sediments will be impacted by the proposed development.

RECOMMENDATION:
As it is likely that any proposed development will impact significant heritage resources, it is recommended that a Heritage Impact Assessment be conducted that assesses impacts to archaeological and palaeontological heritage resources.

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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
89124	MAC002	MACARTHY 559/ 002	Structures	Grade IIIc
45590	SIMS15	Sims 462 - 15	Artefacts	Grade IIIc
45591	SIMS16	Sims 462 - 16	Artefacts	Grade IIIc
25667	King Site 3	King Site 3	Ruin > 100 years	Grade IIIb
45592	SIMS17	Sims 462 - 17	Artefacts	Grade IIIc
45595	SIMS20	Sims 462 - 20	Artefacts	Grade IIIc
46298	KAT-SIS07	Kathu-Sishen 07	Artefacts	Grade IIIc
45593	SIMS18	Sims 462 - 18	Artefacts	Grade IIIc
46299	KAT-SIS08	Kathu-Sishen 08	Artefacts	Grade IIIc
91352	DG001	Dingleton 001	Artefacts	Grade IIIc
127290	K 14	66kV network in the Kuruman Site 14	Building	Grade IV
44549	FULL01	Fuller 01	Artefacts	Grade IIIc
44599	POST-KATH05	Postmasburg to Kathu 05	Artefacts	Grade IIIb
44601	POST-KATH07	Postmasburg to Kathu 07	Artefacts	Grade IIIb
44600	POST-KATH06	Postmasburg to Kathu 06	Artefacts	Grade IIIb
40234	BEST001	Bestwood, Kathu 001	Artefacts, Deposit	Grade IIIa
40235	GMGR02	Gamagara 02	Artefacts	Grade IIIb
89125	MAC003	MACARTHY 559/ 003	Artefacts	Grade IIIc
89126	MAC004	MACARTHY 559/ 004	Artefacts	Grade IIIc
89127	MAC005	MACARTHY 559/ 005	Deposit	Grade IIIc
89129	MAC006	MACARTHY 559/ 006	Stone walling	Grade IIIc
89131	MAC007	MACARTHY 559/ 007	Structures	Grade IIIc

127289	K 13	66kV network in the Kuruman Site 13	Building	Grade IV
89134	MAC008	MACARTHY 559/ 008	Building	Grade IIIc
89136	MAC009	MACARTHY 559/ 009	Structures	Grade IIIc
45580	SIMS05	Sims 462 - 05	Artefacts	Grade IIIc
45581	SIMS06	Sims 462 - 06	Artefacts	Grade IIIc
45582	SIMS07	Sims 462 - 07	Artefacts	Grade IIIc
45583	SIMS08	Sims 462 - 08	Artefacts	Grade IIIc
45584	SIMS09	Sims 462 - 09	Artefacts	Grade IIIc
45585	SIMS10	Sims 462 - 10	Artefacts	Grade IIIc
45578	SIMS03	Sims 462 - 03	Artefacts	Grade IIIc
45586	SIMS11	Sims 462 - 11	Artefacts	Grade IIIc
85512	HEFP004	HIGH ENERGY FUEL PLANT 004	Structures	Grade IIIc
85511	HEFP003	HIGH ENERGY FUEL PLANT 003	Artefacts	Grade IIIc
45543	UPING12	Upington 12	Burial Grounds & Graves	Grade IIIa
44615	MASH03	Mashwening, Kathu 03	Structures	Grade IIIc
29760	Dingleton Resettlement Project	Dingleton	Structures	Grade IIIb
45570	SIMS01	Sims 462 - 01	Artefacts	Grade IIIc
45577	SIMS02	Sims 462 - 02	Artefacts	Grade IIIc
45579	SIMS04	Sims 462 - 04	Artefacts	Grade IIIc
25791	Kathu Pan 6	Kathu Pan 6, Kathu, Northern Cape	Deposit	Grade I
25792	Kathu Pan 7	Kathu Pan 7, Kathu, Northern Cape	Deposit	Grade I
25793	Kathu Pan 8	Kathu Pan 8, Kathu, Northern Cape	Deposit	Grade I
25794	Kathu Pan 9	Kathu Pan 9, Kathu, Northern Cape	Deposit	Grade I
8	Kathu Pan Sites	Kathu Pan Sites 1-11	Archaeological, Deposit	Grade I

24817	Kathu Townlands	Kathu Townlands 1	Deposit	Grade I
45588	SIMS13	Sims 462 - 13	Artefacts	Grade IIIc
45589	SIMS14	Sims 462 - 14	Artefacts	Grade IIIc
45587	SIMS12	Sims 462 - 12	Artefacts	Grade IIIc
25782	Kathu Pan 1	Kathu Pan 1, Kathu, Northern Cape	Deposit	Grade I
25795	Kathu Pan 10	Kathu Pan 10, Kathu, Northern Cape	Deposit	Grade I
25796	Kathu Pan 11	Kathu Pan 11, Kathu, Northern Cape	Deposit	Grade IIIb
25783	Kathu Pan 2	Kathu Pan 2, Kathu, Northern Cape	Archaeological	Grade I
25787	Kathu Pan 3	Kathu Pan 3, Kathu, Northern Cape	Deposit	Grade I
25789	Kathu Pan 4	Kathu Pan 4, Kathu, Northern Cape	Archaeological	Grade I
25790	Kathu Pan 5	Kathu Pan, Kathu, Northern Cape	Deposit	Grade I
129785	2722DD/Mining/farm Jenkins 562/Site JNK5	Farm Jenkins 562, Kathu, Tsantsabane Local Municipality, Northern Cape Province	Archaeological	Grade IV
129786	2722DD/Mining/farm Jenkins 562/Site JNK6	Farm Jenkins 562, Kathu, Tsantsabane Local Municipality, Northern Cape Province	Archaeological	Grade IIIb
129787	2722DD/Mining/farm Jenkins 562/Site JNK7	Farm Jenkins 562, Kathu, Tsantsabane Local Municipality, Northern Cape Province	Archaeological	Grade IV
129437	Kathu Extensions 6-10		Archaeological	
129438	Kathu Extension 6-10	Site 5 Stone Age	Archaeological	
129732	2723AD/Electrical infrastucture/Kuruman/site K13	Kuruman area, Northern Cape Province	Structures	Grade IV
129733	2723AD/Electrical infrastucture/Kuruman/site K14	Kuruman area, Northern Cape Province	Structures	Grade IV
129781	2722DD/Mining/farm Jenkins 562/Site JNK1	Farm Jenkins 562, Kathu, Tsantsabane Local Municipality, Northern Cape Province	Artefacts	Grade IV

129782	2722DD/Mining/farm Jenkins 562/Site JNK2	Farm Jenkins 562, Kathu, Tsantsabane Local Municipality, Northern Cape Province	Structures	Ungraded
129783	2722DD/Mining/farm Jenkins 562/Site JNK3	Farm Jenkins 562, Kathu, Tsantsabane Local Municipality, Northern Cape Province	Archaeological	Grade IV
129784	2722DD/Mining/farm Jenkins 562/Site JNK4	Farm Jenkins 562, Kathu, Tsantsabane Local Municipality, Northern Cape Province	Burial Grounds & Graves	Grade IV
44614	MASH02	Mashwening, Kathu 02	Archaeological	Grade IIIc
44619	MASH07	Mashwening, Kathu 07	Structures	Grade IIIc
44616	MASH04	Mashwening, Kathu 04	Structures	Grade IIIc
44617	MASH05	Mashwening, Kathu 05	Structures	Grade IIIc
44618	MASH06	Mashwening, Kathu 06	Structures	Grade IIIc
89138	MAC010	MACARTHY 559/ 010	Structures	Grade IIIc
85509	HEFP001	HIGH ENERGY FUEL PLANT 001	Artefacts	Grade IIIc
95596	Vaal-Gamagara 01	Vaal-Gamagara 01	Palaeontological	Grade IIIa
40236	UKM001	Uitkoms, Kathu 001	Artefacts	Grade IIIb
45445	DELP01	Delportshoop 01	Archaeological	Grade IIIb
44581	SKERP-DIEP 01	Skerpdraai-Diepkloof 01	Burial Grounds & Graves	Grade IIIa
44596	POST-KATH02	Postmasburg to Kathu 02	Burial Grounds & Graves	Grade IIIa
44597	POST-KATH03	Postmasburg to Kathu 03	Burial Grounds & Graves	Grade IIIa
44598	POST-KATH04	Postmasburg to Kathu 04	Burial Grounds & Graves	Grade IIIa
44595	POST-KATH01	Postmasburg to Kathu 01	Burial Grounds & Graves	Grade IIIa
44613	MASH01	Mashwening, Kathu 01	Archaeological	Grade IIIc
92543	SISH02	sishen-saldanha 002	Artefacts	Grade IIIc
92547	SISH06	sishen-saldanha 006	Building	Grade IIIc
127543	EXIGO-LHE-SA01	Exigo Lyleveld Haul road Extension Stone Age 01	Artefacts	Ungraded
127544	EXIGO-LHE-SA02	Exigo Lyleveld Haul road Extension Stone Age 02	Artefacts	Ungraded

108046	KC1	New Kathu Cemetery - Findspot KC1	Deposit	
108208	Lohatla673_Cemetery 01x	Disturbed graveyard at Kitso mine	Burial Grounds & Graves	
102663	Kathu Pan	Kathu Pan Sites	Archaeological	
129436	Kathu Extensions 6-10	Site 2 Stone Age	Archaeological	
85510	HEFP002	HIGH ENERGY FUEL PLANT 002	Artefacts	Grade IIIc
95598	Vaal-Gamagara 03	Vaal-Gamagara 03	Palaeontological	Grade IIIa
95599	Vaal-Gamagara 04	Vaal-Gamagara 04	Palaeontological	Grade IIIa
95600	Vaal-Gamagara 05	Vaal-Gamagara 05	Palaeontological	Grade IIIa
95597	Vaal-Gamagara 02	Vaal-Gamagara 02	Palaeontological	Grade IIIa
95604	OFHC	Olifantshoek Cemetery	Burial Grounds & Graves	Grade IIIa
127557	LDS-SAK12	Low Density Scatter Stone Age K12	Artefacts	
127591	Kitso Mine Old Burial Ground	Kitso Mine Old Burial Ground	Burial Grounds & Graves	
46301	KAT-SIS10	Kathu-Sishen 10	Artefacts	Grade IIIb
46302	KAT-SIS11	Kathu-Sishen 11	Artefacts	Grade IIIb
45594	SIMS19	Sims 462 - 19	Artefacts	Grade IIIc
46300	KAT-SIS09	Kathu-Sishen 09	Artefacts	Grade IIIb
24685	SA02 Woon 469	SA02 on Woon 469	Artefacts	Grade IIIb
24697	Site A, Farm Fuller 578, Olifantshoek	Site A, Farm Fuller 578, Olifantshoek	Archaeological	Grade IIIb
89123	MAC001	MACARTHY 559/ 001	Artefacts	Grade IIIc

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APPENDIX 2

Reference List

Heritage Impact Assessments				
Nid	**Report Type**	**Author/s**	**Date**	**Title**
4116	AIA	Peter Beaumont	06/02/2008	Phase 1 Heritage Impact Assessment Report on a Portion of the Remainder of the Farm Sekgame 461, Kathu, Gamagara Municipality, Northern Cape Province
4117	AIA	Peter Beaumont	07/02/2008	Phase 1 Heritage Impact Assessment Report on Portion 463/8 of the Farm Uitkoms 463, near Kathu, Kgalagadi Municipality, Northern Cape Province
4372	AIA	David Morris	01/02/2005	Report on a Phase 1 Archaeological Assessment of Proposed Mining Areas of the Farms Bruce, King, Mokaning and Parson, Between Postmasburg and Kathu, Northern Cape
4376	AIA	Peter Beaumont	30/04/2006	Phase 1 Heritage Impact Assessment Report on Erf 1439, Remainder of Erf 2974 and Remainder of Portion 1 of the Farm Uitkoms No 463, and Farms Kathu 465 and Sims 462 at and near Kathu in the Northern Cape Province
4378	AIA	Peter Beaumont	30/05/2006	Phase 1 Heritage Impact Assessment Report on Portion 5 of the Farm Uitkoms 463, Kgalagadi District, Northern Cape Province
4379	AIA	Peter Beaumont	31/05/2006	Phase 1 Heritage Impact Assessment Report on Portions A and B of the Farm Sims 462, Kgalagadi District, Northern Cape Province
4387	AIA	Peter Beaumont	12/06/2008	Phase 1 Archaeological Impact Assessment Report on Portion 459/49 of the Farm Bestwood 459 at Kathu, Kgalagadi District Municipality, Northern Cape Province
4391	AIA	Cobus Dreyer	11/08/2008	First Phase Archaeological and Cultural Heritage Assessment of the Proposed Residential Developments at a Portion of the Remainder of the Farm Bestwood 459 Rd, Kathu, Northern Cape
4596	AIA	Peter Beaumont	01/05/2004	Heritage EIA of Two Areas at Sishen Iron Ore Mine
4597	AIA	Peter Beaumont	01/10/2005	Heritage Impact Assessment of an Area of the Sishen Iron Ore Mine that may be Covered by the Vliegveldt Waste Dump
4598	HIA	Peter Beaumont	15/10/2005	Heritage Impact Assessment for EMPR Amendment for Crusher at Sishen Iron Ore Mine
4600	AIA	Peter Beaumont	24/05/2007	Phase 1 Heritage Impact Assessment Report on a 15 Ha Portion of the Allotment Area That Borders on the Skerpdraai and Diepkloof Townships at Olifantshoek, Gamagara Municipality, Northern Cape Province
4603	AIA	David Morris	01/09/2008	Archaeological and Heritage Phase 1 Impact Assessment for Proposed Upgrading of Sishen Mine Diesel Depot

				Storage Capacity at Kathu, Northern Cape
4605	AIA	Peter Beaumont	03/04/2007	Phase 1 Heritage Impact Assessment Report on a Portion of the Farm Fuller 578 near Olifantshoek, Siyanda District Municipality, Northern Cape Province
6355	AIA	Cobus Dreyer	10/12/2008	First Phase Archaeological and Cultural Heritage Assessment of the Proposed Bourke Project, Ballast Site and Crushing Plant at Bruce Mine, Dingleton, near Kathu, Northern Cape
6639	AIA	Jonathan Kaplan	01/09/2008	Phase 1 Archaeological Impact Assessment: Proposed Housing Development, Erf 5168, Kathu, Northern Cape Province
6804	AIA	Peter Beaumont	01/04/2000	Archaeological Impact Assessment: Archaeological Scoping Survey for the Purpose of an EMPR for the Sishen Iron Ore Mine
7413	AIA	David Morris	23/08/2001	Report on Assessment of Archaeological Resources in the Vicinity of Proposed Mining at Morokwa
8086	AIA	Johan Nel	14/11/2008	Final Report Heritage Resources Scoping Survey & Preliminary Assessment Transnet Freight Line EIA, Eastern Cape and Northern Cape
92575	HIA	Elize Becker	10/10/2012	Phase 1 Heritage Impact Assessment Kimberley to De Aar
108346	AIA	Christine Vivier	12/11/2009	Phase 1 archaelogical impact assessment report on a portion of the farm Lylyveld 545 near Kathu, Kagalagadi District Municipality, Northern Cape province.
108351		Neels Kruger	01/04/2012	Archaeological impact assessment (AIA) of demarcated surface areas on the farms Fritz 540, Gamagara 541, Sishen 543 and Parsons 564, Sishen Iron Ore Mine Complex, Kgalagadi District Municipality, Northen Cape province.
108970	AIA	Nelius Kruger	01/09/2012	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF DERMACAED SURFACE AREAS ON THE FARMS GAMAGARA 541, ONVERWACHT 540 (FRITZ 540 PORTION 1) AND NOOITGEDACHT 469 (WOON 469), SISHEN IRON ORE MINE, KGALAGADI DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.
114648	PIA	John E Almond	01/09/2012	Palaeontological specialist assessment: desktop study PROPOSED 16 MTPA EXPANSION OF TRANSNETâ€™S EXISTING MANGANESE ORE EXPORT RAILWAY LINE & ASSOCIATED INFRASTRUCTURE BETWEEN HOTAZEL AND THE PORT OF NGQURA, NORTHERN & EASTERN CAPE. Part 1: Hotazel
121132	HIA	Peter Beaumont	26/11/2011	Baseline Archaeological Reconnaissance Report on the Farm Lomoteng 669, North of Postmasburg in the Siyanda District Municipality of the Northern Cape Province
123045	AIA	Cobus Dreyer	26/06/2013	Report Eskom Garona Ferrum Mercury
123399	AIA	Peter Beaumont	15/05/2013	PHASE 2 ARCHAEOLOGICAL PERMIT MITIGATION REPORT ON A ~0.7 HA PORTION OF THE FARM

				BESTWOOD 549, SITUATED ON THE EASTERN OUTSKIRTS OF KATHU, JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.
129366	HIA	Cobus Dreyer	28/08/2013	First Phase Archaeological & Heritage Assessment of the Proposed Garona-Ferrum Transmission Line, Northern Cape
129751	HIA	Elize Becker	20/02/2013	Phase 1 Heritage Impact Assessment Hotazel to Kimberley and De Aar to Port of Ngqura
145005	AIA	Munyadziwa Magoma	01/07/2013	Phase 1 Archaeological Impact Assessment specialist study report for the proposed development of prospecting rights of iron ore and manganese on remaining extent of Mashwening 557 in Khathu, within the Local Municipality of Gamagara, John Taolo Gaetsewe
151768	PIA	John E Almond	01/11/2013	Palaeontological specialist assessment: combined desktop and field-based study: PROPOSED 16 MTPA EXPANSION OF TRANSNETâ€™S EXISTING MANGANESE ORE EXPORT RAILWAY LINE & ASSOCIATED INFRASTRUCTURE BETWEEN HOTAZEL AND THE PORT OF NGQURA, NORTHERN & EAS
152157	HIA	Johnny Van Schalkwyk	15/05/2012	Heritage impact assessment for the proposed estate development on the farm Kalahari Golf and Jag Landgoed 775, KATHU, NORTHERN CAPE PROVINCE
152170	HIA	Robert de Jong	03/09/2008	HERITAGE IMPACT ASSESSMENT REPORT: PROPOSED RESIDENTIAL DEVELOPMENT AND ASSOCIATED INFRASTRUCTURE ON A 200 HA PORTION OF THE FARM BESTWOOD 429 RD AT KATHU, NORTHERN CAPE PROVINCE
152171	AIA	Cobus Dreyer	11/08/2008	FIRST PHASE ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENT OF THE PROPOSED RESIDENTIAL DEVELOPMENTS AT A PORTION OF THE REMAINDER OF THE FARM BESTWOOD 459RD, KATHU, NORTHERN CAPE
156617	AIA	David Morris	01/02/2014	Rectification and/or regularistion of activities relating to the Bestwood Township development near Kathu, Northern Cape: Phase 1 Archaeological Impact Assessment
161427	HIA	Stephan Gaigher	15/04/2014	Proposed Establishment of Several Electricity Distribution Lines within the Northern Cape Province
163959	HIA	Anton van Vollenhoven	17/03/2014	HIA Eskom Manganore to Ferrum Scoping Phase
167779	HIA	Jonathan Kaplan	30/06/2014	HERITAGE IMPACT ASSESSMENT PROPOSED MIXED USE DEVELOPMENT IN KATHU, NORTHERN CAPE PROVINCE Remainder & Portion 1 of the Farm Sims 462, Kuruman RD

170455	AIA	Neels Kruger	31/03/2014	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF DEMARCATED SURFACE PORTIONS ON THE FARMS SACHA 468, SIMS 462 AND SEKGAME 461 FOR THE PROPOSED STORMWATER INFRASTRUCTURE (CLEAN WATER CUT-OFF BERM & GROUNDWATER DAM) FOR THE SISHEN MINE, KATHU, NORTHERN CAPE PROVI
170460	AIA	Neels Kruger	31/01/2014	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF DEMARCATED SURFACE PORTIONS ON THE FARMS SACHA 468 AND WOON 469 FOR THE PROPOSED HIGH ENERGY FUEL PLANT AND RAILWAY SIDING, SISHEN IRON ORE MINE, JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE
170660	AIA	Cobus Dreyer	31/01/2014	FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT OF THE PROPOSED VAAL-GAMAGARA WATER PIPELINE PROJECT, NORTHERN CAPE: HOTAZEL ALTERNATIVE WATER PIPELINE
170664	AIA	Cobus Dreyer	28/09/2012	FIRST PHASE ARCHAEOLOGICAL AND HERITAGE ASSESSMENT OF THE PROPOSED VAAL-GAMAGARA WATER PIPELINE PROJECT, NORTHERN CAPE
170666	AIA	Cobus Dreyer	31/12/2013	FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT OF THE VAAL-GAMAGARA WATER PIPELINE PROJECT, NORTHERN CAPE: REVISIT TO THE KATHU PAN ARCHAEOLOGICAL SITE
174359	AIA	Neels Kruger	25/08/2014	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF DEMARCATED SURFACE PORTIONS ON THE FARMS SACHA 468 AND WOON 469 FOR THE PROPOSED HIGH ENERGY FUEL PLANT AND RAILWAY SIDING, SISHEN IRON ORE MINE, JOHN TAOLO GAETSEWE DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE
177105	HIA	Cobus Dreyer	10/05/2014	FIRST PHASE ARCHAEOLOGICAL & HERITAGE INVESTIGATION OF THE PROPOSED MINE PROSPECTING AT THE REMAINING EXTENT OF THE FARM INGLESBY 580 NEAR OLIFANTSHOEK, NORTHERN CAPE PROVINCE
251178	AIA	Peter Beaumont		Baseline Archaeological Reconnaissance Report on the Farm Lomoteng 669, North of Postmasburg in the Siyanda District Municipality of the Northern Cape Province
251329	AIA	Jayson Orton	20/02/2015	Heritage Impact Assessment for a Proposed 132 kV Power Line, Kuruman Magisterail District, Northern Cape
252975	HIA	Marko Hutten, Polke Birkholtz	18/07/2014	Heritage Impact Assessment for the Proposed Kathu Supplier Park on parts of the Remainder and on Portion 9 of the Farm Sekgame 461 on the southern side of the town of Kathu in the Gamagara Local Municipality, Northern Cape.
273602	HIA	Polke Birkholtz	20/04/2015	Heritage Impact Assessment for the Proposed Establishment of a Grazing Project on a Portion of the Farm Marsh 467, Dingleton, Gamagara Local Municipality, Northern Cape.
279906	AIA	Neels Kruger	02/12/2014	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF DEMARCATED SURFACE PORTIONS ON THE FARM SEKGAME 461 FOR THE PROPOSED SEKGAME ELECTRICITY INFRASTRUCTURE EXPANSION PROJECT,

				SISHEN MINE, NORTHERN CAPE PROVINCE
294454	AIA	Neels Kruger	05/04/2015	ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) OF AREAS DEMARACTED FOR THE PROPOSED LYLEVELD NORTH WASTE ROCK DUMP EXPANSION AND LYLEVELD SOUTH HAUL ROAD EXTENSION PROJECT, SISHEN MINE, NORTHERN CAPE PROVINCE

CTS HERITAGE

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.

CTS HERITAGE

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.**