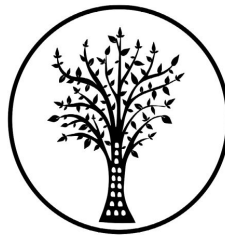


Archaeological Impact Assessment

In terms of Section 38(8) of the NHRA for a

**Proposed Development Of The Proposed Edible Oil Pipeline For Wilmar SA (Pty)
Ltd, From Berth 706 / 707 / 708 To Rb IDZ Phase 1a, Richards Bay**

Prepared by



CTS HERITAGE

In Association with

Savannah

And

eThembeni Heritage Consultants

March 2019



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THE INDEPENDENT PERSON WHO COMPILED A SPECIALIST REPORT OR UNDERTOOK A SPECIALIST PROCESS

I Jenna Lavin and Len van Schalkwyk, as the appointed independent specialists hereby declare that we:

- act/ed as the independent specialist in this application;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- have and will not have no vested interest in the proposed activity proceeding;
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2010 and any specific environmental management Act;
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2010 (specifically in terms of regulation 17 of GN No. R. 543) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification;
- have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- have ensured that the names of all interested and affected parties that participated in terms of the specialist input/study were recorded in the register of interested and affected parties who participated in the public participation process;
- have provided the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not; and
- am aware that a false declaration is an offence in terms of regulation 71 of GN No. R. 543.

Jenna Lavin and Len van Schalkwyk

Signature of the specialist

CTS Heritage and eThembeni Heritage Consultants

Name of company

1 March 2019

Date



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EXECUTIVE SUMMARY

The entire area of the Richards Bay Harbour precinct, prior to establishment, comprised extensive *Phragmitis* swamplands and mangrove and swamp forests associated with the Mhlatuze estuary. This is an environment that would have been eschewed for human settlement. Consequently no archaeological residues are anticipated. No buildings, equipment or structures of historical significance occur within the study area.

It is unlikely that the proposed development will impact on any significant heritage resources. There is no heritage objection to the proposed development.



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CONTENTS

1. INTRODUCTION	4
1.1 Background Information on Project	4
1.2 Description of Property and Affected Environment	5
2. METHODOLOGY	6
2.1 Purpose of Archaeological Study	6
2.2 Summary of steps followed	6
2.3 Constraints & Limitations	7
3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT	7
4. IDENTIFICATION OF HERITAGE RESOURCES	10
4.1 Field Assessment	10
4.2 Archaeological Resources identified	10
4.3 Selected photographic record	11
5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT	16
5.1 Assessment of impact to Archaeological Resources	16
6. CONCLUSION AND RECOMMENDATIONS	16
7. REFERENCES	17



1. INTRODUCTION

1.1 Background Information on Project

Wilmar Processing (Pty) Ltd (Wilmar) are proposing the development of vegetable oil pipeline that will consist of 4 x 216mm-wide pipes, that will extend for ~2.6km within the Richard's Bay Port. The proposed development will consist of four (4) pipelines stacked vertically or in double rows, running side by side (depending on support and space restrictions) and will comprise of the following dimensions:

- Width: 216mm
- Total Length: ~2.6km.

Furthermore, the proposed development will include the following infrastructure:

- Steel pipes;
- Multiple duct access shafts;
- Overhead steel bridges;
- Site Offices and Maintenance Buildings, including workshop areas for maintenance;
- Temporary laydown areas;
- Fencing and access roads;
- and Security Offices.

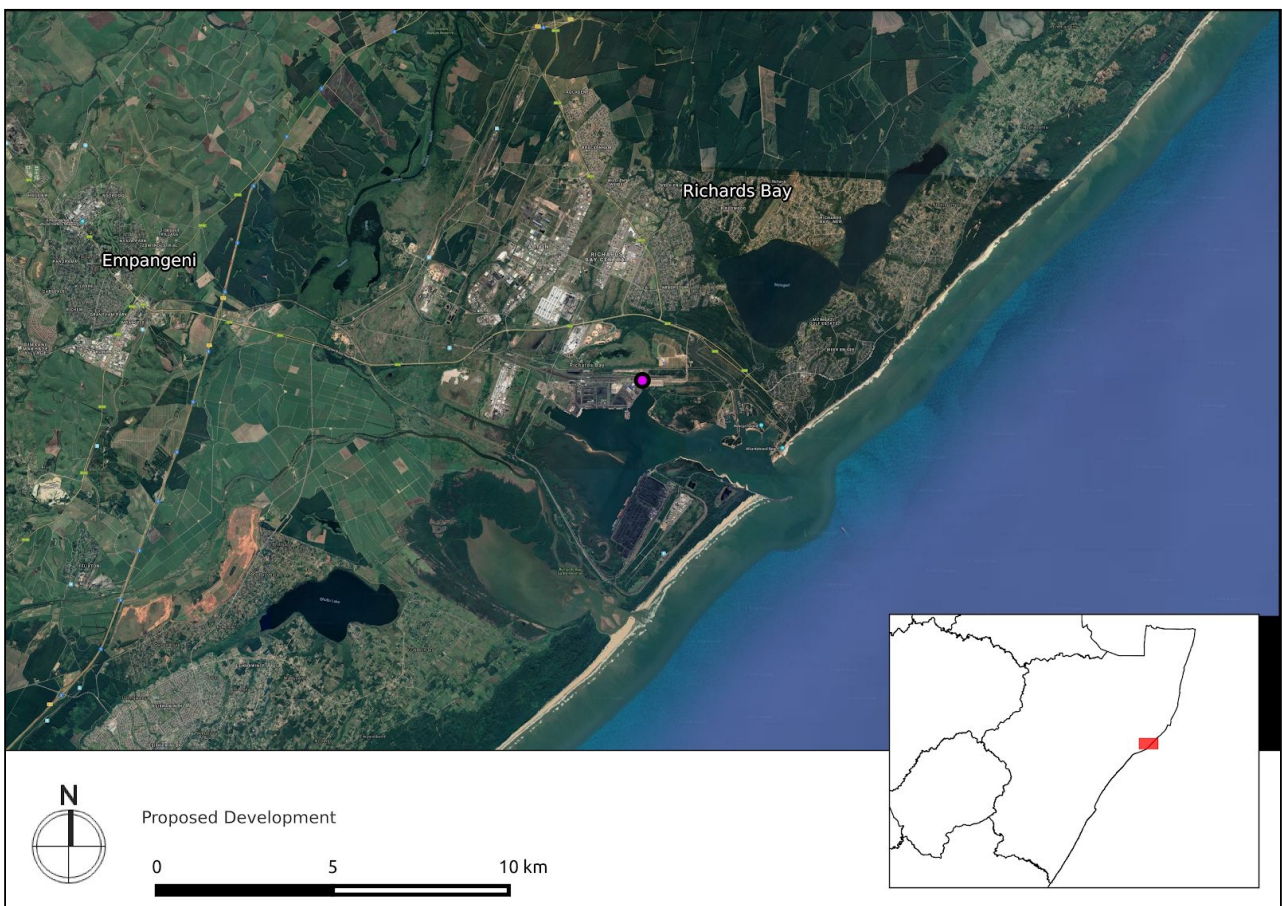


Figure 1.1: Satellite image indicating proposed location of development



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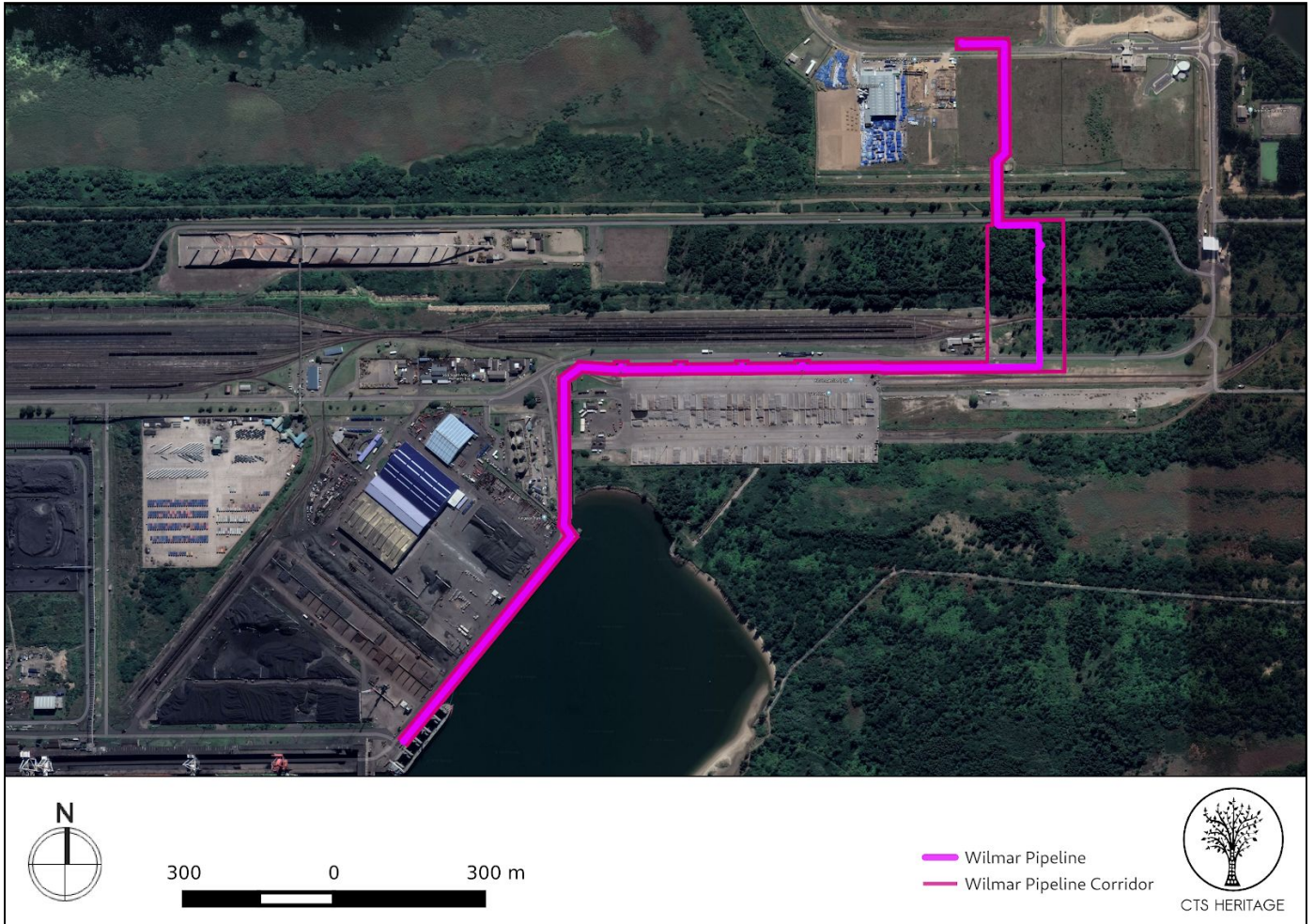


Figure 1.2: Close up satellite image indicating proposed location of development

1.2 Description of Property and Affected Environment

Richards Bay Harbour area has been previously extensively developed. During the 20th Century, Richards Bay was primarily a recreational fishing destination until establishment of the harbour and adjacent township began in the early 1970's. Inception of dredging of the Mhlatuze Estuary for the new harbour began in 1972. In 1974 a berm wall was constructed from dredge spoils to effectively separate the harbour development area from the proclaimed Richards Bay Nature Reserve, thus conserving the sensitive estuarine habitat.

All dock-side infrastructure is located on reclaimed swamplands built up by harbour dredging spoils and imported fill materials.

The entire area of the Richards Bay Harbour precinct, prior to establishment, comprised extensive *Phragmitis* swamplands and mangrove and swamp forests associated with the Mhlatuze estuary. This is an environment that would have been eschewed for human settlement. Consequently no archaeological residues are anticipated. No buildings, equipment or structures of historical significance occur within the study area.



2. METHODOLOGY

2.1 Purpose of Archaeological Study

The purpose of this archaeological study is to satisfy the requirements of section 38(8), and therefore section 38(3) of the National Heritage Resources Act (Act 25 of 1999) in terms of impacts to archaeological resources.

2.2 Summary of steps followed

- An archaeologist conducted a survey of the site and its environs on 5 December 2018 to determine what archaeological resources are likely to be impacted by the proposed development.
- The identified resources were assessed to evaluate their heritage significance in terms of the grading system outlined in section 3 of the NHRA (Act 25 of 1999).
- Alternatives and mitigation options were discussed with the Environmental Assessment Practitioner.

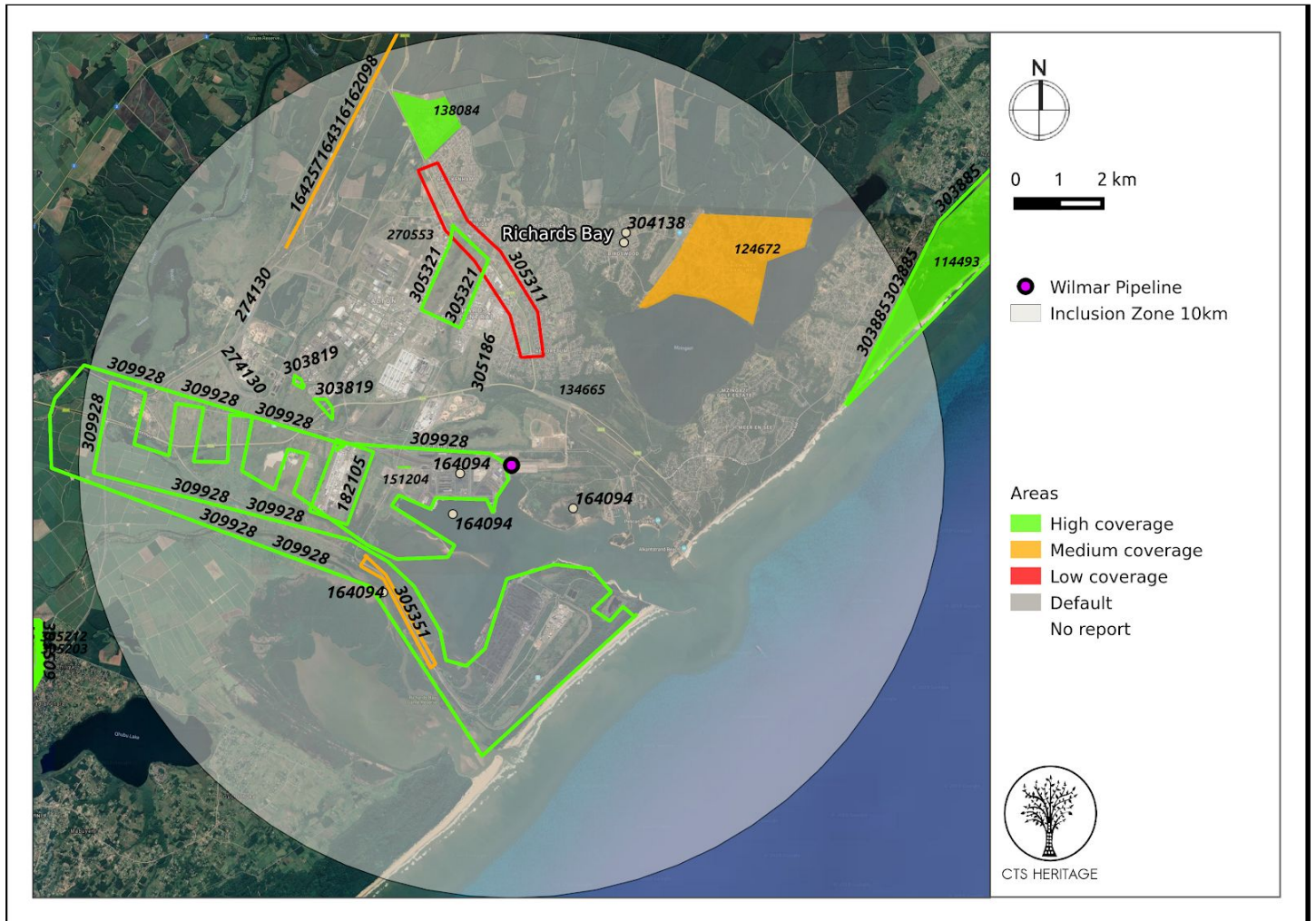
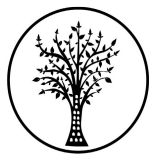


Figure 2: Close up satellite image indicating proposed location of development in relation to heritage studies previously conducted



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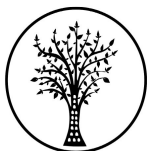
2.3 Constraints & Limitations

Although access to the area proposed for development is limited and highly managed for security reasons, no constraints or limitations for this assessment were experienced.

3. HISTORY AND EVOLUTION OF THE SITE AND CONTEXT

Richard's Bay began as a makeshift harbour established during the Anglo-Zulu War of 1879. The town was laid out on the shores of the lagoon in 1954 and proclaimed a town in 1969. In 1976 Richards Bay harbour was converted into a deep water harbour with railway and an oil/gas pipeline linking the port to Johannesburg. In 1965 the South African Government decided to build a deep-sea harbour at Richard's Bay which was completed on 1 April 1976. According to Anderson (2009, SAHRIS NID 309928), "Port Durnford had been used since the 1870s as a regular port by the British Navy. The Richards Bay Harbour is north of this port that was originally envisaged in 1902. The environment surrounding the harbour has been heavily impacted by the original harbour construction in the early 1970s. The harbour dredged the deep Thulazihleka Lake and cleared areas to create a harbour entrance at the Mhlatuze River mouth. The lake was divided into two parts with the southern part of the lake becoming a sanctuary with its own newly created river mouth south of the harbour entrance... Subsequent to the harbour being built, the wetlands to the south of the harbour increased and large drainage canals have also been built. Some of these canals are part of the original rivers. There has also been a lot of industrial activity in the general area. The rest of the study area is under sugarcane agriculture with electrical, rail, gas pipeline, and vehicle servitudes. The general study area has been severely impacted by other activities."

Further, according to Anderson (2009), "Several archaeological and palaeontological sites have been recorded in the surrounding area: both inland and along the coast, and within a 10km radius of the development area. The archaeological surveys for Richards Bay Minerals clearly show that the coastal dune system is very sensitive in terms of archaeological sites (over 350 sites have been recorded in the mining lease). The construction of the Berth 306 revealed an important Cretaceous Layer in the harbour area." Anderson (2009) completed a thorough field assessment of the proposed Richard's Bay Harbour expansion area. He identified 9 archaeological sites, 7 of low significance, one of low-moderate significance and one fossil site of high significance. The proposed pipeline does not impact on any of these identified sites (Figure 3). In addition, the area proposed for development does fall within Anderson's (2009) identified locations of sensitive archaeological areas that require monitoring, sampling and/or excavations.



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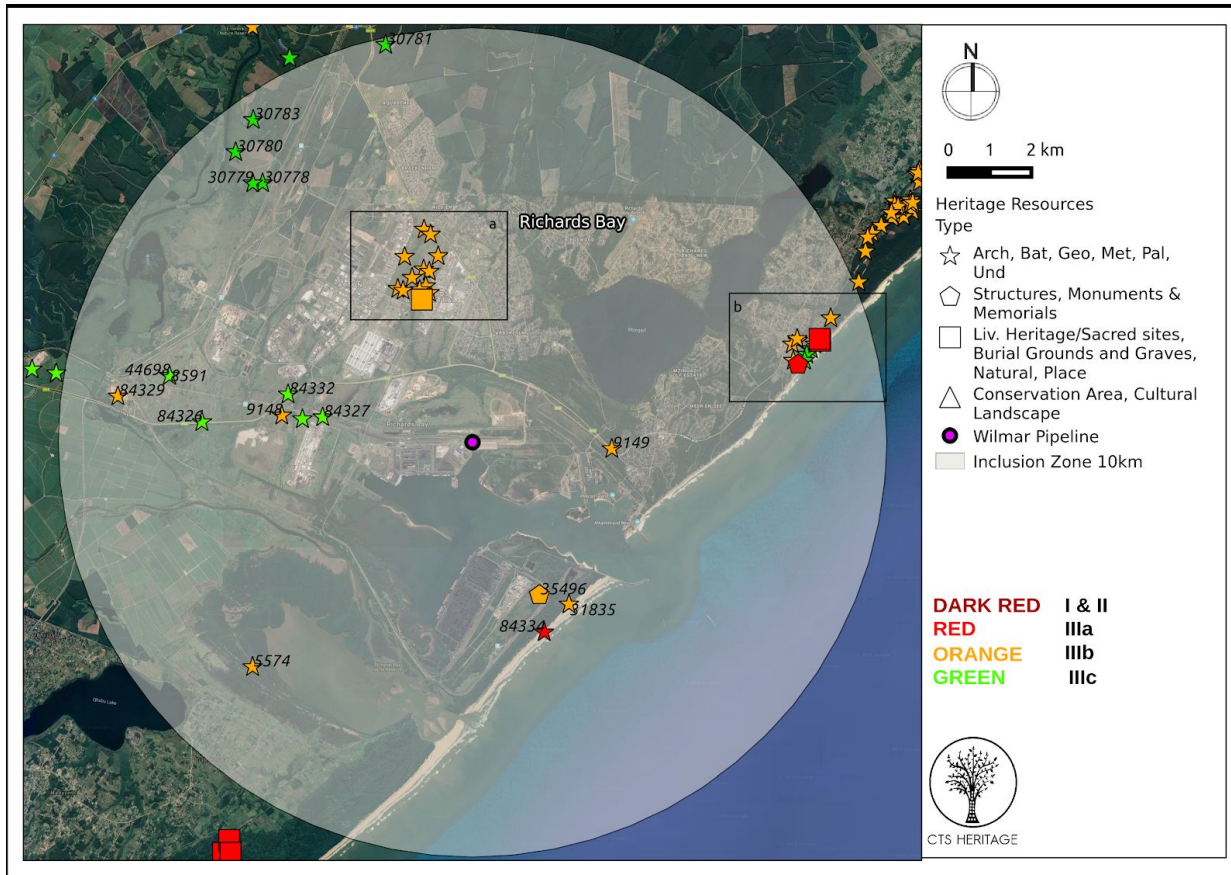


Figure 4. Heritage Resources Map. Heritage Resources previously identified in and near the study area, with SAHRIS Site IDs indicated

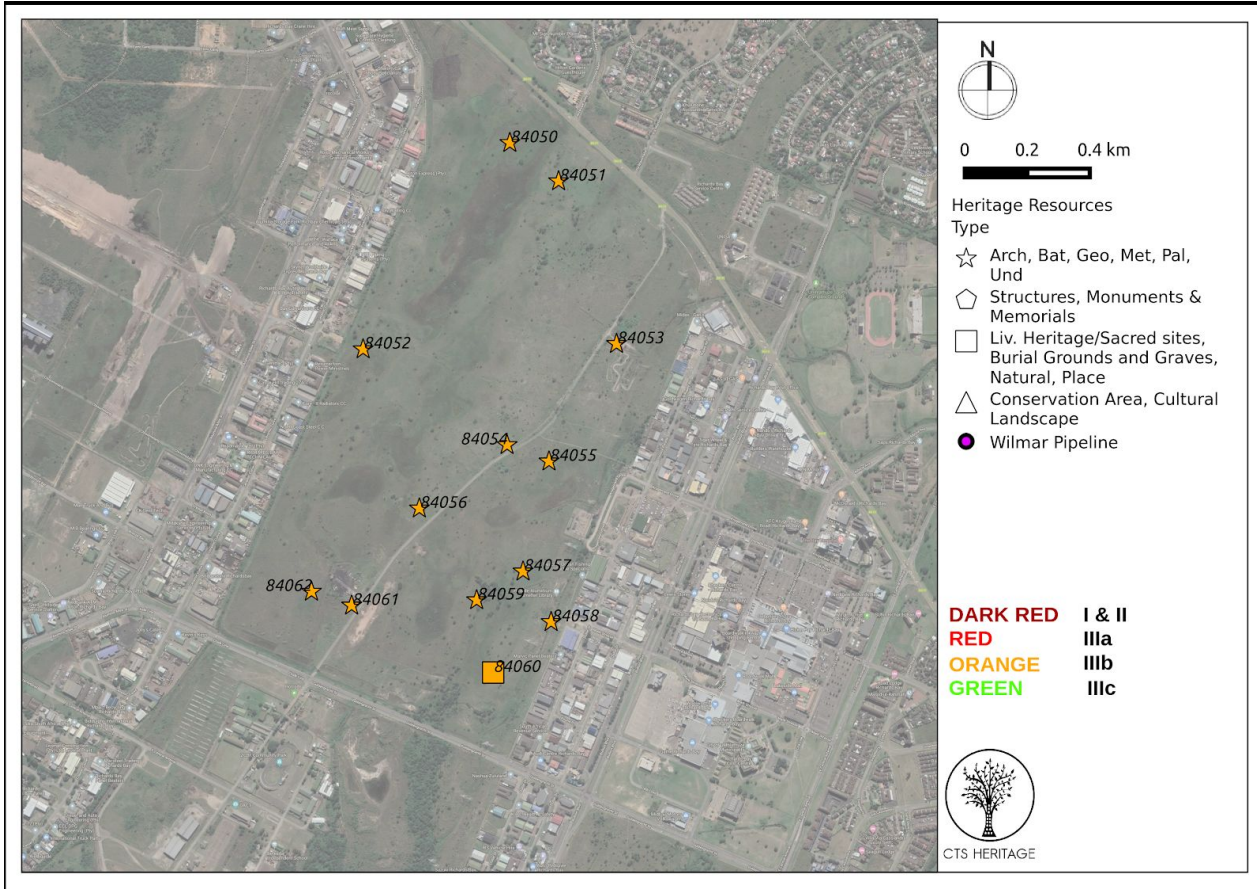


Figure 4a. Inset



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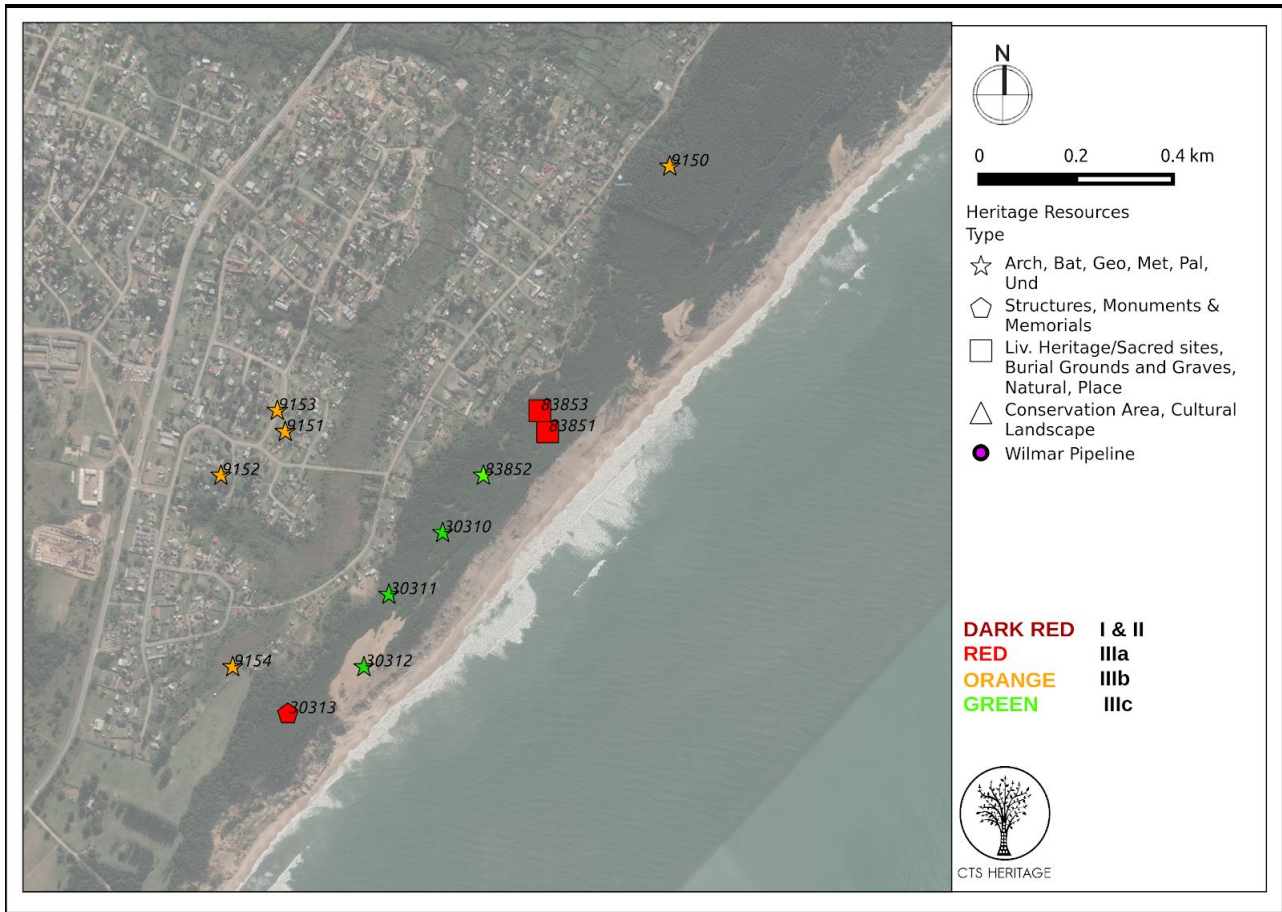


Figure 4b. Inset

4. IDENTIFICATION OF HERITAGE RESOURCES

4.1 Field Assessment

eThembeni have an intimate knowledge of the Richards Bay Harbour precinct, having conducted an HIA for auxiliary railway-lines to the coal terminal in 2004 and having compiled a Baseline Heritage Study for the proposed Richards Bay Port Expansion in 2013. Pertinent here too is the palaeontological monitoring conducted for the construction of the Berth 306 within the Port and the HIA conducted for the proposed expansions to the Port in 2009. All attest to the low sensitivity of heritage resources within the Richards Bay Harbour precinct.

No heritage resources were identified during the field assessment.

4.2 Archaeological Resources identified

No archaeological or other heritage resources of any significance were identified during the field assessment.



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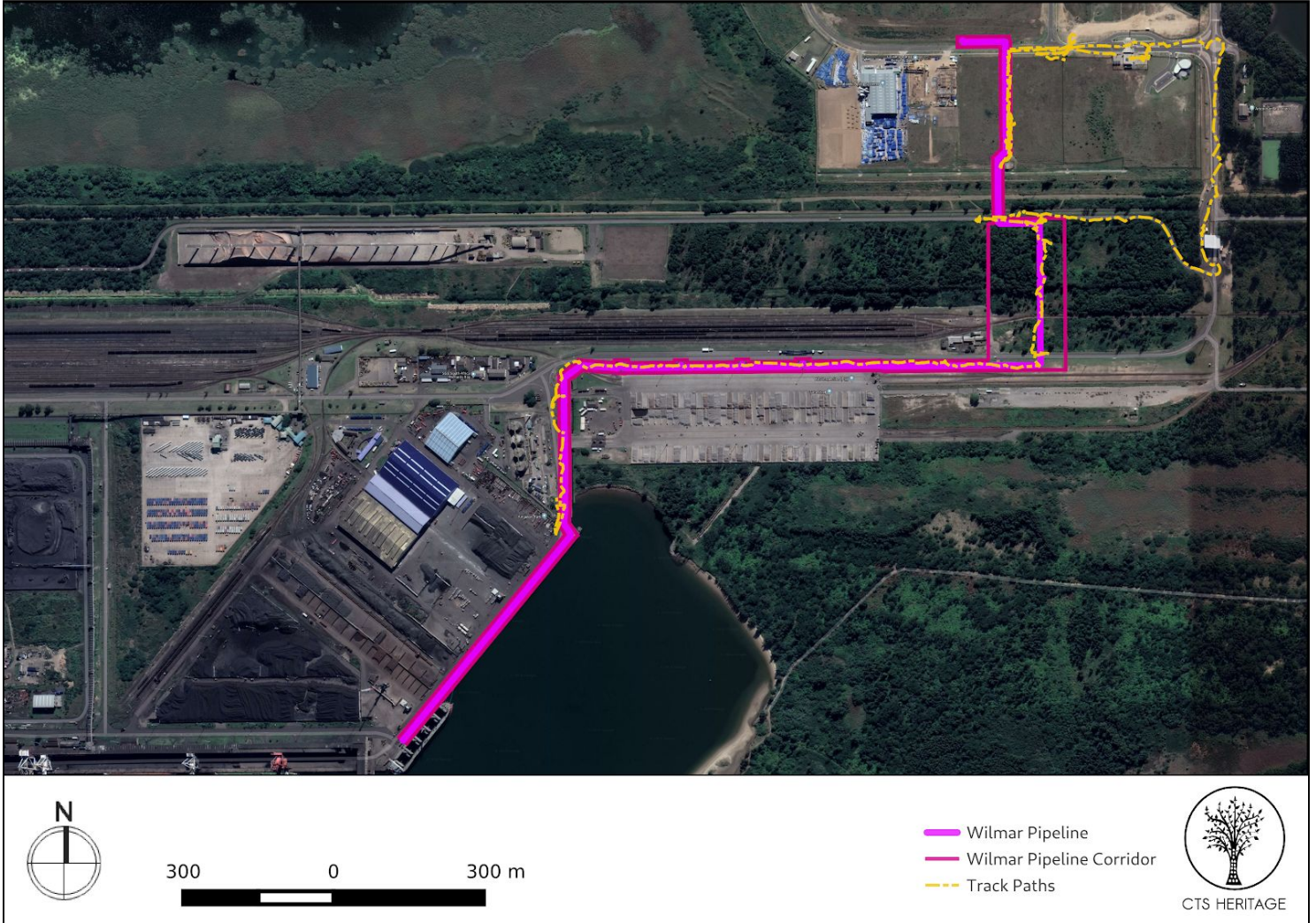


Figure 6: Overall track paths of foot survey

4.3 Selected photographic record



Figure 7.1 Hygrophilous grasslands re-established over dredge spoil



Figure 7.2 Infrastructure layout on grasslands. Note emerging pioneer Casuarina trees on disturbed basement.



Figure 7.3 V drain channels to drain previous swampland.



Figure 7.4 Fern thicket below *Pinus* and *Casuarina* trees planted to drain swampland



Figure 7.5 *Chrythsanthimoides monilifera* and *Casuarina* pioneer thicket on previous dredge spoil



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Figure 7.6 Tracks across hygrophilous grassland and Figure 7.7 Dredge spoil showing marine shells from dredge and fill actions during establishment of harbour c. 1970's



Figure 7.8 Aeolian dune sand substrate fringing original Umhlatuze estuary.



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Figure 7.9 Existing infrastructure along pipeline route



Figure 7.10 Existing infrastructure along pipeline route



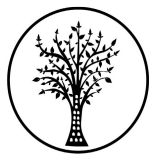
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Figure 7.11 Existing infrastructure along pipeline route



Figure 7.12 Existing infrastructure along pipeline route



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Figure 7.13 Pipeline route along existing quaysides



Figure 7.14 Pipeline route along existing quaysides



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5. ASSESSMENT OF THE IMPACT OF THE DEVELOPMENT

5.1 Assessment of impact to Archaeological Resources

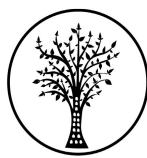
As no heritage resources were identified during the field assessment, and as the overall heritage sensitivity of the Richards Bay Harbour precinct is LOW, it is unlikely that the proposed development of the Wilmar Pipeline will impact on any significant heritage resources.

6. CONCLUSION AND RECOMMENDATIONS

The entire area of the Richards Bay Harbour precinct, prior to establishment, comprised extensive *Phragmitis* swamplands and mangrove and swamp forests associated with the Mhlatuze estuary. This is an environment that would have been eschewed for human settlement. Consequently no archaeological residues are anticipated. No buildings, equipment or structures of historical significance occur within the study area.

The proposed pipeline is seated at current ground level or will be sub-surfaced within dredge spoil and will consequently have no impact on the fossil bearing strata below. As no excavation of trenches is planned and the pipe is to be above ground except under roads and rail lines, it is very unlikely that significant palaeontological heritage will be impacted by the proposed development. It is, however, recommended that a Chance Finds Procedure be implemented for all excavations activities.

It is unlikely that the proposed development will impact on any significant heritage resources. There is no heritage objection to the proposed development.



7. REFERENCES

Heritage Impact Assessments				
Nid	Report Type	Author/s	Date	Title
114493	Archaeological Specialist Reports	Gavin Anderson, Louise Anderson	21/01/2013	The Archaeological Survey of the Zulti North Mining Lease for Richards Bay Minerals, 2012 Annual Report
124672	HIA Phase 1		01/03/2013	HIA Mandlazini Agric-Village Sewer Network Installation
134665	HIA Letter of Exemption	Len van Schalkwyk, Elizabeth Wahl	20/06/2013	Application for Exemption from a Phase 1 Heritage Impact Assessment of the Proposed Widening of Medway Road and Associated Interchanges within Richards Bay, KwaZulu-Natal
138084	Archaeological Specialist Reports	Gavin Anderson	03/07/2012	Heritage Survey of the Proposed Aquadene Housing Project, Kwa-Zulu Natal
151204	HIA Letter of Exemption	Gavin Anderson		
162098	HIA Phase 1	Johnny Van Schalkwyk	01/09/2013	Cultural heritage impact assessment for THE PROPOSED SWAZILAND RAIL LINK, WESTERN SECTION, MPUMALANGA REGION
164094	Built Environment and Cultural Landscapes	Deshni Naicker	17/07/2015	DRAFT EIA REPORT: PROPOSED RICHARDS BAY PORT EXPANSION PROGRAMME WITHIN UMHATHUZE LOCAL MUNICIPALITY IN KWA-ZULU NATAL PROVINCE
164257	Palaeontological Specialist Reports	Gideon Groenewald	15/02/2014	Paleontological desktop assessment for the proposed upgrade of the Davel to Nerston Rail Line in the Mpumalanga Province
164316	Palaeontological Specialist Reports	Gideon Groenewald	16/02/2014	Palaeontological Desktop Assessment for the proposed upgrade of the Golela to Nsezi Line in KwaZulu - Natal Province.
182105	HIA Letter of Exemption	Elizabeth Wahl	18/11/2014	Application for Exemption from a Phase 1 Heritage Impact Assessment of Proposed Decommissioning of the Legacy Landfills at The Bayside Aluminium Smelter, Richards Bay, KwaZulu-Natal, South Africa
270553	Heritage Impact Assessment Specialist Reports		24/04/2015	Heritage Screener for the Proposed 60MW Biomass Plant within the Richards Bay IDZ, Umhlathuze Local Municipality, KwaZulu-Natal
274130	HIA Phase 1	Gavin Anderson	14/04/2015	RICHARDS BAY-NSEZI ACCESS ROAD, RICHARDS BAY, KWAZULU-NATAL
303819	AIA Phase 1	Gavin Anderson	09/10/2008	ARCHAEOLOGICAL SURVEY OF THE PROPOSED ALTON SEWER PIPE UPGRADE
303885	AIA Phase 1	Gavin Anderson, Louise Anderson	01/09/2004	The Archaeological Survey Of The Richards Bay Minerals Mining Lease: August 2004
304138	AIA Phase 1	Gavin Anderson	13/10/2008	ARCHAEOLOGICAL SURVEY OF THE PROPOSED BIRDSWOOD PRIMARY SCHOOL
305186	AIA Phase 1	Gavin Anderson	13/10/2008	ARCHAEOLOGICAL SURVEY OF THE PROPOSED EAST CENTRAL ARTERIAL
305311	AIA Phase 1	Gavin Anderson	06/11/2008	ARCHAEOLOGICAL SURVEY OF THE PROPOSED BOUBLING OF THE NORTH CENTRAL ARTERIAL, RICHARDS BAY
305321	HIA Phase 1	Gavin Anderson	16/05/2010	HERITAGE SURVEY OF THE PROPOSED RICHARDS BAY CENTRAL INDUSTRIAL AREA
305351	AIA Phase 1	Gavin Anderson	16/11/2008	ARCHAEOLOGICAL SURVEY OF THE PROPOSED NEW INFRASTRUCTURE AT THE ARRIVAL YARD AT THE RICHARDS BAY COAL TERMINAL
309638	HIA Phase 1	Gavin Anderson	28/04/2009	HERITAGE SURVEY OF THE PROPOSED BIRDSWOOD SHOPPING CENTRE FOR MSA ENVIRONMENTAL, LEGAL & MINING SERVICES
309928	HIA Phase 1	Gavin Anderson,	01/06/2009	HERITAGE SURVEY OF THE PROPOSED EXPANSION TO THE TRANSNET NATIONAL PORTS AUTHORITY, RICHARDS BAY.



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		Louise Anderson		
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SAHRIS: Baseline Heritage Study: Proposed Richards Bay Port Expansion. Prepared for AECOM. eThembeni. 2013

See SAHRIS: Construction of Berth 306 at the Port of Richards Bay: Removal of Ammonites from the Upper Maastrichtian (Cretaceous) Layer. A. van Jaarsveld. 2006.

See SAHRIS: Heritage Survey of the Proposed Expansion to the Transnet National Ports Authority, Richards Bay. Umlando, 2009.

AdV Minnaar. History of Richards Bay. HSRC Research Note No.17. 1985. Pretoria.

Groenewald. G. 2012. Unpublished Palaeotechnical Report for Amafa KwaZulu-Natali. Pietermaritzburg.

Palaeontological Impact Assessment of the proposed development of the Richards Bay Combined Cycle Power Plant (CCPP). Banzai Environmental. 2017.

Ovechkina, M. N 2012. Palaeontological Impact Assessment desktop study for the Richards Bay Port Expansion Programme. Unpublished report submitted to eThembeni Cultural Heritage.

The first record of *Ostrea unguolata* (von Schlotheim, 1813) (Bivalvia: Ostreoida) from the Upper Maastrichtian of KwaZulu, South Africa. African Natural History 4. 2005

Cretaceous faunas from Zululand and Natal, South Africa. The ammonite subgenus *Hauericeras* (*Gardeniceras*) Matsumoto & Obata. 1955. *Palaeont.afr.* 2011.46:43-58.

Construction of Berth 306 at the Port of Richards Bay: Removal of Ammonites from the Upper Maastrichtian (Cretaceous) Layer. A. van Jaarsveld. 2006.