



DIGBY WELLS  
ENVIRONMENTAL



---

## Environmental Impact Assessment for the Klipspruit Colliery Water Treatment Plant and associated pipeline, Mpumalanga

### Notification of Intent to Develop

---

**Project Number:**

SOU5014

**Prepared for:**

South32 SA Coal Holdings (Pty) Ltd

August 2018

---

Digby Wells and Associates (South Africa) (Pty) Ltd  
Co. Reg. No. 2010/008577/07. Turnberry Office Park, 48 Grosvenor Road, Bryanston, 2191. Private Bag  
X10046, Randburg, 2125, South Africa  
Tel: +27 11 789 9495, Fax: +27 11 069 6801, info@digbywells.com, www.digbywells.com

Directors: GE Trusler (C.E.O.), GB Beringer, LF Koeslag, J Leaver (Chairman)\*, NA Mehlomakulu\*,  
MJ Morifi\*, DJ Otto, RA Williams\*  
\*Non-Executive

---



This document has been prepared by Digby Wells Environmental.

<b>Report Type:</b>	<b>Notification of Intent to Develop</b>
<b>Project Name:</b>	<b>Environmental Impact Assessment for the Klipspruit Colliery Water Treatment Plant and associated pipeline, Mpumalanga</b>
<b>Project Code:</b>	<b>SOU5014</b>

<b>Name</b>	<b>Responsibility</b>	<b>Signature</b>	<b>Date</b>
<b>Shannon Hardwick</b> Assistant Heritage Resources Management: Consultant ASAPA Member: 451	<b>NID Compilation;            Site Visit</b>		<b>July 2018</b>
<b>Justin du Piesanie</b> Divisional Manager: Social and Heritage Services ASAPA Member 270	<b>Technical Review</b>		<b>August 2018</b>

*This report is provided solely for the purposes set out in it and may not, in whole or in part, be used for any other purpose without Digby Wells Environmental prior written consent.*



## TABLE OF CONTENTS

1	Introduction .....	1
2	Project details.....	1
2.1	Project Location Description .....	4
3	Baseline description .....	5
3.1	Data sources .....	12
3.2	Pre-disturbance survey.....	12
4	Assessment process .....	15
4.1	EIA Regulations listed activities .....	15
4.2	NHRA Section 38(1) activities .....	16
4.3	Identified or known heritage resources and potential impacts.....	17
5	Illustrative material .....	18
6	Recommendation .....	19
7	Works Cited.....	21

## LIST OF FIGURES

Figure 2-1: Regional Setting of KPS.....	2
Figure 2-2: Proposed Infrastructure Layout .....	3
Figure 3-1: Heritage resources identified within the greater study area .....	6
Figure 3-2: Existing environment in the proposed development footprints: a.) WTP, b.) temporary laydown area, c.) near the discharge point and d.) feedline.....	13
Figure 3-3: Heritage resources previously identified within the site-specific study area .....	14



## LIST OF TABLES

Table 2-1: Project location details .....	4
Table 2-2: Landowner details .....	4
Table 3-1: Archaeological periods in Mpumalanga, adapted from Esterhuysen & Smith (2007) .....	5
Table 3-2: Ceramic facies commonly represented in Mpumalanga, after Huffman (2007).....	8
Table 3-3: Heritage resources previously identified within the Project area and immediate surrounds.....	9
Table 3-4: Qualitative data sources.....	12
Table 4-1: Current assessment processes .....	15
Table 4-2: Identified listed activities.....	16
Table 4-3: NHRA Section 38 triggers .....	16
Table 4-4: Identified heritage resources in terms of Section 3 of the NHRA .....	17
Table 6-1: Specialist heritage recommendations.....	19

## LIST OF APPENDICES

Appendix A: Specialist CV

Appendix B: Plans

## LIST OF PLANS

Plan 1: Infrastructure and tracklog



## 1 Introduction

South32 SA Coal Holdings (Pty) Ltd (hereinafter SAEC) is planning to construct an active Water Treatment Plant (WTP) and associated infrastructure capable of treating mine-affected water (“the Project”). SAEC will develop the new infrastructure within the operational area of the Klipspruit Colliery (KPS) near Ogies in Mpumalanga Province, South Africa. Refer to Figure 2-1 for the regional setting of KPS.

To this effect, SAEC appointed Digby Wells Environmental (hereinafter Digby Wells) to complete an Environmental Impact Assessment (EIA) process in support of the Environmental Authorisation (EA) for the Project. The EIA process was undertaken in compliance with:

- The National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA);
- The NEMA Regulations 2017 (Government Notice Regulations [GN R] 982, as amended by GN R 326);
- The National Water Act, 1998 (Act No 36 of 1998) (NWA); and
- The Minerals and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) (MPRDA).

This document serves as the Notification of Intent to Develop (NID) and Request for Exemption (RfE) from further heritage assessments in compliance with Section 38(8) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) (NHRA).

## 2 Project details

The proposed WTP will be modular in design and constructed in three phases, starting at a capacity of 2MI/day, upgradeable to 303MI/day and then increments of 3.3MI/day to 10MI/day. Contaminated water will be abstracted from the Balancing Dam at KPS and pumped to the WTP. After treatment, clean water that complies with the Resource Water Quality Objectives (RWQO) for the Wilge River catchment is proposed to be discharged into the Saalklapspruit at the northern boundary of the KPS operation adjacent to the N12 national highway. Refer to Figure 2-2 for the proposed infrastructure layout.

The proposed Project includes an abstraction pump, which will be installed at the current Balancing Dam at KPS. Water from the Balancing Dam will be pumped through a pipeline to the WTP. A temporary laydown area has been demarcated for use during the construction phase. Treated water will be piped from the WTP to the discharge point. There are two pipeline routes required to be authorised for the discharge pipeline. Option 1 follows the existing haul road and Option 2 follows the fence line and will lie between the topsoil stockpiles and the R545 and N12 roads.



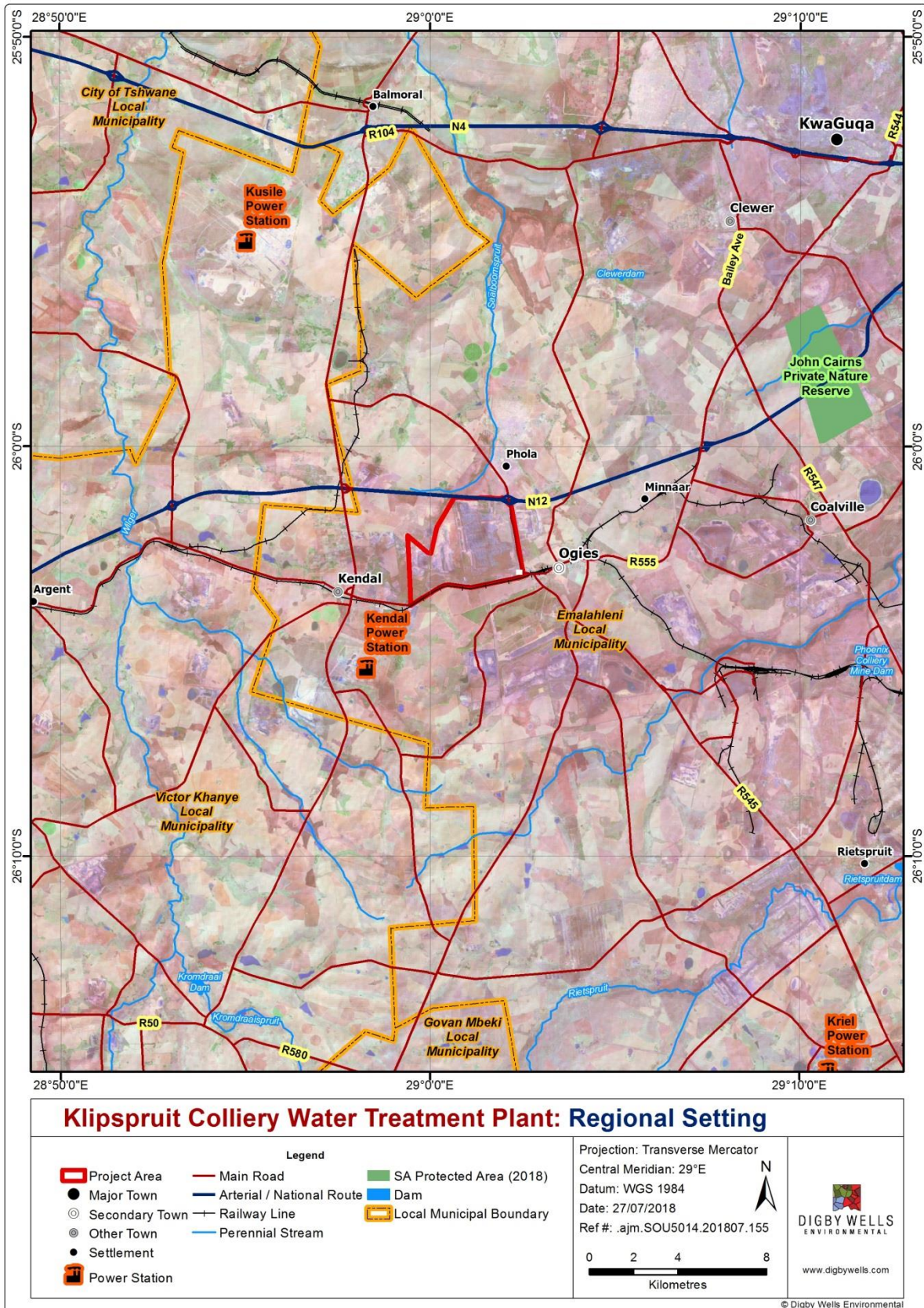
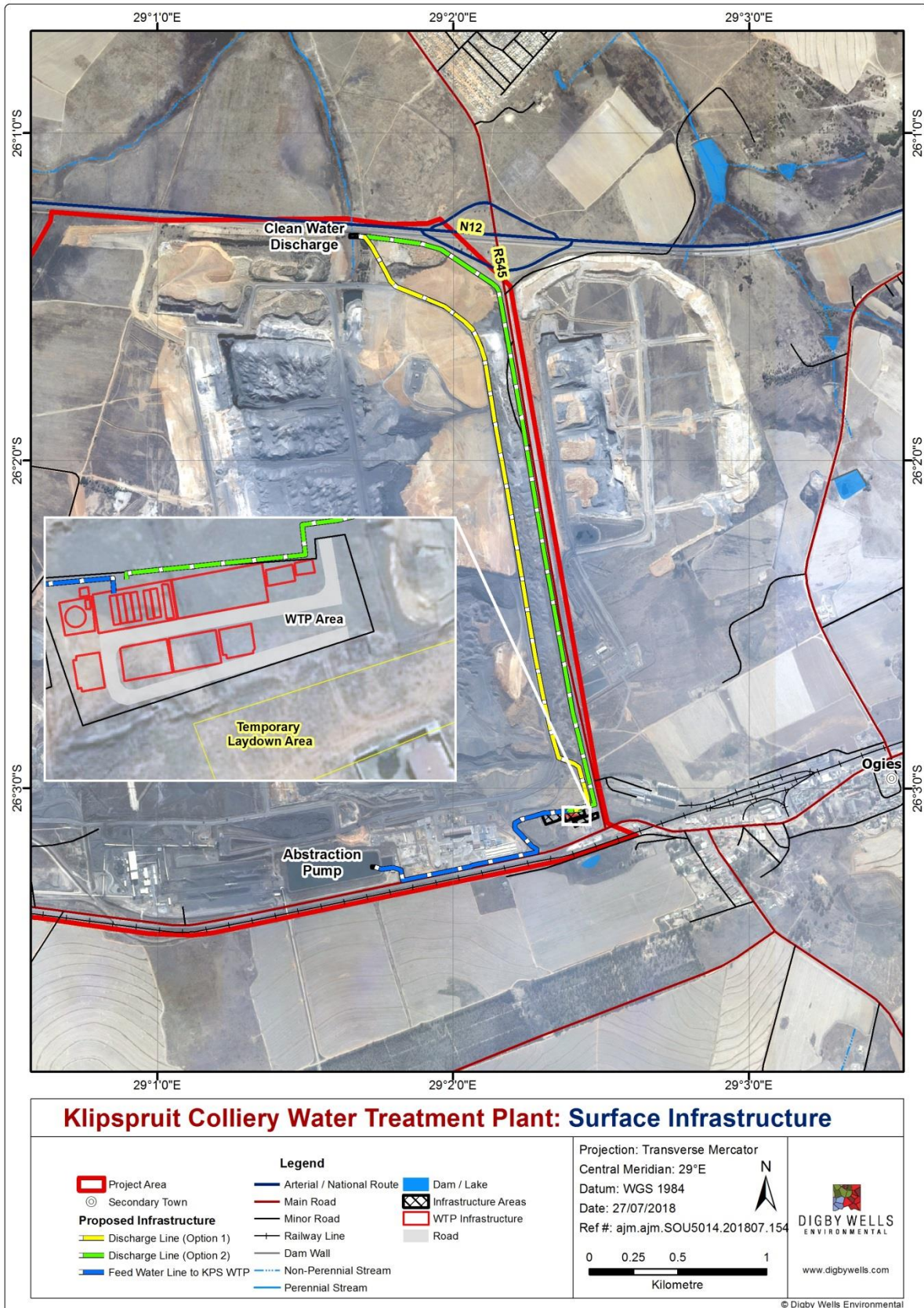


Figure 2-1: Regional Setting of KPS





**Figure 2-2: Proposed Infrastructure Layout**



## 2.1 Project Location Description

Table 2-1 and Table 2-2 below summarise the location and affected landowner details respectively. Please refer to Appendix A for detailed plans.

**Table 2-1: Project location details**

<b>Name of property/ies</b>	Klipspruit Colliery
<b>Street address or location (e.g.: Off R44)</b>	Off the R555, between the R545 to the east and the N12 highway to the north.
<b>Affected Erf or farm number/s</b>	Prinshof IS 2 (Portions 2 and 14) Oogiesfontein IS 4 (Portion 4, Remainder and Portion 4) Klipfontein IS 3 (Portion 12 Remainder and Portion 14 Remainder) Phola Plant No 830-IS (Remainder)
<b>Coordinates of approximate centre of project area (WTP)</b>	26°03'05.05"S 29°02'22.04"E
<b>Town or District</b>	Ogies
<b>Responsible Municipality</b>	eMalahleni Local Municipality (ELM) Nkangala District Municipality (NDM)
<b>Maximum extent of proposed development</b>	Infrastructure: 1.51 hectares (ha) Linear infrastructure: 5.2 km (maximum, an additional 26 ha)
<b>Current use</b>	Mining
<b>Predominant land use/s of surrounding properties</b>	Mining and agriculture. The town (Ogies) is largely residential.

**Table 2-2: Landowner details**

<b>Name</b>	<b>Property</b>	<b>Notified</b>
Ingwe Surface Holdings Ltd	Phola Plant No. 830-IS on the farm Klipfontein IS 3 (Remaining Extent)	Yes
	Klipfontein IS 3 (Portion 14 Remainder)	
	Oogiesfontein IS 4 (Portion 4 Remainder)	
	Oogiesfontein IS 4 (Portion 63)	
	Prinshof IS 2 (Portion 2 and Portion 14)	





Name	Property	Notified
Christiaan Johannes Naude	Klipfontein IS 3 (Portion 12 Remainder)	Yes

### 3 Baseline description

The cultural heritage baseline description considered the predominant landscape based on the identified heritage resources within the regional and local study area. Table 3-1 presents an overview of the broad timeframes for the major periods of the past in Mpumalanga.

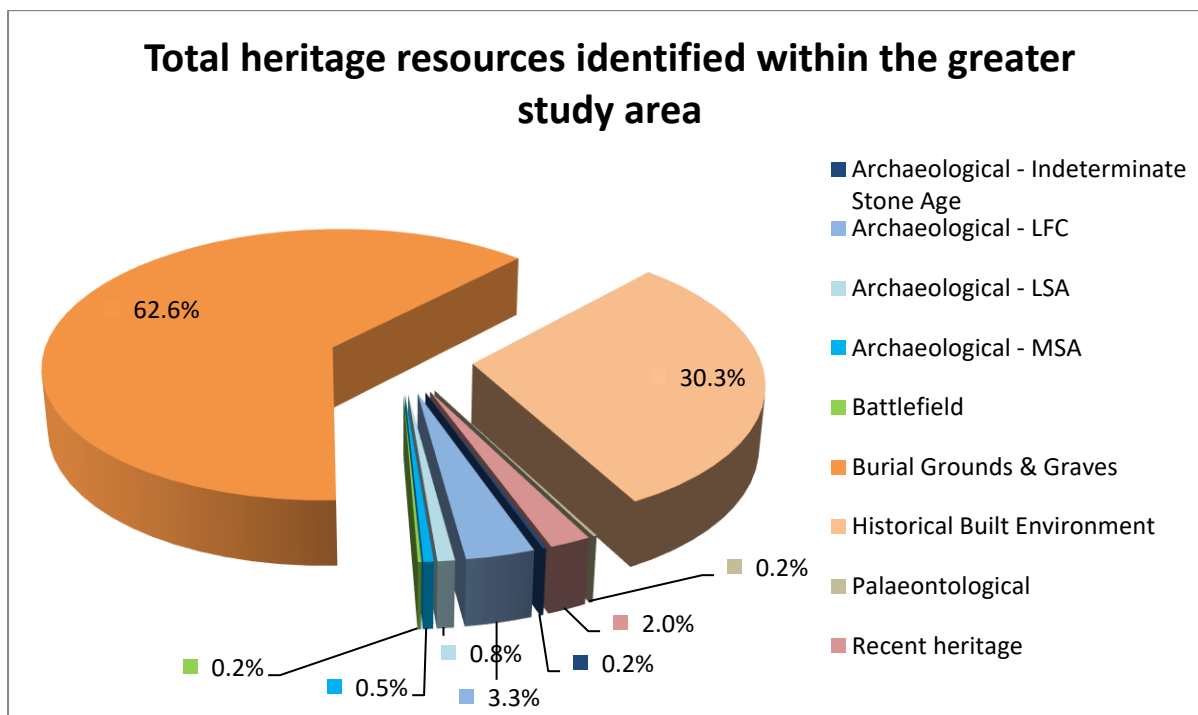
**Table 3-1: Archaeological periods in Mpumalanga, adapted from Esterhuysen & Smith (2007)**

<b>The Stone Age</b>	Earlier Stone Age (ESA)	2 million years ago (mya) to 250 thousand years ago (kya)
	Middle Stone Age (MSA)	250 kya to 20 kya
	Later Stone Age (LSA)	20 kya to 500 CE (Common Era <sup>1</sup> )
There appears to be a gap in the record in Mpumalanga between approximately 7000 and 2000 BCE.		
<b>Farming Communities</b>	Early Farming communities (EFC)	500 to 1400 CE
	Late Farming Communities (LFC)	1100 to 1800 CE
<b>Historical Period</b>	-	1500 CE to 1850 (Behrens & Swanepoel, 2008)

Figure 3-1 presents a breakdown of the tangible heritage resources identified within the regional, local and site-specific study areas. In total, the figure considers 610 recorded heritage resources. The predominant heritage resources demonstrate affiliations with burial grounds and graves (62.6%) and the historical built environment (30.3%). This notwithstanding, expressions of all phases of the Stone Age, the LFC, recent history and historical battlefields have also been recorded in the greater study area.

A brief description of the cultural heritage baseline follows, focused on the historical period within the greater heritage landscape.

<sup>1</sup> Common Era (CE) refers to the same period as *Anno Domini* ("In the year of our Lord", referred to as AD): i.e. the time after the accepted year of the birth of Jesus Christ and which forms the basis of the Julian and Gregorian calendars. Years before this time are referred to as 'Before Christ' (BC) or, here, BCE (Before Common Era).



**Figure 3-1: Heritage resources identified within the greater study area**

Mpumalanga is underlain by valuable geological formations, in terms of both mineral and fossil wealth (Johnson, et al., 2006; Groenewald & Groenewald, 2014). These formations include:

- The Karoo Supergroup;
- The Bushveld Complex; and
- The Transvaal Supergroup.

The site-specific study area is underlain by the greater Springs-Witbank Coalfield, which makes up a portion of the coal-bearing Ecca Group within the Karoo Supergroup. Other significant features within the Ecca Group include the *Pietermaritzburg*, *Vryheid* and *Volksrust Formations* (Groenewald & Groenewald, 2014).

The *Vryheid Formation* is the primary potential fossil-bearing layer underlying the site-specific study area and, as such, is of very high palaeo-sensitivity (SAHRA, 2013b; 2017). These layers were deposited roughly 180 million years ago in a deltic environment, where river action deposits material onto an alluvial plain. This formation includes coal, mudstones, sandstones and shales (Bamford, 2016). The shales between the coal horizons have the highest potential to preserve good examples of the plant fossils present within the *Vryheid Formation* and the surface sandstone outcrops may also preserve plant fossils to a lesser degree (Bamford, 2014; 2016). Coal is formed through the compression and heat alteration of plant matter and subsequently, the plant material may be altered to such an extent that potential plant fossils are no longer recognisable.



Fossil plants that could be expected within the *Vryheid Formation* include: *Glossopteris* leaves, roots and inflorescences; and *Calamites* stems. Mammal-like reptiles and mammals may potentially be included in coal deposits, but these are rarely preserved with plant fossils (Bamford, 2012; 2016).

The archaeological record begins with the Stone Age. In southern Africa, this comprises three broad phases, determined according to the stone tools and the material culture produced by the various hominid species through time. These phases are:

- The ESA;
- The MSA; and
- The LSA.

The ESA is not represented in the available data and is therefore not considered in this assessment. The MSA dates from approximately 300 kya to 20 kya and is characterised by the use of good-quality raw material (Clark, 1982; Deacon & Deacon, 1999). Early MSA lithic industries are characterised by high proportions of blades, which are created using the Levallois technique and are minimally modified. Beads, bone tools, ochre and pendants also appear during the MSA.

The LSA dates from 40 kya to the historical period. The lithics characterising this time period are highly specialised, where specific tools were created for specific purposes (Mitchell, 2002). Diagnostic tools include scrapers and segments and bone tools are also included in LSA assemblages. In southern Africa, the LSA is closely associated with hunter-gatherers, which may include San groups, such as the Basarwa and Bathwa (Makhura, 2007). These peoples are commonly regarded as being the first inhabitants of Mpumalanga.

The LSA is further defined by evidence of ritual practices and complex societies (Deacon & Deacon, 1999). In Mpumalanga, three rock art traditions occur: fine-line paintings associated with the LSA hunter-gatherer groups, finger paintings associated with the later arrival of pastoralists and finger paintings associated with much later communities, possibly historical or farming communities.

The Farming Community period correlates with the movements of Bantu-speaking agro-pastoralists moving into southern Africa. The period is divided into the EFC and the LFC; however, only the latter is represented in the regional study area.

The LFC is represented by stonewalling or other tangible surface indicators including ceramics and evidence of domesticated animals (e.g. faunal remains or dung deposits). Stonewalling is categorised into several types based on the construction technique, coursing, height, internal divisions and shape of the structures (Huffman, 2007). Several types occur within the regional study area, including Bokoni or Badfontein walling (16<sup>th</sup> Century), KwaMaza (1700 to 1840 CE) and Type V (19<sup>th</sup> Century) walling. The types of ceramics (ceramic facies) represented in the province are outlined in Table 3-2.





**Table 3-2: Ceramic facies commonly represented in Mpumalanga, after Huffman (2007)**

Facies	Key Characteristics	Period
Uitkomst	Stamped arcades, appliqué and blocks of parallel incisions, stamping and chord impressions	1650 CE – 1820 CE
Rooiberg	Stamped rim band, mixture of stamped and incised bands, arcades and triangles in the neck	1650 CE – 1750 CE
Icon	Multiple incised bands separated by colour and lip decorations on bowls	1300 CE – 1500 CE
Madikwe	Multiple bands of cord impressions, incisions, stabs and punctates separated by colour	1500 CE – 1700 CE
Letaba	Hatched bands on shoulder, below black and red triangles	1600 CE – 1840 CE
Klingbeil	Triangles in neck bordered with slashes, punctates on shoulder	1000 CE – 1200 CE

The historical period<sup>2</sup> is commonly characterised by contact between Europeans and Bantu-speaking African groups and the written records associated with this interaction. However, the division between the LFC and historical period is largely artificial, as the people, politics and trends continue between the LFC and the historical period.

Throughout the transitions between the LFC and the historical period (and throughout the historical period as well), population growth, climatic variation and trade significantly impacted the groups on the Mpumalanga Highveld, resulting in the rise of power blocs, violent displacement and political displacement (Makhura, 2007). The Mfecane/Difaqane is one such event. These terms refer to the period between 1817 and 1826 CE which was an extremely violent time commonly attributed to the movement of Mzilikazi and his Ndebele community, who were pushed out of their territory by Shaka and his Zulu followers (Landau, 2010).

European settlers, trader, missionaries and travellers moving into the interior further added to the instability across the Mpumalanga Highveld (Landau, 2010). The region was vulnerable to intrusive groups such as the Swazi and the *Voortrekkers* who settled here later. Groups of Afrikaners initiated a move from the Cape in approximately 1835, which is commonly referred to the Great Trek (*Groot Trek*) (Delius & Cope, 2007; Voortrekkers, 2014). The Robert Schoon Party was the first to embark on the Great Trek in 1836, before

<sup>2</sup> In southern Africa, especially in Mpumalanga, the last 500 years represents a formative period that is marked by enormous internal economic invention and political experimentation that shaped the cultural contours and categories of modern identities outside of European contact. This period is currently not well documented, but is being explored through the 500 year initiative (Swanepoel, et al., 2008).



settling in Ohrigstad in 1845. The Robert Schoon party were soon followed by Voortrekkers in 1840 (Bergh, 1999).

Within the study area, coal deposits have been exploited since the 1860s, by European settlers (Pistorius, 2008). Early coal mining was supported by other mining industries, including diamond mining in Kimberly from 1867 and later, gold mining on the Witwatersrand.

Ogies, the town, was established in 1885 on the farm Ogiesfontein (Falconer, 1990). Oogies was established as a mining town to cater for the construction and operation of the Oogjes-Tweefontein Mine on the farm Klein Zuikerbosplaat. The establishment of the town coincided with an upswing in the coal mine industry, as seen by the opening of several mines in 1889 in the area, including: the Brugspruit Agies, Douglas Mine (at Balmoral), Maggie's Mine, and the Steelkoolspruit Mine.

The South African War (previously referred to as the Second Anglo-Boer War) officially started on October 9<sup>th</sup> 1899 and ended in 1902. The following important events associated with the War took place within the broader area:

- The Battle of Lake Chrissie (06 February 1901);
- The Battle of Bakenlaagte (30 October 1901);
- Trigaardsfontein (10 December 1901);
- Klippan (18 February 1902) and
- Boschmanskop (01 April 1904) (Van Vollenhoven, 2014).

Digby Wells undertook heritage assessments of these project areas in 2014<sup>3</sup>. Through these, and other studies completed in the area, several heritage resources have been identified within the greater SAEC Mining Right Area (MRA), the Klipspruit Extension (KPSX). This includes the Weltevreden and the KPSX South Projects. These resources are summarised in Table 3-3 and represent the built environment and burial grounds and graves.

Identified heritage resources are prefixed by the SAHRIS Case or Map ID number. The site numbers follow those used by the original author in the original reports. These Case and Map IDs are listed in Table 3-4.

**Table 3-3: Heritage resources previously identified within the Project area and immediate surrounds**

Site Name	Description	Source
00654/2629AA2	Burial grounds and graves. Approximately 25 graves, of which 4 have headstones	Van Schalkwyk 1997

<sup>3</sup>Case ID 6316, accessible at: <http://www.sahra.org.za/sahris/cases/klipspruit-extension-south> and

Case ID 6397, accessible at: <http://www.sahra.org.za/sahris/cases/klipspruit-extension-weltevreden-project>



Site Name	Description	Source
00654/2629AA3	Historical built environment. Ruins of an old homestead, demolished down to foundation level.	Van Schalkwyk 1997
00654/2629AA4	Burial grounds and graves. Single grave with a headstone - Anna Schalekamp, died Feb 1901	Van Schalkwyk 1997
00654/2629AA5	Historical built environment. Ruins of an old farm labourer homestead.	Van Schalkwyk 1997
00654/2629AA6	Historical built environment. An old farmstead outbuilding, built from blocks of hard plinthite	Van Schalkwyk 1997
00654/2629AA7	Burial grounds and graves. Six features, possibly more, that might be graves.	Van Schalkwyk 1997
00654/2629AA8	Burial grounds and graves. The headstone of a grave, located amongst heaps of stone	Van Schalkwyk 1997
1164/2629AA21	Burial grounds and graves. Single grave marked by stone cairn.	Van Schalkwyk 2002
1164/2629AA24	Burial grounds and graves. Large cemetery, possibly with more than fifty graves (no names or dates reported). Only a few have formal headstones. Located on the farm Oogiesfontein 4 IS.	Van Schalkwyk 2002
1164/2629AA28	Burial grounds and graves. Cemetery containing approximately 30 graves on the farm Smaldeel 1 IS. Only a few are marked with headstones. No names or dates reported.	Van Schalkwyk 2002
1164/2629AA29	Burial grounds and graves. Cemetery with six graves associated with Hanekom and Smith families. This cemetery is noted on the GSSA database.	Van Schalkwyk 2002
1164/2629AA30	Burial grounds and graves. Cemetery with 4 graves	Van Schalkwyk 2002
1164/2629AA32	Burial grounds and graves. Cemetery of the Cloete family with approximately 17 graves. This cemetery is noted on the GSSA database.	Van Schalkwyk 2002
00654/2629AA13	Burial grounds and graves. An informal cemetery, consisting of possibly more than 30 graves	Van Schalkwyk 1997
00654/2629AA12	Historical built environment. Two farm labourer homesteads	Van Schalkwyk 1997
00654/2629AA11	Historical built environment. Slabs of concrete	Van Schalkwyk 1997





Site Name	Description	Source
00654/2629AA9	Historical built environment. Remains of an old structure, built of blocks of sandstone.	Van Schalkwyk 1997
6316/S.34-001	Historical built environment. Farmhouse which appears to be older than 60 years. Located in the KPSX South project area.	Digby Wells 2014a
6316/S.36-002	Burial grounds and graves of approximately 12 graves. The oldest grave with a legible headstone dates to 1969. Located in the KPSX South project area.	Digby Wells 2014a
6316/S.34-003	Historical built environment. Structure appears to be pre-fabricated and may not be older than 60 years. Located in the KPSX South project area.	Digby Wells 2014a
6316/S.34-004	Historical built environment. Location of foundations of structures which may be older than 60 years. Located in the KPSX South project area.	Digby Wells 2014a
6397/S.36-001	Burial grounds and graves. Cemetery of approximately 50 graves adjacent to a road.	Digby Wells 2014b
6397/S.36-004	Burial grounds and graves. Informal cemetery consisting of approximately 20 graves. Grave have formal surface dressing, but dates are not visible on tombstone.	Digby Wells 2014b
6397/S.34-005	Historical built environment. Ruin of homestead. Potential for associated graves. Age of the building unconfirmed.	Digby Wells 2014b
01123/GY11	Burial grounds and graves. This graveyard is located in tall grass near a maize field and is hardly visible in an area demarcated by a fence. At least 12 graves are included in this graveyard: two have granite headstones with inscriptions, four have cement headstones and edgings and four are covered with fericrete stone. There are other graves scattered in the tall grass but the exact number is not known.	De Jong 2007a
01123/GY17	Burial grounds and graves. Graveyard containing the graves of at least four people. The graveyard used to be fenced in (and had a gate), but the graves are now in need of repair and the granite slabs on some of the graves have collapsed. Inscriptions date the headstones to 1917, 1923, 1960 and 1966.	De Jong 2007a



### 3.1 Data sources

A detailed reference list of the published literature is included in Section 7. Table 3-4 below summarises the databases consulted and the unpublished sources used in the compilation of the cultural baseline.

**Table 3-4: Qualitative data sources**

Reviewed Qualitative Data		
Databases		
South African Heritage Resources Information System (SAHRIS)	Genealogical Society of South Africa (GSSA) Database	
SAHRIS Cases		
Case ID 1724	Case ID 4249	Map ID 710
Case ID 138	Case ID 6521	Map ID 711
Case ID 166	Case ID 6357	Map ID 1121
Case ID 174	Case ID 6391	Map ID 1153
Case ID 466	Case ID 6492	Map ID 1164
Case ID 1487	Case ID 8410	Map ID 1165
Case ID 1803	Case ID 8481	Map ID 1179
Case ID 2261	Case ID 654	Map ID 1668
Case ID 5914	Case ID 648	Map ID 1718
Case ID 6392	Case ID 687	Map ID 2179
Case ID 9404	Case ID 4801	Map ID 2418
Case ID 4919	Case ID 3020	Map ID 2859
Case ID 10237	Case ID 5472	Map ID 2907
Case ID 9216	Case ID 8831	Map ID 653
Case ID 7332	Case ID 9599	Map ID 707
Case ID 1297	Case ID 102	Map ID 1123
Case ID 11829	Map ID 1128	Map ID 2150

### 3.2 Pre-disturbance survey

Shannon Hardwick completed a pre-disturbance survey on 23 May 2018. Due to the colliery being operational, the survey of the linear infrastructure was mostly vehicular, although the footprints for the non-linear infrastructure were inspected on foot. This survey included the two proposed discharge pipeline routing options, the proposed feedline routing and the proposed footprints for the WTP, temporary laydown area and abstraction pump. The survey aimed to identify any tangible heritage resources that could potentially be impacted on by the



construction of the proposed infrastructure. The tracks of the pre-disturbance survey are illustrated in Plan 1 (attached in Appendix B).

No heritage resources or visible surface indicators of heritage resource were identified. The site has been extensively disturbed through prior mining activities as well as subsequent revegetation activities. Figure 3-2 illustrates the current environment.



**Figure 3-2: Existing environment in the proposed development footprints: a.) WTP, b.) temporary laydown area, c.) near the discharge point and d.) feedline**

The heritage resources identified within the KPS site-specific study area by Van Schalkwyk & Moifatswane (2002) have been illustrated in Figure 3-3. These resources were not verified during the pre-disturbance survey as they are situated outside the development footprint of the Project, and no impact to these resources are envisaged. Considering the KPS Colliery is fully operational, it is assumed the recommendation contained within the previous assessments have been implemented and adhered to.



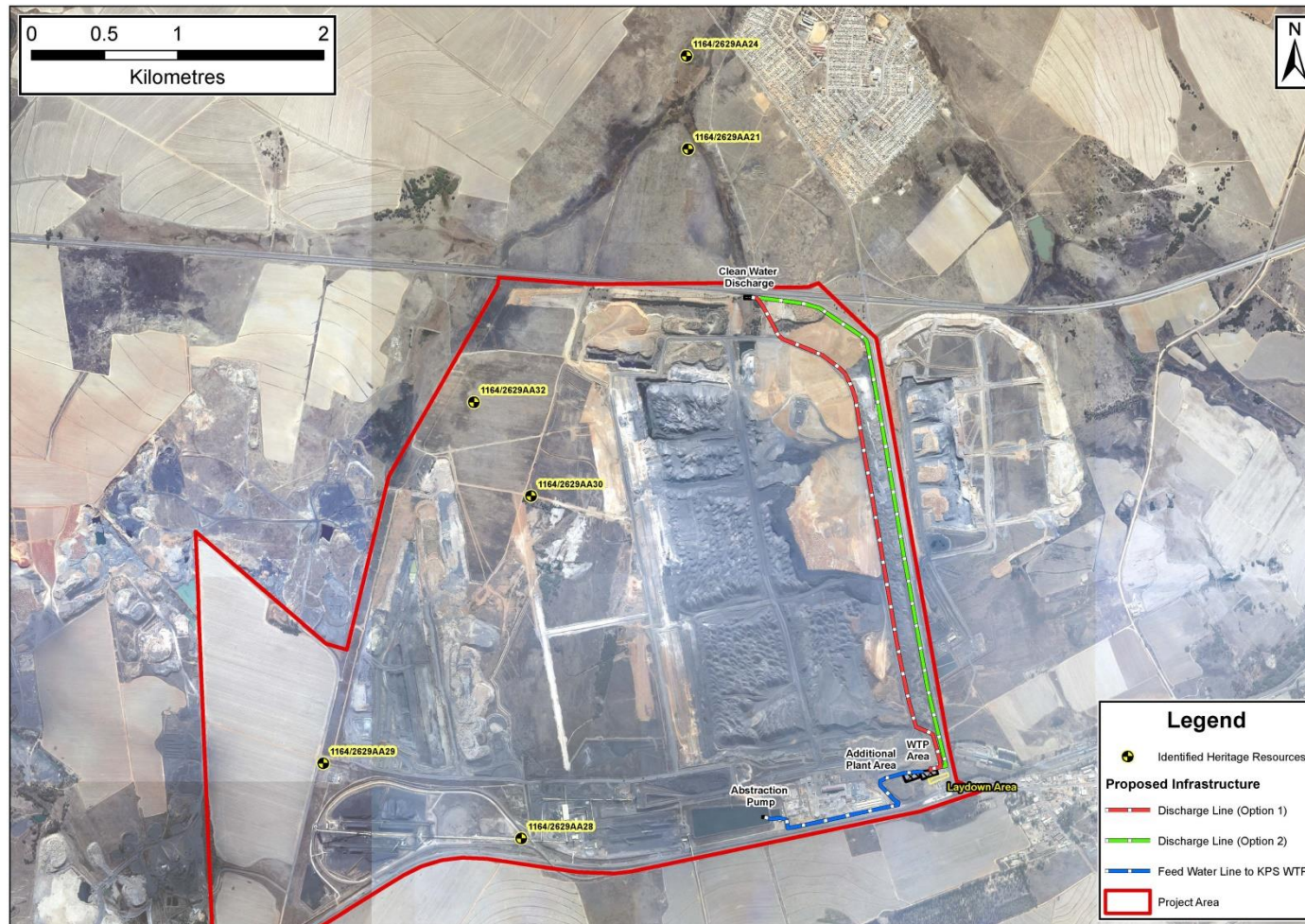


Figure 3-3: Heritage resources previously identified within the site-specific study area



## 4 Assessment process

Table 4-1 presents an overview of the EIA processes that are currently being undertaken for the proposed Project.

**Table 4-1: Current assessment processes**

<b>Legislation (e.g. NEMA, MPRDA, etc.)</b>	<b>Current phase of assessment process (e.g. Scoping, EIA, etc.)</b>	<b>Authorities who has / will receive information</b>	<b>Capacity of Authorities</b>
NEMA	Pre-application	Department of Mineral Resources (DMR)	Licensing Authority
NWA		Department of Water and Sanitation (DWS)	Licensing Authority
MPRDA		DMR (Mpumalanga)	Competent Authority
NHRA	NID and RfE	South African Heritage Resources Agency (SAHRA)	Commenting
		Mpumalanga Provincial Heritage Resources Authority (MPHRA)	Noting

These assessments are required in terms of legislated and/or regulated activities outlined in Sections 4.1 to 4.2 below.

### 4.1 EIA Regulations listed activities

Table 4-2 presents the activities listed in the EIA Regulations which generally require impact assessments.


**Table 4-2: Identified listed activities**

NEMA Activity No.	NHRA Trigger	Description	Expected duration/phase
Listing Notice 1 Activity 9 <sup>4</sup>	38(1)(e)	The development of infrastructure exceeding 1 000 m in length for the bulk transportation of water or storm water: (i) With an internal diameter or 0.36 m or more; or (ii) With a peak throughput of 120 litres per second or more.	Construction and operation
Listing Notice 1 Activity 25 <sup>5</sup>		The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.	Construction and operation

## 4.2 NHRA Section 38(1) activities

The proposed development will include the following activities listed in Section 38(1) of the NHRA, which generally require heritage assessments be undertaken.

**Table 4-3: NHRA Section 38 triggers**

NHRA Section 38 (1) Activities / Triggers		Summary description (e.g. 500 m conveyor belt, open cast pit, etc.)	
<input checked="" type="checkbox"/>	a	Any linear development or barrier >300 m	Two pipelines of a maximum combined extent of 4.5 km
<input type="checkbox"/>	b	Any bridge or similar structure >50 m	
<input type="checkbox"/>	c	Any development or activity that will change the character of a site:	
<input checked="" type="checkbox"/>	i	≥5 000m <sup>2</sup> in extent	Non-linear infrastructure covering a combined area of approximately 1.75 ha
<input type="checkbox"/>	ii	Involving ≥3 existing erven/ subdivisions	
<input type="checkbox"/>	iii	Involving ≥3 or more erven/ divisions consolidated within past 5 years.	

<sup>4</sup> GN R 983 (as amended by GN R 327)

<sup>5</sup> GN R 983 (as amended by GN R 327)





<b>NHRA Section 38 (1) Activities / Triggers</b>		<b>Summary description</b> (e.g. 500 m conveyor belt, open cast pit, etc.)
<input type="checkbox"/>	d	Rezoning of a site $\geq 10\,000\text{m}^2$ in extent.
<input checked="" type="checkbox"/>	e	Other triggers, e.g.: in terms of other legislation, (i.e.: National Environment Management Act, etc.)
		NEMA, NWA and MPRDA.

### 4.3 Identified or known heritage resources and potential impacts

Certain categories of heritage resource, if existing and identified, generally require heritage assessments to be completed before any development may take place. These categories may be formally or generally protected in terms of the NHRA. Table 4-4 presents an overview of such heritage resources identified within the Project area.

**Table 4-4: Identified heritage resources in terms of Section 3 of the NHRA**

	<b>Section</b>	<b>Description</b>
<input type="checkbox"/>	<b>3(2)(a)</b>	<b>Places, buildings, structures and equipment of cultural significance</b> Description of resource: None identified. Potential impact: None.
<input type="checkbox"/>	<b>3(2)(b)</b>	<b>Places to which oral traditions are attached or which are associated with living heritage</b> Description of resource: None identified. Potential impact: None.
<input type="checkbox"/>	<b>3(2)(c)</b>	<b>Historical settlements and townscapes</b> Description of resource: None identified. Potential impact: None.
<input type="checkbox"/>	<b>3(2)(d)</b>	<b>Landscapes and natural features of cultural significance</b> Description of resource: None identified. Potential impact: None.
<input type="checkbox"/>	<b>3(2)(e)</b>	<b>Geological resources of scientific or cultural importance</b> Description of resource: None identified. . Potential impact: None.
<input type="checkbox"/>	<b>3(2)(f)</b>	<b>Archaeology and/or palaeontology (Including archaeological sites and material, fossils, rock art, battlefields &amp; wrecks)</b> Description of resource: None identified Potential impact: None
<input checked="" type="checkbox"/>	<b>3(2)(g)</b>	<b>Graves and burial grounds (e.g. ancestral graves, graves of victims of conflict, historical graves &amp; cemeteries)</b> Description of resource: Five burial grounds and graves identified in previous studies within the larger project area. Potential impact: None posed by Project-related activities.

	<b>Section</b>	<b>Description</b>
<input type="checkbox"/>	<b>3(2)(h)</b>	<b>Other human remains</b>
		Description of resource: None identified.
		Potential impact: None.
<input type="checkbox"/>	<b>3(2)(i)</b>	<b>Sites of significance relating to the history of slavery in South Africa</b>
		Description of resource: None identified.
		Potential impact: None.
<input type="checkbox"/>	<b>3(2)(j)</b>	<b>Movable objects</b>
		Description of resource: None identified.
		Potential impact: None.

## 5 Illustrative material

**Illustrative material is provided in Appendix B.  
Appendix B: Plans**



Plan 1 demonstrates the general locality of the Project and the site-specific study area that was assessed during the pre-disturbance survey.

## 6 Recommendation

Table 6-1 presents a summary and motivation of the specialist recommendations.

**Table 6-1: Specialist heritage recommendations**

<b>Is a Heritage Impact Assessment required?</b>		<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<b>If NO, provide motivation:</b>			
<p>The cultural heritage baseline as presented in Section 3 demonstrates that the greater study area comprises a cultural landscape predominantly associated with the historical built environment and burial grounds and graves. This notwithstanding, the Stone Age, LFC and recent heritage is also represented in the greater study area.</p> <p>Shannon Hardwick undertook a pre-disturbance survey of the proposed development footprints on 23 May 2018 to identify any tangible resources that may be impacted upon by Project-related activities. No new heritage resources were recorded within the site-specific study area. This is due to the highly-disturbed nature of the site-specific study area defined by the KPS Colliery Mining Right Area, which has a history of mining and associated activities. The proposed development footprints all fall within these previously-disturbed areas. This is by design on the part of SAEC, who aim to reduce the potential environmental and social impacts associated with this Project.</p> <p>Considering the cultural heritage baseline, the review of previously-completed heritage studies within the larger study area and the results of the pre-disturbance survey, Digby Wells is of the option that no further heritage assessment in terms of Section 38(1) of the NHRA is required. Digby Wells therefore submits an RfE as part of this NID for the proposed development from further heritage assessments, including a specialist PIA. This is on condition that:</p> <ul style="list-style-type: none"> <li>■ SAEC develops a Project-specific Change Finds Protocol (CFP) and Fossil Finds Procedure (FFP) for implementation during the construction phase of the Project, where such protocols have not yet been established; and</li> <li>■ SAEC immediately informs SAHRA of any chance finds identified and enlists the services of a qualified and accredited archaeologist or palaeontologist to assess and recommend appropriate mitigation measures, should any resources be identified.</li> </ul>			
<b>If YES, provide suggested components that may be required or undertaken during HIA.</b>			
<input type="checkbox"/>	Archaeology	<input type="checkbox"/>	Architecture
<input type="checkbox"/>	Built Environment	<input type="checkbox"/>	Burial Grounds and Graves
<input type="checkbox"/>	Palaeontology	<input type="checkbox"/>	Public Participation
<input type="checkbox"/>	Townscapes	<input type="checkbox"/>	Visual Impact
<input type="checkbox"/>	Other:		



**Recommendation made by:**

**Name:** Shannon Hardwick

**Name:** Justin du Piesanie

**Capacity:** Assistant Heritage Resources Management Consultant

**Capacity:** Divisional Manager: Social and Heritage Services





## 7 Works Cited

- Bamford, M., 2012. *Palaeontological Impact Assessment for Majuba Underground Coal Gasification Project, Mpumalanga*, Mpumalanga: Royal HaskoningDHV.
- Bamford, M., 2014. *Best Practice for Palaeontological Chance Finds: Proposed extension into adjacent Block 4 reserve of Syferfontein Mine (Sasol), Mpumalanga*, Unpublished Report: The Evolutionary Studies Institute.
- Bamford, M., 2016. *Environmental Authorisation for the Proposed Imvula Mine: Palaeontological Impact Assessment addendum to the Heritage Impact Assessment*, Johannesburg: Digby Wells Environmental.
- Behrens, J. & Swanepoel, N., 2008. Historical archaeologies of southern Africa: precedents and prospects. In: N. Swanepoel, A. Esterhuysen & P. Bonner, eds. *Five Hundred Years Rediscovered: South African precedents and prospects*. Johannesburg: Wits University Press, pp. 23-39.
- Bergh, J., 1999. *Geskiedenisatlas van Suid-Afrika. Die vier noordelike provinsies*. Pretoria: J.L. van Schaik.
- Clark, J., 1982. The Cultures of the Middle Palaeolithic/Middle Stone Age. In: R. Oliver, ed. *The Cambridge History of Africa*. Cambridge: Cambridge University Press.
- Deacon, H. & Deacon, J., 1999. *Human Beginnings in South Africa*. Johannesburg: David Phillip.
- Delius, P. & Cope, R., 2007. Hard-fought frontiers: 1845 - 1883. In: *Mpumalanga: History and Heritage*. Pietermaritzburg: University of KwaZulu-Natal Press, pp. 137-199.
- Esterhuysen, A. & Smith, J., 2007. Stories in stone. In: P. Delius, ed. *Mpumalanga: History and Heritage: reclaiming the past, defining the future*. Pietermaritzburg: University of KwaZulu-Natal Press, pp. 41-67.
- Falconer, K., 1990. Spotlight on 100 years of coal mining in Witbank. *Journal of the South African Institute of Mining and Metallurgy*, 90(4), p. 78.
- Groenewald, G. & Groenewald, D., 2014. *Palaeontological Heritage of Mpumalanga*, Clarens: Unpublished SAHRA Palaeotechnical Report.
- Huffman, T. N., 2007. *Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa*. Durban: University of KwaZulu-Natal Press.
- Johnson, M. R. et al., 2006. Sedimentary Rocks of the Karoo Supergroup. In: M. R. Johnson, C. R. Anhaeusser & R. J. Thomas, eds. *The Geology of South Africa*. Johannesburg: The Geological Society of South Africa and Council for Geosciences, pp. 461-500.
- Landau, P. S., 2010. *Popular Politics in the History of South Africa, 1400-1948*. Cambridge: Cambridge University Press.



Makhura, T., 2007. Early Inhabitants. In: *Mpumalanga: History and Heritage..* Pietermaritzburg: The University of KwaZulu-Natal Press, pp. 91-135.

Mitchell, P., 2002. *The Archaeology of Southern Africa*. Cambridge: Cambridge University Press.

Pistorius, J., 2008. *A Phase 1 Heritage Impact Assessment (HIA) study for the Total Coal South Africa's (TCSA) proposed new expansion of the Dorsfontein Coal Mine (DCM) near Kriel on the Eastern Highveld in the Mpumalanga Province of South Africa*, Unpublished report (2008-SAHRA-0054): SAHRA.

SAHRA, 2013b. *SAHRIS Fossil Heritage Layers: Vryheid Formation*. [Online] Available at: <http://www.sahra.org.za/sahris/fossil-layers/vryheid-formation> [Accessed 25 May 2018].

SAHRA, 2017. *Palaeosensitivity Map*. [Online] Available at: <http://www.sahra.org.za/sahris/map/palaeo> [Accessed 25 May 2018].

Swanepoel, N., Esterhuysen, A. B. & Bonner, P., 2008. *Five Hundred Years Rediscovered: Southern African Precedents and Prospects*. Johannesburg: Wits University Press.

Van Schalkwyk, J. & Moifatswane, S., 2002. *A survey of cultural resources in the proposed Klipspruit Mining Area, Witbank District, Mpumalanga*, Unpublished report: National Cultural History Museum.

Van Vollenhoven, A., 2014. *A report on the Heritage Impact Assessment related to the Exxaro Matla Project near Kriel in the Mpumalanga Province (updated)*, Archaeos Culture and Cultural Resource Consultants: Unpublished report.

Voortrekkers, T., 2014. *The Great Trek - South Africa 1835 - 1845..* [Online] Available at: <http://www.voortrekker-history.co.za/index.php#.VOBq3a8cTIU> [Accessed 25 May 2018].

Notification of Intent to Develop

Environmental Impact Assessment for the Klipspruit Colliery Water Treatment Plant and associated pipeline, Mpumalanga

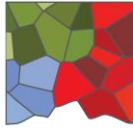
SOU5014



**DIGBY WELLS**  
ENVIRONMENTAL

---

## **Appendix A: Specialist CV**



# DIGBY WELLS

## ENVIRONMENTAL

Miss Shannon Hardwick  
Assistant Heritage Resources Management Consultant  
Social and Heritage Services Department  
Digby Wells Environmental

### 1 Education

Date	Degree(s) or Diploma(s) obtained	Institution
2013	MSc (Archaeology)	University of the Witwatersrand
2010	BSc (Honours) (Archaeology)	University of the Witwatersrand
2009	BSc	University of the Witwatersrand
2006	Matric	Rand Park High School

### 2 Language Skills

Language	Written	Spoken
English	Excellent	Excellent
Afrikaans	Basic	Basic



### 3 Employment

Period	Company	Title/position
2018 to present	Digby Wells Environmental	Assistant Heritage Resources Management Consultant
2017-2018	Digby Wells Environmental	Intern: Heritage Resources Management
2016-2017	Tarsus Academy	Facilitator
2011-2016	University of the Witwatersrand	Teaching Assistant
2011	University of the Witwatersrand	Collections Assistant

### 4 Experience

Shannon joined the Digby Wells team in May 2017 as a Heritage Management Intern, and has subsequently been appointed as an Assistant Heritage Resources Management Consultant. Shannon is an archaeologist who obtained a Master of Science (MSc) degree from the University of the Witwatersrand in 2013, specialising in historical archaeobotany in the Limpopo Province. She is a published co-author of one paper in *Journal of Ethnobiology*. Since joining Digby Wells, Shannon has gained generalist experience through the compilation of Notification of Intent to Develop (NID) applications as well as Heritage Basic Assessment Reports (HBARs), Heritage Scoping Reports (HSRs) and Heritage Impact Assessment (HIA) reports. Her other experience includes compiling a Community Health, Safety and Security Management Plan (CHSSMP) and researching Artisanal and Small-Scale Mining for input into a Livelihood Restoration Framework (LRF). Shannon's experience in the field includes pre-disturbance surveys in South Africa and fieldwork in Malawi.

### 5 Project Experience

My project experience is listed in the table below:

Project Title	Project Location	Date:	Description of the Project	Name of Client
Kilbarchan Colliery Environmental Authorisations and Closure Study	Newcastle, KwaZulu-Natal, South Africa	Ongoing	Heritage Impact Assessment	Eskom Holdings SOC Limited



Project Title	Project Location	Date:	Description of the Project	Name of Client
Belfast Implementation Project	Mpumalanga Province, South Africa	Ongoing	Section 34 Permit Application	Exxaro Coal Mpumalanga (Pty) Ltd
The South African Radio Astronomy Observatory Square Kilometre Array Heritage Impact Assessment and Conservation Management Plan Project	Northern Cape Province, South Africa	Ongoing	Heritage Impact Assessment and Conservation Management Plan	The South African Radio Astronomy Observatory (SARAO)
Heritage Resources Management Process for the Exxaro Matla Mine	Mpumalanga Province, South Africa	January 2018	Heritage Impact Assessment	Exxaro Coal Mpumalanga (Pty) Ltd
Newcastle Landfill Project	Newcastle, KwaZulu-Natal, South Africa	March 2018	Heritage Impact Assessment	GCS Water and Environmental Consultants
Tharisa Apollo (UG1) Plant	Marikana, North-West Province, South Africa	Ongoing	Heritage Impact Assessment	GCS Water and Environmental Consultants
National Heritage Resources Act, 1999 (Act No. 25 of 1999) Section 34 Permit Application Process for the Davin and Queens Court Buildings on Erf 173 and 174, West Germiston, Gauteng Province	Johannesburg, Gauteng, South Africa	April 2018	Section 34 Permit Application	IDC Architects
Environmental Impact Assessment for the proposed Future Developments within the Sun City Resort Complex	North West Province, South Africa	Ongoing	Heritage Impact Assessment	Sun International (Pty) Ltd
Basic Assessment and Environmental Management Plan for the Proposed pipeline from the Mbali Colliery to the Tweefontein Water Reclamation Plant, Mpumalanga Province	Mpumalanga Province, South Africa	January 2018	Heritage Basic Assessment Report	HCI Coal (Pty) Ltd (Mbali Colliery)



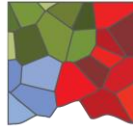
Project Title	Project Location	Date:	Description of the Project	Name of Client
Environmental Fatal Flaw Analysis for the Mabula Filling Station	Waterberg, Limpopo Province, South Africa	November 2017	Fatal Flaw Analysis	Mr van den Bergh
Zuurfontein NID	Ekurhuleni, Johannesburg, South Africa	July 2017	Notification of Intent to Develop	Shuma Africa Projects
Liwonde Additional Studies	Liwonde, Southern Region, Malawi	Ongoing	Resettlement Action Plan, Community Health, Safety and Security Management Plan	Mota-Engil Africa
National Heritage Resources Act, 1999 (Act No. 25 of 1999) Section 35 Archaeological Investigations, Lanxess Chrome Mine, North-West Province	Rustenburg, North West Province, South Africa	July 2017	Phase 2 Mitigation Assessment	Lanxess Chrome Mines (Pty) Ltd
Environmental and Social Input for the Pre-Feasibility Study	Bougouni, southern Mali	July 2017	Pre-Feasibility Study	Birimium Gold

## 6 Professional Registrations

Position	Professional Body	Registration Number
Member	Association for Southern African Professional Archaeologists (ASAPA)	451

## 7 Publications

Esterhuysen, A.B. & Hardwick, S.K. 2017. Plant remains recovered from the 1854 siege of the Kekana Ndebele, Historic Cave, Makapan Valley, South Africa. *Journal of Ethnobiology* 37(1): 97-119.



# DIGBY WELLS

## ENVIRONMENTAL

Mr. Justin du Piesanie  
Manager: Heritage Resources Management  
Social and Heritage Services Department  
Digby Wells Environmental

## 1 Education

Date	Degree(s) or Diploma(s) obtained	Institution
2015	Continued Professional Development, Intermediate Project Management Course	PM.Ideas: A division of the Mindset Group
2013	Continued Professional Development Programme, Architectural and Urban Conservation: Researching and Assessing Local Environments	University of Cape Town
2008	MSc	University of the Witwatersrand
2005	BA (Honours) (Archaeology)	University of the Witwatersrand
2004	BA	University of the Witwatersrand
2001	Matric	Norkem Park High School

## 2 Language Skills

Language	Written	Spoken
English	Excellent	Excellent
Afrikaans	Proficient	Good



### 3 Employment

Period	Company	Title/position
2016 to present	Digby Wells Environmental	Unit Manager: Heritage Resources Management
2011-2016	Digby Wells Environmental	Heritage Management Consultant: Archaeologist
2009-2011	University of the Witwatersrand	Archaeology Collections Manager
2009-2011	Independent	Archaeologist
2006-2007	Maropeng & Sterkfontein Caves UNESCO World Heritage Site	Tour guide

### 4 Experience

I joined the company in August 2011 as an archaeologist and was subsequently made unit manager in the Social and Heritage Services Department in 2016. I obtained my Master of Science (MSc) degree in Archaeology from the University of the Witwatersrand in 2008, specialising in the Southern African Iron Age. I further attended courses in architectural and urban conservation through the University of Cape Town's Faculty of Engineering and the Built Environment Continuing Professional Development Programme in 2013. I am a professional member of the Association of Southern African Professional Archaeologists (ASAPA), and accredited by the association's Cultural Resources Management (CRM) section. I am also a member of the International Council on Monuments and Sites (ICOMOS), an advisory body to the UNESCO World Heritage Convention. I have over 10 years combined experience in HRM in South Africa, including heritage assessments, archaeological mitigation, grave relocation, and NHRA Section 34 application processes. I gained further generalist experience since my appointment at Digby Wells in Botswana, Burkina Faso, the Democratic Republic of Congo, Liberia and Mali on projects that have required compliance with IFC requirements such as Performance Standard 8: Cultural Heritage. Furthermore, I have acted as a technical expert reviewer of HRM projects undertaken in Cameroon and Senegal. My current focus at Digby Wells is to develop the HRM process as an integrated discipline following international HRM principles and standards. This approach aims to provide clients with comprehensive, project-specific solutions that promote ethical heritage management and assist in achieving strategic objectives.

## 5 Project Experience

Please see the following table for relevant project experience:

Project Title	Project Location	Date:	Description of the Project	Name of Client
Klipriviersberg Archaeological Survey	Meyersdal, Gauteng, South Africa	2005 2006	Archaeological surveys	ARM
Sun City Archaeological Site Mapping	Sun City, Pilanesberg, North West Province, South Africa	2006 2006	Phase 2 Mapping	Sun International
Witbank Dam Archaeological Impact Assessment	Witbank, Mpumalanga, South Africa	2007 2007	Archaeological survey	ARM
Archaeological Assessment of Modderfontein AH Holdings	Johannesburg, Gauteng, South Africa	2008 2008	Heritage Basic Assessment	ARM
Heritage Assessment of Rhino Mines	Thabazimbi, Limpopo Province, South Africa	2008 2008	Heritage Impact Assessment	Rhino Mines
Cronimet Project	Thabazimbi, Limpopo Province, South Africa	2008 2008	Archaeological surveys	Cronimet
Eskom Thohoyandou SEA Project	Limpopo Province, South Africa	2008 2008	Heritage Statement	Eskom
Wenzelrust Excavations	Shoshanguve, Gauteng, South Africa	2009 2009	Phase 2 Excavations	Heritage Contracts Unit
University of the Witwatersrand Parys LIA Shelter Project	Parys, Free State, South Africa	2009 2009	Phase 2 Mapping	University of the Witwatersrand
Transnet NMPP Line	Kwa-Zulu Natal, South Africa	2010 2010	Heritage survey	Umlando Consultants
Archaeological Impact Assessment – Witpoortjie Project	Johannesburg, Gauteng, South Africa	2010 2010	Archaeological Impact Assessment	ARM
Der Brochen Archaeological Excavations	Steelpoort, Mpumalanga, South Africa	2010 2010	Phase 2 Excavations	Heritage Contracts Unit
De Brochen and Booyensdal Archaeology Project	Steelpoort, Mpumalanga, South Africa	2010 2010	Phase 2 Mapping	Heritage Contracts Unit
Eskom Thohoyandou Electricity Master Network	Limpopo Province, South Africa	2010 2010	Heritage Statement	Strategic Environmental Focus
Bathako Mine Expansion	North-West Province, South Africa	2010 2010	Phase 2 Mapping	Heritage Contracts Unit
Kibali Gold Project Grave Relocation Plan	Oriental Province, Democratic Republic of Congo	2011 2013	Grave Relocation	Randgold Resources Limited



<b>Project Title</b>	<b>Project Location</b>	<b>Date:</b>		<b>Description of the Project</b>	<b>Name of Client</b>
Kibali Gold Hydro-Power Project	Orientele Province, Democratic Republic of Congo	2012	2014	Heritage Impact Assessment	Randgold Resources Limited
Everest North Mining Project	Steelpoort, Mpumalanga, South Africa	2012	2012	Heritage Impact Assessment	Aquarius Resources
Environmental Authorisation for the Gold One Geluksdal TSF and Pipeline	Gauteng, South Africa	2012	2012	Heritage Impact Assessment	Gold One International
Platreef Burial Grounds and Graves Survey	Mokopane, Limpopo Province, South Africa	2012	2012	Burial Grounds and Graves Survey	Platreef Resources
Resgen Boikarabelo Coal Mine	Limpopo Province, South Africa	2012	2012	Phase 2 Excavations	Resources Generation
Bokoni Platinum Road Watching Brief	Burgersfort, Limpopo Province, South Africa	2012	2012	Watching Brief	Bokoni Platinum Mine
SEGA Gold Mining Project	Burkina Faso	2012	2013	Socio Economic and Asset Survey	Cluff Gold PLC
Everest North Mining Project	Steelpoort, Mpumalanga, South Africa	2012	2015	Heritage Impact Assessment	Aquarius Resources
SEGA Gold Mining Project	Burkina Faso	2013	2013	Technical Reviewer	Cluff Gold PLC
Consbrey and Harwar Collieries Project	Breyton, Mpumalanga, South Africa	2013	2013	Heritage Impact Assessment	Msobo
New Liberty Gold Project	Liberia	2013	2014	Grave Relocation	Aureus Mining
Falea Uranium Mine Environmental Assessment	Falea, Mali	2013	2013	Heritage Scoping	Rockgate Capital
Putu Iron Ore Mine Project	Petroken, Liberia	2013	2014	Heritage Impact Assessment	Atkins Limited
Sasol Twistdraai Project	Secunda, Mpumalanga, South Africa	2013	2014	Notification of Intent to Develop	ERM Southern Africa
Daleside Acetylene Gas Production Facility	Gauteng, South Africa	2013	2013	Heritage Impact Assessment	ERM Southern Africa
Exxaro Belfast GRP	Belfast, Mpumalanga, South Africa	2013	-	Grave Relocation	Exxaro Coal Mpumalanga (Pty) Ltd
Nzoro 2 Hydro Power Project	Orientele Province, Democratic Republic of Congo	2014	2014	Social consultation	Randgold Resources Limited
Eastern Basin AMD Project	Springs, Gauteng, South Africa	2014	2014	Heritage Impact Assessment	AECOM
Soweto Cluster Reclamation Project	Soweto, Gauteng, South Africa	2014	2014	Heritage Impact Assessment	Ergo (Pty) Ltd



<b>Project Title</b>	<b>Project Location</b>	<b>Date:</b>		<b>Description of the Project</b>	<b>Name of Client</b>
Klipspruit South Project	Ogies, Mpumalanga, South Africa	2014	2014	Heritage Impact Assessment	BHP Billiton
Klipspruit Extension: Weltevreden Project	Ogies, Mpumalanga, South Africa	2014	2014	Heritage Impact Assessment	BHP Billiton
Ergo Rondebult Pipeline Basic Assessment	Johannesburg, South Africa	2014	2014	Heritage Basic Assessment	Ergo (Pty) Ltd
Kibali ESIA Update Project	Oriental Province, Democratic Republic of Congo	2014	2014	Heritage Impact Assessment	Randgold Resources Limited
GoldOne EMP Consolidation	Westonaria, Gauteng, South Africa	2014	2014	Gap analysis	Gold One International
Yzermite PIA	Wakkerstroom, Mpumalanga, South Africa	2014	2014	Palaeontological Assessment	EcoPartners
Sasol Mooikraal Basic Assessment	Sasolburg, Free State, South Africa	2014	2014	Heritage Basic Assessment	Sasol Mining
Oakleaf ESIA Project	Bronkhorstspruit, Gauteng, South Africa	2014	2015	Heritage Impact Assessment	Oakleaf Investment Holdings
Rea Vaya Phase II C Project	Johannesburg, Gauteng, South Africa	2014	2014	Heritage Impact Assessment	ILISO Consulting
Imvula Project	Kriel, Mpumalanga, South Africa	2014	2015	Heritage Impact Assessment	Ixia Coal
Sibanye WRTRP	Gauteng, South Africa	2014	2016	Heritage Impact Assessment	Sibanye
VMIC Vanadium EIA Project	Mokopane, Limpopo, South Africa	2014	2015	Heritage Impact Assessment	VM Investment Company
NLGM Constructed Wetlands Project	Liberia	2015	2015	Heritage Impact Assessment	Aureus Mining
ERPM Section 34 Destruction Permits Applications	Johannesburg, Gauteng, South Africa	2015	2015	Section 34 Destruction Permit Applications	Ergo (Pty) Ltd
JMEP II EIA	Botswana	2015	2015	Heritage Impact Assessment	Jindal
Gino's Building Section 34 Destruction Permit Application	Johannesburg, Gauteng, South Africa	2015	2016	Heritage Impact Assessment and Section 34 Destruction Permit Application	Bigen Africa Services (Pty) Ltd
EDC Block Refurbishment Project	Johannesburg, Gauteng, South Africa	2015	2016	Heritage Impact Assessment and Section 34 Permit Application	Bigen Africa Services (Pty) Ltd
Namane IPP and Transmission Line EIA	Steenbokpan, Limpopo Province, South Africa	2015	2016	Heritage Impact Assessment	Namane Resources (Pty) Ltd
Temo Coal Road Diversion and Rail Loop EIA	Steenbokpan, Limpopo Province, South Africa	2015	2016	Heritage Impact Assessment	Namane Resources (Pty) Ltd
Groningen and Inhambane PRA	Limpopo Province, South Africa	2016	2016	Heritage Basic Assessment	Rustenburg Platinum Mines Limited





Project Title	Project Location	Date:	Description of the Project	Name of Client
NTEM Iron Ore Mine and Pipeline Project	Cameroon	2014 2016	Technical Review	IMIC plc
Palmietkuilen MRA	Springs, Gauteng, South Africa	2016 2016	Heritage Impact Assessment	Canyon Resources (Pty) Ltd
Copper Sunset Sand Mining S.102	Free State, South Africa	2016 2016	Heritage Basic Assessment	Copper Sunset Sand (Pty) Ltd
Grootvlei MRA	Springs, Gauteng, South Africa	2016 2016	Notification of Intent to Develop	Ergo (Pty) Ltd
Lambda EMP	Mpumalanga, South Africa	2016 2016	Palaeontological Impact Assessment	Eskom Holdings SOC Limited
Kilbarchan Basic Assessment and EMP	Newcastle, KwaZulu-Natal, South Africa	2016 2016	Heritage Basic Assessment	Eskom Holdings SOC Limited
Grootegeluk Amendment	Lephalale, Limpopo Province, South Africa	2016 2016	Notification of Intent to Develop	Exxaro
Garsfontein Township Development	Pretoria, Gauteng, South Africa	2016 2016	Notification of Intent to Develop	Leungo Construction Enterprises
Massawa EIA	Senegal	2016 2017	Technical Reviewer Heritage Impact Assessment	Randgold Resources Limited
Louis Botha Phase 2	Johannesburg, Gauteng, South Africa	2016 2016	Phase 2 Excavations	Royal Haskoning DHV
Beatrix EIA and EMP	Welkom, Free State, South Africa	2016 2017	Heritage Impact Assessment	Sibanye Gold Ltd
Sun City Heritage Mapping	Pilanesberg, North-West Province, South Africa	2016 2016	Phase 2 Mapping	Sun International
Sun City Chair Lift	Pilanesberg, North-West Province, South Africa	2016 2017	Notification of Intent to Develop and Heritage Basic Assessment	Sun International
Hendrina Underground Coal Mine EIA	Hendrina, Mpumalanga, South Africa	2016 2017	Heritage Impact Assessment	Umcebo Mining (Pty) Ltd
Elandsfontein EMP Update	Clewer, Mpumalanga, South Africa	2016 2017	Heritage Impact Assessment	Anker Coal
Eskom Northern KZN Strengthening	KwaZulu-Natal, South Africa	2016 -	Heritage Impact Assessment	ILISO Consulting
Thabametsi GRP	Lephalale, Limpopo Province, South Africa	2017 -	Grave Relocation	Exxaro Resources Ltd
Grootegeluk Watching Brief	Lephalale, Limpopo Province, South Africa	2017 2017	Watching Brief	Exxaro Resources Ltd
Matla HSMP	Kriel, Mpumalanga Province, South Africa	2017 2017	Heritage Site Management Plan	Exxaro Coal Mpumalanga (Pty) Ltd
Ledjadja Coal Borrow Pits	Lephalale, Limpopo Province, South Africa	2017 2017	Heritage Basic Assessment	Ledjadja Coal (Pty) Ltd
Exxaro Belfast Implementation Project PIA	Belfast, Mpumalanga, South Africa	2017 2017	Palaeontological Impact Assessment	Exxaro Coal Mpumalanga (Pty) Ltd

Project Title	Project Location	Date:	Description of the Project	Name of Client
Lanxess Chrome Mine Archaeological Mitigation	Rustenburg, North West Province, South Africa	2017 2017	Phase 2 Excavations	Lanxess Chrome Mine (Pty) Ltd
Goulamina EIA Project	Goulamina, Sikasso Region, Mali	2017 2017	Heritage Impact Assessment	Birimian Limited
Zuurfontein Residential Establishment Project	Ekurhuleni, Gauteng, South Africa	2017 2017	Notification of Intent to Develop	Shuma Africa Projects
Kibali Grave Relocation Training and Implementation	Oriental Province, Democratic Republic of Congo	2017 -	Grave Relocation	Randgold Resources Limited
Exxaro Matla HRM	Kriel, Mpumalanga	2017 -	Heritage Impact Assessment	Exxaro Coal Mpumalanga (Pty) Ltd

## 6 Professional Registrations

Position	Professional Body	Registration Number
Member	Association for Southern African Professional Archaeologists (ASAPA); ASAPA Cultural Resources Management (CRM) section	270
Member	International Council on Monuments and Sites (ICOMOS)	14274
Member	Society for Africanist Archaeologists (SAfA)	N/A
Member	International Association of Impact Assessors (IAIA) South Africa	5494

## 7 Publications

Huffman, T.N. & du Piesanie, J.J. 2011. Khami and the Venda in the Mapungubwe Landscape. *Journal of African Archaeology* 9(2): 189-206

du Piesanie, J.J., 2017. Book Review: African Cultural Heritage Conservation and Management. *South African Archaeological Bulletin* 72(205)

Notification of Intent to Develop

Environmental Impact Assessment for the Klipspruit Colliery Water Treatment Plant and associated pipeline, Mpumalanga

SOU5014



DIGBY WELLS  
ENVIRONMENTAL

---


## Appendix B: Plans



# Klipsruit Colliery Water Treatment Plant Infrastructure and Site Visit Tracks

### Legend

- Project Area
- Secondary Town
- Other Town
- Settlement
- Site Visit Tracks
- Power Line
- Arterial / National Route
- Main Road
- Minor Road
- Track
- Railway Line
- Non-Perennial Stream
- Perennial Stream
- Dam Wall
- Dam / Lake
- Non-Perennial Pan / Stream
- Perennial Pan
- Wetland
- Proposed Infrastructure**
- Discharge Line (Option 1)
- Discharge Line (Option 2)
- Feed Water Line to KPS WTP
- Infrastructure Areas
- Temporary Laydown Area



**DIGBY WELLS**  
ENVIRONMENTAL

• Sustainability • Service • Positive Change • Professionalism • Future Focused • Integrity

Projection: Transverse Mercator      Ref #: ajm.SOU5014.201805.178  
 Datum: WGS 1984                          Revision Number: 1  
 Central Meridian: 29°E                      Date: 30/05/2018

