


KOLOMELA MINE
KOLOMELA MINE CULTURAL HERITAGE MANAGEMENT PLAN
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Authorisations	Name	Position	Signature and employee number	Date
Author	Izak Gous	Environmental Advisor		
Reviewed by	Fhatuwani Mashau	Section Manager Environmental Management		
	Trevor Hallatt	Environmental Scientist		19/10/2021
	Wouter Fourie	Cultural Heritage Specialist		19/10/2021
Approved by	Ntokozo Khanyile	SHE Manager		

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1. INTRODUCTION

1.1 Overview of Kolomela Mine

Kolomela Mine is an open cast iron ore mine, located approximately 12 km southwest of Postmasburg within the Tsantsabane Local Municipality, Northern Cape Province (see Figure 1-1). The mine is owned by Sishen Iron Ore Company (Pty) Ltd (SIOC), the current mining right holder. Anglo American plc currently owns 63% of Kumba Iron Ore and Kumba in turn owns 74% of SIOC.



FIGURE 1: KOLOMELA MINE REGIONAL SETTING

The current Life of Mine (LoM) plan for Kolomela involves mining from the existing four pits, namely the Leeuwfontein Pit, the Klipbankfontein Pit and the Kapstevl North and South Pits. Existing processing facilities entail a Direct Shipping Ore operation, including crushing and screening of recovered ore material into stockpiles of 'lump' and 'fines' for transportation by rail to Saldanha Bay. Production at Kolomela will be in future supported by the Kapstevl South Pit. Waste rock is currently disposed at the Leeuwfontein North, Leeuwfontein South and Kapstevl waste rock dumps (WRDs), with additional capacity approved for disposal at the Kapstevl, Leeuwfontein North and South as well as the Klipbankfontein WRDs. The Figures below shows the LoM infrastructure at Kolomela.

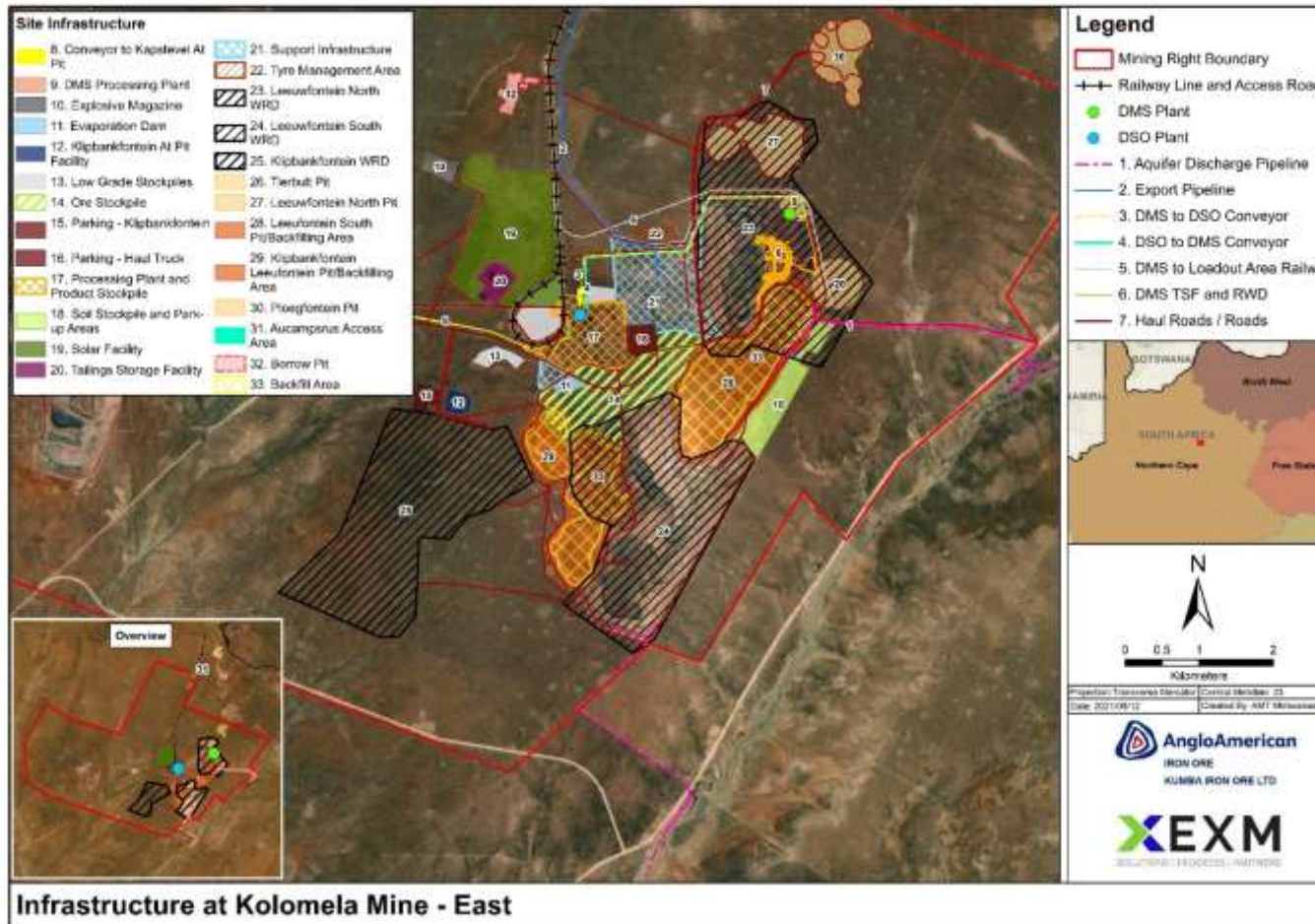


FIGURE 2: INFRASTRUCTURE ASSOCIATED WITH KOLOMELA – EASTERN SECTION

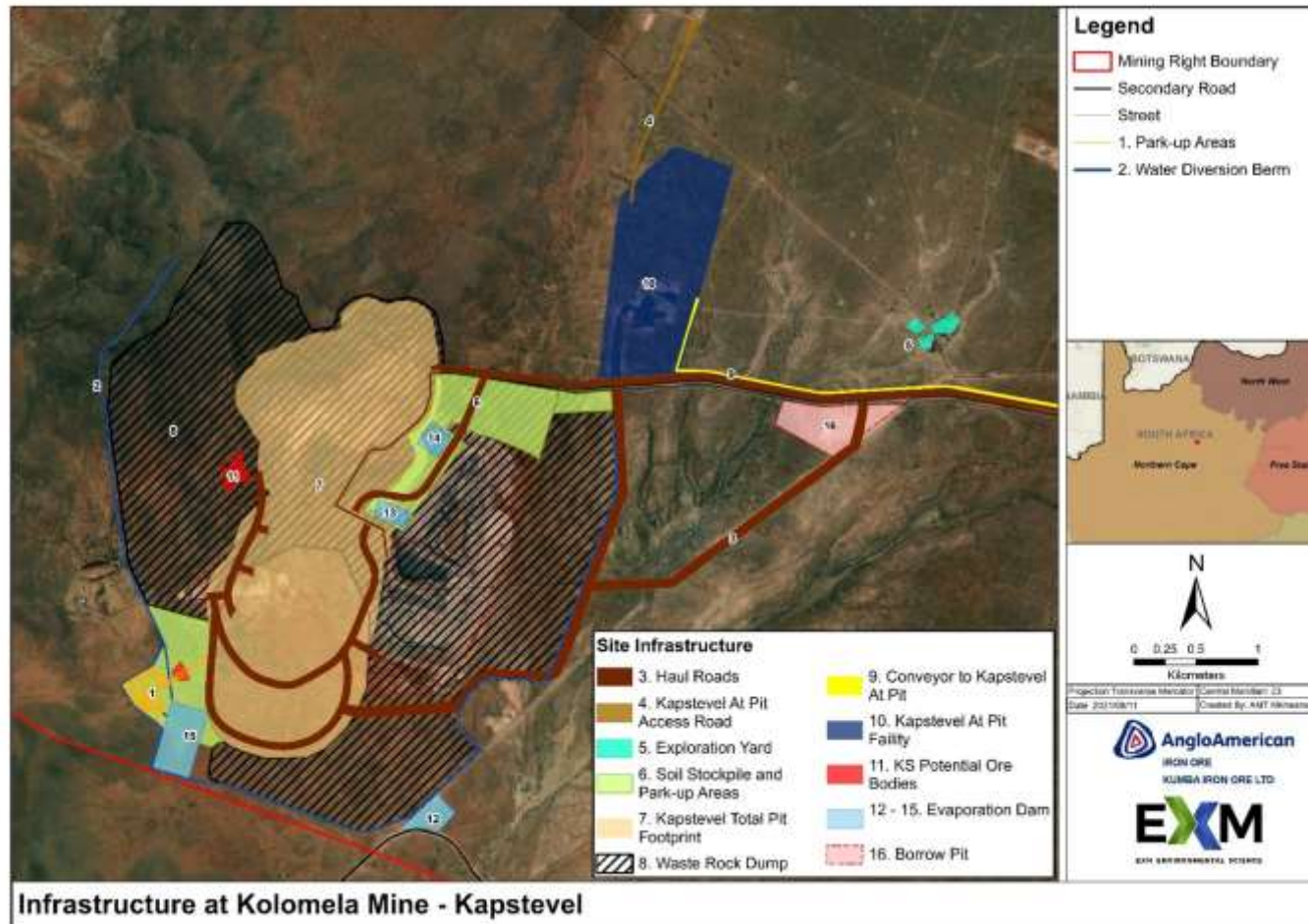


FIGURE 3: INFRASTRUCTURE ASSOCIATED WITH KOLOMELA – KAPSTEVEL

1.2 Background

The Social Way of Anglo American (AA) is the management system for Social Performance within the organisation. The Social Way Toolkit contains detailed guidance on the standards, processes and procedures required for effective social performance and implementation of the Social Way Policy. The toolkit provides for Impact and Risk Prevention and Management, with Section 4H providing guidance on the management of cultural heritage.

AA recognises the importance of cultural heritage and to manage cultural heritage resources in a sustainable manner. The standards are aligned with International Finance Corporation (IFC) Performance Standard (PS) 8. Under the Social Way, every AA site is required to identify, assess and manage any adverse impacts on cultural heritage. This is an ongoing requirement throughout the asset lifecycle.

The IFC Performance standard 8 stipulates that a company must consider potential project impacts to cultural heritage during the life cycle of the project and implement appropriate measures to mitigate such impacts. A structured approach, as stipulated in this document, is required to provide guidance on the management of heritage resources and to prevent or minimise impacts.

In accordance with the AA standards, Kolomela mine shall seek to avoid and, where avoidance is not possible minimise impacts on cultural heritage.

This plan has been generated in accordance and is aligned with the Kolomela Social Mine Plan which addresses social related aspects of the mine.

This document comprises an update of the existing Kolomela mine Cultural Heritage Management Plan (CHMP) for Kolomela mine developed according to the AA Social Way and IFC PS 8. The main purpose or intent of the CHMP is to provide a framework or structure for the conservation, management and development of heritage resources. It presents a consolidation of information documented in the following heritage studies undertaken:

TABLE 1: HERITAGE STUDIES UNDERTAKEN AT KOLOMELA MINE

Date	Heritage Specialist	Title
September 2005	Morris, D McGregor Museum	Report on a Phase 1 Archaeological Impact Assessment of proposed mining areas on the farms Ploegfontein, Klipbankfontein, Wolfenden, Leeuwfontein, Wolhaarkop and Kapstevél, west of Postmasburg, Northern Cape.
November 2011	Kusel, US & SU Kusel African Heritage Consultants	Heritage Management Plan for Kolomela Mine in the Postmasburg District Municipality.
February 2015	Groenewald, G HIA Consultants	Palaeontological Desktop Assessment for the Expansion of Kolomela Mine, Tsantsabane Local Municipality, Siyanda District Municipality, Northern Cape Province.
March 2015	Birkholtz, P & MM van der Ryst; PGS Heritage	Kolomela Amendment Project. Amendment of Existing Mining Activities.
September 2019	Butler, E. Banzai Environmental	Palaeontological Field Assessment for the proposed upgrade of the Kolomela Mining Operations, Tsantsabane Local Municipality, Northern Cape Province, Northern Cape.
November 2019	Birkholtz, P PGS Heritage	Field Assessment and Recording of Site KOL 3, an Archaeological Mining Site, Near Postmasburg, Northern Cape Province. Phase 2 Archaeological Assessment
August 2021	Mann, N & Fourie, W PGS Heritage	Heritage Impact Assessment. Amendment of Existing Mining Activities for Kolomela Mine located South-west of Postmasburg, Northern Cape

1.3 Purpose

The Purpose of this Heritage Management Plan is to provide guidance on the measures that should be taken to prevent damage to social and heritage resources. This procedure is also aimed:

- To ensure the sustainable and long-term conservation, management, development and maintenance of the heritage resources associated with the Kolomela Mine.
- Providing measures to prevent destruction of known cultural heritage sites (including archaeological and traditional sites)
- Provide measures to be followed where unknown heritage and archeological resources are un-earthed in accordance with South Africa legal requirements regulating the management of heritage and archeological sites (National Heritage Resources Act (Act No. 25 Of 1999).

- Provides legal framework on the management of heritage and archeological resources.
- Provide detailed approach on measures that must be taken into account in areas where prevention measures are not possible to apply
- Establish an alignment with the chance find procedure and its applications
- Define roles and responsibilities for the implementation of these procedure, and
- Also provide detailed site specific management measures of the heritage sites found in and around Kolomela mine.

1.4 Content

The contents of the CHMP are as follows:

Chapter	Content
Chapter 1: Introduction	Background, purpose and report content
Chapter 2: Legal and institutional framework and requirements	Internal guidelines, national legal requirements and institutional standards
Chapter 3: Methodology	Methodology followed for the compilation of the CHMP
Chapter 4: Stakeholder consultation	Public participation and consultation conducted
Chapter 5: Socio-cultural profile of site's area of influence	Description of the social and heritage profile of the area in general.
Chapter 6: Site heritage resources	Description of heritage resources on site
Chapter 7: Heritage management plan	Framework and site-specific mitigation, including chance find procedure.
Chapter 8: Monitoring	Measure to monitor impacts on heritage resources.
Chapter 9: Conclusion	Concluding remarks

2. LEGAL AND INSTITUTIONAL FRAMEWORK AND REQUIREMENTS

2.1 International Finance Corporation Performance Standards on Environmental and Social Sustainability

The IFC has developed a set of PS to provide companies guidance on how to identify risks and impacts, and to avoid, mitigate, and manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities. The IFC requires companies to apply the PS to manage environmental and social risks and impacts so that development opportunities are enhanced. IFC uses the Sustainability Framework along with other strategies, policies, and initiatives to direct the business activities of the Corporation in order to achieve its overall development objectives.

PS 8 recognises the importance of cultural heritage for current and future generations. Consistent with the Convention Concerning the Protection of the World Cultural and Natural Heritage, this Performance Standard aims to ensure that clients protect cultural heritage in the course of their project activities.

The objectives of PS 8 are as follows:

- To protect cultural heritage from the adverse impacts of project activities and support its preservation.
- To promote the equitable sharing of benefits from the use of cultural heritage.

The requirements of PS 8 have been incorporated into this CHMP.

2.2 National Environmental Management Act (Act No. 107 of 1998) (As Amended In 2014)

The National Environmental Management Act (No. 107 of 1998) (NEMA) (as amended) provides a framework for environmental management in South Africa. The NEMA makes provision for an integrated approach to ensure that all aspects of the environment are protected for the benefit of future generations, including heritage resources.

Section 23 of the NEMA stipulates that the general objective of integrated environmental management pertains to the management of impacts on the environment, socio-economic

conditions and **cultural heritage**, including options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management.

Section 24 contains the requirements to obtain an Environmental Authorisation (EA) for listed activities, including those related to mining. An EA was granted for the expansion activities at Kolomela by the Department of Minerals (DMR) on 27 August 2017, after an Environmental Impact Assessment (EIA) was conducted. The mine's Environmental Management Programme (EMPr) was also amended to include the expansion activities. The EMPr contains specific measures related to heritage resources management in line with the recommendations of specialist heritage studies. Such measures are included in this CHMP.

2.3 National Heritage Resources Act (Act No. 25 of 1999)

The National Heritage Resources Act (NHRA) aims to promote the protection of the heritage resources in South Africa. The NHRA prescribes measures and procedures for the sound management of heritage resources and to regulate activities that have the potential to impact such resources.

The NHRA stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority:

In terms of the NHRA the following applies:

Structures

34. (1) No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.

Archaeology, palaeontology and meteorites

(4) No person may, without a permit issued by the responsible heritage resources authority—

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any*

equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

Burial grounds and graves

36.(3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority—

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or*
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.*

The NHRA is utilised as the basis for the identification, evaluation and management of heritage resources, specifically those resources impacted by development as stipulated in Section 38 of NHRA, and those developments administered through NEMA and the Minerals and Petroleum Resources Development Act (Act No. 20 of 2002) (MPRDA). The last few years have seen a significant change towards the inclusion of heritage assessments as a major component of Environmental Impacts Processes in terms of national environmental legislation.

2.4 Requirements of South African Heritage Resources Agency

The South African Heritage Resources Agency (SAHRA) is responsible for administration of the NHRA and has provided final comment on the expansion of activities at Kolomela mine in terms of Section 38(4) and 38(8) of the NHRA. SAHRA (13 December 2019) has made the following comments in terms of section 3(4) of the NEMA Regulations:

1. 38(4)a – The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has no objections to the proposed development.
2. 38(4)b – The recommendations of the specialists are supported and must be adhered to.
3. Permits in terms of section 35 of the NHRA must be applied for sites KOL1, KOL3, KOL5, KOL7 and KOL7 prior to construction activities commencing [should these

sites be damaged by such construction]. The permit must be applied for by a qualified professional archaeologist.

4. The layout of the Kapstevél South (KSS) Waste Rock Dump must be altered to allow for the recommended buffer zones as detailed in the Heritage Impact Assessment (HIA) around Site KOL4. Should this not be possible, the relevant permits in terms of section 34, 35 and 36 of the NHRA must be applied for.
5. The specifically cited mitigation measures in the HIA as included in the 2011 HMP are valid and must apply to the proposed mining expansion activities.
6. 38(4)c(ii) – If any evidence of archaeological sites or remains (e.g. remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, charcoal and ash concentrations), fossils or other categories of heritage resources are found during the proposed development, SAHRA APM Unit (Natasha Higgitt / Phillip Hine 021 462 5402) must be alerted as per section 35(s) of the NHRA. Non-compliance with the section of the NHRA is an offence in terms of section 51(1)e of the NHRA and item 5 of the Schedule.
7. 38(4)c(ii) – if unmarked human burials are uncovered, the SAHRA Burial Grounds and Graves (BGG) Unit (Thingahangwi Tshivhase / Mimi Seetelo 012 320 8490), must be alerted immediately as per section 36(6) of the NHRA. Non-compliance is an offence in terms of this section of the NHRA and item 5 of the schedule.
8. 38(4)d – See section 51(1) of the NHRA.
9. 38(4)e – the following conditions apply with regards to the appointment of specialists:

If heritage resources are uncovered during the course of the development, a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the heritage resource. If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required subject to permits issued by SAHRA.

The above requirements are addressed in this CHMP.

2.5 Development Heritage Management Plan Guidelines for Archaeological, Palaeontological and Meteorites Heritage Resource (2017)

The SAHRA has developed guidelines for the development of a CHMP to enable site specific heritage resources management and to align the content of a CHMP with relevant legal requirements and best practice guidelines. The guidelines provide guidance for the development of a CHMP related to potential impacts associated with development activities such as the expansion of Kolomela Mine. The guidelines have been incorporated into this CHMP.

2.6 ANGLO AMERICAN SOCIAL WAY

The AA Social Way is a management system which provides a framework to improve Social Performance. The Social Way Toolkit contains detailed guidance on the standards, processes and procedures required for effective social performance and implementation of the Social Way Policy. The toolkit provides for Impact and Risk Prevention and Management, with Section 4H providing guidance on the management of Cultural Heritage.

AA recognises the importance of cultural heritage and to manage cultural heritage resources in a sustainable manner. The standards are aligned with IFC PS 8. Under the Social Way, every AA site is required to identify, assess and manage any adverse impacts on cultural heritage. This is an ongoing requirement throughout the asset lifecycle.

In accordance with AA standards, Kolomela mine shall seek to avoid and, where avoidance is not possible minimise impacts on cultural heritage. AA adopts the IFC definition of heritage which includes:

- Tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), palaeontological, historical, cultural, artistic and religious values;
- Unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes and waterfalls; and

- Certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations and practices of communities embodying traditions lifestyles.

3. METHODOLOGY

The methodology that was used for the development of the CHMP is based on the results obtained from surveys and consultations conducted for the site as part of the EIA and associated HIAs, as listed below:

- Report on a Phase 1 Archaeological Impact Assessment (2005).
- Heritage Management Plan for Kolomela Mine in the Postmasburg District Municipality, Northern Cape Province. (2011)
- Palaeontological Desktop Assessment for the Expansion of Kolomela Mine. (2015)
- Kolomela Amendment Project. Amendment of Existing Mining Activities (2015)
- Palaeontological Field Assessment for the proposed upgrade of the Kolomela Mining Operations (2019)
- Field Assessment and Recording of Site KOL 3, an Archaeological Mining Site, Near Postmasburg, Northern Cape Province. Phase 2 Archaeological Assessment. (2019)
- Heritage Impact Assessment for the Amendment of Existing Mining Activities (2021)

The following information captured in the above listed studies and plans has been used to inform the CHMP:

- Baseline environmental description pertaining to heritage resources.
- Maps and layouts.
- Impact/risk assessment results.
- Proposed mitigation and management measures.

- Methods to conduct monitoring.

The CHMP has been developed in terms of the requirements of the following documents:

- AA Social Way Section 4(H).
- IFC PS 8.
- SAHRA Guidelines for a CHMP.

4. STAKEHOLDER CONSULTATION/ENGAGEMENT AND PUBLIC PARTICIPATION

During the heritage surveys local residents, previous landowners and farm workers were interviewed. Information derived from the interactions provided important context for the respective site. The relevance of KOL 3 could be verified during an interview with the previous landowner as part of the most recent Phase 2 investigation of the site.

A comprehensive public consultation process was undertaken as part of the original mining right application in 2011 as well as the expansion EIA in 2015. The heritage authority (SAHRA) has been provided with the relevant documents during each of the EIAs undertaken. No direct traditions or histories for sites have been recorded during this consultation.

Heritage resources management is also discussed at the quarterly Kolomela Environmental forums as well as the Kolomela Stakeholder Day.

Kolomela should not remove, significantly alter, or damage critical cultural heritage. In exceptional circumstances when impacts on critical cultural heritage are unavoidable, Kolomela should use a process of Informed Consultation and Participation of the Affected Communities as described in and which uses a good faith negotiation process that results in a documented outcome. External experts to assist in the assessment and protection of critical cultural heritage.

5. SOCIO-CULTURAL PROFILE

Kolomela Mine is situated in the Tsantsabane Local Municipality, within the ZF Mgcawu District Municipality. The Tsantsabane area was traditionally dominated by the farming activities, with only Assmang's Beeshoek mine operational in the area since 1935. Postmasburg, as the economic centre of the municipality, has experienced significant growth in the past two decades due to mining development such as the Kolomela Mine (G3 Business Solutions, 2015). The main economic activities associated with the area pertain to mining, agricultural (mainly livestock farming) and some hunting tourism. The expansion of the mining industry has resulted in decreased unemployment and improvement of the livelihoods of communities in the area.

5.1 Cultural And Heritage History of The Area

The history of the utilisation of the Northern Cape resources dates back to the Earlier Stone Age. Archaeological traces in the form of mostly stone tools suggest a widespread presence of tool-producing hominins in the Northern Cape. The archaeology of this region is dominated by millions of stone tools that derived from very early occupations by tool-manufacturing hominins up to intensive utilisation by hunter-gatherers until the recent past. The upland savannas of southern Africa are seen as a focal region of biological and cultural evolution during this period.

Prehistoric mining in the South African context dates back to at least BP 40 000 years ago. The specularite mines at Tsantsabane/Blinkklipkop and Doornfontein 1 near Postmasburg were rich and well-known ore sources that were quarried extensively over a long period of time. Bushmen and other natives for hundreds of miles obtained their supplies of specular iron ore, which becomes red when burnt. The pigment was widely exchanged for goods such as iron knives, assegais, axes, tobacco, copper and iron ornaments and also beads.

Postmasburg has its origins in a London Missionary Society station known as Sibiling. As more Griqua settlers moved into the area, it developed into a rural settlement called Blinkklip. When the white migrating stock farmers moved into the area, the need for a church arose. A village was formally proclaimed on 6 June 1892 and named after the Reverend Dirk Postma, one of the founders of the Dutch Reformed Church.

Due to climatic conditions, farming is and was mainly limited to animal husbandry. By the early 1900s the farms around the district were surveyed and stock farmers settled these permanently or semi-permanently. In the latter half of the 1900s these stock farmers became more and more prosperous due to the need of the mining industry to obtain meat supplies.

Originally Postmasburg was little more than a cattle-ranching station, but the town has developed into a commercial and distribution centre for mining and stock farming. The railway from Kimberley reached Postmasburg in 1930 and was later extended to Dingleton (Sishen) and Hotazel.

In 1929 overseas interests formed the Manganese Corporation Limited and secured an agreement with the South African Railways to extend the railway line from Koopmansfontein (near Kimberley) to the Mancorp mine on the farm Beeshoek. However, the September 1929 crash on the New York Stock Exchange, followed by the Great Depression, brought all manganese mining operations to a halt, rendering the newly constructed Koopmansfontein/Beeshoek railway line dormant.

During 1934 the South African Railways re-opened the railway line and extended it to Gloucester. In 1935 the Associated Manganese Mines of South Africa Limited (Assmang) was formed. Anglovaal acquired all the mineral leases of the Manganese Corporation, and these were ceded to Assmang, as were the shares of the Gloucester Manganese Mines Limited held by African Mining and Trust in exchange for shares in Assmang. The first shipment of manganese ore left Durban harbour in March 1936 and subsequent shipments continued uninterruptedly.

Sishen Mine was established in the Northern Cape Province in 1954 as a mine that served Iscor only. In 1976, however, the South African Government invested in the infrastructure to enable the export of iron ore from the Sishen mine via the Sishen-Saldanha rail link and port facility. This opened up a new era of growth for the iron ore business.

5.2 Palaeontology And Geology

The geology of the area is indicated in Figure 4. The Kolomela mine is situated in the Griqualand West Basin and is largely underlain by the Cretaceous to Tertiary Kalahari Group as well as surface limestone and alluvium. The Vaalian age Ghaap Group, Koegas Subgroup, Postmasburg and Olifantshoek Groups (Transvaal Supergroup) are also represented in the northern and western areas in the development footprint. Dolomite deposits of the Ghaap Group are associated with café breccias (Butler, 2019).

According to Butler (2019), a Very High palaeontological sensitivity has been allocated to the Ghaap Group, while important early Hominin remains could also occur in carbonaceous breccias. The highly sensitive dolomites are overlain by surface limestones, which are known to contain important Quaternary plant and animal fossils. Sediments of the Ghaap Group are known for the presence of stromatolites. A Moderate Palaeontological Sensitivity has been allocated to sediments of the Koegas Subgroup, Postmasburg, Olifantshoek and Kalahari Groups, as well as the alluvium deposits (Groenewald et al, 2015).

A site visit conducted as part of the Palaeontological Impact Assessment (PIA) (Butler, 2019) revealed no visible evidence of fossiliferous outcrops was found. For this reason, an overall low palaeontological sensitivity is allocated to the development footprint.

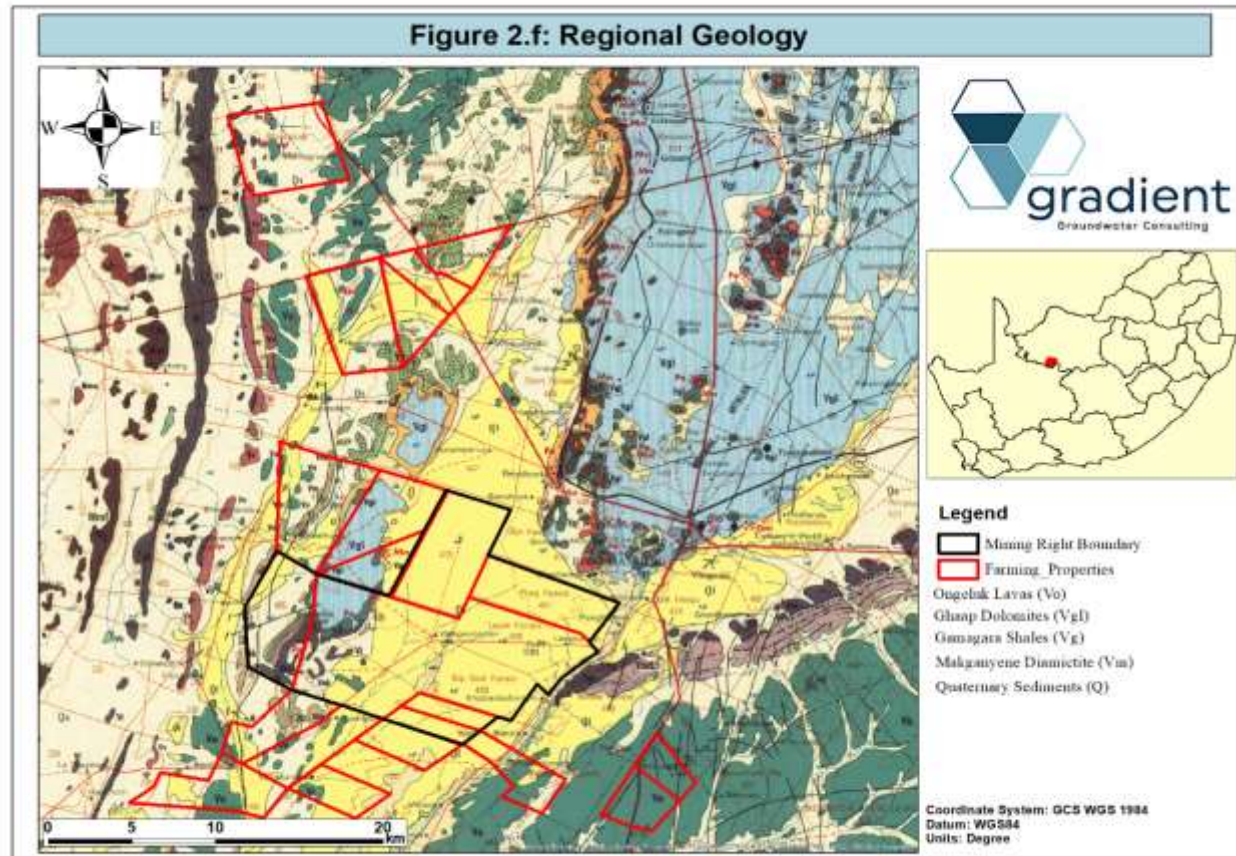


FIGURE 4: REGIONAL GEOLOGY

6. SITE SPECIFIC HERITAGE RESOURCES

6.1 Heritage sensitivity and Life of Asset map

This section provides a description of the heritage resources associated with the Kolomela Mine to establish a context regarding the importance of heritage conservation.

The heritage resources specified in this section has been identified and evaluated in various studies undertaken for Kolomela Mine as listed in Table 1-1. Current and future activities at the mine have the potential to cause impacts on heritage resources. A heritage sensitivity map as illustrated in Figure 5 below has been generated in relation to the Life of Asset for Kolomela and incorporates the findings of the studies. The map has been generated to facilitate a practical yet risk-cautious management guideline i.t.o. heritage sensitivity at specific areas on site. Table 6-2 shows KOL 5-KOL8 (stone age pans) that will be impacted by the Kolomela extension.

Table 6-1 contains a site management matrix with a description of each sensitivity rating to provide guidance for interpretation of the sensitivity map. This site management matrix is intended to provide a broad list of the required management actions that will be required for the management of the site and is not intended to be all encompassing.

TABLE 6-1: SITE MANAGEMENT MATRIX (HERITAGE MANAGEMENT PLAN, 2011)

Area / zone	Primary function	Management actions and Restrictions	Monitoring
High sensitivity	<ul style="list-style-type: none"> Protection of sensitive features / deposits susceptible to damage Also functions as buffer zones to protect areas of very high sensitivity 	<ul style="list-style-type: none"> Access to these areas must be restricted Existing infrastructure must be maintained in a sustainable and sensitive manner No future infrastructural development will be allowed on these areas Any future development in this zone will be subject to a development plan approved by SAHRA Any other action such as maintenance and rehabilitation must be done in consultation with the relevant specialists 	<ul style="list-style-type: none"> These areas must be inspected annually by a suitably qualified specialist who must report on and make recommendations with regard to the management of the individual sites
Medium – High Sensitivity	<ul style="list-style-type: none"> Areas that have confirmed localised heritage resources and the potential to contain heritage resources Also functions as buffer zones to protect areas of very high sensitivity 	<ul style="list-style-type: none"> Access to these areas must be limited Existing infrastructure must be maintained in a sustainable and sensitive manner No future infrastructural development will be allowed on these areas Any future tourism development in this zone will be subject to a development plan approved by SAHRA Any other action such as rehabilitation must be done in consultation with the relevant specialists Ecological veld management will be encouraged 	<ul style="list-style-type: none"> These areas must be inspected annually by a suitably qualified specialist who must report on and make recommendations with regard to the management of the individual sites
Medium sensitivity	<ul style="list-style-type: none"> Areas with a high probability of having sensitive deposits or features 	<ul style="list-style-type: none"> Access to these areas are not limited Existing infrastructure must be maintained in a sustainable and sensitive manner Future infrastructural development will not be allowed on these areas. 	<ul style="list-style-type: none"> Mine Environmental Management Office Discretion
Low sensitivity	<ul style="list-style-type: none"> Areas with no or very little probability of containing archaeological material 	<ul style="list-style-type: none"> Should any archaeological deposits be located in these areas the normal process as prescribed in the act must be followed 	<ul style="list-style-type: none"> Mine Environmental Management Office Discretion

TABLE 6-2: KOL 5-KOL8 IN RELATION TO KOLOMELA INFRASTRUCTURE


Kol 5	Kol 6
	
Kol 7	Kol 8
	


7. SITE SPECIFIC HERITAGE RESOURCES


This section provides a summary of the heritage resources identified and assessed at Kolomela Mine in relation to the Life of Asset Plan as illustrated in Figure 2 and 3. The heritage resources described below are divided into two categories, including those that may be impacted by the Kolomela extension (Section 7.1) and those resources that are not in close proximity to the mining footprint (Section 7.2) and will not be impacted by the extension footprint.


7.1 Heritage Resources in Proximity to Kolomela Extension


The Table below contains a summary of the heritage resources assessed by the HIA (PGS, 2015, 2019 and 2021) that may be impacted by the Kolomela extension.


Site	Classification	Description	Significance	Plates
KOL 1 Stone Age Site	Tangible: Replicable cultural heritage	This site is one of a number of shallow pans located on the farms Leeuwfontein and Ploegfontein. These pans are all roughly 100 to 200 m in diameter. During previous field surveys, a surface density of stone artefacts of up to 15 artefacts/m ² could be identified. The stone artefacts are mainly of Middle Stone Age typology. This pan yielded a representative collection of Middle Stone Age (MSA) and Late Stone Age (LSA) stone tool types, and also a few ceramic shards.	A Low-Medium Significance has been assigned to this site in view of the relative densities of the lithics.	 <p data-bbox="1532 1286 1935 1310">PLATE 1: CORES IDENTIFIED AT KOL 1</p>



Site	Classification	Description	Significance	Plates
KOL 2 Stone Age Site	Tangible: Replicable cultural heritage	<p>KOL 2 is a Stone Age site that was identified by Morris (2005) on the Remainder of the farm Kapstevél. The site comprises a scatter of possibly LSA artefacts observed on a colluvial fan in one of the valleys. The surface density of the site was assessed to be perhaps 3 or 4 artefacts per m². Mainly isolated specimens or dispersed clusters of stone tools were observed to be present.</p> <p>KOL 2 will be impacted by the extension activities.</p>	<p>Morris did not provide an assessment of significance of this site. Van der Ryst (2011) provided a general significance assessment for the low-density or isolated occurrences of stone tools on the plains. The areas were assessed to be of Low Significance.</p>	 <p>PLATE 2: MSA TOOLS FROM KOL 2</p>

Site	Classification	Description	Significance	Plates
KOL 3 Historic Mine	Tangible: Non-replicable cultural heritage	KOL 3 is situated within an area on which previous prospecting activities were conducted and the area surrounding the site has been heavily prospected. The open-mine workings of haematite consist of a narrow trench with two stopes on the highest section. It is similar to ancient open mining technologies that resulted in a narrow deep trench (Küsel, 1979) and was suited to rocks that dip steeply or are vertical (Hammer et al, 2000:51). It has been estimated that 3 000 to 4 000 tons of haematite ore could have been removed. The backfilling of the excavation obscures details such as possible tunnels (van der Ryst, 2011).	The site is of High Significance . The mine is an important feature that documents the history of mining and ore extraction within the study area as well as within the broader region.	 <p data-bbox="1415 823 2049 877">PLATE 3: VIEW ALONG THE OPEN EXCAVATION REPRESENTING THE HISTORIC MINE</p>
KOL 4 Farmstead	Tangible: Non-replicable cultural heritage	A historical farmstead is situated on the farm Kapsteviel. It comprises a farmyard containing several structures; together with associated landscape features; and two cemeteries. The site has been divided into four sub-categories described below to facilitate significance and mitigation requirements.		



Site	Classification	Description	Significance	Plates
KOL 4.1 Farmyard	Tangible: Non-replicable cultural heritage	<p>The farmyard comprises a main dwelling, a wagon shed, kitchen with bakery extension, a school, a power generation shed, a cold room and various early 20th century farming tools. The original dwelling, barn and outer kitchen were built at the beginning of the 20th century. During the 1920s the main house was extended and it would appear that the school was added at this time. It is likely that the final alterations were made during the 1960s. Finally the whole site was refurbished for the occupation of the farm manager of the Kolomela mining operations, possibly during the late 1990s or early twenty-first century.</p>	<p>As it comprises structures older than 60 years, the farmyard enjoys general protection under the provision of Section 34 (1) of the NHRA. Furthermore, sections of the farmyard are also believed to be older than 100 years and as a result these buildings are defined as archaeological sites and as such are protected by Section 35 (4). The site represents a complete time capsule of a century of farming lifestyle in the Northern Cape. All elements of the site are well preserved, and collectively it qualifies to be</p>	 <p>PLATE 4: HISTORIC FARMHOUSE AT KOL 4.1.</p>



Site	Classification	Description	Significance	Plates
			<p>declared as a provincial heritage site (African Heritage Consultants, 2011).</p>	
<p>KOL 4.2 Burial ground</p>	<p>Tangible: Non-replicable cultural heritage</p>	<p>The burial ground of the Bredenkamp family is located roughly 160 m east of the farmyard. The graves are divided into parallel rows and are all covered by formal dressings, and all have inscribed headstones. The burial ground comprises the graves of 12 members of the Bredenkamp family. One of the oldest graves in the burial ground dates to 1893. Many of the graves from the burial ground are older than 60 years and some older than 100 years. As a result, these graves are protected by Section 36 of the NHRA (Miller, 2011).</p>	<p>All graves are automatically assigned a High Significance as they are protected by general legislation regarding human remains, as well as the NHRA. This High significance is emphasised by the fact that the burial ground is associated with the historical owners of the farm as well as the fact that graves inherently have high levels of emotional, historic, religious value.</p>	 <p>PLATE 5: GENERAL VIEW OF THE BURIAL GROUND OF THE BREDEKAMP FAMILY AT KOL 4.2.</p>


Site	Classification	Description	Significance	Plates
KOL 4.3 Valley dams	Tangible: Non-replicable cultural heritage	The main landscape features associated with the farmyard are situated to the north-east of the dwelling and comprise two generations of valley dams that are typical of water storage in this region, together with associated irrigation fields. The farm road that used to be the communication link from Postmasburg over Leeuwfontein and Welgevonden also runs through the farmyard.	The significance of these features is related to the fact that they form part of a larger overall farmstead complex, the individual components of which have been retained from the nineteenth century to the present day. The significance is assessed as being Medium-High .	 <p data-bbox="1332 895 2130 979">PLATE 6: GOOGLE EARTH IMAGE DEPICTING THE CONTEXT BETWEEN KAPSTEVL FARMSTEAD AS WELL AS THE DAMS AND IRRIGATION STRUCTURES.</p>

Site	Classification	Description	Significance	Plates
KOL 4.4 Burial ground	Tangible: Non-replicable cultural heritage	A burial ground which can be associated with nearby farm worker accommodation was identified south-east of the farmyard. It consists of approximately 30 graves. The site was fenced in 2016. The graves are placed in three unequal rows and all the graves are orientated from west to east. Most of the graves have elongated mounds of soil and packed rocks as grave dressings, with some of the graves only containing a single rock at the western end to indicate the grave position. The burial ground covers an area of approximately 10m x 25m in extent.	All graves are automatically assigned a High significance as they are protected by general legislation regarding human remains, as well as the NHRA. This High Significance is emphasised by the fact that the burial ground is associated with the historical farm workers on the farm and also because all graves inherently have high levels of emotional, historic, religious value.	 <p data-bbox="1420 903 2042 932">PLATE 7: GENERAL VIEW OF BURIAL GROUND</p>
KOL 5-KOL8 Stone Age Pans	Tangible: Replicable cultural heritage	A total of 165 small pans were identified along the eastern end of the mine property which is represented by KOL 5-8. The reports by both Morris (2005) and van der Ryst (2011) identified such pan sites as likely to have concentrations of Stone Age lithic material, with some also having ceramic material. Table 6-2 shows KOL 5-8 in relation to the Kolomela extension activities and indicates the heritage pans that will be impacted by the activities.		
KOL 5 Stone Age Pan	Tangible: Replicable cultural	A cluster of 19 of these pans identified in 2011 was impacted by the development of the Leeuwfontein North Waste Rock Dump.	These pans can be assumed to have similar significance	

Site	Classification	Description	Significance	Plates
	heritage	A comparison of historic Google Earth images indicates that only 5 of the pans remain of which one will be impacted by the extension activities.	to that noted by both Morris (2005) and van der Ryst (2011) for the pans that were investigated during the fieldwork for their respective reports. All of these pan localities are assigned a Low to Medium Significance .	PLATE 8: EXAMPLE OF PAN AT KOL 8
KOL 6 Stone Age Pan	Tangible: Replicable cultural heritage	Five of the six small pans which represents KOL 6 had been destroyed by mining activities undertaken between 7 October 2013 and 2 December 2014 and the remaining pan will be destroyed by the extension activities.		
KOL 7 Stone Age Pan	Tangible: Replicable cultural heritage	A cluster of 44 of the 165 pans identified in 2011 has been impacted by the development of the LFS Waste Rock Dump. A comparison of the Google Earth images for the period between 2011 and the present day has indicated that 17 of the 44 small pans had been destroyed by mining activities undertaken between 7 October 2013 and 2 December 2014. This means that 27 small pan remains here. These 27 pans represent the site known for the purposes of this report as KOL 7.		
KOL 8 Stone Age Pan	Tangible: Replicable cultural heritage	A cluster of four of these pans identified in 2011 will also be impacted upon by the development of the Ploegfontein Pits. These four pans represent the site known for the purposes of this report as KOL 8.		

Site	Classification	Description	Significance	Plates
KME-01 Burial ground	Tangible: Non-replicable cultural heritage & Intangible	The site comprises a burial ground of approximately 9 graves. The graves are fenced off and overgrown.	High Significance	 <p style="text-align: center;">PLATE 9: VIEW OF GRAVES</p>
KME-02 Structure	Tangible: Replicable cultural heritage	The site comprised an abandoned single roomed structure. The construction materials and technique are consistent with modern building methods. It was constructed from red clay bricks and has a cement foundation.	No research potential or other cultural significance.	 <p style="text-align: center;">PLATE 10: BRICK BUILDING</p>

Site	Classification	Description	Significance	Plates
KME-03 Structure	Tangible: Replicable cultural heritage	<p>The site comprised an abandoned single roomed structure.</p> <p>The structure was situated approximately 60m north-west of the current exploration core yard area. The construction materials and technique are consistent with modern building methods. It was constructed from red clay bricks and has a cement foundation.</p>	No research potential or other cultural significance.	 <p>PLATE 11: VIEW OF THE STRUCTURE</p>
KME-04 Stone Age Site	Tangible: Replicable cultural heritage	<p>The site comprises a low-medium density surface scatter of stone tools (+-5-10 artefacts in 10mx10m). The site is situated on a scree slope near the base of the Wolhaarkop hill, within the proposed Waste Rock Dump area. The tools were located on a surface that gently sloped towards the east. Mostly MSA and LSA artefacts were observed at KME-04. Cores, flakes, scrapers and debitage were observed and were mostly manufactured from jasper, cryptocrystalline silica and quartz</p>	Low	 <p>PLATE 12: SOME OF THE STONE TOOLS IDENTIFIED</p>

Site	Classification	Description	Significance	Plates
KME-05 KME-06 KME-07 KME-08 KME-09 Stone Age find spots	Tangible: Replicable cultural heritage	More than 5 identifiable modified lithics were observed within a 5-metre radius. Sparse scatters of lithics consisting mainly of flakes, debitage and cores.	No research potential or other cultural significance	 <p data-bbox="1393 810 2085 837">Plate 13: Some of the artefacts identified as find spots</p>
Palaeontology	Natural & Tangible: Replicable cultural heritage	The desktop study (Butler, 2019) stipites that a Very High palaeontological sensitivity has been allocated to the Ghaap Group, while important early Hominin remains could also occur in carbonaceous breccias. The highly sensitive dolomites are overlain by surface limestones, which are known to contain important Quaternary plant and animal fossils. Sediments of the Ghaap Group are known for the presence of stromatolites. A Moderate Palaeontological Sensitivity has been allocated to sediments of the Koegas Subgroup, Postmasburg, Olifantshoek and Kalahari Groups, as well as the alluvium deposits.	The scarcity of fossil heritage at the proposed development footprint indicates that the impact of Kolomela upgrade project will be of a low significance in palaeontological terms.	

7.2 Other Heritage Resources not in Proximity to the Kolomela Extension

The Table below contains a summary of the heritage resources that was identified but not assessed by the HIA (PGS, 2015, 2019 and 2021) and unlikely be impacted by the Kolomela extension.

TABLE 63: SUMMARY OF OTHER HERITAGE RESOURCES NOT IMPACTED OR ASSESSED

Site	Classification	Description	Significance
Wolhaarkop LSA site – Rubbing Stones	Natural & Possible Intangible	Contains some exceptional animal rubbing stones on the periphery of the haematite outcrops. The site is deemed to be of ideational and cultural significance in view of its setting within the physical and psychological landscape and the relationship between people and place (SAHRA1999:Act 25:3(3)(vi)).	The area is of high significance. It is consequently recommended that an undisturbed zone in a radius of two kilometres around this locality should be imposed.
Leeuwfontein Farmyard	Tangible: Replicable cultural heritage	Historic structures, farmyard, animal enclosures, water infrastructure.	Medium significance
Ploegfontein, Welgevonden and Kapsteveld herder hut	Tangible: Replicable cultural heritage	This house could be described as a permanent dwelling for a single person or a small family that conducted permanent livestock farming in the area rather than a seasonal herder post.	Low significance
Kraal	Tangible: Replicable cultural heritage	The stone walls are in fact historical enclosures for animals, possibly associated with the earthen-walled dam and other ruined buildings in the vicinity. Due to the lack of any cultural material, it is difficult to date the structure.	Low significance

7.3 Intangible Heritage Resources Identified During Consultation

As per the discussion in Section 4, comprehensive public consultation has been conducted as part of the previous as well as the current EIA and ongoing consultation is conducted during the Kolomela community forums on a quarterly basis. Heritage resources and potential impacts associated with Kolomela are discussed. No intangible heritage resources have until thus far been identified during as part of these consultation. However, this plan should be updated if any additional intangible heritage resources are identified as a result of any public consultation.

8. CULTURAL AND HERITAGE MANAGEMENT PLAN

8.1 Management Framework

The heritage resources associated with the Kolomela mining right area must be managed, restored, developed and maintained as part of the mining development.

Within the operational structure of the mining company the responsibility for the management and maintenance of heritage resources must be allocated to a suitably qualified person. The Environmental Management section of the mine must take responsibility for the on-going management and monitoring of the heritage resources or appoints a suitably qualified person to do so.

All activities that have the potential to impact identified heritage resources must be in line with the NHRA and this CHMP (or any further extension and refinement thereof).

This CHMP must be used as a framework or be used as a basis for all actions and decisions related to heritage management.

8.2 Objectives

- To ensure the sustainable and long-term conservation, management, development and maintenance of the heritage resources associated with the Kolomela Mine.
- To ensure the long-term protection of the heritage resources through an open and transparent process.
- To promote general heritage awareness at the site.

- To develop/define management responsibilities and actions for the different sites.
- To set a framework for the monitoring and evaluation of the success of the management plan.

8.3 Principles for the Removal/Damage of Heritage Resources

Kolomela will apply mitigation measures that favour avoidance of heritage sites. Where avoidance is not feasible, the following mitigation hierarchy is applicable:

- Minimise adverse impacts and implement restoration measures, in situ, that ensure maintenance of the value and functionality of the cultural heritage, including maintaining or restoring any ecosystem processes needed to support it; and
- Where restoration in situ is not possible, restore the functionality of the cultural heritage, in a different location, including the ecosystem processes needed to support it.

Most cultural heritage is best protected by preservation in its place since removal is likely to result in irreparable damage or destruction of the cultural heritage. Critical heritage resources will not be removed unless all of the following conditions are met:

- There are no technically or financially feasible alternatives to removal;
- The overall benefits of the project conclusively outweigh the anticipated cultural heritage loss from removal; and
- Any removal of cultural heritage is conducted using the best available technique.

8.4 Site Specific Management Actions

The Table below contains mitigation measures that are specific to the identified heritage sites at Kolomela Mine. The mitigation measures must be implemented for any expansion or maintenance activities. The Table also shows where a specialist should be involved based on the outcome of the risk assessment.

TABLE 7-1: SITE SPECIFIC HERITAGE RESOURCES

Heritage site	Mitigation measures	Responsible party
KOL 1 Stone Age Sites	<ul style="list-style-type: none"> Phase 2 mitigation is proposed under a permit issued by the SAHRA. Phase 2 mitigation include representative sampling of the assemblages on pans that will be impacted by extension activities. Implement Chance Find Procedure (CFP) during extension activities. Permit required in terms of Section 35 of NHRA prior to disturbance. A 30 meter buffer around the remaining features must be kept until such a time as a destruction permit is issued. 	Registered archaeologist
KOL 2 Stone Age Sites	<ul style="list-style-type: none"> Implement CFP during extension activities. 	Construction contractor.
KOL 3 Historic Mine	<ul style="list-style-type: none"> A buffer area of 400m must be maintained around the site and be kept clear of development. The buffer zone must be clearly demarcated. Should the need arise for the above-mentioned buffer area of 400m to be reduced, Phase 2 excavations would be required under a permit issued by the SAHRA. Conduct adequate consultation with SAHRA proactively should future activities encroach on the buffer area. Permit required in terms of Section 35 of NHRA prior to disturbance. 	Mine planning department. Registered archaeologist.
KOL 4 Historic farmstead	<ul style="list-style-type: none"> Maintain a 250 m buffer area between the WRD/any development and the farm worker burial ground at KOL 4.4 Maintain at least a 100 m buffer area between the WRD/any development and the areas rated as high sensitivity. The buffer zone must be clearly demarcated. The above buffers must be considered when planning the clean water diversion canal. The route of the diversion canal must be reviewed and revised to prevent impacts. Site KOL4 is to be protected as per the above measures. Should this not be possible in future planning, the relevant permits in terms of section 34, 35 and 36 of the NHRA must be applied for. The site must be monitored by a heritage professional on a regular basis and the status of the site must be documented and records kept on file. 	Registered archaeologist Mine planning department.
KOL 5-KOL8 Stone Age Pans	<ul style="list-style-type: none"> Identify pans outside the development footprint and a 30 meter buffer around the remaining features must be kept until such time as a destruction permit is granted. Implement CFP. 	Mine planning department. Environmental department

Heritage site	Mitigation measures	Responsible party
KME-01 Burial ground	<ul style="list-style-type: none"> The graves should be demarcated with a 100-meter buffer and that the graves should be avoided and left in situ. A Grave Management Plan should be developed for the graves which also need to be approved by SAHRA BGG If the site is going to be impacted and the graves need to be removed a grave relocation process for site KME-01 is recommended as a mitigation and management measure. 	Environmental Department
KME-02 and KME-03 Structures	<ul style="list-style-type: none"> The sites will not be impacted by the proposed development, no mitigation is required. 	N/A
KME-04 Structure	<ul style="list-style-type: none"> No mitigation is required. The documentation of the site in this HIA report is sufficient and the site can be destroyed without a permit but with the approval of this report. 	N/A
KME 05-09 Stone Age find spots	<ul style="list-style-type: none"> No mitigation is required. 	N/A
Wolhaarkop Later Stone Age site and rubbing stones	<ul style="list-style-type: none"> To protect the integrity of the heritage resources it is recommended that access and disturbance of the 2km buffer around the site be restricted. No infrastructural encroachment will be allowed into the buffer zone. The site and associated buffer must be clearly demarcated if infrastructure is planned in the area. The site must be inspected and monitored from time to time. 	Mine planning department.
Farmsteads and other reusable buildings (Leeuwfontein, Kapstevel, Welgevonden, Kapjes Kareeboom, Herders dwelling)	<ul style="list-style-type: none"> The Mining Company in consultation with a heritage professional must take a decision on the future use of each of the sites. A detailed restoration plan for the building and surrounding landscape must be developed by a suitably qualified team of professionals. The guidelines and principles of the Burra Charter shall inform the restoration plan. The proposed restoration plan together with supporting documentation and permit applications must be submitted to the relevant heritage authority for authorization. Based on the restoration plan and end use, detailed management and maintenance guidelines must be developed as a refinement of this Heritage Management Plan. 	Registered archaeologist
Palaeontology	<ul style="list-style-type: none"> The ECO must be informed that the Ghaap Group sediments and surface limestone comprises of important fossil remains, for example stromatolites and micro-fossil assemblages in the dolomite of the Ghaap Group as well as vertebrate remains in the 	ECO, Registered palaeontologist

Heritage site	Mitigation measures	Responsible party
	surface limestone. <ul style="list-style-type: none"> If fossil remains are discovered during any phase of construction, either on the surface or exposed by fresh excavations the Chance Find Procedure must be implemented by the ECO in charge of these developments. These discoveries ought to be protected (if possible, in situ). Preceding any collection of fossil material, the specialist would need to apply for a collection permit from SAHRA. Fossil material must be curated in an accredited collection (museum or university collection), while all fieldwork and reports should meet the minimum standards for palaeontological impact studies suggested by SAHRA. 	

8.5 Chance Find Procedure

Heritage and Palaeontological resources are in many instances not visible as it could be buried or obscured. The Social Way of AA and the IFC PS 8 recognises the need to implement a CFP for heritage resources that was not discovered during the site assessments. A CFP is a site-specific procedure detailing the steps that needs to be followed if a previously unknown heritage resource (Chance finds (CF)) is discovered. Figure 6 provides the generic steps in the CFP.



FIGURE 6: GENERIC STEPS IN A CFP

Refer to **Appendix 1** for the CFP developed for Kolomela. The CFP covers, i.e. the following items:

- Roles and responsibilities.
- Training.
- Details of steps and actions in CFP.

- Details of steps for the processing of Graves / Burial Grounds.
- Reporting and documentation requirements.

8.6 Awareness Programme / Training Processes

Cultural resources can be uncovered by any member of the workforce, contractors or visitors. Site management must ensure that all relevant parties understand the CFP and the importance of adhering to it if CFs are encountered. Awareness training on cultural heritage resources and the CFP is to be provided to all personnel. All procedures, including the heritage procedure is communicated to all employees at Kolomela including contractors.

Cultural resources can be uncovered by any member of the site team, contractors or visitors. Site management must ensure that all relevant parties understand the CFP and the importance of adhering to it if CFs are encountered. Training (through induction or other means) on cultural heritage resources that might potentially be found on site must be provided. All personnel, especially those working on earth movements and excavations, are to be trained on the identification of potential cultural heritage items/sites and the actions prescribed in this procedure during the induction and regular toolbox talks.

8.7 Community Access to Heritage Resources

If the project site contains cultural heritage or prevents access to previously accessible cultural heritage sites being used by, or that have been used by, Affected Communities within living memory for long-standing cultural purposes, Kolomela Mine will allow continued access to the cultural site or will provide an alternative access route.

Taking into consideration that people (both contractors, employees or people not affiliated with Kolomela Mine) might have a reasonable request to visit / gain access to heritage sites identified on Kolomela Mine, the mine has put the following process into place:

A written request stating the reason why access is requested must be submitted to the Environmental Management Section of the mine (this document may be submitted at the information desk at the 21 Main Street offices or at the security reception desk at the mine – for attention: Environmental Manager, Kolomela Mine). Within this request, a suitable motivation must be included whereby the applicant must clearly state what connection/relation he/she has towards

this specific cultural/heritage resource. With Kolomela being an active mining site, it must employ strict access control measures at all times.

The Environmental Management Section shall then evaluate the application and based on its merits, formally (written) approve or decline the request.

Should a request be approved, the applicant will have to make an appointment for a specific time and date where he/she will access the mine through the standard visitor processes. After this, one of the personnel from the Environmental Management section will accompany the visitor/s to the site and ensure that the site is not disturbed, and the visitors adhere to the safety rules of the mine.

Should the request be declined, the applicant will be allowed one chance to appeal the decision to the General Manager of the mine and based on this appeal outcome, one of the above-described processes will be implemented, as applicable.

8.8 Monitoring Programme

Heritage Site	Monitoring requirements
KOL 1 Stone Age Site	<p>Internal Monitoring</p> <p>The ECO is to monitor (ongoing) the planning for site clearance and disturbance of the site.</p> <p>Initiate a Phase 2 Heritage Assessment prior to any planned disturbance. The assessment should be initiated at least 4 months prior to any planned disturbance.</p>
KOL 3 Historic Mine	<p>External Monitoring</p> <p>A heritage professional is to document the status of the site:</p> <ul style="list-style-type: none"> • Prior to site clearance in the vicinity of the site (before clearance reaches 400 m of the site). • After site clearance in the vicinity fo the site (clearance has taken place up to to 400 m of the site). • After deposition of the waste rock / pit establishment in the vicinity fo the site (within 400 m of the site). <p>Internal Monitoring</p> <p>The ECO is to monitor adherence to the required buffer zone:</p> <ul style="list-style-type: none"> • Monthly during site clearance in the vicinity of the site • Every six months during waste rock deposition/mining

Heritage Site	Monitoring requirements
KOL 4 Farmstead	<p>External Monitoring</p> <p>A heritage professional is to document the status of the site</p> <ul style="list-style-type: none"> • Prior to site clearance for the Kapstevél Western Waste Rock Dump / Kapstevél South Pit and infrastructure in the vicinity of the site (before clearance reaches 250 m of KOL 4.4 and 100 m from any other KOL 4 site) • After site clearance in the vicinity of the site (clearance has taken place within 250 m of KOL 4.4. and 100 m any other KOL 4 site). • After any development of waste rock dumps, pit or infrastructure within 250 m of KOL 4.4 and 100 m from any other KOL 4 site. <p>Internal Monitoring</p> <p>The ECO is to monitor adherence to a buffer zone of 250 m from KOL 4.4 and 100 m from other KOL 4 sites:</p> <ul style="list-style-type: none"> • Every six months during waste rock deposition / pit expansion Monthly during site clearance • Monthly during infrastructure development. • Every six months during waste deposition/mining.
KOL 5-8 Stone Age Pans	<p>Internal Monitoring</p> <p>The ECO is to monitor (ongoing) the planning for site clearance and disturbance of the site.</p>

Records, including photographs, of the monitoring must be kept on file.

8.9 Conclusion

This document comprises an update of the existing CHMP for Kolomela Mine developed according to the AA Social Way and the IFC PS 8. The main purpose or intent of the CHMP is to provide a framework or structure for the conservation, management and development of heritage resources. It presents a consolidation of information documented in all preceding studies and plans related to heritage undertaken for Kolomela mine. The recommendations contained in this document must be implemented to prevent or minimise impacts on heritage resources. The plan must be updated regularly or as required, considering mining development or changing legal requirements.

8.10 References

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The Anglo American (AA) Social Way.

9. DEFINITIONS & ABBREVIATIONS

9.1 Definitions

Term	Definition
Cultural heritage	Cultural heritage is considered a unique and non-renewable resource that possesses cultural, scientific, spiritual, traditional or religious value, and is frequently legally protected.
Tangible heritage	Tangible heritage, both movable and immovable objects (e.g. properties, graves, sites, structures, or groups of structures) that have archaeological, paleontological, historical, cultural, artistic or religious value
Replicable cultural heritage	Tangible forms of cultural heritage that can themselves be moved to another location
Non-replicable cultural heritage:	Unique or relatively unique for the period it represents, and/or unique or relatively unique in linking several periods in the same site
Critical cultural heritage	Internationally recognised heritage of communities who use, or have used within living memory, the cultural heritage for longstanding cultural purposes. Legally protected cultural heritage areas, including those proposed by host governments for such designation
Natural heritage	Natural features or objects that embody cultural values, such as sacred rocks, caves, streams or waterfalls
Intangible heritage	Intangible forms of culture, that embody cultural values or are part of a living cultural tradition such as local knowledge, innovations or community practices (also known as living heritage).
Socio-economic development	Development programmes that aim to commercialise tangible or intangible cultural heritage (e.g. increased tourism, marketing of traditional clothing, etc.) can provide valuable income but may also undermine traditions and customs.

9.2 Abbreviations

Abbreviation	Explanation
AA	Anglo American
APM	Archaeology, Palaeontology and Meteorites
BGG	Burial Grounds and Graves
DMR	Department of Mineral Resources
EA	Environmental Authorisation

Abbreviation	Explanation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
CF	Chance Find
CFP	Chance Find Procedure
CHMP	Cultural Heritage Management Plan
HIA	Heritage Impact Assessment
IFC	International Finance Corporation
KOL	Kolomela
KSS	Kapstevél South
MPRDA	Minerals and Petroleum Resources Development Act (Act No. 20 of 2002)
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
PIA	Palaeontological Impact Assessment
PS	Performance Standard
SAHRA	South African Heritage Resources Agency
SIOC	Sishen Iron Ore Company (Pty) Ltd
WRD	Waste Rock Dump

10. AUDITING AND REVIEW RESPONSIBILITY

This document will be audited/reviewed by a competent person and updated accordingly on a biennial basis by the Environmental Manager of Kolomela Mine. The document must also be reviewed if any significant changes will occur with regards to infrastructure layout or as a result of updated specialist studies. The plan can also be updated if relevant comments are received from members of the public.

11. CONTROL OF RECORDS

The following records are required to be maintained as part of this procedure:

No	Document No	Description	Responsible for Filing	Responsible for Maintenance	Filing/ Storage Area	Retention Period	Disposal Method

12. AMENDMENT OF CHMP

REASON FOR CHANGE	
A. As a result of incidents	B. As a result of audit findings
C. Changes in Operating Procedures	D. Changes in Legislation
E. Changes in Technology	F. Changes in Machinery/Equipment
G. Results of risk assessments	H. Change in training requirements
I. New procedure format	J. Change due to spelling or grammatical error
K. To integrate a special instruction into the document control system	L. Annually Revised with no changes in operating procedures
M. Annually Revised with changes in operating procedures	

REV	DATE	REASON	REASON CODE	PAGES / PARAGRAPH NUMBERS	AUTHOR
01	01-11-2011			all	Dr Udo S Küsel African Heritage Consultants
02	31-03-2020			all	J. Lambrechts Section Manager, Environment Kolomela Mine

03	18-10-2021			All	Izak Gous Environmental Advisor, Fhatuwani Mashau Section Manager, Environmental Management
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APPENDIX A: CHANCE FIND PROCEDURE

1. INTRODUCTION

Heritage and Palaeontological resources are in many instances not visible as it could be buried. The Social Way of Anglo American (AA) and the International Finance Corporation (IFC) Performance Standard 8 recognises the need to implement a Chance Find Procedure (CFP) for heritage resources that could be uncovered during site establishment activities. This document comprises a CFP in support of the Cultural Heritage Management Plan (CHMP) for heritage resources that may be uncovered as part of mining development activities at Kolomela.

2. PURPOSE

The CFP has been developed for Kolomela Mine where activities will likely be undertaken in areas where unknown heritage resources, known as Chance Finds (CF) could be present. The CFP prescribes the measures to be followed to ensure that CFs are managed in manner consistent with the Group Standards. CFs include movable and immovable objects, sites, structures or groups of structures having archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.

3. SCOPE

The CFP is applicable to all activities conducted by personnel, visitor and contractors that could potentially uncover CFs. It details the actions to be taken when CFs are found during exploration, construction and operational activities. The CFP describes training requirements, immediate actions to be taken when CFs are uncovered, communication and processing protocols, and reporting requirements.

4. RESPONSIBILITIES

The General Manager of Kolomela Mine is accountable to ensure that this procedure is implemented and complied with.

It is the responsibility of the Environmental Management Section of Kolomela Mine to ensure that this procedure is effective in the protection of the Heritage Resources of Kolomela Mine.

It is the responsibility of all personnel on Kolomela Mine to ensure they adhere to this procedure when conducting their day to day activities.

5. PROCEDURE

Step	Actions	Timing	Responsibility
1. Discovery & stoppage of work	<p>In the case of a CF, the heritage resource will not be disturbed or removed and all activities in its vicinity will be ceased as soon as it is deemed safe to do so.</p> <p>Site employees or contractor to demarcate site who will also be required to note the type of resource, location, photograph and depth below surface of the find.</p>	As soon as it is safe to do so	Observer, site employee and/or sub-contractor.
2. Management Notification	<p>After stopping the work, contact the Environmental Manager (EM) immediately to (1) report and describe the CF and (2) confirm that all activities around the CF have been ceased.</p> <p>EM to notify the Project Manager (PM) and the Protection Services (PSR), Health and Safety (H&SR), and Social Performance (SP) departments regarding the CF and requisite actions.</p>	Immediately after stoppage of work	Observer, EM, PM, SE & PSM
3. Site Protection & Inspection	<ul style="list-style-type: none"> • EM and PSR issue urgent instruction to properly demarcate site. • Demarcation will provide a 30 metre buffer zone from all sides of the find. • EM, SP and PSR to visit the site as soon as practically possible to ensure that the area is appropriately demarcated and secured. 	Same day as discovery	EM, PSM, & PS staff

Step	Actions	Timing	Responsibility
	<ul style="list-style-type: none"> EM or SP to undertake the inspection process and record outstanding descriptive information by completing the Chance Find Reporting Form – see Annexure A. 		
4. Rapid assessment & recommendation	<p>EM engage ad hoc heritage specialist (HS) to assess the find remotely or via site visit.</p> <p>Specialist will verify the finding and assess its potential significance and report finding and recommendations to EM.</p>	Within 2 days of discovery	EM, Ad hoc heritage specialist (HS)
5. Processing insignificant finds	<ul style="list-style-type: none"> HS confirms standard removal process with EM. EM instructs appropriate resource to remove object and re-initiate any stopped activities. In case of uncertainty regarding the significance, HS will specify chain of custody and appropriate interim storage requirements to EM, until significance can be confirmed. HS and EM decide whether work can resume unconditionally or whether certain restrictions are required. An on-site office and finds storage area should have been established allowing storage of any artefacts or other archaeological material recovered. 	Within 2 days of discovery	EM, Ad hoc heritage specialist (HS)
6. Processing significant finds	<p>The processing requirements that will be followed will depend on the assessment and recommendation of the HS. The HS' recommendation will describe the following:</p>	Within 7 days of discovery	EM, HS, Labour required to undertake removal, protection

Step	Actions	Timing	Responsibility
	<ul style="list-style-type: none"> i. <u>Potential for removal</u>: Indicate whether the find can be removed and the process for removal. This will indicate whether company employee can remove the object without the presence of the HS. ii. <u>Security and protection requirements</u>: Whether on-going security is required and/or revised buffer area needs to be instated iii. <u>Chain of custody and storage</u>: Identity appropriate chain of custody and storage requirements that will apply after removal iv. <u>Need for preservation</u>: The specialist will together with the EM will decide whether the find can be preserved in situ by rerouting future activities and/ or using alternative construction techniques or if rescue excavations in advance of additional construction work will be required if avoidance is not possible. Rescue is conducted according to international and national standards and with oversight, approval and involvement of the appropriate experts and Government Authorities. v. <u>Continuation of stopped activities</u>: Confirm whether construction activities should be suspended until further processing, or whether activities can resume on condition of additional safety buffers and/or removal of CF. vi. <u>Identify applicable statutory requirements</u>: Inform EM of national or international 		and/or preservation activities

Step	Actions	Timing	Responsibility
	processing requirements. EM to communicate and initiate statutory process.		
Statutory notification & mitigation	<ul style="list-style-type: none"> • HS to inform EM if find is a heritage resource protected in terms of national legislation, • HS to ensure that the appropriate authority is formally notified. • HS will confirm with the relevant authority the processing and permitting requirements that apply to the find • Project activities at an important find will resume after the implementation of government-approved mitigation measures unless regulations allow for conditional continuation of activities. 	Within 7 days (or as per national legislation)	HS, EM & Heritage authority

6. PROCESSING OF BURIAL GROUNDS

In certain contexts, it may be anticipated that significant finds will likely be limited to human remains. After completing the steps stipulated in the CFP, the following procedure should be followed:

- i. EM and HS to notify the local policing authority of burial site
- ii. Engage relevant local government authorities to ensure compliance with by-laws
- iii. Specialist and EM to inspect the exposed burial and determine in consultation with policing authority the temporal context of the remains (i.e. noteworthy forensic features, authentic burial grave older than 60 years or archaeological burial older than 100 years) as well as whether there might be additional graves within the immediate vicinity of the find.
- iv. Should the specialist conclude that the find is a heritage resource protected in terms of national legislation, they will inform the relevant heritage authority on behalf of the Company and confirm mitigation requirements
- v. Initiate grave relocation process according to national legislation and AA requirements
- vi. Establish multidisciplinary team to manage grave relocation process, including representative from mine management, social performance, human resources, protection services, group legal and safety health and environmental
- vii. If necessary, the team will urgently appoint an experienced and qualified expert, which is appropriately registered in terms of national legislation

7. REPORTING AND DOCUMENTATION REQUIREMENTS

External: The HS will be required to compile and maintain separate records of CFs, results of assessments, CF recommendations, internal and external communications and instructions and supporting photographic documentation (or other reference materials as appropriate), which will be submitted and reviewed by EM and/or SP staff).

Internal: The EM will ensure a CF Report (see **Annexure A**) is completed, approved and readily available.

This report will contain the following information: date and time of the discovery, location (GPS coordinates), description of the discovery, significance of discovery, estimated weight and dimensions i.e. feasibility to move the discovery; estimated time needed to conduct excavation of discovery; recommendation of how to proceed; temporary protection measures implemented, etc. The EM will review, approve and store the rapid assessment report.

TABLE 7-1: IMPORTANT CONTACT DETAILS

Party	Contact details
Environmental Department	060 501 6625
Protection services department	053 313 9232
South African Heritage Resources Agency (SAHRA)	111 Harrington Street, Cape Town. PO Box 4637, Cape Town 8000, South Africa. Tel: 021 462 4502. Fax: +27 (0)21 462 4509. Web: www.sahra.org.za
Postmasburg Police Department	053 313 9301

8. TRAINING REQUIREMENTS

Cultural resources can be uncovered by any member of the site team, contractors or visitors. Site management must ensure that all relevant parties understand the CFP and the importance of adhering to it if CFs are encountered. Training (through induction or other means) on cultural heritage resources that might potentially be found on site must be provided. All personnel, especially those working on earth movements and excavations, are to be trained on the identification of potential cultural heritage items/sites and the actions prescribed in this procedure during the induction and regular toolbox talks.

Abbreviations

Abbreviation	Explanation
AA	Anglo American
EM	Environmental Manager
CF	Chance Find
CFP	Chance Find Procedure
CHMP	Cultural Heritage Management Plan
H&SR	Health and Safety Department
IFC	International Finance Corporation
PM	Project Manager
PSR	Protection Services
SP	Social Performance Department

ANNEXURE A: CHANCE FIND REPORT FORM**PART 1: DESCRIPTION OF FIND**

1. Recorder's name and affiliation

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2. Date

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3. Description of find

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4. Description of location & GPS Coordinates

Site location.....

Latitude.....

Longitude.....

5. Photographs taken:

Photo 1	Photo 2
Photo 3	Photo 4

6. Sketch Map

PART 2: RAPID ASSESSMENT RECOMMENDATION

1. Notes on Part 1 description of find

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2. Potential for removal

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3. Security and protection requirements

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4. Chain of custody and storage

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5. Need for preservation and/or rescue

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6. Continuation of stopped activities

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7. Applicable statutory requirements

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