

UNITED MANGANESE OF KALAHARI (PTY) LTD (UMK) BACKGROUND INFORMATION DOCUMENT

PROPOSED CHANGES TO SURFACE INFRASTRUCTURE AT THE UMK MINE ON FARM BOTHA 313, THE REMAINING EXTENT (RE) OF THE FARM SMARTT 314, AND PORTION 1 AND RE OF THE FARM RISSIK 330, NORTHERN CAPE PROVINCE

APRIL 2021

INTRODUCTION

The UMK Mine is an opencast manganese mine located approximately 13 km to the south of the town of Hotazel in the Joe Morolong Local Municipality and the John Taolo Gaetsewe District Municipality in the Northern Cape Province. The manganese mine lies directly adjacent and to the west of the R380 provincial road. Refer to Figure 1 and Figure 2 for the regional and local settings respectively. The mine consists of open-pit mining sections, crushing and screening operations, run of mine, stockpiles, waste rock and product stockpile dumps, and associated support and administrative infrastructure.

UMK currently holds the following authorisations:

- a mining right (30/5/1/2/3/2/1(113) MR) issued by the Department of Mineral Resources (DMR) now known as the Department of Mineral Resources and Energy (DMRE);
- an Environmental Management Programme Report (EMPr) approved by DMRE
- an Environmental Authorisations (NC/KGA/HOT7/15/2006 & NC 30/5/1/2/2/113 MR) issued by the Department of Environment and Nature Conservation (DENC) and the DMRE respectively; and
- a Water Use License (IWUL) (10/D41K/ABEGJ/2814) issued by the Department of Water and Sanitation (DWS) now known as the Department of Human Settlements, Water and Sanitation (DHSWS).

UMK is proposing to change the approved surface layout for the mine to optimize their mining operations.

PURPOSE OF THIS DOCUMENT

This document has been prepared to inform you about:

- the proposed project;
- the project alternatives considered (if relevant);
- the biophysical, cultural, and socio-economic baseline environment of the project area;
- the environmental assessment processes being followed;
- Possible biophysical, cultural, and socio-economic impacts and related specialist input; and
- how you can have input into the environmental assessment process.

ENVIRONMENTAL AUTHORISATION

Prior to the commencement of the proposed project the following is required:

- an Environmental Authorisation in terms of the NEMA for activities in Listing Notice 1 (Government Notice Regulation (GNR) 983 of 2014, as amended) and Notice 2 (GNR 984 of 2014, as amended), from the Department of Mineral Resources and Energy (DMRE). The Environmental Impact Assessment (EIA) Regulations being followed are NEMA GNR 982 of 4 December 2014, as amended;
- an amended Waste Management Licence in terms of the NEM:WA for waste activities in Category A and Category B (GNR 921 of 2013), as amended from the DMRE;
- an amended Environmental Management Programme report (EMPr) in terms of Section 102 of the MPRDA from the DMRE.

SLR Consulting (Africa) (Pty) Ltd (SLR), an independent firm of environmental consultants, has been appointed by UMK to manage the environmental authorisation process.

YOUR ROLE

You have been identified as an interested and affected party (I&AP) who may want to be informed about the proposed project and have input into the environmental authorisation process and reports.

You have an opportunity to review this document and to provide your initial comments to SLR for incorporation in the environmental assessment process. You will also be given the opportunity to review and comment on the Scoping Report and EIA and EMPr.

All comments will be recorded and included in the reports submitted for decision-making.

COVID-19 RESTRICTIONS

Due to COVID-19 restrictions, online and digital platforms may be utilised to engage with I&APs.

SCOPING REPORT

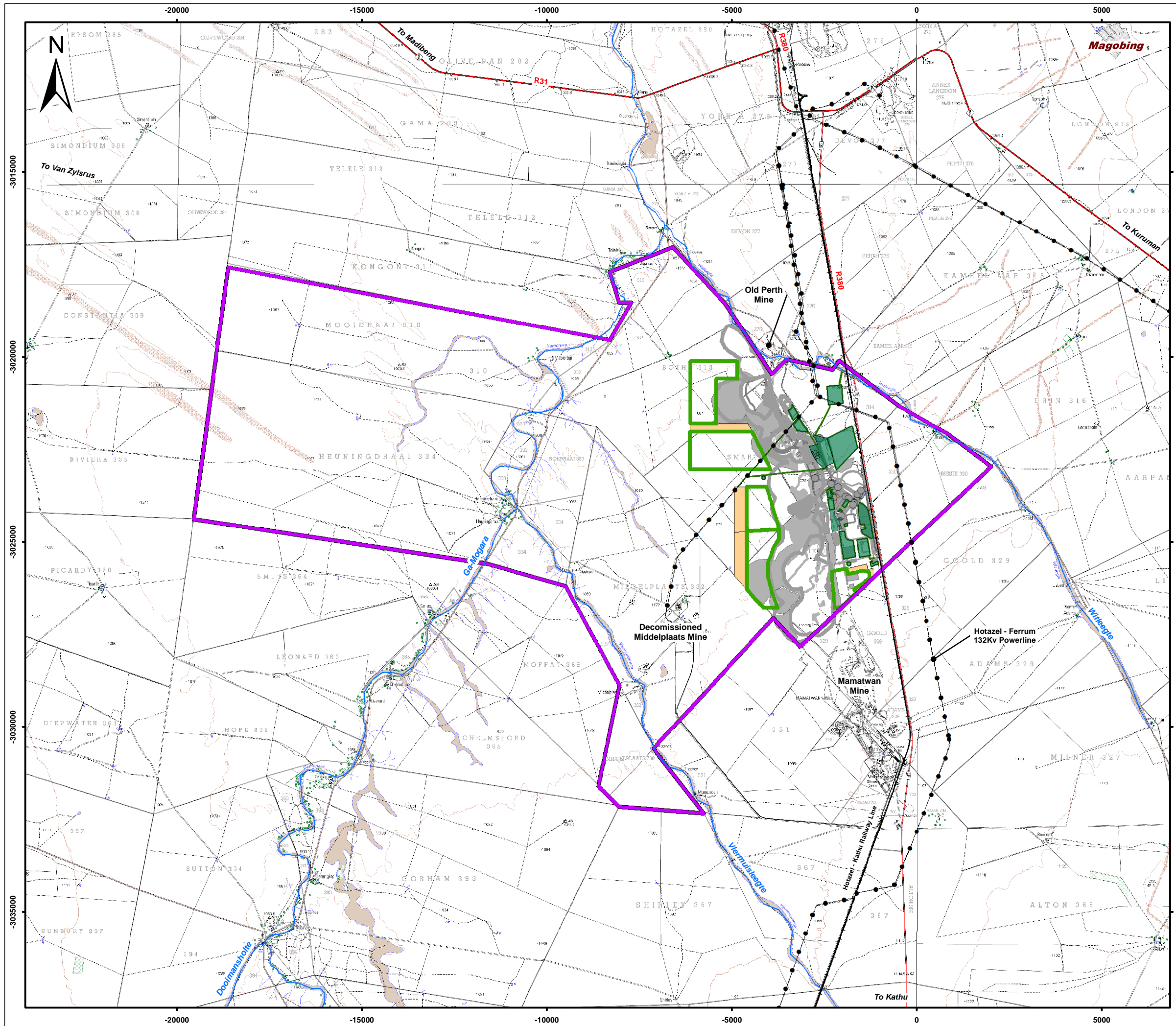
The Scoping Report is available for public review starting from **29 April to 31 May 2021**. The Scoping Report can be downloaded from the following SLR data free website: <https://slrpublicdocs.datafree.co/public-documents>

HOW TO RESPOND

Responses to this document can be submitted by means of the attached comments sheet and/or through communication with the person listed below.

WHO TO CONTACT

Reinett Mogotshi
(011) 467 0945 (Tel) or
rmogotshi@slrconsulting.com



Legend

- UMK Mining Right Area
- Main Roads
- Railway Line
- Power Line
- Rivers and Streams
- As per the approved infrastructure layout

Proposed Changes to the Layout or Operations

- Proposed Waste Rock Dumps
- Proposed Topsoil Stockpiles
- Proposed Infrastructure

0 1 2 Kilometers
Scale: 1:100 000 @ A3
Projection: Transverse Mercator
Datum: Hartbeeshoek, Lo 23

UNITED MANGANESE OF KALAHARI

Local Setting

SLR
SLR Consulting (Africa) (Pty) Ltd
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PROJECT OVERVIEW

UMK is an opencast manganese mine located to the south of the town of Hotazel in the Northern Cape Province and lies directly adjacent and to the west of the R380 provincial road.

The mine consists of the following components:

- open pit mining sections;
- crushing and screening plant;
- run of mine;
- product stockpiles;
- waste rock dumps; and
- associated support and administrative infrastructure.



Figure 3: typical examples of the current open pit mining sections at UMK Mine

UMK is proposing to change the approved surface layout for the mine to optimize their mining operations. The proposed changes to the approved layout are discussed in detail in the table below:

Proposed establishment of the following additional surface infrastructure	Proposed upgrade of following surface infrastructure at the mine
<ul style="list-style-type: none"> • New parking area; • Solar equipped boreholes and associated storage tanks; • Tyre fitting bay, workshop/ tyre centre and oil storage; • Waste rock and sand stockpiles: <ul style="list-style-type: none"> ○ Central West Waste Rock Dump (WRD) ○ Central West Sand Stockpile ○ J Block West WRD ○ J Block West Sand Stockpile ○ J Block East WRD ○ J Block East Sand Stockpile ○ Powerline West WRD ○ Powerline West Sand Stockpile ○ A Block West WRD • Product stockpile area within the approved sinter plant area; • Truck staging area; • Hard park areas; • Barlow's store; • Explosive depo and associated service road; and • Engineering salvage yard (temporal and permanent). 	<ul style="list-style-type: none"> • Prentec Sewage Plant; and • Existing weigh bridge and associated access road
	Proposed expansion of the following surface infrastructure at the mine
	<ul style="list-style-type: none"> • Product stockpile; • Modular crushing plant; • Fuel storage farm; • EME workshop for major repair and maintenance; • Road truck staging area; and • Offices
	Relocation of the following surface infrastructure at the mine
	<ul style="list-style-type: none"> • Approved dirty water dams/pollution control ponds; and • 132 KV powerline from current location to its old location

BIOPHYSICAL, CULTURAL AND SOCIO-ECONOMIC BASELINE OVERVIEW

The biophysical, cultural and socio-economic baseline environment likely to be influenced by the proposed project is discussed below.

Geology

The UMK Mine falls in the Kalahari Manganese Field and is covered by Kalahari sands, calcrete, clays & gravel beds of the Kalahari Group.

Climate

The UMK Mine falls within the Northern Steppe Climatic Zone. It is a semi-arid region characterised by seasonal rainfall, hot temperatures in summer, and colder temperatures in winter. Rainfall ranges from 2.4 mm to 66.1 mm per month and winds from the north-east are dominant in the area.

Topography

The UMK Mine is located in a relatively flat area with gentle slopes towards the North West. The natural topography of the area surrounding the UMK Mine has been influenced through the presence of isolated farmsteads and mining activities such as the Tshipi Borwa Mine, the Mamatwan Mine, the old Middelplaats Mine and the Sebilo Mine.

Soils and Land Capability

Soils at the UMK Mine comprise, sandy, red and yellow soils of the Hutton form and the Witbank form. In the absence of irrigation, Hutton soil forms at the mine have a low cultivation potential due to the high infiltration rates associated with sandy soils. Due to the fine sandy nature of the soil forms and the low clay content and limited organic matter, the soils are highly erodible, particularly where vegetation is removed. Soil resources and related land capability have been influenced by existing mining activities.

Vegetation

The UMK Mine site consists of several vegetation types, namely the *Vachellia haematoxylon* Savannah, *Senegalia mellifera* Mixed Woodland, *Vachellia erioloba* Savannah, *Schmidtia kalahariensis* – *Prosopis glandulosa* Shrubland, *Tarchonanthus camphoratus* – *Vachellia karroo* Scrub and the *Tarchonanthus camphoratus* – *Schmidtia pappophoroides* Scrub. The vegetation at the mine has already been disturbed by existing mining activities.

Surface water

The UMK Mine is located within the Lower Vaal Water Management Area, quaternary catchment D41K within the catchment of the Ga-Mogara River, a tributary of the Kuruman River and flows into the Orange River. Runoff from UMK drains north westerly towards the Witleegte River. There is no third-party reliance on surface water. No wetlands are located in the area. Existing mining activities have influenced the natural drainage patterns on site and the related contributions of runoff to the catchment.

Groundwater

The UMK Mine is underlain by a shallow aquifer comprising of Kalahari sands and calcrete and the deeper fracture aquifer comprising Dwyka clay and Mooidraai dolomite

formation. The aquifers are classified as poor to minor aquifers. The average ground water level at the mine ranges from 21 to 65 metres below ground level. The majority of third-party boreholes surrounding the mine are used for livestock watering and domestic purposes.

Air quality

Ambient air quality has been influenced by mines, vehicle tailpipe emissions and agricultural activities.

Noise

The greater area is generally defined by rural features. Noise levels near the UMK Mine are mainly as a result of surrounding farming activities, localised traffic, train movement and mining operations.

Visual

The landscape character towards the west and northwest of the UMK Mine is characterised by flat open areas associated with semi-arid vegetation, the ephemeral drainage lines, isolated farmsteads. The landscape character directly to the south, north and northeast of the UMK Mine has been extensively disturbed by existing mining operations. The area to the west and northwest of the UMK Mine has a high visual value. The areas within the UMK Mine as well as areas located to the north, east and south of the UMK mine that have been disturbed have a low visual value. This indicates that mining and infrastructure activities impact on the available visual resources.

Heritage/Cultural Resources

The UMK Mine is situated in an area that as a whole has a relatively low human presence due to the dryness of the region, as such there is a low possibility of palaeontological resources occurring at the UMK Mine. In addition, no heritage/cultural resources are associated with the UMK Mine.

Socio-economic

The town of Hotazel is located approximately 15 kilometre north of the UMK Mine. The educational levels in the area are relatively low with a high level of unemployment and a dependency on subsistence agriculture, the public sector, seasonal workers and employment in the mining sector. Water provision and sanitation remains a challenge, mostly in the rural areas. There has been an increase in the number of households that were provided with electricity as a source of energy in the area. Mining and government services are the main economic sectors.

Land use

Land use surrounding the UMK Mine is a mixture of agriculture, isolated residence/ residential areas, solar plant, infrastructure/servitudes and mining activities. Land use at the Mine has been influenced by existing mining activities.

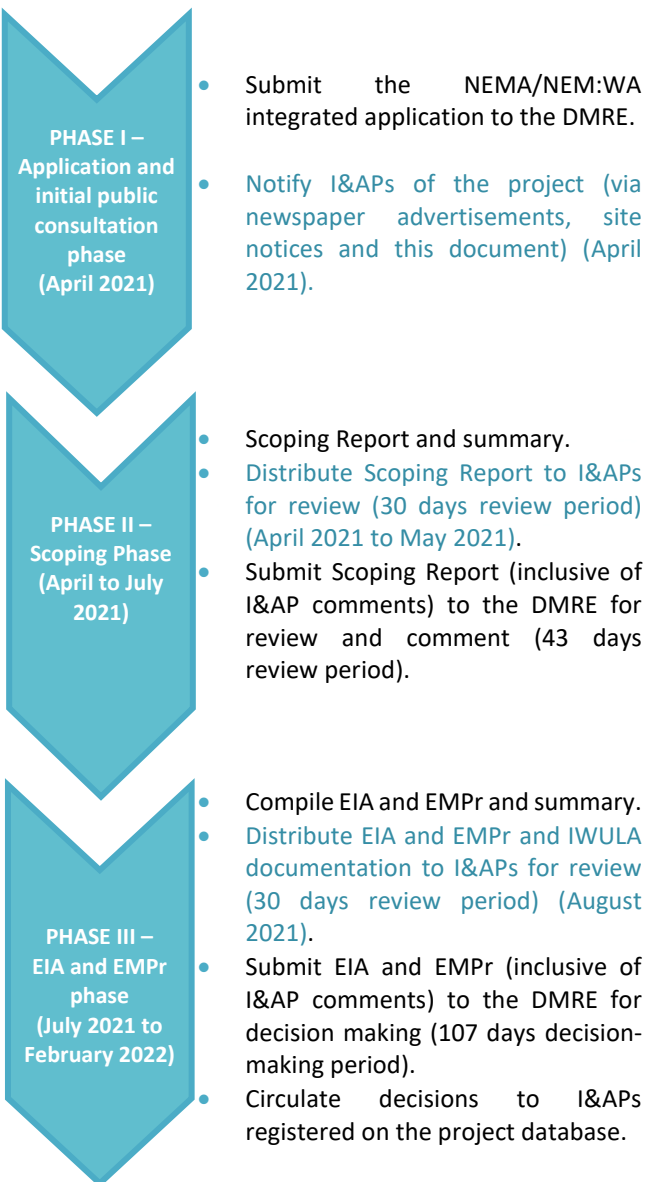
POTENTIAL BIOPHYSICAL, CULTURAL AND SOCIO-ECONOMIC IMPACTS AND RELATED SPECIALIST INPUT

Potential impacts that have initially been identified and will be investigated further as part of the environmental assessment process are tabulated below. Where specialist input is required this has been indicated in the table below. Additional impacts may be identified as part of the environmental assessment process.

Aspect	Potential biophysical, cultural and socio-economic impacts	Specialist input (where required)
Biophysical		
Soils and land capability	<ul style="list-style-type: none"> Soil resources and related land capability have been influenced through existing on-site activities and infrastructure. The proposed surface infrastructure changes have the potential to further compromise soil resources through erosion, compaction and/or pollution and the related natural capability of the land through an increased surface infrastructure footprint. 	Terra Africa
Biodiversity (terrestrial)	<ul style="list-style-type: none"> The natural terrestrial biodiversity at the UMK Mine has been influenced through existing on-site activities and infrastructure. The proposed surface infrastructure changes have the potential to further disturb and/or modify vegetation, habitat units, and related ecosystem functionality through an increased surface infrastructure footprint. 	Ecological Management Services
Surface water	<ul style="list-style-type: none"> Natural drainage across the UMK site has been influenced through existing on-site activities and infrastructure, which also presents numerous sources that can pollute surface water. The proposed surface infrastructure changes have the potential to further contribute to the alteration of natural drainage patterns through a decrease in run-off to the catchment. 	SLR
Groundwater	<ul style="list-style-type: none"> Groundwater resources have been influenced through existing on-site activities and infrastructure. The proposed surface infrastructure changes have the potential to present additional pollution sources. 	SLR
Noise	<ul style="list-style-type: none"> Noise levels near the UMK Mine are mainly as a result of surrounding farming activities, localised traffic, train movement and mining operations. The proposed surface infrastructure changes have the potential to present additional noise sources which in turn may influence potential sensitive receptors. 	Qualitative Assessment
Visual	<ul style="list-style-type: none"> The visual character of the UMK Mine has been influenced by existing mining operations. The proposed surface infrastructure changes have the potential to generate additional negative visual views through the establishment of additional infrastructure on site. This however needs to be considered in the context of distance to sensitive receptors and surrounding neighbouring mines that have already influenced the visual character of the area. 	Qualitative Assessment
Cultural		
Heritage/cultural resources and palaeontological resources	<ul style="list-style-type: none"> The proposed surface infrastructure changes have the potential to damage and/or destroy heritage resources which may be of cultural importance. 	Heritage Contracts and Archaeological Consulting
Socio-economic		
Economics	<ul style="list-style-type: none"> Sterilisation of mineral resources occurs through the disposal of mineral resources onto mineralised waste facilities. This in turn can influence the national, local, and regional economy by prohibiting the efficient exploitation of a resource. The proposed increase in the waste rock, sand stockpile and product stockpile volumes have the potential to further contribute to the sterilisation of mineral resources. 	Qualitative Assessment
Social benefits	<ul style="list-style-type: none"> The project has the potential to allow for the continuation of job opportunities that the livelihoods of individuals living in the local area may depend on. 	Qualitative Assessment
Sense of place	<ul style="list-style-type: none"> The natural sense of place has been influenced through existing on-site activities and infrastructure. The proposed activity/infrastructure changes have the potential to further change the nature of the site and could be perceived by surrounding land users as negative. 	Qualitative Assessment
Safety to third parties	<ul style="list-style-type: none"> The natural topography of the site has been influenced by current mining operations. The proposed surface infrastructure changes have the potential to further alter topography through an increase of the surface infrastructure footprint, which in turn presents additional hazardous infrastructure that could be harmful to third parties and fauna. 	Qualitative Assessment
Land use	<ul style="list-style-type: none"> The natural land use of the site has been influenced through current mining operations. The proposed surface infrastructure changes have the potential to further change and/or result in a loss of existing land uses. 	Qualitative Assessment

ENVIRONMENTAL AUTHORISATION PROCESS

The environmental assessment process provides information pertaining to procedural components and the environment in which it is being undertaken. It identifies and assesses, in consultation with I&APs, the negative and positive biophysical, cultural and socio-economic impacts (key I&AP input stages are indicated in blue text below). The environmental assessment process also reports on management measures required to mitigate impacts to an acceptable level and incorporates requirements for monitoring programmes (where required). The process steps and estimated timeframes are provided below.



PUBLIC PARTICIPATION PROCESS

The purpose of the public participation process is to notify I&APs of the project and to provide them with the opportunity to raise issues or concerns regarding the project. The public participation process will be undertaken in accordance with the requirements of Chapter 6 of Regulations 982 of 4 December 2014 (EIA Regulations), as amended.

Due to COVID-19 restrictions, online and digital platforms will be utilised to engage with I&APs. These platforms will include a combination of email, SMS, site notices, newspaper adverts, a webinar and access to SLR's data free website where reports can be accessed to inform I&APs about the project. **A virtual public meeting for the proposed project is planned, all I&APs who are interested in attending should please contact SLR as per the contact details above in order to obtain the meeting particulars.**

I&APs involved in the environmental authorisation process are listed below.

I&APS INVOLVED IN THE ENVIRONMENTAL AUTHORISATION PROCESS

LANDOWNERS, LAND USERS AND OTHER I&APS

- Surrounding landowners, land users and community forum.
- Non-government organisations and associations.
- Surrounding mines and industries.
- Parastatals.

COMPETENT AUTHORITIES

- Department of Mineral Resources and Energy
- Department of Human Settlement and Water and Sanitation

COMMENTING AUTHORITIES

- Northern Cape Department of Environment and Nature Conservation.
- Department of Environment, Forestry and Fisheries.
- Northern Cape Department of Rural Development and Land Reform – inclusive of the Land Claims Commissioner.

LOCAL AUTHORITIES

- John Taolo Gaetsewe District Municipality.
- Joe Morolong Local Municipality (including the ward councillor).

Please let us know if there are any additional parties that should be involved.

UNITED MANGANESE OF KALAHARI (PTY) LTD (UMK)
BACKGROUND INFORMATION DOCUMENT

PROPOSED CHANGES TO SURFACE INFRASTRUCTURE AT THE UMK MINE ON FARM BOTHA 313, THE REMAINING EXTENT (RE) OF THE FARM SMARTT 314, AND PORTION 1 AND RE OF THE FARM RISSIK 330, NORTHERN CAPE PROVINCE

APRIL 2021

Please return completed forms to:

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