# SUMMARY OF THE PROPOSED PROSPECTING OPERATION PROJECT REFERENCE: NC 30/5/1/1/2/13297 PR

# 1. List of activities applied for

All prospecting and prospecting related activities for occurrence determination for the minerals Manganese (Mn), Iron (Fe), Diamonds (D), Copper (Cu), Cobalt (Co), Chrome (Cr), Gold (Au), Graphite (Gr), Lithium (Li), Lead (Pb), Nickel (Ni), Rare Earths (RE), Tin Ore (Sn), Tantalum (Ta), Tungsten (W), Uranium (U), Vanadium (V) and Zinc (Zn) on the above mentioned farms with exclusions to the following: Zinc, Cobalt, Copper, and Lead on Onder Plaats 401, Diamonds Alluvial and Kimberlite on Zonderhuis 402 and Onder Plaats 401 and Nickel on Onder Plaats 401 by means of geological investigations, Geophysical surveys and Diamond Core drilling.

NAME OF ACTIVITY	ARIAL EXTENT OF THE ACTIVITY HA OR M <sup>2</sup>	APPLICABLE LISTING NOTICE
Non-invasive activities		NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right
Field surveys		
Geophysical surveys	57 960.2952 ha	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right
Drilling		NEMA 2017, GNR 327, Listed 1, Activity 27: The clearance of an area of 1 hectares or more, but less than 20 hectares, of indigenous vegetation
Drilling	Total: 1.8 ha Per hole: 0.09 ha	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources  NEMA 2017, GNR 327, Listed 1, Activity 22: The decommissioning of any activity
		(i) a closure certificate in terms of Section 43 of the MPRDA
Sampling	Part of drilling footprint	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources

Rehabilitation	1.8 ha	NEMA 2017, GNR 327. Listed 1, Activity
		22: The decommissioning of any activity (i) a closure certificate in terms of Section 43 of the MPRDA
Ablution Facility	Part of drilling footprint	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources
		NEMA 2017, GNR 327, Listed 1, Activity 22: The decommissioning of any activity (i) a closure certificate in terms of Section 43 of the MPRDA
Vehicle storage	Part of drilling footprint	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources
		NEMA 2017, GNR 327, Listed 1, Activity 22: The decommissioning of any activity (i) a closure certificate in terms of Section 43 of the MPRDA
Chemical storage	Part of drilling footprint	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources
		NEMA 2017, GNR 327, Listed 1, Activity 22: The decommissioning of any activity (i) a closure certificate in terms of Section 43 of the MPRDA
Diesel storage	Part of drilling footprint	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources NEMA 2017, GNR 327, Listed 1, Activity 22: The decommissioning of any activity (i) a closure certificate in terms of Section 43 of the MPRDA

Domestic waste facility	Part of drilling footprint	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources
Access road and drill traverses	< 0.4 ha	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right (a) associated infrastructure, structures and earthworks, directly related to prospecting of the mineral resources  NEMA 2017, GNR 327, Listed 1, Activity 22: The decommissioning of any activity (i) a closure certificate in terms of Section 43 of the MPRDA
Geological modelling		NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right
Feasibility study		NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right

# 2. Typical impacts of activities

- Vegetation loss a total area of 18 000 m² will be cleared for the prospecting
  activities and related structures during the course of operations. The impact can be
  regarded as low to medium, with no long term effects. If rehabilitation of these areas
  is done correctly full recovery of the environment is possible.
- Noise disturbance during the drilling operations is noise generated by the machinery. Again the noise will be much localized and should have no impact on the surrounding environment.
- Air quality loss dust will be generated during the drilling activities. The dust generated may have an impact on the air quality, but with localized effects and should not have an effect on the surrounding environment. For this the impact can be regarded as low.
- Soil pollution chemical soil pollution is always a possibility during mechanical operations. Working machinery and storage facilities bears a risk for chemical spillage and the impact thereof may be very severe.
- Soil compaction heavy vehicles driving off-road bears a great risk to the trampling
  of vegetation and the compaction of the soil. The drill site areas will also become
  compacted during the duration of the prospecting activities. If not rehabilitated

vegetation re-growth will be haltered and poses a low to medium risk to the environment.

- Littering pollution littering during the prospecting activities can happen and may have a low to medium impact on the environment depending on the type of littering and the remediation thereof.
- Water pollution chemical contaminated water from the storage facilities bears a risk to the environment. This impact should always be regarded as high and proper mitigation and/or remediation measures should be in place.

# 3. Duration of each activity

All of the listed activities will be occurring in phases and the time frame applied for at the Department of Mineral Resources is 3 years, which is the duration right being applied for.

Per listed activity:

Geological investigations
 Geophysical surveys
 Drilling
 ± 10 months
 ± 4 months
 ± 14 months

Sampling - concurrent with drilling
 Rehabilitation - concurrent with drilling

Ablution facility - concurrent with geophysical survey and drilling

Vehicle storage - concurrent with drilling
 Chemical storing - concurrent with drilling
 Diesel storage - concurrent with drilling
 Domestic waste facility - concurrent with drilling
 Roads and traverses - concurrent with drilling

Geological modelling - ± 4 months
 Feasibility study - ± 4 months

## 4. Details regarding intended operation

The exploration activities on the proposed project area will be done in various phases, which will include a detailed desktop study, geophysical and surface sampling as well as Diamond Core drilling to delineate the various commodity zones possibly underlying the property to determine minable resources.

## Phase 1

- Geological investigation
  - Literature research

Extract all relative information on the subject are area of interest via internet searches and visiting libraries of relevant universities to obtain a comprehensive background

# Arial photography

Obtain the relevant photos from Mobray and/or the Council for Geo-Science of the area and by studying it, mark all the recognized outcrops for field investigations

## Visit surrounding mines

Try to obtain permission to visit the surrounding farms and/or mines to obtain more knowledge of what can be expected at depth regarding the geological formations and ore characteristics.

## Geological overview

All results obtained during the previous phases and activities are communicated and explained within the geological overview. Within this report all data is summarized with recommendations on future work planned.

## Detailed exploration planning

Based on the information obtained during the previous work done a prospecting plan will be drafted, which will include the preferred geophysical method to be implemented and suggested survey lines.

#### • Phase 2

# Geophysical survey

The method decided will be based on knowledge obtained during the desktop study and will be applied on pre-defined survey lines to demarcate the sub-outcrop/s of the ore bodies.

## Geological overview

Linear mapping will be done and the geological overview updated to confirm the outcrops delineated during the aerials and the geophysical survey studies on possible identified outcrops not recognized earlier.

#### Surface sampling

Soil and stream sampling will be done to obtain the locality of the sub-outcrop/s of the Lower Critical Zone on the property

Sampling will be done according the specifications as set out in the Prospecting plan mentioned earlier.

## Sample analyses

Samples taken during the soil and stream sampling exercise are analysed for the applied commodities to identify the possible extent of the ore body down dip.

# Progress Report

A comprehensive report will be drafted as part of the annual report of the DMR&E and possible early investor.

## • Phase 3

## Drilling

The number of drill holes are not known at present, but is not foreseen to be more than 20 holes initially, as it can only be determined once the area underlain by the Critical Zone is known. The drill hole spacing and depth (for calculation purposes an estimation of 100 m is used) are also dependent on the geometry of the underlying commodity band/s, as well as the underlying geological structure/s.

The drilling will be done according the procedures as stipulated by ISO for ore resource determination.

# Logging and sampling

All drill holes will be logged every meter containing information such as hole locations, hole depth, ore depth and other geological structures encountered within the hole. The drill chips/core samples will be taken and stored within the appropriate containers and safeguarded for future referencing.

Portions of the drill chips/core representing the ore will be taken and placed in bags for sample analyses. Each sample will be marked with the hole number and the sample number. The sample number will also appear on the hole's log sheet for accuracy purposes of the programme and results to be obtained.

#### Rehabilitation

Rehabilitation will be done as suited for core drilling. Each hole will be cased and sealed, before the drilled overburden is backfilled into the hole. Each hole will be fully rehabilitated before commencing to the next drill location. In this way rehabilitation is time and cost effective.

## Sample analyses

The samples emanated from the drilling exercise will be analysed for resource grade calculations.

## Data input an mapping

All data obtained during the proposed activities will be digitally captured and already existing maps updated to five more detailed and accurate models of the study area.

## Geological Report

The progress report for the drilling done will be used to inform the resource geologist what needs to be done during geological modelling of the ore body. It will also be used during the 3<sup>rd</sup> year as part of the yearly report to the DMR&E.

## • Phase 4

## Geological modelling

A 3-D geological model will be created of the ore body/s, using all borehole information, to illustrate the geometry of the various ore body layers in relation to each other and the surface for later planning of mining activities.

## o Ore resources

The grades of the minerals sought after as analysed by the laboratory will be interpreted into the 3-D grade distribution and volumes of the ore, also called in in-situ grade. Cut-off values will be applied to obtain mineable resources.

#### • Phase 5

- o Feasibility study including:
  - a. Geological and mineable resources

Geological resources will be divided into indicated resources and proven reserves. The minable resources will be determined by applying various cuoff criteria such as grade, depth below surface and thickness.

## b. Financial models

Various cost models will be generated by interpreting cost structures into the geological model to determine payable mining zones. The latter will also be used to refine the mining model/s

# c. Business plan

A business plan will be drafted that will include all geological information, proposed mining plans and the various financial models to either generate further financial support by means of listing on a stock exchange or private investment.