SUMMARY OF THE PROPOSED PROSPECTING OPERATION.
PROJECT REFERENCE: NC 30/5/1/1/2/12906 PR

1. List of activities applied for

All prospecting and prospecting related activities for occurrence determination for the minerals Copper, Chrome, Tin, Tungsten and Zink by means of geological investigations, non-invasive surface sampling and drilling:

NAME OF ACTIVITY	ARIAL EXTENT OF THE ACTIVITY HA OR M²	APPLICABLE LISTING NOTICE
Geological investigations		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	21 931.7491 ha	NEMA 2017, GNR 327, Listed 1, Activity 20: Any activity including the operation of that activity which requires a prospecting right …
Surface sampling	Total: ± 0.05 Per hole: > 0.00005 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 a mineral resource …
Ablution facility	Total: 0.0008 ha Per site: 0.0004 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 a mineral resource … 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 …
Drilling		
Drilling	Total: 0.12 ha Per hole: 0.004ha	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 a mineral resource … 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		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 a mineral resource …
Rehabilitation	0.12 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	Total: 0.004 ha Per site: 0.0004 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 a mineral resource … 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		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 a mineral resource … 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		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 a mineral resource … 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		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 a mineral resource …

		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		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 a mineral resource …
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 a mineral resource … 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 5 748 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 5 years, which is the duration right being applied for.

Per listed activity:

- Geological investigations - ± 10 months
- Geophysical surveys - ± 7 months
- Surface Sampling - ± 7 months
- Drilling - ± 12 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 - ± 5 months
- Feasibility study - ± 10 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 Reverse Circulation Percussion and 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 30 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.

    Drill will be as follows:- RC drilling will be done from surface to penetrate through the overburden where after the hole will be cased and the formations containing the commodity layers will be core drilled. 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 both percussion and 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 3rd 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.

  - 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
  - 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 cu-off 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.