NAME OF APPLICANT: **Meepo ya Mmu Mineral Resources (Pty) Ltd**

REFERENCE NUMBER: **MP30/5/1/2/2/10029MR**

SCOPING REPORT

SUBMITTED WITH DUE REGARD TO

CONSULTATION WITH COMMUNITIES AND INTERESTED AND AFFECTED PARTIES

AS REQUIRED IN TERMS OF REGULATION 49 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT 28 of 2002), AND IN ACCORDANCE WITH THE STANDARD DIRECTIVE FOR THE COMPILATION THEREOF AS PUBLISHED ON THE OFFICIAL WEBSITE OF THE DEPARTMENT OF MINERAL RESOURCES.

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

A. Definitions

'consultation' means a two way communication process between the applicant and the community or interested and affected party wherein the former is seeking, listening to, and considering the latter's response, which allows openness in the decision making process.

'community' means a group of historically disadvantaged persons with interest or rights in a particular area of land on which the members have or exercise communal rights in terms of an agreement, custom or law: Provided that, where as a consequence of the provisions of the Act negotiations or consultations with the community are required, the community shall include the members or part of the community, directly affected by prospecting or mining, on land occupied by such members or part of the community.

'Interested and affected' parties include, but are not limited to; –

(i) Host Communities
(ii) Landowners (Traditional and Title Deed owners)
(iii) Traditional Authority
(iv) Land Claimants
(v) Lawful land occupier
(vi) The Department of Land Affairs,
(vii) Any other person (including on adjacent and non-adjacent properties) whose socio-economic conditions may be directly affected by the proposed prospecting or mining operation
(viii) The Local Municipality,
(ix) The relevant Government Departments, agencies and institutions responsible for the various aspects of the environment and for infrastructure which may be affected by the proposed project.

STANDARD DIRECTIVE

All applicants for, mining rights, in terms of the provisions of Section 29 (a) and in terms of Regulation 49 (4) of the Mineral and Petroleum Resources Development Act, directed to submit report strictly in accordance with the following format and subject headings, and as informed by the guideline posted on the Departments Official Website, within 30 days of notification by the Regional Manager of the acceptance of such application.

1. **The methodology applied to conduct scoping**,

1.1. Name the communities as defined in the guideline, or explain why no such community was identified.

Papkuilfontein Community.

The contact person is ward councillor Leah Huma.

1.2. State whether or not the Community is also the landowner.

The community is not the land owner, the land is owned by the Department of Land Affairs from whom the applicant is currently leasing the land.

1.3. State whether or not the Department of Land Affairs been identified as an interested and affected party

The Department of Land Affairs has been identified as an Interested and Affected party in addition to this they are also the registered land owner.

1.4. State specifically whether or not a land claim is involved

No land claim is involved. A letter from the Land Claims comission is attached in Appendix 2 Public Participation.

1.5. Name the Traditional Authority identified by the applicant.

The site does not fall under the jurisdiction of a traditional authority.

1.6. List the landowners identified by the applicant. (Traditional and Title Deed owners)

The Department of Land Affairs represented by Mr M.F De Kock

1.7. List the lawful occupiers of the land concerned

Meepo Ya Mmu Mineral Resource Pty Ltd

1.8. Explain whether or not other persons' (including on adjacent and non-adjacent properties) socio-economic conditions will be directly affected by the proposed prospecting or mining operation and if not, explain why not.

The proposed sand and clay mining on Portion 0 of the Farm Papkuilfontein 469 JR in Bronkhorstspruit, will require security personnel, general workers and excavator operators. These jobs are not highly skilled and therefore unskilled individuals from the surrounding communities could apply for these positions. The individuals who will be employed will receive training and have an income. This would contribute to their long term upliftment and skill enhancement. It is not expected that thecurrent livelihoods or socio economic conditions of adjacent and non adjacent properties will be negatively impacted by the proposed activity.

1.9. Name the Local Municipality identified by the applicant.

Thembisile Hani Local Municipality

1.10. Name the relevant Government Departments, agencies and institutions responsible for the various aspects of the environment , land and infrastructure which may be affected by the proposed project.

Mpumalanga Department of Economic Development Environment and Tourism ,Department of Water Affairs (DWA); and Mpumalanga Department of Mineral Resources (DMR).

1.11. Confirm that evidence that the landowner or lawful occupier of the land in question, and any other interested and affected parties including all those listed above, were notified, has been appended hereto.

Please refer to Appendix 2 Public Participation

2. **A description of the existing status of the cultural, socio-economic and biophysical environment,** as the case may be, prior to the proposed mining operation; which description must include:-

Cultural: The site is highly disturbed due to the fact that it has previously been subjected to illegal sand mining . In light of this there is unlikely to be any intact cultural or heritage resource on site. The proposed development site is surrounded by farming activities and associated infrastructure as well as access roads.

Socio-Economic: According to Stats SA, ward three in which the proposed study area falls, is characterised by a high uneployment rate. at the last census count 2391 people in this ward were unemployed. The majority of people who were earning an income had an annual household income of R9,601 - R19,200, which means an average household subsists on a monthly income of between R800- R1,600. It is worth noting that, a large proportion (906) of people within the community where Meepo Ya Mmu intends to mine indicated in the last census that they had no regular source of income.

Biophysical:

According to Acocks (1988) the natural veld-type which occurs in the project area can be described as 'Bankenveld vegetation' and Sourish mixed Bushveld classified under the Grassland Biome. In terms of the new vegetation map constructed under the editorship of Mucina& Rutherford (2006) the study area falls within the Rand Highveld Grassland (Gm11). Other vegetation units in close proximity of the study area include the Eastern Highveld Grassland (Gm 12) and the Eastern Temperate freshwater.

The Rand Highveld Grassland lies within a highly variable landscape with extensive sloping plains and a series of ridges slightly elevated over undulating surrounding plains. When in a prestine state the vegetation is species-rich, wiry, sour grassland alternating with low, sour shrubland on rocky outcrops and steeper slopes. It is rich in plant taxa and constitutes sour grassland dominated by graminoid genera such as Themeda, Heteropogon, Eragrostis and Elionurus. The forb composition is equally diverse

and well represented by members of the Asteraceae family, while the woody community forms a typical, albeit sparse, component of the ridges.

However on the site large parts of this ecological type have been transformed by agriculture and urbanisation.

The rainfall for this area is described as erratic, occurring during summer, and ranges from 350 to 500mm per year. Temperatures vary between -5°C and 40°C, with an average of 21°C (Van Rooyen N & Bredenkamp G, 1996).

In terms of relief the site is characterised by moderately undulating plains and pans.

The study site falls within the Karoo Super Group, which is subdivided into four "series", namely, the Dwyka, Ecca, Beaufort and Stormberg (Visser DJL, 1989). The Karoo Sequence is made up out of sedimentary rock sand consists of:

- The main Karoo basin, which extends from the Western Cape Province eastwards to the Indian Ocean, and northwards into Limpopo;

- The Lebombo area;

- The Sprinbok Flats to the east of Modimolle, overlying rocks of the Bushveld Igneous Complex, and coal bearing especially in the area of Nylsvley; and

- The Waterberg coalfield directly to the north east and west of Lephalale.

The sequence was deposited in a vast intracratonic basin1, which attained its maximum depth in the south, with a few satellite basins to the north. The soil is mostly deep, greyish sand overlying granite, quartzite or sandstone. The soil variation can sometimes be quite large.

Refer to Appendix 1 Locality Map and Environmental Characteristic Maps

2.1. Confirm that the identified and consulted interested and affected parties agree on the description of the existing status of the environment.

Refer to Appendix 2 Public Participation

2.2. Describe the existing status of the cultural environment that may be affected

The site is highly disturbed by illegal mining activites that previous took place. Because of the anthropogenic influences in the area it is highly unlikely that any cultural effects of high, medium or low significance are existent within the development footprint area.

2.3. Describe the existing status of any heritage environment that may be affected

The site is highly disturbed by illegal mining activites that previous took place. Because of the anthropogenic influences in the area it is highly unlikely that any heritage effects of high, medium or low significance are existent within the development footprint area.

2.4. Describe the existing status of any current land uses and the socio-economic environment that may be directly affected

In terms of land use the area is predominately characterised agricultural, mostly stock farming but with maize and other arable crops grown there are also areas of vacant land and a few other sand mining activities in the greater area.

The economy of the area is mainly driven by agriculture,in terms of socio-econmics the current land use offers very little job opportunities to the community.

2.5. Describe the existing status of any infrastructure that may be affected.

At present the site where the proposed mining is to take place is vacant. However there is a store room and a fully equiped workdshop on site this infrastructure will not be affected by the proposed development.

2.6. Describe the existing status of the biophysical environment that will be affected, including the main aspects such as water resources, flora, fauna, air, soil, topography etc.

Water resources: The proposed development falls in Quaternary catchment B31A. Which is part of the the Olifants water management area. Groundwater occurrence in this water management area is entirely within fractures within the rock mass. Groundwater resources are generally limited with sustainable borehole yields often <0.5l/s, although higher yields (>3l/s) are found along fault and fracture zones. Water levels are variable and controlled by topographic position and tend to be between 10mbgl in low lying areas to >40mbgl in higher topography. The groundwater quality is generally good, Class 0 with conductivities <70mS/m.

Flora:

According to Acocks (1988) the natural veld-type which occurs in the project area can be described as 'Bankenveld vegetation' classified under the Grassland Biome. In terms of the new vegetation map constructed under the editorship of Mucina& Rutherford (2006) the study area falls within the Rand Highveld Grassland (Gm11).
The Savanna Biome (the largest biome in South Africa occupying approximately 46% of its area) is characterised by a grassy ground layer and a distinct upper layer of woody plants. One of the major factors delimiting this biome is the lack of sufficient rainfall, which inhibits domination of the upper layer. Most of the savanna vegetation types are used for grazing, mainly by cattle or game (Low & Rebelo, 1996). The Savanna Biome is represented, in this region, by Marikana Thornveld type vegetation. The Marikana Thornveld vegetation type is typified by open Acacia karroo woodland occurring in the valleys and undulating plains, and it is common for the drainage lines to be infested with aliens generally, Marikana Thornveld is considerably impacted, with 48% of the vegetation type being transformed.

Fauna:

There are 43 mammal species of conservation concern that occur in the district. Thirteen of these species are threatened with extinction and are on the Red List (classified as CR, EN or

VU). Seven of these species are only found in protected areas, game reserves or in private breeding programmes. These are the Tsesebe, Black Rhino, Roan Antelope, Sable Antelope, Cheetah, African Wild Dog and Lion. There are six mammal species on the Red List that have a restricted distribution in the study area and which survive independently of conservation efforts, i.e. are dependent on maintenance of natural habitat outside of protected areas. These are the Short-eared Trident Bat, Botswana Long-eared Bat, Peak-saddle Horseshoe Bat, Juliana's Golden Mole, the Giant Rat and the Pangolin.

There are 21 threatened bird species (CR, EN or VU) that are found in this area. They are found in a variety of habitats, although some patterns are evident. Large rivers, streams and wetlands provide important habitat for a number of species. Cliffs and mountainous areas are important for many species, including a number of vulture species. It is not expected that any of these species will occur on the site, but since they are all mobile species they are not restricted to one area and Woodlands and Savanna vegetation provide foraging habitat for many of the species, which thus could be found in the project area.

There are two vulnerable (V) reptile species that have a distribution that includes the study area, the Nile crocodile and the African Rock Python. Since no suitable habitat for crocodiles where found on site it is highly unlikely that it will be found on site.

Air:

Sulphur dioxide (SO2) is still being monitored by some local municipalities, who continue their monitoring programmes after the "National Network for Monitoring Smoke and SO2" was terminated. As air quality monitoring of sulphur dioxide is performed by individual industries and associations, trends for this indicator are therefore not readily available and it is therefore not possible to provide information for the study area at this stage .

Soil:

The study site falls within the Karoo Super Group, which is subdivided into four "series", namely, the Dwyka, Ecca, Beaufort and Stormberg (Visser DJL, 1989). The Karoo Sequence is made up out of sedimentary rock sand consists of:

- The main Karoo basin, which extends from the Western Cape Province eastwards to the Indian Ocean, and northwards into Limpopo;

- The Lebombo area;

- The Sprinbok Flats to the east of Modimolle, overlying rocks of the Bushveld Igneous Complex, and coal bearing especially in the area of Nylsvley; and

- The Waterberg coalfield directly to the north east and west of Lephalale.

Topography:

The study area is located at an altitude of ~1 440 metres above mean sea level (mamsl).

Rainfall and Evaporation:

The study area receives a mean average annual rainfall of ~686.5mm. Evaporation data indicates the annual average evaporation rate is ~2 069mm.The vast majority of the rainfall in the area occurs as thunderstorms in the warm summer months. Incidences of frost ranges from 10 to 35 days per annum.

Temperature:

Existing information indicates that the seasonal variation in temperatures represents a similar pattern to the seasonal rainfall with November to March being the warmest months with a mean average temperature ranging between 20.5˚C to 22.1˚C, while June and July are the coldest months with mean average temperatures decreasing to 11˚C. During winter, the minimum monthly temperatures drop as low as 3.6˚C but seldom drop below freezing, with maximum temperatures of around 19˚C. Minimum temperatures for the summer months vary around 15˚C, increasing to maximum temperatures of around 27˚C

2.7. Provide any relevant additional information.

3. **Identification of the anticipated environmental, social or cultural impacts, including the cumulative impacts, where applicable.**

3.1. Provide a description of the proposed project including a map showing the spatial locality of infrastructure, extraction area, and any associated activities.

Sand and clay is a basic material that is needed for construction and development projects. Five areas on the farm have been identified as containing significant sand resources. The total area that has been applied for is 1.5 hectares all of the proposed mining areas have been previously transformed and ploughed and used as pasture land for cattle, certain sections of the site has been illegally mined by illegal sand miners.

A structured method of mining and concurrent rehabilitation is planned. Rehabilitation will start immediately when mining has been completed on the first mining block. The area will be levelled and sloped and the topsoil will be replaced. The rehabilitated area will be ploughed and a cover crop established to stabilise the soil and protect it from erosion. The planned end use of the land is to rehabilitate it so that it can continue being used for agriculture and as pasture land. Refer to Appendix 1 Maps.

3.2. Describe any listed activities (in terms of the NEMA EIA regulations) which will be occurring within the proposed project.

The proposed sand and clay mining triggers listed activities in terms of the National Environmental Management Act (NEMA), 1998 (Act No 107 of 1998) and associated Environmental Impact Assessment (EIA) regulations. The activities applicable to this development are as follows:

18 The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock from

(i) a watercourse;

(ii) the sea;

(iii) the seashore;

(iv) the littoral active zone, an estuary or a distance of 100 metres inland of the high-water mark of the sea or an estuary, whichever distance is the greater.

22. The construction of a road, outside urban areas,
(i) with a reserve wider than 13,5 meters or,
(ii) where no reserve exists where the road is wider than 8 metres, or for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Notice 545 of 2010.

15. Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more;

20. Any activity which requires a mining right or renewal thereof as contemplated in section 22 and 24 respectively of the Mining and Petroleum Resources Development Act, 2002 (Act 28 of 2002).

National Water Act, (Act 36 of 1998)
Section 21(a) Taking water from a water resource;
Section 21(b) Storing water;
Section 21(c) Impeding or diverting the flow of water in a watercourse;
Section 21(i) Altering the bed, banks, course orcharacteristics of a watercourse;

3.3. Specifically confirm that the community and identified interested and affected parties have been consulted and that they agree that the potential impacts identified include those identified by them.
Refer to Appendix 2: Public Participation

3.4. Provide a list and description of potential impacts identified on the cultural environment.

3.4.1. Provide a list and description of potential impacts identified on the heritage environment, if applicable.
Heritage:
- **Construction activities could damage potentially existing heritage resources. The construction crew could**

come across historical and/or archaeological findings. The increase of human activities on the site could negatively impact on the heritage resources on the site.

3.4.2. Provide a list and description of potential impacts identified on the socio-economic conditions of any person on the property and on any adjacent or non adjacent property who may be affected by the proposed prospecting or mining operation.

Socio-economic:

- **The determination of the extent to which the current social status quo will be altered and if so, the manner in which such changes will occur.**

The construction and operational phase of the development will provide numerous job opportunities to the skilled professionals , less skilled trades as well as the unskilled and semi-skilled workers residing in the region. Due to the fact that the operation is envisaged to be in place for an extended period of time, this project will provide substantial employment opportunities for an extended period of time.

3.4.3. Provide a list of potential impacts (positive & negative) on: employment opportunities, community health, community proximity, and links to the Social and Labour Plan.

Job Creation:

- **Job creation in an area where the main source of income is generated through primary activities e.g. farming;**
- **Creation of job opportunities during construction and operation for residents of the region; and**
- **The provision of improved infrastructure (in terms of the upgraded excess roads) and social upliftment, by creating short term employment over a period and skills transfer to unskilled and semi-skilled unemployed individuals.**

3.4.4. Provide a list and description of potential impacts identified on the biophysical environment including but not be limited to impacts on: flora, fauna, water resources, air, noise, soil etc.

IMPACTS ON RATE OF EROSION OR SILTATION BY WIND OR WATER

The loss of topsoil will occur due to the initial vegetation clearing on site, the establishment of the mining operations on bare ground on site. These areas are highly susceptible to erosion as the lower density of vegetation reduces the energy dissipation effect on water flow. This effect will be more pronounced on slopes, therefore

increasing the erosion potential and the amount of sediment carried to the neighbouring waterways.

Site preparation phase
During site preparation, it will be necessary to clear the areas of vegetation, where the mining will be placed. The site will need to be levelled which will ultimately alter the natural soil structure. It will also be necessary to stockpile materials. The major impacts of vegetation clearance is the exposure of soil to the agents of erosion, as vegetation stabilises the soil and retards the impacts of wind, rain and in many instances man.

The atmospheric transportation and the deposition of the eroded material can lead to siltation. Erosion can be expected if this phase occurs within the rainy season and therefore may result in the loss of topsoil. The disturbance of vegetation will occur throughout the preparation phase through the mining phase.

Operational phase
The impact of soil erosion will become more pronounced if storm water management systems are not implemented appropriately. This would result in an increased flow towards the stream system in preferential pathways.

IMPACTS ON SURFACE WATER SYSTEMS

IMPACTS ON GROUNDWATER
The increased pollution of groundwater resources and or rivers/drainage lines (ephemeral rivers) and localised higher levels of atmospheric pollutants could result in contamination of groundwater resources in the region.

IMPACTS ON ECOLOGICAL CHARACTERISTICS
Development of sensitive habitat types and the impact of development on sensitive habitat types, such as from road infrastructure etc. This will result in the fragmentation of species and habitats associated with important landscape elements such as wetlands and ridges that function on a landscape scale as corridors.

DESTRUCTION OF FAUNAL HABITAT AND FAUNAL DISPLACEMENT
Destruction of faunal habitat and the displacement of species from their traditional home ranges during the preparation phases of the proposed development.

Faunal species could be displaced during the preparation phase. This could result in higher than normal social, grazing and browsing pressures on areas that would otherwise not have these impacts. This could result in degraded vegetation cover in areas where faunal species have moved to and a depauperation in the associated habitat i.e. from trampling, erosion, grazing or browsing and other forces.

REDUCTION OF NATURAL MITIGRATORY AND FAUNAL DISPERSAL PATTERNS

The introduction of barriers such as walls, buildings, roads and other infrastructure during the operational phase of the proposed development would have an impact on the natural migratory routes and faunal dispersal patterns.

Open pits and other infrastructure associated with the development may obstruct and constrict faunal dispersal and floral dispersal by limiting and funnelling natural dispersal patterns.

INCREASE IN EXOTIC VEGETATION

Landscaping associated with the development during the operational phase could cause an increase in the exotic vegetation on the site.

Operational Phase

Exotic vegetation may be introduced to the environment via gardening activities of the offices area who will be moving into the area. If no mitigation is present some of these plants may further spread into the surrounding area increasing the opportunity for exotic plants to invade the surrounding vegetation.

Processes such as urbanisation, acceleration of agricultural production and industrialisation have a drastic impact on terrestrial ecosystems through degradation, alteration of processes and the introduction (both intentional and unintentional) of many exotic species. In order to prevent the further destruction of the ecosystem, it is important to plan and co-ordinate human activities and development so as to include studies of the natural environment involving soil, water, floral, faunal and cultural or historical aspects.

DISTURBANCE OF FAUNA AND FLORA

Human encroachment and movement could disturb the occurrence of flora and fauna on the site. Fauna and flora within the area may be disturbed by the activities of people

on the site and on the property as a whole e.g. firewood collection, flower picking interfering with wildlife etc. This, if not controlled properly can lead to an impoverished ecosystem and reduction in biodiversity.

IMPACTS ON THE LANDSCAPE

Due to the topography, vegetation and existing land use, the area has a moderate Visual Absorption Capacity (VAC).

The removal of parts of the Bushveld and grassveld during the preparation stage,the fact that much of the land has been used for cultivation as well as the moderate VAC of the area and the moderate visual contrast will result in a limited landscape impact.

IMPACT ON CHANGE IN SURFACE COVER

At present, the surface cover of the site comprises mainly previously cultivated tracts of land moderately covered with, weeds,invasive Eucalyptus and wattle trees, bushveld and grassveld with unpaved acess roads and existing infrastructure.

Portions of the vegetated surface cover will be cleared to make way for the proposed development. The exposed soil and the presence of mining equipment, material stockpiles, site offices and construction camps will contrast in colour and form with the receiving environment. The moderate VAC of the receiving environment will leave the mining area exposed. The landscape impact will be moderate.

The mining areas will cause a noticeable change in character due to the lower VAC and the greater visual contrast between the construction site and the receiving environment. Overall the landscape impact is expected to be moderate.

AIR QUALITY:

Dust emissions will impact on the ambient air quality of the region and contribute to cumulative impacts of mine activities on the air quality (cumulative impacts are discussed in a later section).

SOIL EROSION:

During mining it will be necessary to clear portions of vegetation, where the development will be undertaken. The site will need to be levelled, which will alter the natural soil structure. The major impact of vegetation clearance is the exposure of soil to the agents of erosion, such as wind and water.

Large volumes of spoil material will be generated during the preparation phase whilst some of the material will be re-used for fill elsewhere on site, the spoil material generated will also be vulnerable to the agents of erosion, such as wind and water.

Erosion can be expected if preparation occurs within the rainy season and therefore may result in the loss of topsoil from topsoil stockpiles. The clearance of vegetation will reduce the capacity of the land surface to limit the flow of surface water, thus decreasing infiltration, and increasing both the quantity and velocity of surface water runoff and causing erosion.

NOISE

Noise levels within the area are expected to range from 40 dBA to 50 dBA.

Considering the general trend whereby sound power levels decrease by 6 dBA with every doubling of distance from the source, it is expected there will be a significant decrease with an increase in distance beyond 50m from the noise source.This in turn will mean that the noise impact will be minimal for surrounding land owners and community becasue the nearest dwelling structure to the proposed site is more than 150 metres away.

VISUAL IMPACT

Visual Assessment Criteria (VAC) ratings rates each criteria from high, medium to low according to the specific characteristics of those criteria lists for each project component the visual criteria rating and the visual impact of the component on these areas.

In Summary the Impacts of sand mining can be broadly clasified into three categories:

- **Physical**

The large-scale extraction of streambed materials, mining and dredging below the existing streambed, and the alteration of channel-bed form and shape leads to several impacts such as erosion of channel bed and banks, increase in channel slope, and change in channel morphology. These impacts may cause: (1) the undercutting and collapse of river banks, (2) the loss of adjacent land and/or structures, (3) upstream erosion as a result of an increase in channel slope and changes in flow velocity, and (4) downstream erosion due to increased

carrying capacity of the stream, downstream changes in patterns of deposition, and changes in channel bed and habitat type.

- **Water Quality**

Mining and dredging activities, poorly planned stockpiling and uncontrolled dumping of overburden, and chemical/fuel spills will cause reduced water quality for downstream users, increased cost for downstream water treatment plants and poisoning of aquatic life.

- **Ecological**

Mining which leads to the removal of channel substrate, resuspension of streambed sediment, clearance of vegetation, and stockpiling on the streambed, will have ecological impacts. These impacts may have an effect on the direct loss of stream reserve habitat, disturbances of species attached to streambed deposits, reduced light penetration, reduced primary production, and reduced feeding opportunities.

3.4.5. Provide a description of potential cumulative impacts that the proposed operation may contribute to considering other identified land uses which may have potential environmental linkages to the land concerned.

The sand and clay being mined will be transported by road. Due to the nature of the activity it is likely that there will be a cumulative increase in vehicular traffic within the mining area and just outside the boundary. The increase of heavy vehicle movements on National and Provincial roads which are in the vicinity of the proposed mining area will be a contributing fact towards cumulative impacts from an increase in traffic. Temporary access roads could also contribute significantly to dust impacts, spills and erosion and loss of soil resources.

The transport of materials, people and goods may present the only significant impact. The movement of vehicles on the local roads within the surrounding communities may result in damage to roads from movement of heavy vehicles. Despite the potential cumulative impacts from the traffic increase it is not anticipated that the impact will have a ranking higher than medium for as long as the internal road are not in close proximity to the adjacent communities. As long as the roads are internalised, it is not

anticipated that the cumulative impact of traffic will be significant.

4. Land use or development alternatives, alternative means of carrying out the proposed operation, and the consequences of not proceeding with the proposed operation.

4.1. Provide a list of and describe any alternative land uses that exist on the property or on adjacent or non-adjacent properties that may be affected by the proposed mining operation.

The immediate surroundings of Portion 0 of the Farm Papkuilfontein is surrounded by landuses such as agriculture, forestry and tracts of vacant land.

4.2. Provide a list of and describe any land developments identified by the community or interested and affected parties that are in progress and which may be affected by the proposed mining operation.

No land developments have been identified by the community and I&APs

4.3. Provide a list of and describe any proposals made in the consultation process to adjust the operational plans of the mine to accommodate the needs of the community, landowners and interested and affected parties.

The major proposal and concern of the community is that employees should be sourced locally.

4.4. Provide information in relation to the consequences of not proceeding with proposed operation

One of the options to be considered for this report is one of no development at all. This will entail leaving the site in its present state. The site is currently vacant. This would result in the site being unattended, uncontrolled and unmanaged which could subject the site to erosion and degradation from illegal sand mining by opportunistic individuals, as no control mechanisms will be in place to ensure that environmental consequences are kept at a minimum.

4.5. **a description of the most appropriate procedure to plan and develop the proposed mining operation** The applicant must:-

Develop a variety of mitigation measures that will serve to mitigate the scale, intensity, duration or significance of the impacts. These include guidelines to be applied during the preparation and operational phases of the project. The Environmental Management Plan (EMP) will contain more detailed mitigation measures and will be incorporated into the final Environmental Impact Assessment Report (EIR)

It is submitted that the proposed mitigatory measures, if implemented, will reduce the significance of the majority of the identified impacts to "medium - low", and that the proposed development should proceed.

The applicant must develop appropriate procedures in line with sensitive planning, design and good environmental management. Development of the sand and clay mine, should take the surrounding ecosystem into account and any identified buffers along this area must be honoured. The proponent is responsible for these phases of the development.

4.5.1. Provide information on its response to the findings of the consultation process and the possible options to adjust the mining project proposal to avoid potential impacts identified in the consultation process.

SOCIO - ECONOMIC:

Employement will be sourced from the immediate community for the unskilled labour.

HERITAGE:

A buffer of 100m around any sensitive archeaological or heritage features will be clearly demarcated and fenced off. Should any sensitive artefacts be uncovered during the construction phase, SAHRA and the police will be notified. The prepration activities will cease pending the outcome of the specialists review.

NOISE:

Mining of the sand and clay will be limited to operational hours e.g. 06:00 until 18:00. No mining will be allowed on Sundays and Public Holidays.

VISUAL:

The existing stand of trees located along the eastern extent of the proposed site will not be cleared so that it can serve as a berms, dust barries and visual barriers between the site and the neighbouring farm. This is so as to minimise the impact on the immediate neighbours.

TRAFFIC:

Construction heavy vehicles will only be allowed to make use of exisiting roads. No movement on undistrubed vegetation will be allowed.

Construction vehicles will not travel at speeds exceeding 30 km/h. Construction vehicles will always travel with their head lights switshed on. Movement of constrcution vehicles on public roads will be limited to off peak time periods, no heavy vehicles will be allowed to make use of public roads during peak time periods.

4.5.2. Describe accordingly the most appropriate procedure to plan and develop the proposed mining operation with due consideration of the issues raised in the consultation process.

The issues raised by the I&APs will be incoporated into the Environmental Management Programme (EMP) which becomes a legal binding document used for monitoring, measurement and management of construction procedures.

5. A description of the process of engagement of identified interested and affected parties, including their views and concerns

5.1. Provide a description of the information provided to the community, landowners, and interested and affected parties to inform them in sufficient detail of what the prospecting or mining operation will entail on the land, in order for them to

assess what impact the prospecting will have on them or on the use of their land.

Interested and affected parties (I&APs) were informed of that Meepo Ya Mmu Mineral Resources (Pty) Ltd intended to apply for authorisation to mine for sand and clay on the Farm Papkuilfontein, and in that regard notices were place in a newspaper and on site noticeboards that a joint public participation process in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) ("MPRDA"), the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA"),The National Water Act (Act No. 36 of 2008) ("NWA") was being undertaken. The personal emails and faxes also provided a Background Information Document (BID) which also contained a locality map. Interested and Affected Parties were also requested to register on the database as well as to submit any comments concerns and queries they had on the project.

For detailed information on stakeholder engagement and copies of the information sent out Refer to Appendix 2 Public Participation

5.2. Provide a list of which of the identified communities, landowners, lawful occupiers, and other interested and affected parties were in fact consulted.

Interested and affected parties (I&APs) representing the following sectors of society was identified:

- **National, Provincial and Local Authorities;**
- **Agriculture, including the local landowners;**
- **Community Based Organisations;**
- **Non-government Organisations;**
- **Water associations;**
- **Ward Councillors and adjacent land owners;**
- **Tourism;**
- **Industry and mining;**
- **Commerce, and**
- **Research institutions**

for the detailed contacts lists please Refer to Appendix 2 Public Participation

5.3. Provide a list of their views in regard to the existing cultural, socio-economic or biophysical environment, as the case may be,

Refer to Appendix 2 Public Participation

5.4. Provide a list of their views raised on how their existing cultural, socio-economic or biophysical environment potentially will be impacted on by the proposed prospecting or mining operation;

Refer to Appendix 2 Public Participation

5.5. Provide a list of any other concerns raised by the aforesaid parties.

Refer to Appendix 2 Public Participation

5.6. Provide the applicable minutes and records of the consultations.

Refer to Appendix 2 Public Participation

5.7. Provide information with regard to any objections received.

Refer to Appendix 2 Public Participation

6. Describe the nature and extent of further investigations required in the environmental impact assessment report, including any specialist reports that may be required.

Baseline Air Quality Assessment;

Surface and Groundwater Impact Assessment;

Ecological Impact Assessment;

B. IDENTIFICATIONOF THE REPORT

The report on the results of consultation must, at the end of the report include a certificate of identification as follows;

Herewith I, the person whose name and identity number is stated below, confirm that I am the person authorised to act as representative of the applicant in terms of the resolution submitted with the application, and confirm that the above report comprises the results of consultation as contemplated in Section 16 (4) (b) or 27 (5) (b) of the Act, as the case may be.	
Full Names and Surname	
Identity Number	

- END -