

MINUTES OF MEETING

PROJECT NAME: Proposed Kanakies Gypsum Mine- EIA EMPr Phase Public Meeting
DATE: 29 August 2018
TIME: 09:00am
LOCATION: Loeriesfontein Community Hall, Loeriesfontein, Northern Cape

1 Attendance:

Name:	Initial:	Company / Farm / Institution:
Lelani Claassen	LC	Cabanga Environmental (Presenter)
Michelle Venter	MV	Cabanga Environmental (Minutes)
Jaco Erasmus	JE	Witkop Fluorspar Mine
Rassie Nieuwoudt	RN	Department of Water and Sanitation (DWS)
Isak Nel	IN	I&AP
A. Grobbelaar	AG	I&AP
Richard Mollat	RM	RH Books & Electronics
Johannes Molgas	JM	I&AP
Roslin Mouton	RM	I&AP
Jemeeq Souw	JS	I&AP
Neville Kleynhans	NK	I&AP
R. Dreyer	RD	I&AP
F. Dreyer	FD	Dreyer Trust
Z. Steenkamp	ZS	P.Z.G.T
Jan Johannes GCW	JJGCW	I&AP
Maria Strauss	MS	I&AP



Name:	Initial:	Company / Farm / Institution:
Rosa Van Zyl	RvZ	I&AP
Maria Louw	ML	I&AP
Johannes Swarts	JS	I&AP
David Okhuis	DO	DBM Businesses
Nick Basson	NB	Nick Basson Vervoer
Jacobus van Zyl	JvZ	I&AP
J. van Rooyen	JvR	I&AP
G. Gouws	GG	I&AP
Niklaas Nel	NN	LFT Beyers
N. Gouws	NG	I&AP
Laetitia Swarts	LS	I&AP
Willa Plaatjie	WP	I&AP

2 Opening & Welcome:

Witkop Fluorspar Mine is applying for environmental authorisation to mine gypsum. Cabanga Environmental is the independent consultant that is undertaking the application.

Lelani Claassen and Michelle Venter from Cabanga Environmental, and Jaco Erasmus from Witkop Fluorspar Mine which is the applicant, were present at the meeting.

3 Purpose of the Meeting:

Specialist studies have been undertaken and the purpose of the meeting was to provide feedback on the impacts and mitigation identified in the studies that were undertaken for the application. All the comments received at the meeting will be in the final report for submission to the Department of Mineral Resources.

4 Project Description:

The mineral to be mined is gypsum; gypsum is found in very shallow deposits: depth is 1.4- 2.5 m. Life of mine is 30 years. There are two types of gypsum that will be mined and sold, agricultural and industrial. The product will be trucked but investigations and negotiations to transport the product via rail are underway. A Rail line goes through the farm.

The entire mining right area (MRA) won't be mined. Roll over rehabilitation will occur, a cut made and before they go onto the next block it will be rehabilitated (backfilled).

Infrastructure will consist of two stockpiles, container offices, fuel storage area, workshop area and a jojo tank where water will be pumped from a borehole on site. Fuel storage will be appropriately lined so that nothing can seep into the ground water.

5 Principal Laws & Applications:

According to the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (MPRDA) Witkop will need a Mining Right in order to mine. According to the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) they need a license and a management plan before they can continue with the development of the Project.

The Applicant (Witkop) must ensure that none of the impacts from the operation are detrimental to the environment, and adequately management or avoid the impacts potentially associated with their proposed mining project. This assessment is undertaken by Cabanga as the independent Environmental Assessment Practitioner (EAP) and the entire process takes 300 days.

The National Environmental Management, Waste Act, 2008 (Act No 59 of 2008) (NEMWA) stipulates that any activity that creates waste like mine waste that can have a negative environmental impact, must be assessed and authorized before it can continue.

The National Water Act, 1998 (Act No. 36 of 1998) (NWA) identifies water uses that must be authorized before being undertaken. Some are obvious water uses such as abstraction of borehole water, but if the mining or related activity is within 500 metres of a watercourse, water use authorization is also required.

There are no time restrictions for the pre-application process. The NEMA and NWA stipulates specific time frames that the Applicant, EAP and Authorities have to comply with.

5.1 Current Environmental Applications:

- Minerals and Petroleum Resources Development Act
 - Mining Right required to access the minerals
- The National Environmental Management Act
 - Environmental Authorisation required for Listed Activities
- The National Water Act
 - Water Use License Application Required

6 Environmental Authorisation Process:

An Application for Environmental Authorisation follows a Scoping and Environmental Impact Assessment (EIA) process. In total approximately 150 days are allocated for the completion of the Scoping and Environmental Impact Assessment, including the public review. This meeting is part of the EIA process. The authorities have approximately 150 days to consider the application and issue a Record of Decision.

The EIA EMP report is open for public review until 21 September 2018. All comments will be included in the final report that will be submitted to the Department of Mineral Resources (DMR).

7 Summary of Impacts and Mitigation

7.1 Soil, Land Use and Land Capability:

The existing railway that runs through the farm has affected the soil to such an extent that it can't be used for agricultural purposes. There are other types of soil on the site that allow for agriculture. The mine will only affect a small portion of the farm and the current land use will be able to continue on the rest of the farm. Soil needs to be looked after and managed, if it is not then vegetation is unable to grow in it and this in turn also affects surface and groundwater flow. If the soil isn't managed there can be an increase in dust in the area.

Impacts:

- Unnecessary clearing and removal of vegetation.
- Unnecessary placement of infrastructure and mining outside of the project area.
- Contamination from seepage and runoff.
- Soil compaction.
- Loss of land capability.
- Increased runoff, erosion and sedimentation.
- Change of nutrient status and chemical composition of soil.

Mitigation:

- Footprint of mine to be demarcated and restrict vegetation clearing to be within this area.
- Unnecessary surface disturbance of the identified Kimberly/Plooyburg soil forms can be avoided where possible to minimise the intensity of compaction due to their loamy sand texture.
- Spill prevention, emergency spill response plan, dust suppression, and fire prevention plans to be compiled before construction.
- Waste to be disposed of at a licensed facility.
- Discharge of potentially contaminated stormwater into the environment should be strictly prohibited on site. This is controlled by the Water Act.
- Contamination prevention measures should be implemented.
- Contaminated soils can be treated onsite using suitable soil ameliorants determined by a qualified soil scientist after a soil contamination assessment has been conducted.
- The product may be stockpiled but it may not stand for too long as erosion of the stockpiles could affect the receiving environment and sensitive receptors.
- Recovered soils should be re-used to rehabilitate the mine footprint following mine closure.
- Protected species that were relocated should be nourished at a nursery for use during rehabilitation phase.
- All disturbed areas can be re-vegetated with indigenous vegetation to re-establish a protective cover, to minimize soil erosion.

7.2 Surface Water Hydrology:

The Project site falls within the Berg-Olifants Water Management Area. Water is only present in the drainage lines during periods of rainfall. The major rivers falling within Berg-Olifants is the Olifants, Doring, Krom, Sand and Sout rivers.

Impacts:

- Sedimentation of downstream drainage/watercourses.
- Contamination caused by hydrocarbon fuel spillage.
- Reduction of catchment yield.
- Flooding causing damage to infrastructure and trenches if not outside the 1:100-year floodline or 100m buffer.

Mitigation:

- Vehicles services and usage of drip trays.
- Infrastructure should be placed outside of the 100 m stream buffer.
- Storm water management plan.
- Clean and dirty water separation as per GN704

7.3 Freshwater Resources:

Doring River, Krom River, unchannelled valley bottom, unbranching areas and ephemeral drainage lines are all within the site.

Surface water is only present during rainfall. This does not mean that if water cannot be seen that it is not there, there are ecological systems running under the surface water and soil. If one cannot see the surface water impacts, it doesn't mean that no impacts are taking place.

Impacts:

- Potential loss of wetland habitat and ecological structure.
- Changes to wetland ecological and sociocultural provision.
- Changes to wetland hydrological function and sediment balance.
- Potential spills and dumping of waste into soil and ephemeral drainage line.
- Migration of contaminants from untreated spills could pollute freshwater resources.
- Sedimentation, erosion and soil particles being destabilized thus when rainfall occurs sediment will be transported in the drainage line.

Mitigation:

- No waste must be permitted to enter wetland resources.
- Erosion must be monitored and managed (erosion berms).
- Spills to be cleaned up and hazardous chemicals stored on specified surfaces.
- Discharge of dirty water into the environment to be prevented.
- All mining infrastructure should remain far from the ephemeral drainage lines (as per designs in the EIA/EMP).
- Adequate stormwater management must be incorporated.
- Implement measures to contain seepage as far as possible to prevent contamination of the groundwater regime.
- Limit the footprint area to what is absolutely essential.
- No vehicles to be permitted to drive through wetlands and riparian systems.

7.4 Groundwater:

Groundwater is a very important aspect for this area. The mine is shallow and it will not intercept the groundwater. A hydrocensus was undertaken where boreholes were drilled and samples taken, to determine current groundwater quality and quantity. There are three aquifers in the area, a) the upper weathered material and gypsum layer, b) the underlying competent and fractured rock material, and c) the alluvial sand in the river channels.

Groundwater quality in the area is not good. Baseline water quality exceeded the South African National Standards for drinking water. Hydraulic conductivity study showed how fast the groundwater moves thus you can see how far water contamination can go.

Tests show that the material that will be handled on site is potentially acid-generating. Groundwater quality will be monitored to ensure the potential contamination plume does not affect adjacent water users or ecological systems, and measures implemented to prevent plume migration if necessary.

According to the groundwater study, material on site is classified as a Type 3 waste and this determines how they will be able to dispose of it. This impacts how and where the mine may dispose of the waste.

The contamination plume will spread 250m from the mining area in a down gradient direction. Contamination won't affect private boreholes according to modelling that was done.

Impacts:

- Acid mine drainage and salt concentration can negatively impact groundwater quality, and could also impact surface water quality if there is sufficient rainfall.
- Contamination plume (250m) – there is a possibility that the contamination plume will impact on the non-perennial tributary to the Doringrivier.

Mitigation:

- Streams, when flowing, are to be monitored. Flow management such as cut off-trenches located down gradient of the pollution sources and management of seepage will be implemented if necessary to contain contamination.
- Groundwater monitoring to occur for at least five years after mine closure to monitor the contaminant migration.
- Groundwater monitoring should be done monthly, and ideally the monitoring program should start a year before mining starts in order to be able to build a database that is not impacted by the mining activities.
- Drip trays must be used on leaky equipment, storage of potentially hazardous material will be within properly constructed and lined or paved areas and oil traps are to be utilized.

7.5 Flora:

The specialist started their study on a provincial level and went closer to identify the type of vegetation on site. There are 17 species of conservation concern that were identified on the site. The mine will have to apply for permits to relocate them. Different habitats occur in the area. The area where the railway line is has been transformed and does accommodate sensitive flora. Then there are areas of Intact Vygieveld and Overgrazed Vygieveld. The area with the ephemeral drainage line has been excluded from the area to be mined.

Impacts:

- Permanent loss of floral habitat.
- Permanent loss of and altered floral species diversity.
- Encroachment of alien invasive species which can lead to:
 - A decline in species diversity;
 - Local extinction of indigenous species;

- Ecological imbalance;
- Decreased productivity of grazing pastures; and
- Increased agricultural input costs.
- Permanent loss of floral species of conservation concern (SCC) and suitable habitat.

Mitigation:

- Edge effects (erosion and alien invasives) to be managed in adjacent natural areas.
- Floral SCC relocation to be kept to a minimum and no vegetation to be destroyed without reason. Permits required for relocation of SCC.
- Nursery where indigenous/endemic plant species and SCC must be propagated with focus on rehabilitation in conjunction with a suitably qualified specialist.
- A floral SCC relocation, monitoring and management plan must be designed and implemented by a suitably qualified specialist.

7.6 Fauna:

The specialist study identified one avifauna (bird) and one insect species of conservation concern on the site. It is easier for fauna to be relocated as they can move on their own as opposed to plants. In the management plan it is stipulated what to do if certain animals are encountered and what to do to minimize impact on fauna.

Impacts:

- Loss of biodiversity and habitat.
- Alien invasives impacting local floral and faunal species.
- Loss of faunal SCC.
- Illegal damage to fauna (including Poaching).

Mitigation:

- Vegetation clearing to take place in phases so that fauna can move out of the project area. Concurrent rehabilitation should be undertaken with mining activities.
- No fauna are allowed to be trapped, hunted or collected during any phases unless the intent is to rescue and relocate them (only to be done by a suitable specialist).
- No fires are permitted in the MRA.
- Edge effect control needs to be implemented within construction areas.
- 40km/h speed limit on dirt roads must be implemented to lower the possibility for faunal species to collide with vehicles.

7.7 Heritage and Paleontological Resources:

No graves or sites of heritage value were found.

No microfossils were or are expected to be found.

If resources are uncovered, activities may not and the Mine needs to call an archaeologist.

7.8 Air Quality:

No sensitive receptors (hospitals and schools etc.) were identified within 10 km of the proposed activities that could be affected by dust and emissions. Models were undertaken for construction and operational phases to see how far the impacts will spread.

Modelling of Dust (Total Suspended Solids) for construction and operation showed potential exceedances of the allowable dust-fall limits, but these were only within the mining right area.

PM10 (which represents the diameter of the particle) has expected exceedances based on modelling results in both construction and operation but they fall within the mining right area.

PM2.5 (which represents the diameter of the particle) has expected exceedances based on modelling results in both construction and operation but they fall within the mining right area. PM2.5 can affect the respiratory system.

NOx has exceedances but they are within the mining right area.

The Occupational Health and Safety Act controls air quality impacts inside of the mining right area by ensuring that people who may be exposed to dust, PM10, PMP2.5 and gaseous emissions wear the correct protective clothing.

Impacts:

- Increased dust fallout levels, PM10 levels and PM2.5 levels as a result of the following activities:
 - Construction Activities;
 - Land clearing;
 - Loading and offloading operations;
 - Material handling operations;
 - Conveying material;
 - Transportation of material off site;
 - Material storage: Stockpiling;
 - Crushing and Screening;
 - Wind erosion from exposed areas; and
 - Vehicle-entrainment on unpaved roads due to hauling.
- Increase in CO, NOx and SO2 from vehicle emissions are also expected.

Mitigation:

- Dust suppression (water sprays with chemicals).
- Wind breaks.
- Regular maintenance of vehicles.
- Regular cleaning and sweeping of paved roads to avoid dust accumulation and maintenance of haul roads.
- All material that is being transported should be covered during transport.
- Stockpiles susceptible to erosion must be enclosed.

7.9 Noise:

It is not expected that noise from the activities will be heard outside of the site. Contributing factors to noise are as follows:

- Vehicle and traffic along the surrounding road networks;
- Meteorological conditions (wind, rain etc.); and
- Animal noise (birds, insects etc.).

Impacts:

- Additional noise to the area with the increase in vehicle activity and mining associated disturbances (construction, reverse beeping etc.).

Mitigation:

- Sound mufflers to be used on vehicles.

- Reverse beeping to have a reverse flashing light if vehicles used at night.
- Workers to wear PPE (ear plugs) when near loud machinery.

7.10 Visual Resource:

Permanent residents are considered highly sensitive receptors and people that work in this area are considered moderately sensitive receptors. Due to the climate, the appearance and the perception changes with the change in season. The summer months appear muted whilst in winter (flowering season) there are more vibrant colours in the area. The area is regarded as rural, relatively flat to slightly undulating, with open canopy succulent shrubland where livestock grazing takes place. Observers can see a significant distance across landscape. The area is intrinsically dark.

Impacts:

- Impact on landscape character and sense of place;
- Visual intrusion and visual absorption capacity (VAC) impacts;
- Visual exposure and visibility impacts; and
- Impacts due to night time lighting.

Mitigation:

- Good housekeeping must be practised on site. No littering or dumping permitted, and rubbish bins to be provided for every phase of the project.
- Cleared vegetation areas to be kept to a minimum.
- The extent of all infrastructure footprint areas and permanent/ temporary structures must be limited to what is essential.
- Existing vegetation on periphery of MRA to be maintained.
- All vehicles to be maintained and waste storage areas to be screened from view.
- Stockpiles to be a maximum height of 3m.
- The use of permanent signs and project construction signs should be in accordance with the requirements of the project and mining regulations.
- Maintenance works to not take place during night or weekends.

7.11 Traffic:

The R355 and Transnet service road will be utilized. The study found that the paved roads in the area such as the R357 are in a fair condition. The gravel roads are not in a good condition, especially when there has been rain.

Impacts:

- Increase in traffic from mini buses, private vehicles, and heavy vehicles.
- Degradation in road being utilized by the above-mentioned vehicles
- Increase in incidences on the road from more vehicles on the road.

Mitigation:

- Enforce speed limits.
- Follow road rules.
- Trucks to not over take.
- Trucks drivers to undertake a driving safety course.

7.12 Social Aspects:

When people hear of a mine they flock to the area but with this project there isn't as many jobs as people may want.

Impacts:

- Employment & procurement opportunities.
- Influx of workers.
- Aesthetic and 'sense of place' Impacts to privately owned property.
- Health & Safety risks associated with mining:
 - Air quality (including dust & pollution);
 - Noise pollution; and
 - Increased traffic.

8 Way Forward

- Minutes of the meeting will be distributed to all registered I&APs.
- The EIA/EMP report is available for public review for 30 days (until 21 September 2018) at the Loeriesfontein Public Library and the Cabanga Website.
- Comments received will be addressed and incorporated into the final Report which will be submitted to DMR for consideration.
- Once the DMR have reached a decision on the Project, registered I&APs will be notified of the decision and appeal procedures.

9 Questions and Answers:

- LC opened the floor for a questions and answers session.
- The questions that were asked and subsequent discussion are summarised below.

Interested and Affected Party	Issues/Question raised	Response
Environmental Questions and Answers :		
Rassie Nieuwoudt (RN)	Fourteen permanent jobs. Is this just on the mine?	This is the permanent team (14 jobs). The mine will only have jobs during the daylight hours on a shift basis, they will be sourced from Loeriesfontein and Nieuwoudtville. There will also be additional peripheral jobs associated with transport of people, supplies and products, catering, accommodation etc. but these have not been specifically quantified.
	What about transportation?	Product transport will be 60 percent road and 40 percent rail. Witkop wants to use more of the railway than trucking. There will be 50 000 tonnes a year and 5 loads a day but they want to put product on the rail. The site is on a siding and Transnet can give the mine a train for transport. The Mine Management are currently in negotiations with Transnet. The clients for the gypsum are predominantly in the north.
	The mine won't be able to adhere to the SANS 241 as the baseline water quality is already bad. There needs to be samples undertaken prior to operation so that DWS can compare the results to the baseline results.	In the management plan it stipulates that the mine needs to start with water sampling as soon as possible so that there is baseline data before construction and operation starts. Tests found potential for AMD, this will only affect the

Interested and Affected Party	Issues/Question raised	Response
		<p>groundwater if it touches the groundwater table. If it does happen it will travel 250 metres.</p> <p>But the groundwater table is well below the depth of surface trenching.</p>
Niklaas Nel (NN)	<p>The type of gypsum being mined? Some make as ceiling boards? Same type?</p>	<p>That is not the primary market for this project. The Kanakies project market is for agricultural and industrial gypsum.</p>
I&AP	<p>Road transportation, enterprises; everything that happens affects the middle class. People in Loeriesfontein don't get seen and helped. Jobs get advertised in Vanrhynsdorp and Vredendal. Jobs need to be sourced from Loeriestfontein, not other areas like Gauteng.</p>	<p>People will be sourced locally and then if specialists aren't found locally, recruitment will have to commence further away, but the Mine will look for the required skills locally first.</p> <p>The Mine can't afford to transport people from Vanrhynsdorp so they will use people from Loeriesfontein and Nieuwoudtville. The Project is a small mine but it will be Witkop Fluorspar Mine that will find people to fill the positions.</p>
F. Dreyer (FD)	<p>What about supplying food for the mine?</p>	<p>The Mine won't have facilities on site therefore employees will bring in their own food and lunchboxes. I&APs are encouraged to keep an eye out for positions and opportunities that will be advertised locally.</p>

Interested and Affected Party	Issues/Question raised	Response
I&AP	Water use for the mine? The water is very salty.	Borehole water will be used but the Mine isn't sure, and might have to bring water in. The Mine would like to use water from the borehole on site for dust suppression and domestic use, 81 m3 a day. But the water quality is bad.
A. Grobbelaar (AG)	When will the mine start?	<p>The operation is seasonal, March to May in this area. If the Mine can't start next year they will have to wait another year for the season.</p> <p>The public review ends 21st September 2018, there is a copy at the Loeriesfontein Library. All comments from today will also be included. Cabanga should take approximately a week to update the report after the 21st September 2018 and then submit it to the DMR. The DMR have 107 days to evaluate the report and come to their decision, they may not take longer but they may take shorter. If the decision is positive and there are no appeals the mine may start with infrastructure establishment.</p> <p>They mine may not start operation until they have a water use authorisation.</p>

Interested and Affected Party	Issues/Question raised	Response
		<p>The Water Act has timeframes to stick to now, the entire process is about 300 days (maximum).</p> <p>One may not undertake a water use activity without a license.</p>
<p>If there are any other messages or comments please send it to us before 21st September it will be included in the final report.</p> <p>Meeting adjourned.</p>		