INTRODUCTION

Skorpion Mining Company (Pty) Ltd is currently managing a feasibility study to investigate the economic viability of mining a zinc, lead and silver deposit named Gergarub. The deposit is located near Rosh Pinah in southern Namibia (Figure 1).

The Gergarub development will be undertaken by Skorpion Mining Company in joint venture with Rosh Pinah Zinc Corporation based on their Memorandum Of Agreement (MOA, 2005) and other subsequent agreements concluded between them.

According to the Environmental Management Act (Act 7 of 2007) and its Regulations (January 2012), as well as international standards such as those of the International Finance Corporation, an Environmental and Social Impact Assessment (ESIA) is required for the project.

Enviro Dynamics cc was consequently appointed to conduct an ESIA for the development of the Gergarub Mine.

THE AIM OF THIS DOCUMENT IS TO

- inform you as Interested and Affected Party (I&AP) about the possible development of a mine near Rosh Pinah in southern Namibia;
- explain the Environmental and Social Impact Assessment (ESIA) to be conducted;
- invite you to identify and communicate possible opportunities and concerns about this development; and
- invite you to participate throughout the ESIA process to make it a success.

WHAT IS AN I&AP?

An individual or organisation with a personal or professional interest in the proposed development.
Figure 1: Location of the Gergarub deposit in relation to other landmarks
The study is being conducted parallel to and in close collaboration with the feasibility study currently underway.

This document contains the introductory information about the project and the ESIA process, which will be supplemented with further detail and communicated to I&AP’s for consideration as it becomes available.

BACKGROUND

Skorpion Zinc Mine

Skorpion Zinc Mine is located 25km north-west of the town Rosh Pinah in southern Namibia. Oxidized zinc ore, containing zinc oxides, zinc carbonates as well as zinc silicates is mined from an open pit. It is then processed and refined in a world class refinery operation at Namzinc refinery where 100% beneficiation is done into special high grade (SHG) zinc ingots on site. These ingots are ready for shipping to be used abroad (Figure 2).

Skorpion recently completed a drilling programme in its open pit which resulted in the lifespan of the Skorpion mine being extended from 2015 to 2016/17. Regional exploration for additional zinc deposits is continually undertaken.

Discovery of the Gergarub deposit

Even though no additional zinc oxides were revealed during exploration, the Gergarub zinc sulphide deposit was discovered in 2008 by Skorpion in Exclusive Prospecting License (EPL) 2616.

Oxide (O²⁻): An oxide is a chemical compound that contains at least one oxygen atom and one other element in its chemical formula.

Sulphide (S²⁻): A sulphide is a chemical compound that contains at least one sulphur atom and one other element in its chemical formula.

The bankable feasibility study is currently in an optimising phase and is therefore investigating all possible extraction methods. Both underground mining, which probably will be the predominant method, and open pit mining methods are being evaluated and further studies will be conducted to assess viability.

SITE LOCALITY

Gergarub is located on the farm Spitskop 111, along the C13 road between Rosh Pinah and Aus within the Oranjemund Constituency. It lies approximately 10km south-east of Skorpion Zinc Mine and 15km north-west of Rosh Pinah Mine.

West of the town lies Diamond Area 1, a diamond mining area controlled by Namdeb. This area lies within the Spergebiet, which is a national park. The east is
In order of increasing geological confidence, resource estimation can be sub-divided into two categories: inferred and indicated (Figure 3).

*Source: JORC*
Gergarub is divided into 5 zones and their deposits are individually estimated in terms of grade and tonnage. A large percentage of the resources in these zones are classified in the “indicated” level of confidence. Zones 2 and 3 are considered to be the heart of the project and contain approximately 12 million tonnes of ore.

Figure 5 below is a three-dimensional (3D) projection of what the deposit looks like underground. All five zones are shown and each is represented by a different colour.

The Australian Joint Ore Reserves Committee (JORC) Code provides a mandatory system for the classification of minerals exploration results, mineral resources and ore reserves in public reports according to the levels of confidence in geological knowledge and technical and economic considerations.

Present JORC-compliant resource estimate for Gergarub:

- **Total:** 17.45 million tonnes Zinc
- **Average grade:** 8.6% Zinc
- **Cut-off grade:** 4% Zinc

Future potential exists to further extend this resource to:

- **Total:** 18 - 22 million tonnes Zinc
- **Average grade:** 8.5% Zn and 2.3% Lead

This will be sufficient to produce 1.29 million tonnes of ore per annum, for at least 15 years.

ORE GRADING

**Average grade:** On a global scale, Zinc ores typically contain 5% - 15% Zn on average.

**Cut-off grade:** Refers to the level of mineral in an ore where it is no longer economically feasible to mine it.
MINING AND PROCESSING

At the Gergarub deposit, zinc mineralised ore will be mined and processed to concentrates. All possible processing options are being evaluated to maximise the beneficiation and local value addition. Concentrates will potentially be transported to the nearby refinery, Namzinc, to be refined (Figure 5).

Currently, Skorpion has a refinery that treats only zinc oxides. A refinery conversion project has been initiated that will enable Skorpion Zinc to treat Sulphide concentrates and dispose of the tailings in a responsible manner.

Mining method

As feasibility studies are still underway, it has not yet been determined whether underground or conventional open pit mining or a combination will be implemented.

Should underground mining be opted for a combination of mining methods are required due to the depth and complex geometry of the orebodies. Stepped bord and pillar mining and cut-and-fill stoping are both viable options. The text box below describes these mining methods in greater detail.

If open pit mining is implemented the depth of the pit is estimated to reach 450m. Trucks and loaders will be used within the pit to mine the ore and it will then be hauled to the concentrator.

Mining methods

Stepped bord and pillar

is a variant of the room and pillar method where mined material is extracted across a horizontal plane, creating bords (alleys) and pillars. The pillars are larger in size than the bord (see Figure 6). The bords are extracted underground leaving the pillars to carry the weight. When the bord resources have been exhausted the pillars are then mined causing the roof to strategically collapse.

Cut and fill stoping

is a method used in steeply dipping or irregular ore zones. The ore is mined in horizontal or slightly inclined slices, and then filled with waste rock, sand or tailings.
**Concentrator**

To concentrate the ore it is first crushed. The purpose of this is to separate the minerals that contain the valuable zinc from the host rock that is non-valuable. Final consensus concerning the crushing circuit to be applied has not been reached yet; two circuits are currently being considered:

- A 3 stage crushing and a single stage ball milling circuit; or a
- Primary crusher plus a combination of a semi-autogenous grinding (SAG) and a ball mill.

Trade off studies will be undertaken considering the advantages and disadvantages of both options. Environmental impacts will also be considered.

Both processes incorporate crushing, milling and size classification circuits. Once the product is sufficiently milled, process water is added forming slurry which is transferred to a set of cyclones by a slurry pump. The cyclone overflow is fed to flotation cells.

The next process is flotation. Air and reagents are added to the slurry, forming froth. The ore attaches itself to the bubbles, floats upward and overflows into launders. In this way, the ore is removed via the froth and separated from the slurry. Lead ore is removed via an initial flotation stage and followed by the removal of zinc ore in a subsequent flotation stage. The material that does not float is referred to as the tailings.

Following flotation, the separated ore is dewatered by using thickeners, flocculants and filters to separate solids and water. The filtered concentrate is then ready to be transported to the refinery.

A summary of the abovementioned process is illustrated in Figure 7 below.

![Figure 7: Typical Concentration Process](image-url)

The estimated consumption per utility used in the concentration process is described below.
Table 1: Concentrator utility consumption

<table>
<thead>
<tr>
<th>UTILITY</th>
<th>ESTIMATED TOTAL CONSUMPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw water</td>
<td>0.75 m³/ton fed to the grinding mill</td>
</tr>
<tr>
<td>Electricity</td>
<td>22.8 kWh/ton_ore</td>
</tr>
<tr>
<td>Instrument air</td>
<td>500 Nm³/h</td>
</tr>
<tr>
<td>Plant air</td>
<td>&lt;660 Nm³/h</td>
</tr>
</tbody>
</table>

**Concentrator outputs**

The main outputs from the concentrator will be:

- Zinc concentrate – approximately 150,000 tonnes per annum dry concentrate
- Lead concentrate – approximately 30,000 tonnes per annum
- Tailings – approximately 750,000 tonnes per annum tailings (to be disposed of at the planned new tailings storage facility at the mine)

**INFRASTRUCTURE REQUIREMENTS**

**Power supply**

Nampower has been approached regarding power supply to Gergarub. It has been decided that:

- The existing Obib Transmission Station should be used.
- In addition, new 66 kV lines from Obib to a new site location and distribution station should be constructed.

The total distance of the new lines are approximately 9km. From the new distribution station the 11 kV reticulation is fed.

The current Rosh Pinah township supply point must be upgraded to 10MVA in order to accommodate for the increase in power demand due to the increase in housing requirements with the development. The existing reticulation line must be extended and minisubs installed to supply the new houses.

Energy consumption will increase by ±300 MWh/day and the monthly Maximum Demand (MD) could increase up to 20MW. The proposed power line route is shown in **Figure 8**.

**Water supply**

At present the town of Rosh Pinah, Skorpion Zinc Mine as well as Namzinc Refinery is supplied with water from the Orange River by NamWater. The following table shows the current collective water usage:
Current Water Supply and Usage

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Current water supply</td>
<td>14 Mℓ of water per day</td>
</tr>
<tr>
<td>Current water usage</td>
<td>8.5 Mℓ of water per day</td>
</tr>
<tr>
<td>Total spare capacity</td>
<td>5.5 Mℓ of water per day</td>
</tr>
</tbody>
</table>

Skorpion Zinc is planning future developments that will increase their water usage. This will in turn increase the total water consumption as indicated by the following table:

Future Water Supply and Usage

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Future water supply</td>
<td>14 Mℓ of water per day</td>
</tr>
<tr>
<td>Future water usage</td>
<td>11.5 Mℓ of water per day</td>
</tr>
<tr>
<td>Total spare capacity</td>
<td>3.5 Mℓ of water per day</td>
</tr>
</tbody>
</table>

Gergarub mine and concentrator will tentatively require 4 Mℓ of water per day, necessitating an increase in pumping and filtration capacity.

New water supply infrastructure would be required for:

- The new housing units in Rosh Pinah
- The extension of the existing water line to the new supply points for Gergarub

The planned water line extension and infrastructure layout is shown below (Figure 8).

Housing and employment

It is estimated that 450 employment opportunities will be created at the new mine. It has not yet been determined what the ratio of local to foreign employees will be but it can be assumed that most of the workforce will be from Namibia. Accommodation for the additional workforce will be provided in Rosh Pinah.

A study is currently underway to determine housing and accompanying infrastructure options that will be feasible. A separate ESIA will be conducted to ensure sustainable housing solutions.

National road

The location of the zinc deposit, if mined, necessitates the re-alignment of the C13 national road. The most likely route is shown in Figure 8. Other options as well as variations of the current one will be considered.

Proposed site layout: underground vs. open-pit scenarios

The proposed site layout for open pit and underground mining scenarios are indicated in Figure 8. These layouts are indicative, since the various facilities for both scenarios are still being investigated and locations have not yet been fixed.

For the open pit scenario, the processing plant site and mining office sites still need to be identified. A combination of mining scenarios may be opted for, i.e. underground and open pit, in which case the site layout will be affected accordingly.
Figure 8: Proposed Gergarub infrastructure and processing plant
**Mine infrastructure requirements at Gergarub**

The following facilities are needed:

- A trackless mobile equipment and machinery workshop, parking-and tyre bay
- A main surface workshop
- General engineering workshop facilities
- Offices on surface for the administration of the mining operations
- Additional housing: to be built in Rosh Pinah

**Processing and concentrator infrastructure requirements at Gergarub**

The infrastructure and bulk services needed at the concentrator are as follows:

- Operational offices, change rooms and ablution facilities
- Concentrator stores and workshop
- A new sewage plant closer to the Gergarub development, with the sewage purification system for the operating phase based on a staff complement of 400 persons in the production area over a 24 hour period

- Communications
  - Existing communications infrastructure is already 7 years old and operating at maximum capacity
  - Existing data link to be upgraded.

**Tailings dam**

In order to adequately deal with discarded process residue, the development of a tailings storage facility (TSF) is proposed in close vicinity to the envisaged mine.

A viable location for the concentrator TSF at Gergarub was determined by identifying and assessing three possible locations (Figure 9).
Site selection criteria described in SANS 0286:1998 (Code of Practice for Mine Residue) were used to determine which site would be suitable for the construction of the facility.

The criteria included considerations for:

1. Economics;
2. Environmental Impact;
3. Hazard and Risk;
4. Resource Utilisation; and
5. Technical Viability.

A ranking methodology was followed where the sites were each qualitatively evaluated with respect to the criteria above and then scored accordingly.

It was determined that Site 3 is the preferred location as it had the highest overall score and outscored the other 2 sites in environmental as well as engineering and economic risk considerations. Site 1 in particular will pose a high risk should the structure fail as it is located immediately adjacent to the mining and plant complex.

Table 3 summarises the major advantages and disadvantages associated with the preferred location, Site 3.

**Table 2: Site 3: Major advantages and disadvantages**

<table>
<thead>
<tr>
<th>MAJOR ADVANTAGES</th>
<th>MAJOR DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Located downwind from the main road: low dust and noise impact</td>
<td>High biodiversity impact</td>
</tr>
<tr>
<td>Lower visual impact on road users than other sites</td>
<td>Possible impact on downstream groundwater users</td>
</tr>
<tr>
<td>Low social and environmental impact should TSF fail</td>
<td></td>
</tr>
<tr>
<td>Minimal interference with surface infrastructure</td>
<td></td>
</tr>
<tr>
<td>No mining under facility</td>
<td></td>
</tr>
<tr>
<td>Most favourable site layout</td>
<td></td>
</tr>
</tbody>
</table>
**TSF design measures**

Designs for Site 3 will be commissioned shortly. TSF’s are usually designed taking into account:

1. The storage volume requirement
2. Physical and chemical characteristics of the residue
3. Transport and deposition methods
4. Containment method
5. Potential pollution content and release mechanisms
6. Location of the environmental receptors
7. Understanding of the pathway between pollution sources and receptors

Both surface and underground tailings storage scenarios are currently being considered. The preferred option depends on the finalisation of the mining and extraction processes. If stored on surface, a footprint area measuring 90 ha is required for a total storage height measuring 30-35m.

Risks associated with visual impact, wind direction (i.e. dust and habitat destruction) and tailings dam break can be largely avoided by underground placement. Design measures that can provide mitigation of associated risks arising from surface placement include the following:

- Dust suppression techniques. Mannheimer and Irish (2012) determined that a unique habitat downwind of the TSF (succulent shrub plain, Table 3) would likely deteriorate as a result of the deposition of wind-blown fine material if not addressed.
- Capping and lining systems. If capping and lining do not adequately address the risks, residue “fixing” by cementation is an alternative.
- Slurry transfer and deposition methods are to be determined by considering wind strength and direction, water availability and visual impact of the residue transport method.
- Appropriate design techniques are required for the volume and concentration of potential pollutants and mechanisms that may cause and aid pollution mobility.
- Aesthetic design so as to maximise the TSF’s rehabilitation potential. Also blend TSF with surrounding landscapes by considering various architectural designs (shapes).

---

**TAILINGS SURFACE STORAGE INFRASTRUCTURE REQUIREMENTS**

- Roads for access to the TSF
- Power supply to pump water to the plant
- A booster pump station to transport residue from the plant to the TSF
- Waste rock (possibly for impoundment purposes)
- Tailings storage facility
- Pollution control dam, paddocks and evaporation dam
- Return and delivery pipelines/conveyors
- Stormwater control measures
- A TSF water balance to minimise water usage
Figure 10: Gergarub infrastructure, processing plant, life zones (see Table 3), archaeological sites and prevailing wind direction.
Waste rock

A possibility exists for waste rock to be used as part of the TSF’s containment but is dependent on the mechanical properties of the tailings. Waste rock might also be used during backfilling but is dependent on which mining method is used. The quantity and relative impact of sourcing waste rock forms part of design optimisation at this stage.

Logistics

Skorpion Mining Company has commissioned a logistics study for the project. The study will consider

1) inbound logistics, i.e. transport of supplies “from the supplier to the mine”;
2) outbound logistics i.e. transport of the products of Gergarub mine/concentrate “from the mine to the customer”. The concentrate to be produced at Gergarub Mine is:

2.1 Zinc: 150,000 tonnes of Zinc Concentrate per annum, which must be transported either:
   - From Gergarub Mine to Skorpion Zinc (Trucks, conveyors, pumps etc.)
   - From Gergarub mine to port of Lüderitz (Truck or rail or combination)

   or

2.2 Lead: 30,000 tonnes of Lead concentrate per annum, which must be transported either:
   - From Gergarub Mine to port of Lüderitz (via truck, rail or combination)
   - From Gergarub mine to port of Walvisbay if Lüderitz cannot be used.

Transport alternatives for road, rail and port including all infrastructures required must be evaluated.

The logistics study will include a human resource transport plan to transfer staff from Rosh Pinah to Gergarub Mine and back.

DEVELOPMENT SCHEDULE

The Feasibility Study and ESIA currently underway are scheduled for completion in the first quarter of 2014.

Once all the necessary permits are in place, construction may commence later in 2014. Following a three year ramp-up, the Gergarub Mine will reach full capacity in 2018.
**RECEIVING ENVIRONMENT**

**Socio-economic environment**

The closest town to the Gergarub deposit is Rosh Pinah, a mining town situated within Namibia’s southernmost region, Karas. Karas is the least densely populated of the 13 regions of Namibia with only 0.5 persons per km². It covers 161,235 km², equivalent to 20 percent of the total surface area of the entire country.

The economy in the town revolves primarily around the two mines namely Rosh Pinah Zinc Corporation, which is operated by majority shareholder Glencore, and Skorpion Zinc, which is operated by Vedanta Resources.

Rosh Pinah is regarded as one of the fastest growing settlements in Karas. With an annual population growth rate of 2% it is estimated that the current population in Rosh Pinah is more than 12,000 people (Enviro Dynamics, 2011). However, according to the 2011 Census data, Rosh Pinah has an urban population of only 2,835 residents which means that the majority of people live in the town’s informal area.

Approximately 40% of the people residing in Rosh Pinah originally come from other regions in Namibia (particularly the northern and central regions) hoping to find work at the mines. Many of these mine workers provide the main source of income through remittance support of their families, and households in their region of origin.

**Biodiversity**

Although Rosh Pinah, Gergarub and Skorpion Zinc are located in remote southern Namibia, they lie within a very sensitive ecological area, next to the Spergebiet and close to the Richtersveld Transfrontier National Park. The mines are also located along the tourist route of visitors to these parks.

The landscape surrounding the Gergarub deposit is part of the Succulent Karoo biome. As the name suggests, this biome is characterised by succulents, both as shrubs and as dwarf shrubs. According to Mendelsohn, et al., (2009) the great diversity of plants found here makes this one of the most important botanical areas in Namibia and since many plants are endemic to the biome, the numbers of specially protected species are very high.

As a result of the highly endemic vegetation associated with the area it is expected that the area will also be rich in faunal diversity, particularly in terms of birds and reptiles, although some highly endemic macro invertebrate species are also known to occur in the area (Enviro Dynamics, 2011).

Preliminary studies by the specialists (Mannheimer and Irish, 2012) have indicated that there are six major life zones in the study area, as shown in Table 3 and Figure 10. They vary in sensitivity and restoration potential. Together with other factors, these sensitivities are being considered in the placement of the major infrastructure of the mine.
Table 3: Major life zones and their sensitivity and restoration potential.

<table>
<thead>
<tr>
<th>LIFE ZONE</th>
<th>SENSITIVITY</th>
<th>RESTORATION POTENTIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandy plains</td>
<td>Low to Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Stony plains</td>
<td>Medium</td>
<td>Low to Medium</td>
</tr>
<tr>
<td>Succulent plains</td>
<td>High</td>
<td>Low to Medium</td>
</tr>
<tr>
<td>Mountains and hills</td>
<td>High to Very High</td>
<td>Very Low</td>
</tr>
<tr>
<td>Windblown sand patches</td>
<td>Medium</td>
<td>Medium</td>
</tr>
<tr>
<td>Natural water points</td>
<td>High</td>
<td>Very Low</td>
</tr>
</tbody>
</table>

The specialists have determined that the mountains and hills life zone carry the most species of conservation concern and that many of them are not suited to translocation. It is recommended that development in these areas be avoided as far as possible (Mannheimer and Irish, 2012). The various life zones are indicated in Figure 10.

**Climate**

The climate is extremely arid and the ecosystem is driven by wind. The Nama Karoo receives less than 100mm annual rainfall occurring mainly during the summer.

Rosh Pinah is in a region that has between 50 and 75 fog days recorded each year. Fog is recorded when visibility is less than 1,000m.

**Ground and surface water**

The only natural surface water in the area is the Orange River. It forms the border between Namibia and South Africa and mouths at the Atlantic Ocean. Any impact on the Orange River would therefore have potential international implications.

The water supplied to Rosh Pinah Zinc Corporation, Skorpion Zinc and Rosh Pinah Village is abstracted with pump sets in a vertical water tower and pumped to a water treatment plant for purification before it is distributed for domestic use to Rosh Pinah residents. There is also a raw water pipeline from the abstraction tower to the Skorpion Mine.

Ground and surface water implications of the project are being studied in detail.

**Archaeology**

Specialist studies have determined that the Gergarub deposit is located within an area of high archaeological sensitivity. Seventeen sites of significance have been identified within the project area (Kinahan, 2013) as shown in Figure 10.

These sites can be divided into different types as indicated by Table 5 below.
Key potential risks and opportunities of this project include:

- Regional, Namibian and local economic boost.
- Increased employment opportunities.
- Increased informal settlement at Rosh Pinah with associated strain on services and institutional capacity.
- Increased incidences of HIV/AIDS, TB, and other health risks.
- Increased water and energy consumption.
- Pollution and acid generation potential due to risks of heavy metal spillage and leaching, particularly at the Tailings Storage Facility causing groundwater pollution.
- Dust creation with associated degeneration of vegetation and habitat.
- Loss of biodiversity and ecosystem services.
- Archaeological impacts.
- Visual impact of the tailings storage facility, pit and associated infrastructure.
- Surface drainage diversion, with associated erosion.

This list only presents potential impacts. During the full investigation phase they need to be assessed in further detail to determine their relevance and significance. More potential impacts may be identified during scoping when stakeholders provide their comments, and these will be incorporated into the above list and used to determine the final scope of the full investigation.

This information was used in the determination of a suitable location for the tailings storage facility and other mining infrastructure.

Every effort is being made to avoid highly sensitive sites. Should less sensitive archaeological sites remain within development zones, appropriate mitigation measures need to be explored including relocation.

Standard chance-find procedures are to be included in all contracts.

### Table 4: Types of archaeological findings

<table>
<thead>
<tr>
<th>TYPE OF FINDING</th>
<th>DETAIL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock Shelters</td>
<td>5 sites possibly contain stratified archaeological deposits.</td>
</tr>
<tr>
<td></td>
<td>The high concentration of rock shelters is very significant.</td>
</tr>
<tr>
<td>Various Surface Scatters</td>
<td>Stone artefact debris; ostrich eggshell; other remains</td>
</tr>
<tr>
<td>Stone Features</td>
<td>Includes 2 suspected grave sites</td>
</tr>
</tbody>
</table>
THE SCOPE OF THE ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA)

The scope of the current ESIA includes the mining and concentrating components of the development. This scope is indicated below by the red dashed lines. Environmental obligations regarding the refinery conversion will be addressed separately as the refinery forms part of Skorpion’s existing infrastructure.

The specialist studies envisaged to investigate the potential impacts identified so far are presented in Table 6 below. The Terms of Reference of specialists will be reviewed and confirmed once the Scoping Phase has been finalised.

Additional specialists will be appointed if necessary to address issues not covered yet.

The approach to the ESIA process is based on the Namibian Environmental Management Act (2007) and its Regulations (2012). IFC performance standards shall also be adhered to in order to achieve an internationally accepted document of bankable standard. IFC Performance Standards are globally recognized as a benchmark for environmental and social risk management in the private sector. More information on these standards which cover all spheres of the environment, be it ecological or social, may be found on www.ifc.org/PerformanceStandards.
A summary of the key elements of the ESIA process adopted for this project is as follows. The diagram also indicates the role of stakeholders and how they may participate during each phase.

### Table 5: Envisaged specialist work

<table>
<thead>
<tr>
<th>FIELD</th>
<th>SPECIALIST</th>
<th>ORGANISATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geohydrology</td>
<td>Desmond Visser</td>
<td>SRK</td>
</tr>
<tr>
<td></td>
<td>Pierre Botha</td>
<td>Geopollution Technologies</td>
</tr>
<tr>
<td>Surface hydrology</td>
<td>Bruce Engelsman</td>
<td>SRK</td>
</tr>
<tr>
<td>Geochemical assessment</td>
<td>Richard O’ Brien</td>
<td>SRK</td>
</tr>
<tr>
<td>(for tailings)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air quality</td>
<td>Mark Zunckel</td>
<td>u-Moya NILU Consulting</td>
</tr>
<tr>
<td>Noise</td>
<td>Brett Williams</td>
<td>Safetech</td>
</tr>
<tr>
<td>Health</td>
<td>Riettha Oosthuizen</td>
<td>CSIR</td>
</tr>
<tr>
<td>Socio-Economic</td>
<td>Carla Saayman</td>
<td>Enviro Dynamics</td>
</tr>
<tr>
<td>Visual quality</td>
<td>Norman van Zyl</td>
<td>Enviro Dynamics</td>
</tr>
<tr>
<td>Vegetation</td>
<td>Coleen Mannheimer</td>
<td>Coleen Mannheimer</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>John Irish</td>
<td>Biodata Consultancy</td>
</tr>
<tr>
<td>Archaeology</td>
<td>John Kinahan</td>
<td>Quarternary Research Services</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>Theo Wassenaar</td>
<td>African Wilderness Restoration</td>
</tr>
</tbody>
</table>

### ESIA PROCESS AND YOUR INVOLVEMENT

Optimisation
- Consider alternative sites (mostly tailings)
- Attend scoping meetings
- Comments on BID and Scoping Report

Scoping
- Issue identification
- Terms of Reference to Specialists
- Attend scoping meetings
- Make comments on BID and Scoping Report when circulated – have all issues identified at meetings and comments been included in the report?

Full investigation
- Specialist investigations to consider potential impacts
- Attend feedback meetings
- Make comments on the Draft ESIA and ESMP Reports when circulated

ESIA (Environmental and Social Impact Assessment) and ESMP (Environmental and Social Management Plan)
- Review the findings of the Draft Reports and communicate comments to the EIA Team
- Attend feedback meetings
- Make comments on the Draft ESIA and ESMP Reports when circulated
PUBLIC PARTICIPATION PROCESS TIMELINE

You are invited to attend the following public meeting:

At the Skorpion Sports Park on the 12th of November at 18:00.

Further focal meetings will be held in Rosh Pinah and Windhoek to which specific stakeholders will be directly invited.

Once the draft reports have been completed and are ready for circulation, you will be invited to comment.

Preliminary dates for circulation (subject to change) are as follows:

- Draft Scoping Report: Beginning of 2014
- Draft ESIA and ESMP: First quarter of 2014

REGISTRATION AS AN I&AP (INTERESTED AND AFFECTED PARTY)

Why register?

According to the Environmental Management Act (2007), a registered I&AP receives the right to access information about the proposed Gergarub Project, to feed comments into the ESIA process as it progresses and comment in writing on all written submissions made to the Environmental Commissioner by Enviro Dynamics. Your input will assist in ensuring that all significant information is considered in the investigations and that the study is complete.

Enviro Dynamics is obliged to circulate all draft reports to registered I&AP’s for consideration. Submitted documents have to include your comments and demonstrate how they have been incorporated. Once the documents have been submitted to the Environmental Commissioner, you may again comment within 7 days of notification that a written submission has been made or within 7 days of receiving access to a scoping report or an assessment report.

I&APs have to disclose any direct business, financial, personal or other interest that you may have in the approval or refusal of the application.

How to register

- Complete the registration form on the last page of this document. Kindly fax or e-mail this to Enviro Dynamics or hand in personally to a consultant at the consultation meetings of which the dates are indicated below.

- Contact us via e-mail or fax to expressing your interest in this project before the dates indicated below.
For more information, please contact:

Carla Saayman
Tel: 061-223 336 | Fax: 061-307 437
Email: carla@envirod.com
Cell: 081 142 4466 (sms only)

References


ii The Orange-Senqu River Awareness Kit: http://www.orangesenquar.org/challenge/infrastructure/small+scale+supply+groundwater+groundwater+namibia.aspx?print=1
I request to be registered as an Interested and Affected Party in respect of the proposed project. Please ensure that I receive all updates of information and that I am invited to the meetings, as well as kept fully informed of the Environmental Impact Assessment (EIA) process.

<table>
<thead>
<tr>
<th>Name:</th>
<th>Telephone:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization:</td>
<td>Fax:</td>
</tr>
<tr>
<td>Designation:</td>
<td>Email:</td>
</tr>
<tr>
<td>Postal address/City:</td>
<td></td>
</tr>
</tbody>
</table>

**My interest in this project:**

**Comments and matters of concern:**

<table>
<thead>
<tr>
<th>Signature:</th>
<th>Date:</th>
</tr>
</thead>
</table>

Please return this completed document (with all requested details) to:

**To:** Carla Saayman  
Socio-Economic Practitioner at Enviro Dynamics cc

**Fax:** +264 61 307-437  
Tel: +264 61 223-336  
Email: carla@envirod.com

**Address:** PO Box 4039; Windhoek; Namibia