

## 6.4 ENVIRONMENTAL IMPACTS MITIGATION – MANAGEMENT PLAN

### OVERALL OBJECTIVES OF THE EMP

The following overall environmental objectives have been set for the Penetrate Investment cc exploration and mining development project:

- To comply with national legislation and standards for the protection of the environment.
- To limit potential impacts on biodiversity through the minimization of the footprint (as far as practically possible) and the conservation of residual habitat within the mine area.
- To keep surrounding communities informed of farming activities through the implementation of forums for communication and constructive dialogue.
- To develop, implement and manage monitoring systems to ensure good environmental performance in respect of the following: ground and surface water, air quality, noise and vibration, biodiversity and rehabilitation.

#### 6.4.1 KEEPING EMPS UP TO DATE

This Environmental Management Plan (EMP) document is designed to meet legal requirements and avoid or minimize the impacts associated with the implementation of Penetrate Investment cc exploration and mining development. It is the intention that this EMP should be seen as a “living document” which will be amended during the operation, as the activities might change or new ones be introduced.

Should a listed activity(s) as defined in the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) be triggered (as a result of future modifications/changes at the mine), this EMP will be updated as a result of another EIA process as stipulated in the regulations.

#### 6.4.2 IMPACTS MANAGEMENT / MITIGATION MEASURES

**Table 11.** Impact on the Biophysical Environment – EPL site Access and use of vehicles

| Issue                                                                               | Management commitment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Phase |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Understanding who the stakeholders are</b>                                       | <ul style="list-style-type: none"> <li>• Maintain and update the stakeholder register, including stakeholders’ needs and expectations.</li> <li>• A representative database would include all relevant local government, service providers, indigenous populations, Traditional Authorities (TAs), NGOs or community-based organizations</li> <li>• Ensure that marginalized and vulnerable groups are also considered in the stakeholder communication process.</li> <li>• Record partnerships as well as their roles, responsibilities, capacity and contribution to development.</li> </ul> | All   |
| <b>Liaising with interested and affected parties at all phases in the mine life</b> | Devise and implement a stakeholder communication and engagement strategy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | All   |
| <b>Responsibility</b>                                                               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |

**Table 12.** Impact on the Biophysical Environment – EPL site Access and use of vehicles

| Impact Event                 | Disturbances on Biodiversity in respect to access tracks                                                                                                                                                                                                                                                                                                                                                                                        |     |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Desired mitigation outcome   | The objective of the mitigation in respect to impacts on biodiversity is to ensure that as much as possible, disturbance on biodiversity is avoided and prevented while the proposed prospecting activities is undertaken.                                                                                                                                                                                                                      |     |
| Proposed Mitigation Measures | <ul style="list-style-type: none"> <li>• Strict compliance with the Park Management guidelines and EMP is recommended in respect to managing incidental events;</li> <li>• Exploration activity must be limited to the pre-identified pegmatites belts within the EPL area</li> <li>• Unless necessary and agreed with the park management, no new access tracks shall be created and no lodging shall be allowed in sensitive zones</li> </ul> | All |
| Responsibility               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                       |     |

**Table 13.** Impact on the Biophysical Environment – Bulk sampling and ore extraction

| Impact Event                 | Disturbances on Biodiversity in respect to sampling and trenching activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Desired mitigation outcome   | The objective of the mitigation in respect to impacts on biodiversity is to ensure that as much as possible, disturbance particularly on wildlife (poaching) and flora (clearing / damage) species is reduced and or prevented.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| Proposed Mitigation Measures | <ul style="list-style-type: none"> <li>• Strict compliance with the Forestry Act and Regulations in respect to vegetation clearing, Park Management guidelines and EMP is recommended in respect to managing incidental events;</li> <li>• Should the proponent require clearing, removal and transplantation of any protected plant species – services of an appropriately qualified botanist / ecologists must be sought and relevant permissions obtained prior to any such activity being undertaken</li> <li>• A plant survey must be conducted and all protected species clearly marked and protected prior to setting-up any sampling site and or digging any trench for geological sampling</li> <li>• Exploration activity must be limited to the pre-identified pegmatites belts within the EPL area thus Unless necessary and agreed with the park management, no new access tracks shall be created and no lodging shall be allowed in sensitive zones</li> <li>• Temporary bins and spill kits must be provided to ensure that all waste material including hydrocarbons are well contained prior to final disposal at approved sites in either Otjiwarongo or applicable town</li> <li>• Unless in an emergency, no equipment (vehicles and drill rigs) should be serviced in the field thus preventing unnecessary spillage of hydrocarbons</li> <li>• reducing the spatial impacts to key areas of the EPL</li> </ul> |  |
| Responsibility               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |

### 6.4.3 IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT

**Table 14.** Impact on the Biophysical Environment – Waste Management (Effluent, Solid and Hydrocarbons)

| Impact Event                        | Waste generation and disposal                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Phase |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Desired mitigation outcome</b>   | The objective of the mitigation in respect to waste generation is to ensure that the best scenic value and integrity of the affected environment maintained and or enhanced by reducing chances of littering through proper use of waste management facilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |
| <b>Proposed Mitigation Measures</b> | <ul style="list-style-type: none"> <li>Environmental awareness is an important aspect of environmental management, therefore all project staff and service providers must be educated of the environmental compliance requirements and urged to comply accordingly on induction with the project site.</li> <li>Given that lodging is recommended to be at existing camp-sites and or lodges, this aspect shall be managed as part of the current property owners compliance requirements</li> <li>In the field, hydrocarbon waste shall be contained (in spill kits) and stored in appropriate heavy-duty plastic cabbage, transported to the nearest waste-oil recycling / solid waste disposal facility in Otjiwarongo or applicable town. A sufficient number of spill kits shall be acquired and strategically placed, particularly near every sampling site to ensure that timely response to any potential fuel and lubricant spills is conducted (should the project require any sampling activities to be undertaken). These shall include an on-site used oil disposal bin(s)</li> <li>Equally, effluent waste shall be managed in compliance with the lodging host's requirements, although during any sampling activities – temporary dry-pit toilet facility must be provided at every site.</li> </ul> |       |
| <b>Responsibility</b>               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |

**Table 15.** Environmental Impact: Human Health and Safety

| Impact Event                        | Prevention and mitigation of any health and safety hazards / risks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Phase |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Desired mitigation outcome</b>   | The objective of the mitigation in respect to health and safety hazards is to ensure that the health, safety and protection of both the project staff and community receive priority in terms of budgetary provision and compliance                                                                                                                                                                                                                                                                                                                                                                                                              |       |
| <b>Proposed Mitigation Measures</b> | <ul style="list-style-type: none"> <li>Strict compliance with the EMP is recommended in respect to managing incidental events;</li> <li>Carry sufficient First Aid equipment to ensure that minor injuries reduces need to access local health facility and therefore minimizing potential strain on local services</li> <li>Strict compliance with national health protocols as and when directive are issued in respect to any disease outbreak and or recurring pandemics such as HIV / AIDS and Pandemic Outbreak</li> <li>Strict ban on use of any toxic substances within and during the working environment must be prohibited</li> </ul> |       |
| <b>Responsibility</b>               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |       |

**Table 16: Impact on the Social Environment – Air and Noise Pollution**

| Impact Event                        | Disturbances to the social environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Phase |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Desired mitigation outcome</b>   | The objective of the mitigation in respect to ambient air quality and sense of place / noise and chance is to ensure that all possible receptors are identified and practical measures are put in place to reduce these impacts and or respond with appropriate mitigation to complaints                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       |
| <b>Proposed Mitigation Measures</b> | <ul style="list-style-type: none"> <li>• Strict compliance with the EMP is recommended in respect to managing incidental events;</li> <li>• Noise complaint register must be kept and maintained regularly with mitigation measures adopted accordingly.</li> <li>• All excessive noise generating activities must be strictly carried out during the day between 08h00 (am) and 17h00 (pm) week days only.</li> <li>• Conditions of the Environmental Clearance Certificate and Surface-use Agreement (with the relevant Traditional Authority and Town) must be accordingly adhere to.</li> <li>• As much as possible, it is recommended that vehicles with the most minimum footprint are used such as smallest excavator and or portable drill rig (drawn on a trailer).</li> </ul> |       |
| <b>Responsibility</b>               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |

**Table 16: Impact on the Social Environment – Culture, Heritage and Scenic values**

| Impact Event                        | Disturbances to the heritage and scenic value of the environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Phase |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Desired mitigation outcome</b>   | The objective of the mitigation in respect to impacts on cultural and archaeological heritage integrity is to ensure that at all times, project staff are vigilant of the potential to intrude, disturb and or damage important artifacts and therefore must avoid wondering onto any protected and or sensitive known or identified site.                                                                                                                                                                                                                                                                                                                                                                                                                                             |       |
| <b>Proposed Mitigation Measures</b> | <ul style="list-style-type: none"> <li>• Strict compliance with the EMP is recommended in respect to managing incidental events</li> <li>• Contractors working on the site should be made aware that under the National Heritage Act, 2004 (Act No. 27 of 2004) any items protected under the definition of heritage found in the course of development should be reported to the National Heritage Council <ul style="list-style-type: none"> <li>• The chance finds procedure as outlined in the EMP must be implemented at all times, and.</li> <li>• Detailed field survey should be carried out if suspected archaeological resources or major natural cavities / shelters have been unearthed during the proposed exploration and test mining operations.</li> </ul> </li> </ul> |       |
| <b>Responsibility</b>               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |

**Table 17: Impact on the Economic Aspect**

| Impact Event                        | Disturbances on social and economic aspects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Phase |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Desired mitigation outcome</b>   | The objective of the mitigation in respect to economic impacts relating to the proposed activity, is to ensure that potential negative economic impacts on other and existing land-use are prevented, reduced and or mitigated and the positive ones enhanced.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |       |
| <b>Proposed Mitigation Measures</b> | <ul style="list-style-type: none"> <li>It is critical that timely and continuous communication and dissemination of information with the local community is ensured to alleviate potential sense of social marginalization, drive gender equality and enhance the understanding and perception of the benefits associated with Penetrate Investment cc 's activities</li> <li>To enhance the positive impacts relating to marginal net benefits for the micro-economy (local residence of Otjiwarongo or applicable town Settlement and the region at large) and national economy at larger, legislative provisions to Affirmative Action and Labour Welfare must be observed</li> <li>It is strictly recommended that Penetrate Investment cc negotiates and signs a Surface Use Agreement detailing aspects of conduct and benefit distribution with all key stakeholder i.e. Traditional Authority, Park and other Operators or support institutions e.g. NGOs / CSOs)</li> </ul> | All   |
| <b>Responsibility</b>               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |

**Table 18: Site Closure and Rehabilitation**

| Impact Event                        | Disturbances on social and economic aspects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Phase   |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>Desired mitigation outcome</b>   | The Proponent will commit to establishing a rehabilitation plan as part of the mine closure plan. A conceptual mine closure plan with costing is under development must be compiled by InterContinental Mining in association with Enviro-Leap and forms part of the environmental compliance and monitoring programme.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |         |
| <b>Proposed Mitigation Measures</b> | <ul style="list-style-type: none"> <li>Penetrate Investment cc shall submit regular (bi-annual or annual Environmental Reports) to the relevant Ministry stating the exploration activities and environmental performance of the project.</li> <li>Staff of the MET or Ministry of Mines and Energy may at any time inspect the exploration area. Internal and external monitoring should involve InterContinental Mining's safety and environmental officer and members of the MEFT.</li> <li>Should the decision be taken that the project is not economically viable the area will be rehabilitated. The rehabilitation measures that are set out in the Rehabilitation Plan (to be compiled and approved by MEFT) are binding to all personnel on site including the crew and contractors.</li> </ul> | Closure |
| <b>Responsibility</b>               | Penetrate Investment cc and Moring Enviro Consultants (On contract basis)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |         |

**Table 19: Actions relating to stakeholder communication**

| Issue                                                                               | Management commitment                                                                                                                                                                                                                                                                  | Phase |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| <b>Development and maintenance of a Stakeholder engagement plan</b>                 | On obtaining the Environmental Clearance Certificate and other relevant authorization it is recommended that the proponent undertakes a stakeholder engagement process to develop a Communication and Monitoring Plan for continuous reporting and feedback                            | All   |
| <b>Understanding who the stakeholders are</b>                                       | Maintain and update the stakeholder register, including stakeholders' needs and expectations. Ensure that all relevant stakeholder groups are included building on pre-identified and registered I&APs.                                                                                | All   |
|                                                                                     | A representative database would include all relevant local government, service providers and contractors, indigenous populations, local communities, Traditional Authorities (TAs), NGOs, shareholders, the investment sector, community-based organizations, suppliers and the media. | All   |
|                                                                                     | Ensure that marginalized and vulnerable groups are also considered in the stakeholder communication process.                                                                                                                                                                           | All   |
|                                                                                     | Record partnerships as well as their roles, responsibilities, capacity and contribution to development.                                                                                                                                                                                | All   |
| <b>Liaising with interested and affected parties at all phases in the mine life</b> | Devise and implement a stakeholder communication and engagement strategy.                                                                                                                                                                                                              | All   |
| <b>Responsibility</b>                                                               | Penetrate Investment cc and Moring Enviro Consultants (On-contract)                                                                                                                                                                                                                    |       |

A stakeholder engagement plan is an important tool in ensuring that a good working relationship is maintained between the proponent and the community within which the activities are undertaken. It is crucial that this plan is developed in the same transparent manner and approach as the environmental assessment, and that it remains a living document which allows the stakeholder to engage with throughout the duration of the proposed activity.

Equally, it must be at all time readily available on request to all interested and affected parties for review and must provide clear procedures for how and where it can be accessed.

## 7 KEY ASSUMPTIONS, UNCERTAINTIES AND LIMITATIONS

Assumptions, uncertainties and limitations have been discussed throughout the EIA report and in the various specialist studies. The more significant of these included

The EIA focused on third parties only and did not assess health and safety impacts on workers because the assumption was made that these aspects are separately regulated by health and safety legislation, policies and standards, and that Mendi-RRS Joint Venture will adhere to these.

## 8 ENVIRONMENTAL IMPACT STATEMENT & CONCLUSION

While the proposed exploration activities stimulate economic development and diversification in order to further create employment opportunities and thus trickling benefits to the larger Namibian population, it also create opportunity for unprecedented negative impacts.