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ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT

TRANSPORTATION OF ZINC SULPHIDE CONCENTRATE FROM THE ORANJEMUND BORDER TO THE NAMZINC REFINERY, IN THE !KARAS REGION, NAMIBIA

PREPARED FOR:

skorpion zinc

JUNE 2021

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TITLE AND APPROVAL PAGE

Project Name:	The transportation of zinc sulphide concentrate from the Oranjemund border to the Namzinc Refinery, in the !Karas Region, Namibia.
Client Name:	Skorpion Zinc (Namzinc) (Pty) Ltd
Ministry Reference:	APP-002304
Authors:	Lester Harker, Laina Wilhelm and Jessica Bezuidenhout
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EXECUTIVE SUMMARY

This Environmental and Social Impact Assessment (ESIA) report presents the findings of an ESIA undertaken for the proposed transportation of zinc sulphide concentrate from the Oranjemund border to the Namzinc Refinery, in the !Karas Region, Namibia. This ESIA report was developed in accordance with the requirements of the Environmental Management Act (EMA), No.7 of 2007 and the Environmental Impact Assessment Regulation, No. 30 of 2012, gazetted under the Environmental Management Act, No. 7 of 2007.

The Skorpion Zinc mine and Refinery was placed under Care and Maintenance in May 2020 following slope failures in the open pit. This was deemed to have an economic impact on both the Rosh Pinah community and the Namibian economy as a whole. To prolong the life of the Skorpion Zinc facilities and to reduce the economic and social impacts of full-scale closure of the site, the Company is working on a project to convert the existing facility into a zinc sulphide concentrate treatment smelter. An application for an environmental clearance certificate was submitted for the conversion of the Skorpion Zinc Refinery. This was granted by the Ministry of Environment, Forestry and Tourism (MEFT) on the on the 31 August 2020 to 31 August 2023. The conversion and modification to the Skorpion Zinc (Namzinc) Refinery will enable the treatment of zinc sulphide (ZnS) concentrate that will be transported from their sister company Black Mountain Mining (Pty) Ltd, Gamsberg Mine, Northern Cape, South Africa.

Skorpion Zinc (Namzinc) (Pty) Ltd herein referred to as 'Namzinc' propose to transport 314 000 tonnes of zinc sulphide concentrate from their sister company Black Mountain Mining (Pty) Ltd for processing at their Namzinc Refinery located in Rosh Pinah, Namibia. A distance of 120 kilometres, from the Namibian-South Africa border, using interlink trucks. Due to the nature of transportation a limited number of jobs may potentially be created during the operation of the proposed project.

The processing of this material will produce an excess of 75 000 tonnes per annum of sulphuric acid as a by-product. This would then be transported within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz for export, by road over a distance of 293 kilometres. Within the existing warehouse at the port, a purpose-built storage facility will be constructed to store 15 000 tonnes of sulphuric acid.

As part of this environmental clearance certificate application, an ESIA has been undertaken to satisfy the requirements of the Environmental Management Act, No. 7 of 2007. This environmental assessment report and Environmental Contingency Plan (ECP) requested by

the MEFT shall be submitted to the relevant competent authority as part of the application for the environmental clearance certificate.

Through the ESIA process, the main identified risks to the environment was the potential for soil and surface water pollution, traffic impacts and increase in ambient noise levels thereby impacting human receptors along the designated proposed project's route.

The uncontrolled or incidental spillage of chemicals and or sulphuric acid, during the operation phase, was considered to be of moderate significance. In the unlikely event of an uncontrolled or incidental spillage contaminants could potentially enter the Lüderitz coastal environment causing disruption to marine life, as well as impacting marine habitats and surface water quality. The potential risk of spillages will be contained and managed in order to reduce contaminated surfaces and spread. Sulphuric acid will be stored in bulk tanks within the port's premises within the containment facility, to ensure that any possible tank failure will be contained within the bunded area of a 110% size.

For this project, noise and traffic impact assessments were conducted on the designated route between Oranjemund through the towns of Rosh Pinah, Aus and to Lüderitz. The transport route investigation and impact assessment conducted by Innovative Transport Solutions (Pty) Ltd, concludes that the expected additional truck trips that would be generated by the proposed project is relatively low (refer to Appendix E for a detail noise assessment report).

Noise sensitive receptors (NSR) generally include places of residence and areas where members of the public may be affected by noise generated by the project, such as vehicle traffic (from heavy and light vehicles), pedestrians and community activity contribute to the acoustic sources in the areas. The impact of an intruding anthropogenic noise source on the environment rarely extends more than 5 km. The potential noise sensitive receptors within the project area, include residential areas (i.e., Rosh Pinah, Aus and Lüderitz) and individual residential dwellings (i.e., farms and lodges). Industrial noise sensitive receptors are also located within the project area.

Based on the findings of the noise assessment, the proposed transportation related noise during operation is predicted to be within the IFC guidelines at all sensitive receptors on the designated route, however, project activities may potentially contribute to the increase in noise levels especially for a person with an average hearing acuity of less than 3 dBA (refer to Appendix F for a detail noise assessment report).

The overall increase in noise levels that may potentially occur at residential NSR due to project activities is expected to result in 'little' to 'medium' reaction with 'sporadic' complaints. A complaints register must be kept throughout the life of the operations of the project. The noise levels are predicted to exceed IFC guidelines at areas within a 200 meters proximity to the Port of Lüderitz due to the proposed construction activities. A complaints register must be kept throughout the life of the operations of the project including during the construction of the storage facility. The project activities for the construction and operational phase are envisioned to take place between 06:00-18:00. The decommissioning phase was not assessed but environmental noise impacts are assumed to be similar to construction activities. Noise impacts will cease post-closure.

With practical mitigation, emergency response and contingency plans and the implementation of the ECP, the potential project impacts can be managed and reduced to minimal effect. While impacts on human receptors from traffic and noise impacts is expected to be minor, prior awareness and communication about the project shall be encouraged. All other social and environmental receptors were scoped out of the assessment as significant effects were unlikely and therefore no further assessment was deemed necessary.

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DEFINITIONS AND ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
ALARP	As Low as Reasonably Practicable
DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Consultancy
ECP	Environmental Contingency Plan
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
EMP	Environmental Management Plan
ESIA	Environmental Social Impact Assessment
GRN	Government of the Republic of Namibia
GDP	Gross Domestic Product
HIV/AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
I&APs	Interested and affected parties
IFC	International Finance Cooperation
MAWLR	Ministry of Agriculture, Water and Land Reform
MEFT	Ministry of Environment, Forestry and Tourism
MoHSS	Ministry of Health and Social Services
MTW	Ministry of Transport and Works
NDP5	Fifth National Development Plan
NSA	Namibian Statistics Agency
NSR	Noise sensitive receptors
NTS	Non-Technical Summary
PPE	Personal Protective Equipment
TB	Tuberculosis
WHO	World Health Organization

1 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

Namzinc considers it expedient to undertake an ESIA for this project as part of their application process for environmental clearance to transport zinc sulphide concentrate from the Oranjemund border to the Namzinc Refinery, in the !Karas Region, Namibia.

The purpose of this report is to present the findings of the ESIA that was undertaken for the proposed project. The proposed project involves the transportation of approximately 314 000 tonnes / annum of ZnS concentrate, with 50% zinc content, the concentrate will be trucked via interlink trucks for treatment at the Namzinc Refinery as described in detail throughout the report.

ECCs terms of reference for this assessment was to strictly address potential environmental and social impacts, whether positive or negative, rate their relative significance, and explore alternatives for technical recommendations and identify appropriate mitigation measures for each impact identified.

This ESIA report and its associated appendices will be submitted to the relevant competent authorities and MEFT for review and a record of decision.

1.2 BACKGROUND

The Namzinc Refinery is located in the !Karas Region of Namibia, approximately 100 km north-east of Oranjemund and 20km north-west of Rosh Pinah. The Namzinc Refinery is situated inside the eastern boundary of the Tsau //Khaeb (formally known as the Sperrgebiet) National Park.

The modification of the existing refinery involves the construction of a roaster, gas cleaning, acid plant and leaching facilities. The Roaster converts the zinc sulphide concentrate into zinc oxide, under high temperature which would then be leached in the proposed leaching facility before being integrated with the existing refinery. During the roasting process sulphur combines with oxygen to produce sulphur dioxide, which in turn is processed to produce sulphuric acid as a by-product to the roasting process.

The primary source of zinc is the mineral sphalerite (ZnS), which is the source of about 90% of the world zinc production today. Metallic zinc has many uses in the industry, the primary uses of zinc are as a protective coating for steel (galvanizing), as alloys in die casting, as an alloying metal with copper to make brass and bronze, and in chemical compounds (e.g., zinc

sulphide) in rubber and paints. Some of the risks associated with the use of zinc are that powdered zinc may be explosive and may burst into flames if stored in damp places.

Namzinc will manage the program for the proposed project and engage with their business partners to ensure that the norms of health, safety and environment are met during the operational activities of the project.

The route from the Oranjemund border to the Namzinc Refinery is indicated in the locality map below for the proposed transportation (Figure 1).

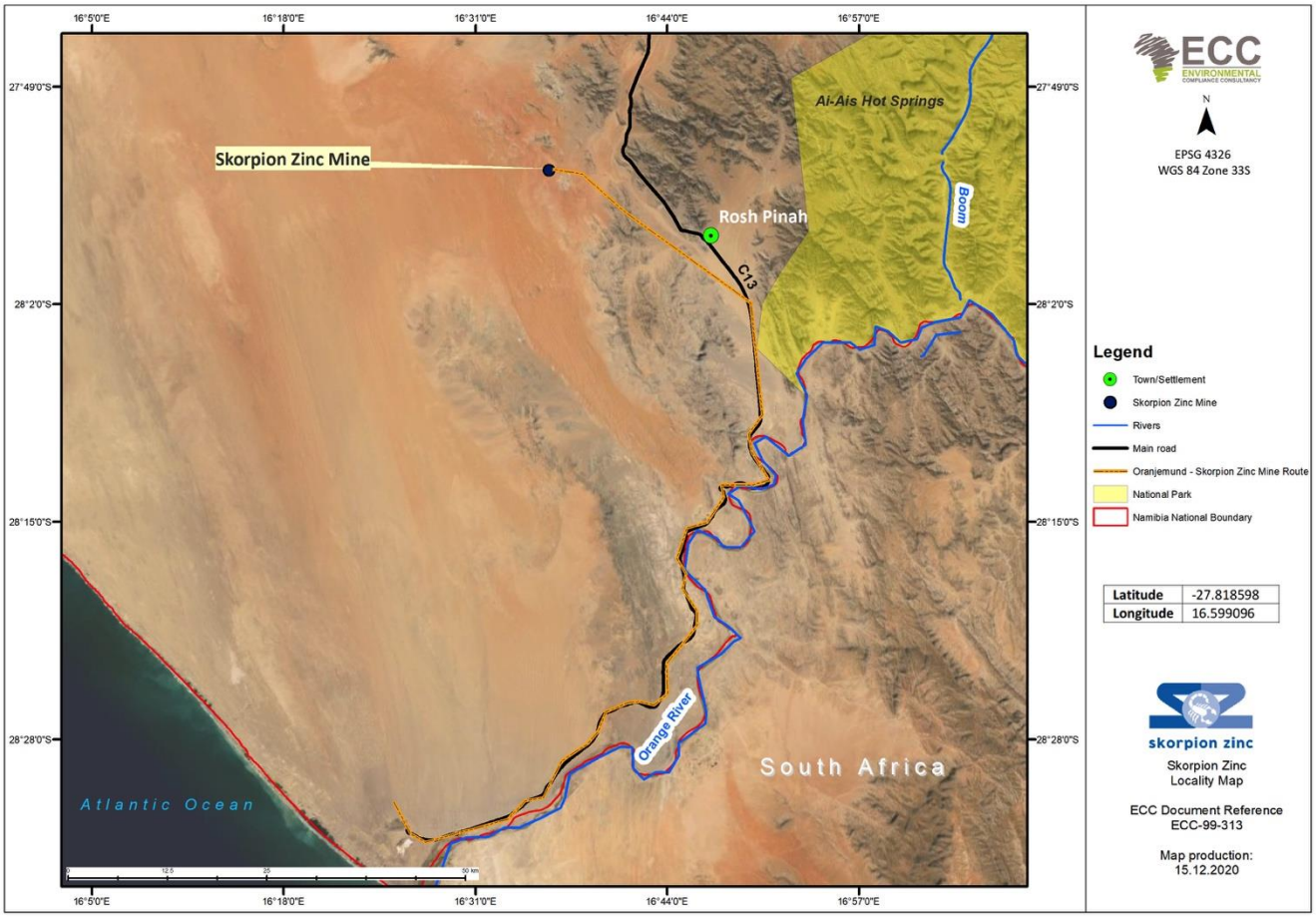

FIGURE 1 - LOCALITY OF THE PROPOSED PROJECT ROUTE FROM THE ORANJEMUND BORDER TO THE NAMZINC REFINERY.

1.3 SCOPE OF WORK

The assessment report has been prepared by ECC with a terms of reference to assess potential effects, whether positive or negative and their relative significance, explore alternatives for technical recommendations and identify appropriate mitigation measures.

This report provides information to the public and stakeholders to aid in the decision-making process for the proposed project. The objectives are to:

- Provide a description of the proposed activity and the site on which the activity is to be undertaken;
- Provide a description of the environment that may be affected by the activity;
- Identify the laws and guidelines that have been considered in the assessment and preparation of this report;
- Provide details of the public consultation process;
- Describe the need and desirability of the activity;
- Provide a high level of environmental and social impact assessment on feasible alternatives that were considered; and
- Report the assessment findings, identifying the significance of effects, including cumulative effects.

In addition to the environmental assessment, an ECP was requested by the MEFT in terms of the Environmental Management Act, No. 7 of 2007. An ECP has been developed to provide a management framework for the planning and implementation of the proposed project. The ECP provides development standards and arrangements to ensure that the potential environmental and social impacts are mitigated, prevented, minimised and/or enhanced as far as reasonably practicable, and that statutory requirements and other legal obligations are fulfilled.

The report, plus impact assessment, supported by specialist studies and appendices, will be submitted to the relevant competent authorities and the Directorate of Environmental Affairs (DEA) at the MEFT for review as part of the application for environmental clearance certificate.

1.4 THE PROPONENT OF THE PROPOSED PROJECT

The details of the proponent are set out in Table 1 below.

TABLE 1 - PROPONENTS DETAILS

CONTACT	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE
Namzinc (Pty) Ltd Mr. Tshiningayamwe Eliakim	Private Bag 2003, Rosh Pinah Namibia	ETshiningayamwe@vedantaresources.co.na	063 2712381

1.5 ENVIRONMENTAL CONSULTANCY

ECC, a Namibian consultancy (registration number Close Corporation 2013/11401), has prepared this scoping report and impact assessment on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa, in both the public and private sectors.

ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration for professional services rendered. The CVs of the authors of this report are contained in Appendix E.

All compliance and regulatory requirements regarding this ESIA report should be forwarded by email or posted to the following address:

Environmental Compliance Consultancy
PO BOX 91193
Klein Windhoek, Namibia
Tel: +264 81 669 7608
Email: info@eccenvironmental.com

2 APPROACH TO THE IMPACT ASSESSMENT

2.1 PURPOSE AND SCOPE OF THE ASSESSMENT

The aim of this assessment is to determine which impacts are likely to be significant (the main focus of the assessment); scope the available data and any gaps which need to be filled; determine the spatial and temporal scope; and identify the assessment methodology. Subsequently, scoping of the ESIA was undertaken by the EIA team. The scope of the assessment was determined through undertaking a preliminary review of the proposed project against the receiving environment obtained through a desk-top review and available site-specific literature, monitoring data and site reports.

2.2 THE ASSESSMENT PROCESS

The ESIA methodology applied to this ESIA has been developed using the International Finance Corporation (IFC) standards and models, in particular Performance Standard 1, 'Assessment and management of environmental and social risks and impacts' (International Finance Corporation, 2017) (International Finance Corporation, 2012); Namibian Draft Procedures and Guidance for EIA (Republic of Namibia, 2008); international and national best practice; and over 25 years of combined EIA experience.

This impact assessment is a formal process in which the potential effects of the project on the biophysical, social and economic environments are identified, assessed and reported, so that the sensitivity of potential impacts can be taken into account when considering whether to grant approval, consent or support for the proposed project.

Final mitigation measures and recommendations are based on the cumulative experience of the consulting team and the client, taking into consideration the potential environmental and social impacts. The process followed through the full assessment is illustrated in Figure 2 and detailed further in the following sections.

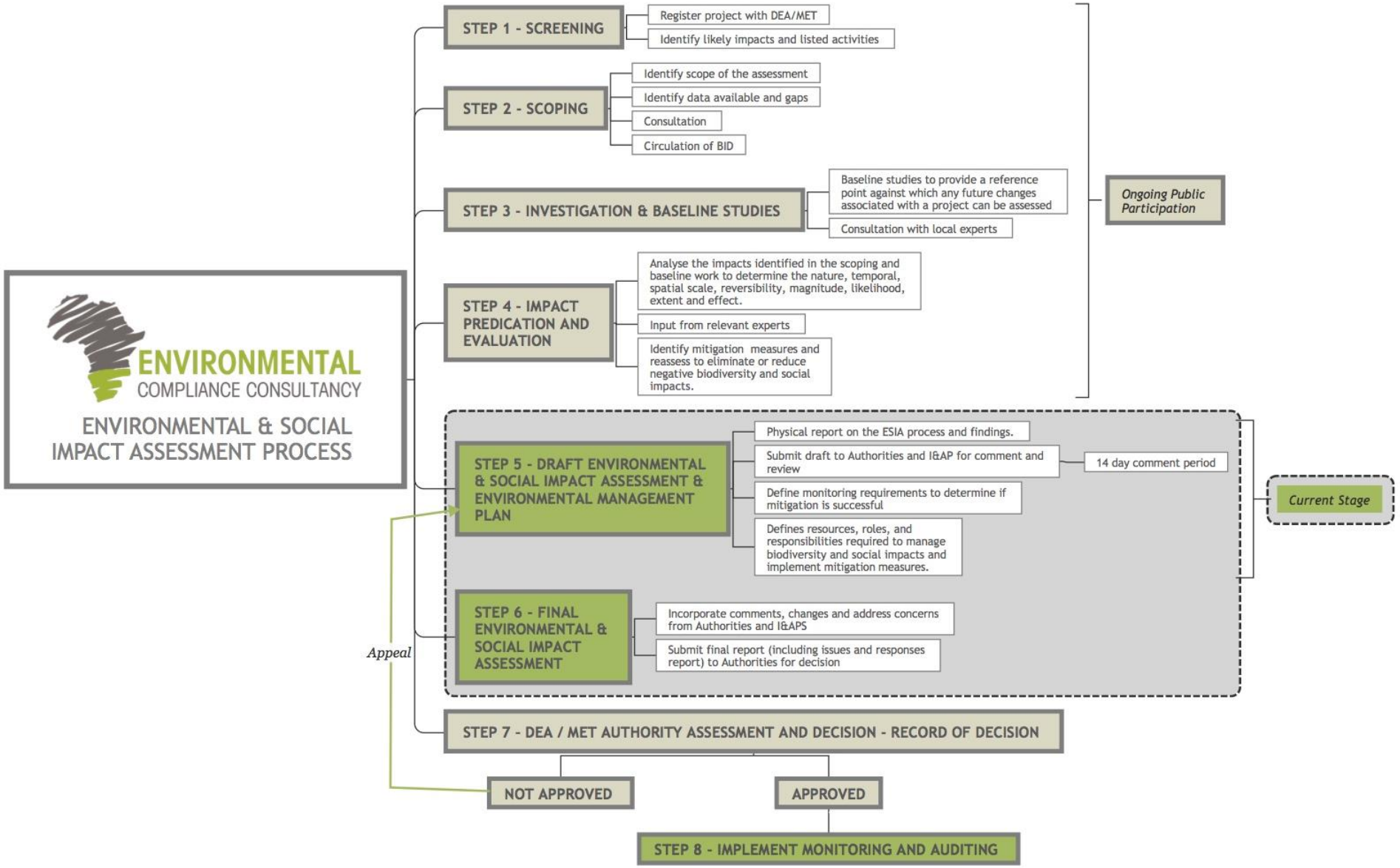

FIGURE 2 - ECC ESIA METHOD

2.3 SCREENING OF THE PROPOSED PROJECT

STATUS: COMPLETE

The first stages of the ESIA process are to register the project with the competent authority and undertake a screening exercise. The project has been registered on the MEFT's online portal. The registration number is APP-002304.

The screening exercise determines whether the proposed project is considered as a Listed Activity in terms of the Environmental Management Act, No. 7 of 2007 and associated regulations, and if significant impacts may arise. The location, scale and duration of project activities will be considered against the receiving environment.
It was concluded that an ESIA (e.g. assessment report and ECP) is required, as the proposed inclusion of transportation activities within the scope of the project is considered as a listed activity and there may be potential for impacts to occur.

2.4 SCOPING OF THE ENVIRONMENTAL ASSESSMENT

STATUS: COMPLETE

The purpose of the scoping stage in the ESIA process is to identify the scope of assessment, undertake a high-level assessment to identify potential impacts (with the assistance of community inputs), and confirm if further investigation is required to assign the severity of potential significant effects and allocate appropriate mitigation.

2.5 BASELINE STUDIES

STATUS: COMPLETE

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information from the current status of the receiving environment. This provides a baseline against which changes that occur as a result of the proposed project can be measured.
For the proposed project, the baseline information were obtained through a desktop study, focussing on receptors that could be affected by the proposed project and specialities studies such as a noise and traffic assessments were carried out. The baseline information is covered in Section 5.
A robust baseline is required in order to provide a reference point against which any future changes associated with a project can be assessed, and it allows for suitable mitigation and monitoring actions to be identified.
Based on the scale and type of project, the area of influence is regarded as limited to the road and its reserve from the Oranjemund border post to the Namzinc Refinery in Rosh

Pinah. Therefore, the baseline environment for this project is composed of the following aspects that should be described in detail and assessed:

- Surface water and ground water;
- Soils and topography;
- Socioeconomics (employment, demographics, and land-use);
- Noise;
- Ecology (fauna and flora);
- Air quality (emissions, pollutants and dust); and
- Cultural heritage (limited extent).

The existing environment and social baseline for the proposed project were collected through various methods:

- Desk-top studies;
- Consultation with stakeholders ;
- Engagement with Interested and Affected Parties (I&APs); and
- Fieldwork and Monitoring.

2.6 ESIA CONSULTATION

STATUS: COMPLETE AND ONGOING

Public participation and consultation are requirements in terms of Section 21 of the Environmental Management Act, No. 7 of 2007 and its regulations for a project that requires an environmental clearance certificate. Consultation is a compulsory and critical component in the ESIA process, aimed at achieving transparent decision-making, and can provide many benefits.

The objectives of the stakeholder engagement process are to:

- Provide information on the project to I&APs: introduce the overall concept and plan;
- Clarify responsibility and regulating authorities;
- Listen to and understand community issues, concerns and questions;
- Explain the process of the ESIA and timeframes involved; and
- Establish a platform for ongoing consultation.

2.6.1 INTERESTED AND AFFECTED PARTIES

All relevant authoritative bodies were identified and listed as I&APs, as well as organisations and individuals with an implied interest. Other I&APs were identified through invitations such as the newspaper advertisements and site notices. To all of these stakeholders a formal letter was sent via e-mail. The letter and the list of registered I&APs are provided in Appendix C.1. Consultation with I&APs is complete, however, the final ESIA report and appendices will be provided as a notice of submission to government.

2.6.2 NON-TECHNICAL SUMMARY

The Non-Technical Summary (NTS) presents a high-level description of the proposed project; sets out the ESIA process and when and how consultation is undertaken. The contact details for further enquiries are made available to all registered I&APS and the NTS can be found in Appendix B.

2.6.3 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed project and associated activities were circulated in in three newspapers namely in the 'Republikein, the Namibian Sun, and Allgemeine Zeitung' newspapers on the 10th and 17th of February 2021. The purpose of this was to commence the consultation process and enable I&APs to register an interest with the project. The adverts can be found in Appendix C. Further to this ECC sent out an email informing of the review period to all registered I&APs.

2.7 SITE NOTICES

A site notice ensures neighbouring properties and stakeholders are made aware of a proposed project. The site notices were set up along the proposed route or boundaries of the site during the fieldwork. Evidence of the site notice placement is illustrated in Appendix C.

2.8 PUBLIC MEETING

In terms of Section 22 of the Environmental Management Act, No. 7 of 2007 and its regulations, for the purpose of registering I&APs. A public meeting is not a requirement during the public consultation process for all proposed projects. As a result from the public consultation feedback and comments, a public meeting was not deemed necessary for this project either.

2.8.1 CONSULTATION FEEDBACK

The I&APs were encouraged to provide constructive input during the consultation process, which is ongoing at present. The public review of the scoping report was conducted during the period of the 28th April 2021 to 07th May 2021. The comments received from this public review period (if any) are listed in appendix C.1. and presented to Government as part of the final documents submitted for a record of decision for the project. The final ESIA reports will also be made available to I&APs. No comments or concerns were raised during this period.

2.9 METHODOLOGY FOR THE IMPACT ASSESSMENT

Desktop studies on the national database are undertaken as part of the scoping stage to get information on the current status of the receiving environment. This provides a baseline where changes that occur as a result of the proposed project can be measured. This is verified through site data collection.

The environmental and social topics that may be affected by the proposed project are described in this section. The baseline focuses on receptors, which could be affected by the proposed project.

2.10 DRAFT ESIA AND ECP

STATUS: COMPLETE

The ESIA report documents the findings of the assessment process, provides stakeholders with an opportunity to comment and continued consultation and forms part of the environmental clearance application. The ECP provides measures to manage the environmental and social impacts of the proposed project and outlines specific roles and responsibilities to fulfil the plan.
The scoping reports were provided to all registered I&APs to solicit their comments for inclusion in the final ESIA reports. During the allocated public review period, no comments were received.

2.11 FINAL ESIA AND ECP

STATUS: COMPLETE AND ONGOING

The full ESIA report will be submitted to the government and a notice of submission will be sent to the registered I&APs as per the requirements of the Environmental Management Act

of 2007, including the Environmental Impact Assessment Regulations, No. 30 of 2012. The aim of this stage is to ensure all stakeholders and I&APs are notified of the project's assessment progress and the findings submitted to the government for a record of decision to be made.
The final ESIA report and associated appendices will be available to all stakeholders on the ECC website www.eccenvironmental.com and the proponent's website https://www.vedanta-zincinternational.com/sustainability/emprs. All I&APs are informed via email.

The ESIA report and appendices are formally submitted to the Office of the Environmental Commissioner, DEA department, as part of the application for an environmental clearance certificate.

2.12 Authority Assessment and Decision Making

STATUS: FUTURE STAGE

The Environmental Commissioner in consultation with other relevant competent authorities will assess the findings of the ESIA. Upon review, the Environmental Commissioner will revert back to the proponent with a record of decision.

2.13 Monitoring and Auditing

STATUS: FUTURE STAGE

In addition to the ECP being implemented by the proponent, a monitoring strategy and audit procedure will be determined by the proponent and competent authority. This will ensure key environmental receptors are monitored over time to establish any significant changes from the baseline environmental conditions caused by project activities.

3 STATUTORY REQUIREMENTS

This chapter outlines the regulatory framework applicable to the proposed project.

3.1 NATIONAL LEGISLATION

TABLE 2 - LEGAL COMPLIANCE

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Constitution of the Republic of Namibia of 1990	The constitution clearly defines the country's overarching position in relation to the well-being of Namibians, sustainable development and environmental management. The constitution refers that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at the following: "Maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present, and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory."	The proponent is committed to engage with the local community for the proposed project. The proposed project will create local jobs as well as explore ways of finding beneficial opportunities that could contribute to the regional and national economies.
Environmental Management Act, No. 7 of 2007 and its regulations, including the Environmental Impact Assessment Regulations, No.	The Act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment. It sets the principles of environmental management as well as the functions and powers of the	This ESIA report documents the findings of the environmental assessment undertaken for the proposed project, which will form part of the environmental clearance application. The assessment and report have been undertaken in line with the requirements under the Act and associated regulations.

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
30 of 2012	Minister. The Act requires certain activities to obtain an environmental clearance certificate prior to project development. The Act states an ESIA may be undertaken and submitted as part of the environmental clearance certificate application. The MEFT is responsible for the protection and management of Namibia's natural environment. The Department of Environmental Affairs under the MEFT is responsible for the administration of the ESIA process.	
Soil Conservation Act, No. 76 of 1969 and the Soil Conservation Amendment Act, No. 38 of 1971	Makes provision for the prevention and control of soil erosion and the protection, improvement and the conservation, improvement and manner of use of the soil and vegetation.	The incidental spill risks were assessed for the proposed project, as part of the potential soil quality impacts.
National Heritage Act, No. 27 of 2004	The Act provides provision of the protection and conservation of places and objects with heritage significance. Section 55 compels companies to report any archaeological findings to the National Heritage Council after which a heritage permit needs to be issued	There are no known potential for heritage objects to be found on site. The chance find procedure will be practised should there be any heritage values found.

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Labour Act, No. 11 of 2007	The Labour Act, No. 11 of 2007 (Regulations relating to the Occupational Health and Safety provisions of Employees at Work promulgated in terms of Section 101 of the Labour Act, No. 6 of 1992 - GN156, GG 1617 of 1 August 1997)	The proposed project will comply with stringent health and safety policies, including the compulsory use of specific PPE in designated areas to ensure adequate protection against health and safety risks. Proper storage and labelling of hazardous substances are required, if used.
Draft Pollution Control; and Waste Management Bill (1999)	The Bill amalgamates a variety of legislative frameworks in Namibia, regulating pollution in different sectors of the economy. The Bill promotes sustainable development, to provide for the prevention and regulation of the discharges of pollution.	Although not enacted, the Bill has been applied to the ESIA to ensure any activities potentially giving rise to pollution are minimized as far as reasonably practicable and obligations are adhered to.
Dumping At Sea Control Act **Act No. 73 of 1980**	This Act provides for the control of dumping of substances in the sea and for permits to be issued to allow dumping at sea of scheduled substances	The proposed project will comply with stringent waste management measures and safe disposal of substances.
Road Traffic and Transport Act No. 22 of 1999	To provide for the establishment of the Transportation Commission of Namibia; for the control of traffic on public roads, the licensing of drivers, the registration and licensing of vehicles, the control and regulation of road transport across Namibia's borders; and for matters incidental thereto.	The proposed project involves transportation activities. The employees and business partners shall have to adhere to national road regulations. In addition, drivers are required to be fit for work and tankers should be marked as per the requirements of standard goods classification transportation.
Hazardous Substances	Applies to the manufacture, sale, use, disposal and dumping of	The proposed project involves the handling of sulphuric acid, which is

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Ordinance **Ordinance No. 14 of 1974**	hazardous substances as well as their import and export. Aims to prevent hazardous substances from causing injury, ill-health or the death of human beings	classified as a hazardous substance. The project will ensure employees in charge of and working with hazardous substances are aware of the specific hazardous substances in order not to compromise worker and environment safety.

The following laws are applicable to the project and will be complied with:

- The Labour Act, 2007 (Act No. 11 of 2007); and
- The Labour Act, 1992: Regulations relating to the health and safety of employees at work.

The proponent will develop a specific Safety Management and Emergency Response Plan for the operational activities of the proposed project, independent of the ESIA that will be in place prior to activities commencing. This plan will contain firefighting standard operating procedures amongst others.

The Ministry of Works and Transport (MoWT) implemented the Vehicle Mass Bill in order to decriminalise overload offences. The Bill also provides for the immediate payment of a security bond that equals the fine. The MoWT manages all driving licensing system, together with the necessary amendments to the Road Traffic and Transport Act, 1999. As such the MoWT is the competent authority for this project.

According to the Roads Authority Act (Act 17 of 1999), the statutory objective of Roads Authority is "To manage the national road network so that it is safe and efficient." Road Safety is a key output of the Roads Authority operations and in this regard, safety elements should be incorporated into the planning and operations of the project. The National Road Safety Council is the statutory body charged with the promotion of road safety. NaTIS is a subdivision of the Transport Information and Regulatory Services in Namibia, which is managed by local authorities. If required, all necessary vehicle registrations and licencing and applications for temporary and special permits should be obtained from NaTIS.

3.2 Other Regulatory Frameworks

TABLE 3 - OTHER REGULATORY FRAMEWORKS AND THEIR APPLICABILITY TO THE PROJECT

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Vision 2030	Vision 2030 sets out the nation's development programs and strategies to achieve its national objectives. It sets out eight themes to realize the country's long-term vision. Vision 2030 states that the overall goal of the vision is to improve the quality of life of the Namibian people to a level in line with the developed world.	The planned project shall meet the objectives of Vision 2030 and shall contribute to the overall development of the country while building capacity in the local communities.
Fifth National Development Plan (NDP5)	NDP5 is the fifth in the series of seven five-year national development plans that outline the objectives and aspiration of Namibia's long-term vision as expressed in Vision 2030. NDP5 is structured on the pillars of economic progression, social transformation, environmental sustainability and good governance. Under the social transformation pillar is the goal of improved education.	The planned project supports meeting the objectives of NDP5 by creating specialised or skilled opportunities for employment to the nearby community and the Namibian nation. The expansion of Namzinc operations may support this vision.

3.3 CURRENT PROJECT APPROVALS AND STATUS

The environmental clearance certificate application for the conversion of the Namzinc Refinery facility to process the zinc sulphide concentrate in addition to zinc oxide ores, in the !Karas Region, was renewed and granted by the MEFT on the 31 August 2020 to 31 August 2023.

3.3.1 ENVIRONENTAL AND SOCIAL IMPACT ASSESSMENT

The Environmental Management Act, No. 7 of 2007 stipulates that an Environmental Clearance Certificate is required to undertake Listed Activities under the Act, and associated regulations. Listed activities triggered by the proposed project in accordance with the Environmental Management Act, No. 7 of 2007 and regulations are listed in Table 4.

The proposed project potentially trigger the following listed activities in terms of the Environmental Management Act, No 7 of 2007:

TABLE 4 - LISTED ACTIVITIES AND RELEVANCE TO THE PROPOSED DEVELOPMENT

LISTED ACTIVITY	ESIA SCREENING FINDING
	The proposed project envisions the handling and transportation of zinc sulphide (ZnS) concentrate to the Namzinc Refinery for processing.

The permits and licence that may be relevant to the proposed project are outlined in 5.

TABLE 5 - A LIST OF PERMITS, LICENCES AND CLEARANCES THAT MIGHT BE NEEDED FOR THIS PROJECT AND THE EXPECTED WAITING TIME FOR APPROVAL.

PERMIT/ LICENCE OR CLEARANCE	ACT/REGUALTION	RELATED ACTIVITIES REQUIRING PERMITS	RELEVANT AUTHORITY	TIME FRAME FOR APPROVAL
Environmental Clearance Certificate	Environmental Management Act, No. 7 of 2007	Required for all listed activities listed in Table 4	MEFT	Permit dependent. Could take up to 12 months Environmental Clearance Certificates are valid for a period of 3 years, after which a renewal is required
Cross border transport permit	Road Traffic and Transport Act No. 22 of 1999	Cross-border road transport permits are issued for the transportation of goods and passengers between Namibia and contracting countries.	MoWT	Permit dependent. The waiting period for this authorisation is 14 days from day of application.

3.4 WORLD BANK STANDARDS

The International Finance Corporation (IFC) is a member of the World Bank Group and is the largest global development institution focusing on the private sector in developing countries. Its standards have become a global benchmark for environmental and social performance. They form the basis for the Equator Principles (IFC, 2013), a voluntary environmental and social risk-management framework used by 77 financial institutions worldwide. The Equator Principles are a framework and set of guidelines for evaluating social and environmental risks in project finance activities and apply to all new projects with a total capital cost of US$10 million or more, no matter what industry sectors, without geographic requirement. The Equator Principles are not applicable to this specific project.

4 PROJECT DESCRIPTION

4.1 NEED FOR THE PROPOSED PROJECT

The Namzinc Refinery will produce 98.5% of sulphuric acid at full working capacity and 75 000 tonnes per annum of excess sulphuric acid (at 340 operating days/annum) and Technical Grade Acid 430 tonnes per day or 146 200 tonnes per annum (at 340 operating days/annum).

Currently, sulphur is imported into Namibia via the Port of Lüderitz, while zinc sulphide concentrate, and manganese ores are some of the main exported materials to via this port. Sulphur is utilised in the mining industry and zinc sulphide is refined at the Rosh Pinah Refinery. The proposed project will enable Zinc concentrate to be transported across the Oranjemund border for refinery purposes via interlink trucks to reduce the reliance on sea transportation of zinc sulphide into the country. Furthermore, there is an added advantage of maintaining a steady inflow of zinc sulphide to the refinery through existing logistics and operational infrastructure in the region and therefore ensuring a steady supply of sulphuric acid as a by-product to the international and local markets.

Namibia's transport system comprises four major modes, namely roads, railway, air and maritime transport. The transport sector occupies a central position in the development of all sectors of the economy, and in facilitating the integration of the national economy internally and internationally. It is also a major factor in agricultural and industrial production, exploitation of natural resources, marketing of products locally and abroad, development of tourism, and in facilitating mobility in both rural and urban areas. The sector is estimated to account for about 4% of GDP. Namibia, also, serves as transit route for Botswana, South Africa, Zambia, and Zimbabwe through the port of Walvis Bay. The Trans- Kalahari and the Trans-Caprivi Highways are the principal transit corridors in Namibia. The proposed project may create job opportunities for the locals with the potential of skills transfer on a regional level.

4.2 ALTERNATIVES CONSIDERED

Due to the fact that the use of the public road network for the proposed project is unavoidable the project should nevertheless be subjected to a process of design evolution, informed by both consultation and an iterative environmental assessment. In terms of the Environmental Management Act, No. 7 of 2007 and its regulations, alternatives considered should be analysed. This requirement ensures that during the design evolution and decision-making process, potential environmental impacts, costs, and technical feasibility have been

considered, which leads to the best option(s) being identified. Alternatives considered explored the use of railway to transport the zinc sulphide concentrate via the port of Lüderitz for transportation of the concentrate from South Africa and to local consumers within Namibia rather than through shipping via the Port of Lüderitz. The proposed project's mode of transportation is deemed feasible from a technical and commercial perspective, no other transportation was considered viable.

4.3 OPERATION METHODOLOGY

4.3.1 PLANNING

The proponent should ensure that all necessary permits from the various ministries, local authorities and any other bodies that govern the operations and transportation activities are obtained and remain valid throughout project execution. Ensure all business partners and employees enter into an agreement, which includes the need to adhere to the stipulations within the environmental contingency plans.

4.3.2 ROAD TRANSPORT SERVICES

The Road Traffic and Transport Act, (RTTA) that came into effect on 6 April 2001, deals among things, with the control of traffic on public roads. Aspects such as transport operations, legal axle and mass limits, abnormal loads and traffic fines are also dealt with in the RTTA. Persons undertaking freight transport within the borders of Namibia no longer require road carrier permits, however permits are required for cross-border operations. Namibia is a signatory to the SADC Protocol on Transport, Communications and Meteorology. In terms of this agreement Namibia has undertaken certain obligations to the other member countries that include the simplification and harmonization of documentation and procedures for the movement of persons and goods.

Transportation activities of the zinc concentrate should be managed to ensure that trucks do not impose any traffic congestion issues on the designated route via Oranjemund to Rosh Pinah. Strict adherence to traffic speed limits and norms should be contractually enforced and adhered to.

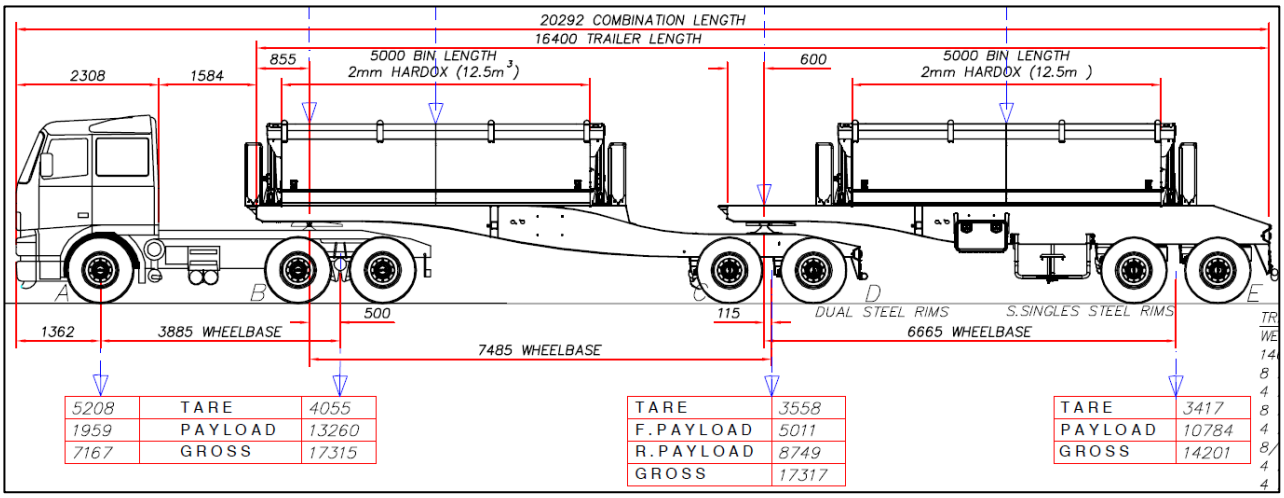

FIGURE 3 – ILLUSTRATION OF THE PROPOSED PROJECT'S INTERLINK TRUCKS

Operation of the trucks will be entirely conducted by contracted consultants. The below schedule of activities (Table 6) is presented for the project.

TABLE 6 - LIST OF ACTIVITIES PLANNED PER PHASE

PHASE	DATE	ACTIVITY DESCRIPTION
Phase 1: 2021	Field inspection commencement date unknown, 2021 - Completed	- Planning for transportation routes - Feasibility studies
Phase 2: 2021	Field inspection commencement date unknown, January 2021 - Completed	- Environmental studies and Impact assessment - Traffic assessment - Noise assessment
Phase 3: 2022	Actual commencement date unknown: April 2022.	314 000 tonnes of concentrate will be trucked per annum for this project. Based on average - 1000 tonnes per day (32 tonnes per truck) on 31.25 trucks - Operating 12 hours (2-3 trucks per hour) - Trucks to only travel during 6am – 6pm - Lifespan is estimated at 15 years – starting in 2022 (April)

4.4 EMPLOYEES ACCOMMODATION

Five to ten possible job opportunities are foreseen during the operations of the project and employees will be, as far as possible sourced from the local communities such as

(Oranjemund and Rosh Pinah). The employees will be deployed at various stages of operations and transportation programmes and will reside at the closest town.

5 ENVIRONMENTAL BASELINE AND SITE DESCRIPTION

This section provides an overview of the existing biophysical environment through the analysis of the baseline data regarding the existing natural and socio-economic environment. Desktop studies on the national database are undertaken to get information of the status of the receiving environment. This provides a baseline where changes that occur as because of the proposed project can be measured.

Since the proposed Namzinc activities will involve the transportation of zinc concentrate from the Oranjemund border to the Namzinc Refinery, a number of different receptors along the route are subject to environmental management considerations.

5.1 REGIONAL BASELINE AND CURRENT BIOPHYSICAL ENVIRONMENT

Oranjemund Constituency is one of the seven constituencies of the !Karas Region. Oranjemund Constituency covers Oranjemund and Rosh Pinah areas. The Rosh Pinah area is situated between the Ai-Ais / Richtersveld Transfrontier Park in the East, and the Sperrgebiet National Park in the West. Rosh Pinah is a mining town located in Southern Namibia and close to the South African borders. The town is connected via C13 road to Aus village about 168 km. The town falls under the control of the two mines, Rosh Pinah Zinc Mine and Skorpion Zinc Mine.

5.1.1 CLIMATE

Namibia is situated within an anti-cyclone belt of the southern hemisphere. Winds generated from the high-pressure cell over the Atlantic Ocean blow from a southerly direction when they reach the Namibian coastline. As the Namibian interior is warm (particularly in summer), localised low-pressure systems are created which draws the cold southerly winds towards the inland desert areas. These winds manifest themselves in the form of strong prevailing south to south-westerly winds.

Rosh Pinah has a prevailing desert climate. The average annual temperature for Rosh Pinah is 23°C, with an average rainfall for approximately 47 mm and there appears to have been a very slight increase in rainfall over the years. The wind conditions in the region are controlled by the interaction of the south Atlantic anticyclone, the northward-flowing and cold Benguela Current (with associated upwelling), eastward moving mid latitude cyclones and the atmosphere pressure field over the subcontinent (Kamstra, 1985). This generally leads to strong zonal pressure gradients at the coast and the resultant fresh to strong equatorward winds. These strong equator wards winds are interrupted by the passing of coastal lows with which are associated periods of calm or NW wind conditions. Fog occurs,

on average, on more than 100 days per year at Oranjemund. It forms as moist cold air from the ocean and meets the hot dry air of the desert.

5.1.2 HYDROLOGY

The proposed project overlays two groundwater basins namely, the Namib and Orange River (Figure 4). Very limited volumes of groundwater are available in the basement rocks southern of the Karas Region, since there are no productive aquifers. Lack of recharge and poor ground- water quality in most areas further aggravates the situation.

Groundwater resources in fractured bedrock aquifers of the Namib and the Sperrgebiet are very limited and, if exploited, extraction easily exceeds recharge. Drainage is normally dendritic from the north towards the Orange River. The dominant ephemeral river is the Fish River with its deep canyon in the Ai-Ais Nature Reserve (Christelis, G. & Struckmeier, W. (Eds.), 2001). The only permanent water in this region is the Orange River, which supplies water to towns and mines (Oranjemund, Rosh Pinah) as well as agricultural and tourism projects.

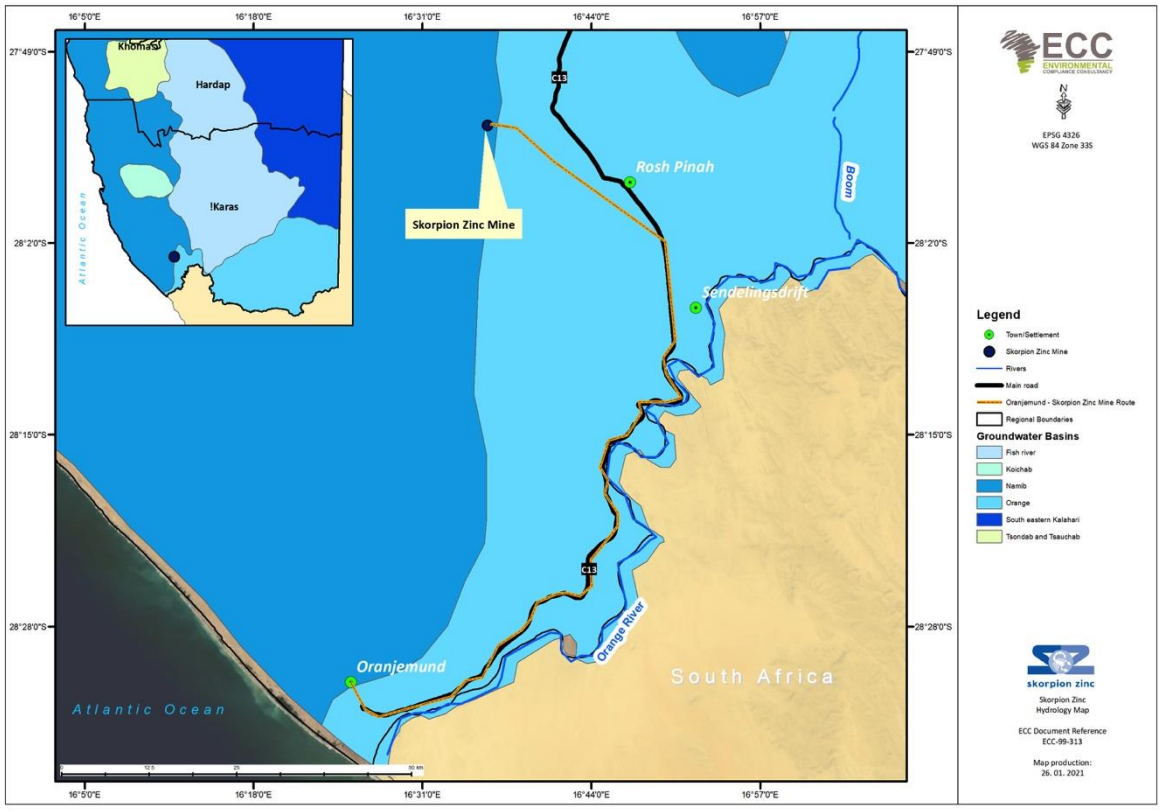

FIGURE 4 - REGIONAL HYDROLOGY MAP

5.1.3 TOPOGRAPHY AND SOILS

The proposed project area overlays the Dune sand, Leptosol and Regosol soil types (Figure 5). Regosols are soils in unconsolidated mineral material of some depth, excluding coarse

textured materials and materials with fluvic properties, and have no diagnostic horizons other than an ochric horizon. While Leptosols are coarse-textured, underlain by solid rock within 30 cm from the surface. The topography of Rosh Pinah can be described as generally flat with low elevated hills and mountain ranges.

The greater portion of the projects operation area or route is an erosion plain sloping south towards the Orange River where it becomes highly dissected. In the east, and to a lesser degree in the north, an escarpment formed by overlying Nama sediments defines the borders of the area. The western and south-western areas are mountainous.

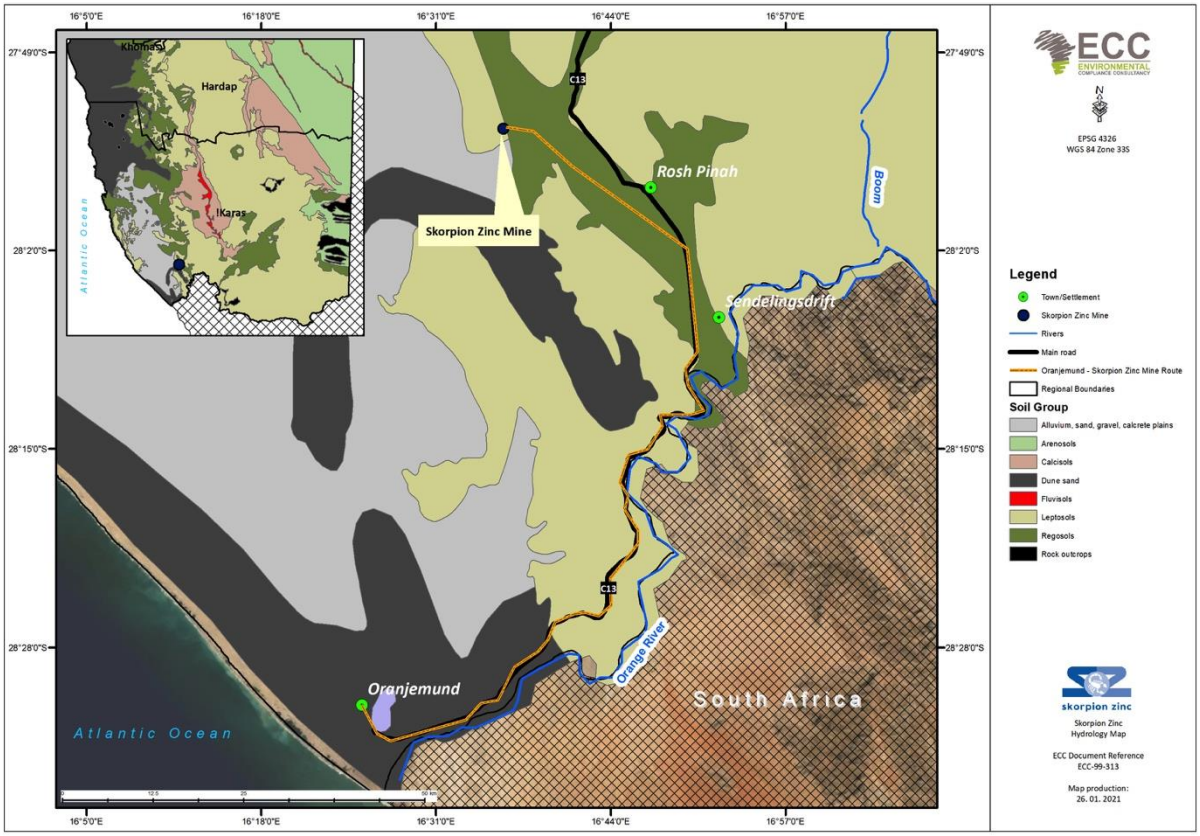

FIGURE 5 - REGIONAL SOIL MAP

5.1.4 VEGETATION

The proposed project overlays three vegetation types namely the Succulent Steppe, Southern Desert and Desert/Dwarf shrub transition (Figure 6). The landscape extends across two biomes, the Nama Karoo and the Succulent Karoo, and the transition zone between them. The succulent Karoo ecosystem is the most diverse desert system in the world. The vegetation between Aus and Rosh Pinah can be described as a composition of bushes and shrubs with grasses evident almost throughout the landscape. The Rosh Pinah landscape is

in the hyper-arid zone. The high mountains, deep valleys, perennial Orange River and effects of coastal fog (in the extreme west) contribute to adding further habitat diversity to the area.

Environmentally sensitive sites include, but are not limited to: areas with high conservation value due to the presence of important plant specimens, pristine habitats and high biodiversity. To minimise impacts on vegetation during transportation, precaution must be taken, only existing tracks and designated resting points must be utilised. .

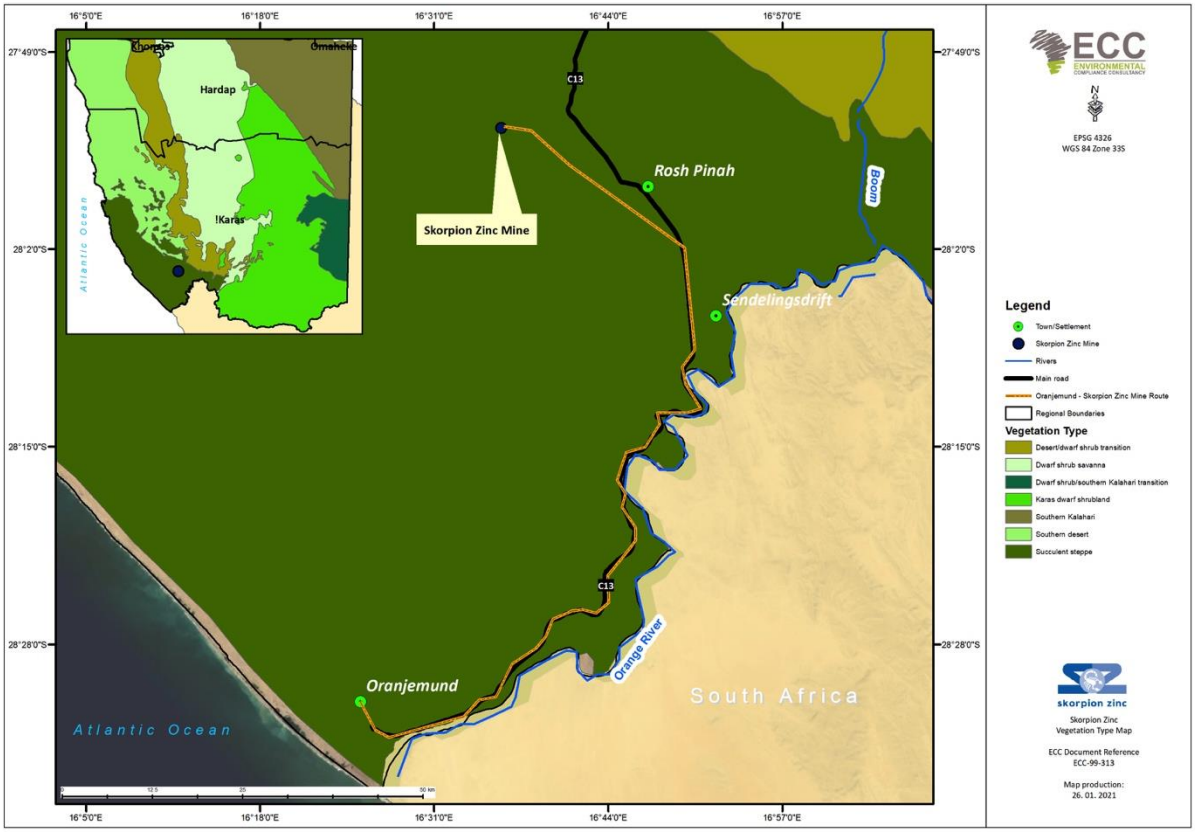

FIGURE 6 - REGIONAL VEGETATION MAP

5.1.5 FAUNA SPECIES

With comparison to the rest of the Namib Desert, the Sperrgebiet Park is home to a very diverse fauna that reflects the adaptations of various animals to the diverse habitats. For instance, there are fog- dependent frogs, an impressive 80 species of reptiles and 20 species of rodents. Due to the poor coverage of animal collecting in the Sperrgebiet, the ranges of many species are estimations based on scattered and/or isolated records, very often at the edges of the Sperrgebiet such as along the eastern boundary and south of the Orange River.

Biodiversity and ecosystem services are of particular importance to the tourism, agriculture and fisheries sectors in Namibia, which alongside mining, form the basis of the Namibian economy. Around 70 per cent of Namibia's population also depends on the natural resource base for their income; food; medicinal needs; fuel and shelter. Against this background, the maintenance and enhancement of biodiversity and ecosystem health is of vital importance to Namibia's socio-economic development (MEFT – Convention of biological diversity, 2014).

5.2 SOCIO ECONOMIC

Rosh Pinah does not have a municipality, but is managed by RoshSkor, which is a joint venture management committee established between the two mines. This town management company is responsible for providing services with regards to waste and sewage, sanitation, and water and electricity. RoshSkor also faces a number of challenges which includes, amongst others, increased pressures on available housing and sanitation services brought about by an influx of job seekers. Rosh Pinah's economy is completely reliant on the presence of the mines. The small economy is fuelled either by the salaries earned by mine staff or by staff of business partners that do work for the mines. Any fluctuation in the international Zinc Industry or performance of either one of the two mines has an immediate impact on this micro economy. Other economic activities of a minor scale surrounding the town include farming, conservation and tourism activities.

5.2.1 DEMOGRAPHY

Namibia is one of the least densely populated countries in the world (2.8 person per km^2). Vast areas of Namibia are without people, in contrast to some fairly dense concentrations, such as the central-north and along the Kavango River.

The !Karas Region showed a population increase of 1.1%. This is less than the Namibian intercensal growth rate of 1.4%. For the same period, Lüderitz however, showed a decline in population size of 5.6% and had a population size of 12 537 in 2011 (NSA, 2017). The remoteness of Lüderitz, and the lack of employment and economic diversification opportunities, possibly contribute to this decline. This may lead to some inhabitants relocating to other urban centres offering better prospects.

5.2.2 GOVERNANCE

Namibia is divided into 14 regions, subdivided by 121 constituencies. The !Karas Region is divided into seven constituencies. Each region has a regional council, elected during regional elections per constituency. Towns are governed through local authorities, in the form of town councils.

The !Karas Region is the southernmost and least densely populated of the 14 regions of Namibia; its capital is Keetmanshoop. The name assigned to the region reflects the prominence of the Karas mountain range in its southern part. The !Karas Region contains the municipality of Keetmanshoop, the towns of Karasburg, Lüderitz and Oranjemund, and the self-governed villages of Aroab, Berseba, Bethanie, Koës and Tses.

The region has a well developed energy and water network and an advanced post and telecommunications system that links villages and towns with the rest of the country and the world at large. Oranjemund has a well-developed water and electricity reticulation system. Water is obtained from the Orange River and electricity directly from Eskom. Water for irrigation is obtained from the Naute Dam and the Orange River.

5.2.3 EMPLOYMENT

The rate of unemployment is estimated at 33.4% for Namibia, using the broad definition of unemployment. More than 60% of the population is over 15 years of age and about one-third of the total population can be regarded as part of the labour force. The unemployment rate in rural and urban areas is almost the same – 33.4% in urban areas and 33.5% in rural areas. The highest unemployment rates are found amongst persons with education levels lower that junior secondary. The unemployment rate of persons with no formal education is 28.6%, with primary education 34.6% and with junior secondary education 32.7% (NSA, 2019). Lüderitz has an unemployment rate of 28.2%, which is slightly lower than the rate of 32.2% of the Karas Region (NSA, 2017).

5.2.4 ECONOMY

Since 2016, Namibia recorded slow economic growth, registering an estimated growth of only 1.1% in 2016. The primary and secondary industries contracted by 2.0 and 7.8% respectively. During 2017 the economy contracted by 1.7, 0.7 and 1.9% in the first, second and third quarters respectively (NSA, 2019). Despite the more positive expectations, the economy retracted to an average growth of not more than 1% annually since 2017.

The !Karas Region is a predominantly small stock-farming community, consisting mostly of animals such as sheep or goats. Game farming and irrigation farming along the Naute Dam and the Orange River have gained significantly in importance.

Notable characteristics of the region include the harbor town of Lüderitz and its fishing and boat-building industry, the diamond areas along the coast—both on and off shore—with Oranjemund as the main centre, mining enterprises in the southern part of Namibia (Klein Karas area, Rosh Pinah), the Kudu Gas field in the Atlantic Ocean near Lüderitz, and small-scale industries in Lüderitz and Keetmanshoop. Mining is a significant contributor to the country's GDP and mainly to the !Karas Region economic sector, with diamonds, uranium, copper, lead, and zinc as mineral resources.

Domestic flight operators regularly visit the coastal town of Lüderitz with the present airfield at Kolmanskop near Lüderitz on their way to Cape Town and Windhoek. Several points of interest have become important tourist attractions in and around Lüderitz. The economic growth potential of the area is considerable and the tourism industry has the potential for further expansion, but needs an intensive general development policy. Considering the national and international Covid-19 restrictions, there has been a decline in the tourism industry. The Karas Region's profitable tax-generation system predominantly comes from diamond mining.

5.2.5 HEALTH

Since independence in 1990, the health status of Namibia has increased steadily with a remarkable improvement in access to primary health facilities and medical infrastructure. In 2015 the World Health Organization (WHO) recommended strategic priorities of the health system in Namibia which entail improved governance, an improved health information system, emergency preparedness, risk reduction and response, preventative health care and the combating of HIV/AIDS and TB (WHO, 2016). According to the MoHSS health facility census (MoHSS, 2009) the !Karas region has recorded 19 health care facilities and they have the lowest occupancy rate.

At the beginning of 2020, the coronavirus disease (COVID-19) caused illness in humans at a pandemic scale and has resulted in an increasing number of deaths worldwide. The viral outbreak is adversely affecting various socio-economic activities globally, and with reports of the increasing number of people testing positive, it is anticipated that this may have significant impacts on the operations of various economic sectors in Namibia too. The disease caused many countries to enter a state of emergency and lockdown mode, with dire

economic consequences. In addition, these measures have a detrimental effect on the economy – and Namibia is in both cases no exception.

5.2.6 HERITAGE

Archaeological sites in Namibia are fully protected under the National Heritage Act No. 27 of 2004. The archaeological evidence shows that early man frequented the coastal zones of southern Namibia from 1.5 million years (Kinahan, 2016) (DBMN EIA report, 2019).

In the close vicinity of Rosh Pinah is a geological centre, which offers geological and historical trips to interesting localities, inviting tourist to visit the town. No heritage sites are found along the designated route from the Refinery.

5.2.7 TRAFFIC ASSESSMENT

Based on the investigation and transport route assessment from (Oranjemund to Rosh Pinah to Lüderitz) conducted by Innovative Transport Solutions (Pty) Ltd, concludes that the expected additional truck trips that would be generated by the proposed project is relatively low. These additional truck trips could be accommodated for the existing (2021) as well as full (2037) production period (Appendix E).

- Weight Limit: The Gross Combined Mass (GCM) of the trucks (56 tons) would be less than the weight limit restriction of the bridge (58 tons) at the Oranjemund border post. Hence these trucks would be able to safely use this bridge.
- Width Restrictions: The movement of the trucks (2,6m wide) would not be limited by the (3,3m) width restriction at the Oranjemund border post bridge.
- Height Restriction: Since the height of the interlink- and tanker trucks are 3.766m and 3.644m respectively, the height limit restrictions along this route would not result in any constraints for trucks.
- Animals Ahead: The trucks that are going to transport the zinc sulphide concentrates and sulphuric acid would operate for 12 hours of the day only (from 6:00 AM to 6:00 PM), during good daylight conditions. Hence, any potential conflict between vehicles and animals should be unlikely and therefore not an issue.
- Road curves: The current curves ahead warning signs should be sufficient; hence no additional signage is proposed.
- Sand Dunes: Sand on the road or shoulder of the road is a potential safety hazard. It is recommended that more regular maintenance be done by the relevant road authority, to remove sand from the roads and shoulders.
- Roundabouts: No additional upgrades are proposed at these roundabouts.

- Railway Crossings: For the trucks crossing at railway intersection, it is recommended that the safety of the current road over rail level crossing be reviewed by TransNamib, and if necessary additional safety measures should be implemented.
- Pedestrians / Cyclist: It is recommended that pedestrian crossing warning signs be provided along the B4 at the Aus access / intersection.
- Lüderitz Site Circulation: The truck circulation on-site should only occur in a forward direction. Any reversing of trucks should be kept to a minimum and only within areas that are closed off to general public movements.

5.2.8 NOISE ASSESSMENT

A noise assessment was conducted on the 13-18 April 2021, on the designated route between Oranjemund through the towns of Rosh Pinah, Aus and to Lüderitz. Airshed Planning Professionals (Pty) Ltd, a firm that specialises in all aspects of air quality, ranging from neighbourhood concerns to regional air pollution impacts was appointed to conduct the modelling and assessment process. Airshed identified 22 points to be monitored for day and night-time noise level measurements, for the Namzinc proposed activities of transportation and bulk storage and handling facility developments. These areas were chosen based on the sensitivity of the areas in terms of proximity to property owners along the proposed designated route. During the noise assessment, factors such as strong winds and national Covid-19 travel restrictions were limiting factors for the survey.

The main objective of the noise specialist study was to determine the potential impact on the acoustic environment and noise sensitive receptors (NSRs) as a result of the proposed project and to recommend suitable management and mitigation measures.
In the assessment of simulated noise levels, reference was made to the IFC noise level guidelines for residential, institutional and educational receptors (55 dBA during the day and 45 dBA during the night) which is also in line with the SANS 10103 rating for urban districts. The baseline acoustic environment was described in terms of the location of NSRs, the ability of the environment to attenuate noise over long distances, as well as existing background and baseline noise levels. The baseline noise levels were measured at 22 sites and were co-located with potential NSRs.

Noise emissions from mobile and non-mobile equipment were estimated using predictions for industrial machinery. The source inventory, local meteorological conditions and information on local land use were used to populate the noise propagation model.

The noise sources of the project include:

- Interlink truck traffic – for the transport of zinc concentrate from the Oranjemund border post to the Namzinc Refinery);
- Tanker truck traffic – for the transport of sulphuric acid from the Namzinc Refinery to the Port of Lüderitz); Pumps – for the unloading and loading of the sulphuric acid; and,
- Piling work – during construction for the acid storage area at the Port of Lüderitz.

Sampling was carried out using a Type 1 sound level meter (SLM) that meet all appropriate International Electrotechnical Commission (IEC) standards and is subject to calibration by an accredited laboratory. IFC defines day-time as between 07:00 and 22:00 and night-time between 22:00 and 07:00. As the project activities are limited to the operational hours of 06:00 – 18:00, day-time representative samples were taken at all sites and night-time samples were taken in the early morning at representative sites along the project route, so as to be representative of project activities

Given the extent of the project, the propagation of noise was calculated over residential areas (i.e., Rosh Pinah, Aus and Lüderitz) and the start/end points of the route sections (i.e., Oranjemund border post, Namzinc Refinery and Lüderitz Port). The areas were divided into a grid matrix with 20 meter resolution. The model was set to calculate sound pressure level (in dB) at each grid and discrete receptor point at a height of 1.5 m above ground level.

The sampling points were selected based on proposed project activities and position of sensitive receptors (Figure 7). The selected survey locations for some sites had to be adjusted once in the field due to accessibility and community interference. Night-time noise measurements were restricted to the early hours of the morning so as to be representative of the project operational times. All construction and operation activities were assumed to take place from 06:00 – 18:00. Decommissioning phase was not assessed but environmental noise impacts are assumed to be similar to construction activities.

Based on the findings of the assessment, IFC guidelines may be exceeded at NSRs closest to the project operations (construction activities). The proposed transportation related noise during operation is predicted to be within the IFC guidelines at all sensitive receptors on the designated route, however, project activities may potentially contribute to the increase in noise levels especially for a person with an average hearing acuity of less than 3 dBA (refer to Appendix F for a detail noise assessment report).

FIGURE 7 - LOCATIONS OF ENVIRONMENTAL BASELINE NOISE SURVEY SITES

6 IDENTIFICATION AND EVALUATION OF IMPACTS

The key stage of the ESIA process is the impact prediction and evaluation stage. This stage is the process of bringing together project characteristics with the baseline environmental characteristics and ensuring all potentially significant environmental and social impacts are identified and assessed. Impact prediction and evaluation involve envisaging the possible changes to the environment as a result of the proposed project. The recognized methodology was applied to determine the magnitude of impact and whether or not the impact was considered significant and thus warrant further investigation. The assessment considers all stages of the project's life cycle that is scoped into the assessment and is presented in this report. It is an iterative process that commences at project inception and runs through to the final design and project implementation (operations). The impact prediction and evaluation stages were undertaken in March - May 2021 and the findings of the assessment are presented in this document.

6.1 INTRODUCTION

Chapter 2 provides an overview of the approach used in this ESIA process and details each of the steps undertaken to date. Predication and evaluation of impacts is a key step in the ESIA process. This chapter outlines the methods followed to identify and evaluate the impacts arising from the proposed project. The findings of the assessment are presented in this chapter.

This chapter provides the following:

- Details on the assessment guidance used to assess impacts;
- Lists the limitations, uncertainties and assumptions with regards to the assessment methodology;
- Details how impacts were identified and evaluated, and how the level of significance was derived; and
- Details how mitigation was applied in the assessment and how additional mitigation was identified.

6.2 LIMITATIONS, UNCERTAINTIES AND ASSUMPTIONS

The following limitations and uncertainties associated with the assessment methodology were observed:

- Topic specific assessment guidance has not been developed in Namibia. A generic assessment methodology was applied to all topics using IFC guidance and professional judgement.

A number of limitations and uncertainties were acknowledged during the ESIA process. In line with ESIA best practice, assumptions have been made based on realistic worst-case scenarios, thereby ensuring that the worst-case potential environmental impacts are identified and assessed. Table 7 contains the assumptions and uncertainties identified during the assessment process.

Where uncertainties exist, a cautious approach has been applied, allowing the worst-case scenario for potential impacts to be identified. Where limitation and uncertainties exist, assumptions have been made and applied during the assessment process. These have been clearly described in the baseline section.

TABLE 7 -SUMMARY OF LIMITATION, UNCERTAINTIES AND ASSUMPTION OF THE ESIA PROCESS

LIMITATION / UNCERTAINTY	ASSUMPTION
Program of activities	It is estimated that the proposed project will be running for 15 years. A detailed timeline of the activities is not available at this point in time; activities will be modified depending on work results.
Number of employees and area they will come from	It is planned that a full-time team will comprise of staff members and contract employees, only then the number of employees will be confirmed as the project matures. Moreover, staff will be sourced from the nearby local authority areas such as Lüderitz, Aus and Rosh Pinah.
Mode of transportation and route	It is envisioned that interlink trucks will be used for transportation. The exportation of zinc sulphide via road, to the Namzinc Refinery was found to be more efficient.

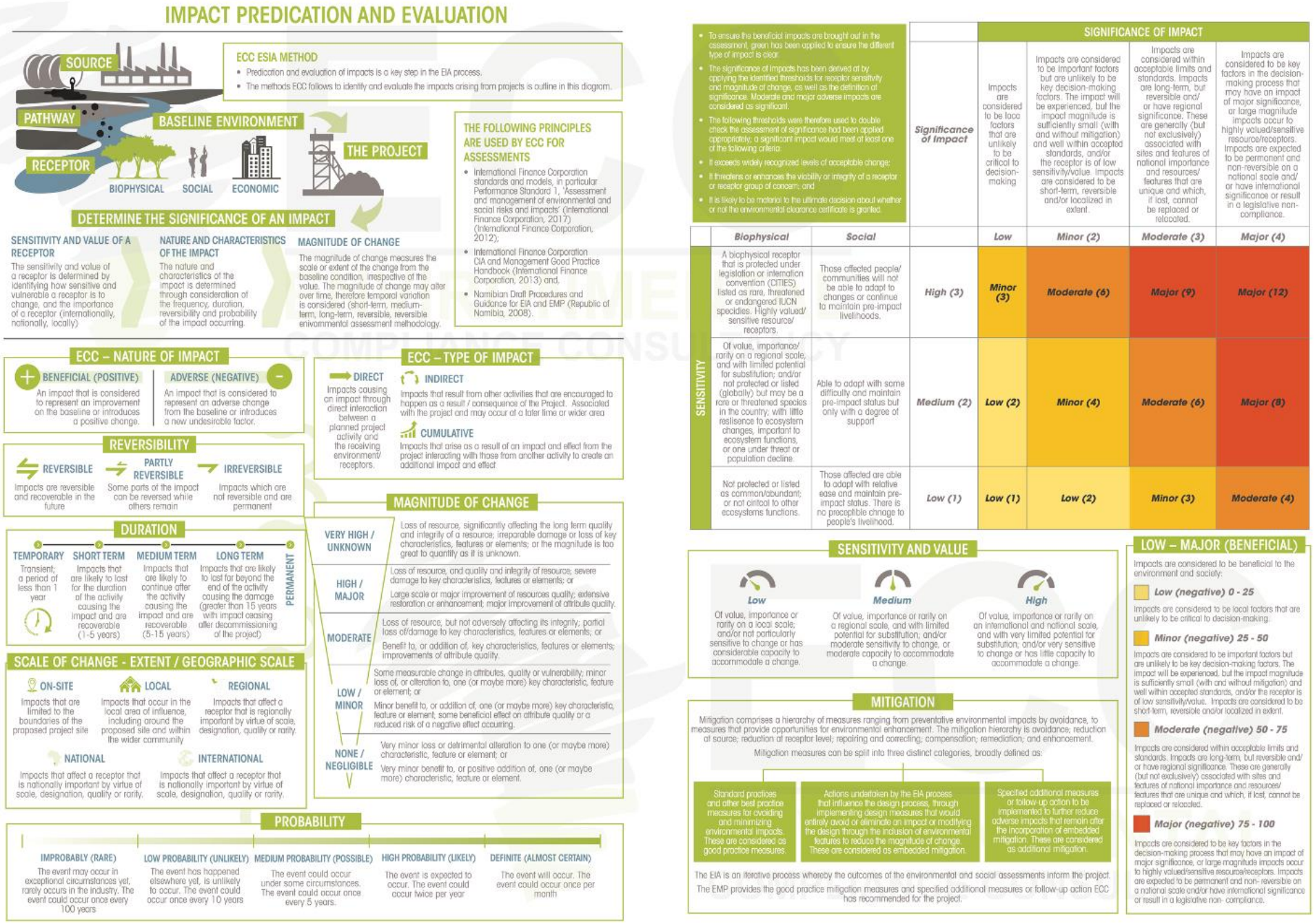

FIGURE 8 - ECCS IMPACT PREDICTION AND EVALUATION PROCESS

7 IMPACT ASSESSMENT FINDINGS AND PROPOSED MITIGATION MANAGEMENT MEASURES

This chapter presents the findings of the ESIA for the proposed project as per the ESIA process, scope and methodology set out in Chapter 2 and Chapter 6. A range of potential impacts have been identified that may arise as a result of the proposed project. The aim of this ESIA report is to focus on the significant impacts that may arise as a result of the proposed project. This chapter therefore only considers the significant impacts and or those that may have specific interest to the community and stakeholders. A summary of impacts that are considered significant is discussed in this section.

When undertaking the assessment exercise, the design of the proposed project and best practice measures were considered to ensure the likely significant effects and any required additional mitigation measures were identified.

For each potential significant or sensitive impact, a summary is provided which includes the activity that would cause an impact; the potential impacts; embedded or best practice mitigation (stated where required / available); the sensitivity of receptor that would be impacted; the severity, duration and probability of impacts; the significance of impacts before mitigation and after mitigation measures are applied.

A summary of impacts that are not considered significant is discussed in Section 7.1.

7.1 IMPACTS NOT CONSIDERED SIGNIFICANT

As a result of an iterative development process, mitigation has been incorporated and embedded into the project, thereby designing out potential environmental and social impacts or reducing the potential impact so that it is not significant. Best practice has also played a role in avoiding or reducing potential impacts. The EMP provides best practice measures, practical management and monitoring for all impacts.

Impacts that have been assessed as not being significant are summarised in table 8 below and not discussed further.

TABLE 8 - SUMMARY OF NON-SIGNIFICANT POTENTIAL ENVIRONMENTAL AND SOCIAL IMPACTS

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
Waste management	Solid waste may be produced during the proposed project's operational and duration	This impact was deemed to be possible, however, the proponent will develop a waste management plan to counter the impact of waste dispersal on and surrounding the

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
	period.	project's sites and routes.
Visual Impacts	Transportation activities resulting into dust emission on the road from vehicle and trucks movement.	Visual disturbance and temporary reduction in the sense of place due to the increased number of trucks has been assessed to be a non-significant impact, as the trucks will only use designated concrete roads and no gravel roads will be used as access.
Community	Potential impact of ambient noise and light conditions along the route as a result of vehicle movement.	During the ESIA investigations it became apparent that the location of the proposed project route to the identified sensitive receptors would render such an impact unlikely as the road network used is further away from residential properties. All operations will run between 6am to 6pm. The proposed transportation related noise during operation is predicted to be within the IFC guidelines at all sensitive receptors on the designated route. With mitigation measures such as restricted operation hours, traffic calming measures, defined routes to and from the sites, maintaining designated road networks will reduce the impact to be of minimal effect and low sensitivity
Cultural heritage	Potential to uncover heritage remains during project activities.	Findings are unlikely, as no known heritage sites are mapped and protected in the project area. The site also has a tried and tested chance find procedure built into the EMP in place, in the very unlikely event a heritage find is discovered.
Fire risks and occurrences	Operational activities may increase the risk of fire occurrences. Fire risks may result in property damage, possible injury and impacts caused by explosions or uncontrolled fires.	With the mitigation measures such as a fire protection and a prevention plan, with inclusion of an emergency response and firefighting, fire risk can be managed. The occurrence of fire is possible but very rare for the proposed transportation activities. The proponent and business partners will take precautions through the development and used of an environmental

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF ASSESSMENT FINDINGS
		contingency plan to avoid the occurrences of this impact. Therefore, this impact has been assessed to be of low to none significance.
Air Quality	The movement of the trucks daily may discharge air pollution.	During transportation some discharge in the form of air pollution (CO^2) into the atmosphere and may marginally affect the ambient air quality along the road network. This impact is considered non-significant.
Climate change cause / contribution	The proposed project contributing to climate change through the emissions of Green House Gasses from trucks.	The proposed project is considered to be of a low scale. Namibia's contribution to global CO^2 emissions is rated as 0.01% as at 2019 (ourworldindata, 2021).
Community	Potential safety risk to pedestrian and cyclist along the C13 at the Rosh Pinah	The general national traffic regulations require road users to reduce their speed to 60km/h within town boundaries and within town centres to 40km/h. This speed enables road users to easily brake and come to stand still when necessary. The proponent and its business partners shall adhere to national road use requirements as well as internal controls enforced on driver behaviour.

Due to the nature and localised scale of the transportation and operational activities, and the environmental context of the proposed project areas and route, the potential environmental and social effects can be limited. The only area where uncertainty remained during the scoping phase was the potential effects on human receptors from the predicted correlating impact on the area's change in ambient noise levels along the B4 and within Oranjemund to Rosh Pinah, additional heavy traffic load on the C13 district road from Oranjemund to Rosh Pinah and de-containment of sulphuric acid along the transportation route. The receptors are other road users and the residential property owners within a 1km distance to the designated route. Noise impacts are unlikely to have any effect on the wildlife that could potentially occur along the route.

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7.2 SIGNIFICANT ISSUES TO BE ADDRESSED

Impacts that have been identified as significant are summarised in table 6 below.

TABLE 9 - TABLE OF POTENTIAL SIGNIFICANT IMPACTS

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF PRELIMINARY ASSESSMENT FINDINGS
Additional heavy traffic load on the C13 district road from Oranjemund to Rosh Pinah	Potential impacts on traffic and road infrastructure due to continual use are likely to include: – Impacts to road users utilising the C13 district road; – Possible impacts to local communities in the event of potential non-containment of concentrate along any point on the road network; and Potential impacts on road infrastructure between the Oranjemund border and Namzinc refinery.	A daytime transport assessment of the route (Oranjemund to Rosh Pinah) should be commissioned for this stage of the project. The assessment should focus on the potential impacts to be expected in line with the influence the proposed project will have on the existing road network. The assessment should consider if existing road infrastructure would require any changes to accommodate the project or not.
Change in ambient noise levels along the B4 and within Oranjemund to Rosh Pinah	The potential impacts likely to occur from the addition of heavy vehicles on the existing baseline environment may include: – Noise nuisance to sensitive receptors along the route chosen to transport from Oranjemund to the Namzinc Refinery as a result of changes in traffic conditions.	The ESIA commissioned a noise assessment to determine whether or not the additional traffic load as a result of the proposed project will have a potential impact on sensitive receptors along the designated route from Oranjemund to the Refinery. The proponent should decide on the most appropriate route to follow in consideration of potential noise impacts notwithstanding safety aspects. Night-time noise assessment was not deemed necessary, as the daily transportation hours are set between 6AM and 6PM. Therefore, no baseline data after 6PM is needed. Moreover, the current

ENVIRONMENT OR SOCIAL TOPIC	POTENTIAL IMPACT	SUMMARY OF PRELIMINARY ASSESSMENT FINDINGS
		Covid-19 curfew restrictions on travel limited the time to sample noise baseline data at night. Night- time monitoring was carried out between 4am to 7am, to present a better understanding of the baseline and effects of the impact.
De-containment of zinc sulphide concentrate	The potential impacts likely to occur from the de-containment of zinc sulphide from a capsized truck on the existing baseline environment may include: Contamination to sensitive receptors (water and soil) along the route chosen to transport the zinc sulphide concentrate through Oranjemund to the Refinery in Rosh Pinah.	The ESIA has assessed the magnitude of a possible spill of zinc sulphide on the existing baseline environment may include. Zinc sulphide a non hazardous, in an event of a spill, the incident will not lead to a catastrophic consequences. The impact has been deemed as significant but does not require any further assessment. With correct transportation and handling risks of incidents can be managed.

7.3 SCOPING ASSESSMENT FINDINGS

This section sets out the findings of the scoping assessment phase. Impacts that are considered significant or those of interest to the community and stakeholders are as follows:

- Socio-economic: Direct and Indirect Employment;
- Social: The need for the project and its potential to impact the use of national roads; increase in ambient noise as a result of increased vehicle movement to receptors; and
- Biophysical environment: Potential contamination to the environment.

7.4 SOCIO-ECONOMIC ENVIRONMENT

The term socio-economic impact assessment embraces both social impacts and economic impacts. Economic impacts include issues such as employment, changes in economic

activity, and increased expenditure. The significant economic impact or impact that holds specific interest to the community and stakeholders is employment creation and is summarised in this section.

7.4.1 EMPLOYMENT

Whilst Namibia has a medium unemployment rate, the Karas Region has one of the highest employment rates in Namibia. In Rosh Pinah and Oranjemund, most of the employment is through the mining sector, which to a large degree is developed. Mining in the Karas Region employs a large number of local residents; fishing is also one of the main sectors of employment in the Lüderitz area. The national value and sensitivity of employment is considered to be high as it is of importance to the country and the local economy.

DIRECT EMPLOYMENT: OPERATION

Approximately 5 to 10 permanent jobs (skilled and semi-skilled) will be created in the transportation and operational stage of the proposed project, with the anticipated creation of downstream jobs such as goods procurement services, and contractor works expected throughout the lifespan of the project. The magnitude of change during operation is considered as low but has long term effects thereby resulting in a minor beneficial impact on the community and economy.

SUMMARY OF EMPLOYMENT IMPACTS

TABLE 10 - SUMMARY OF IMPACTS TO LOCAL ECONOMY

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Operations of the proposed project	– Community – Job seekers – Local economy	Creation of 5 to 10 jobs	Beneficial Direct Irreversible Regional Long Term Reversible	Medium	Minor	Beneficial Minor (9)
Downstream economic injection (multiplier effect)	– Local economy (goods and services trade businesses)	Financial injection into goods and services trading businesses in the local economy	Beneficial Indirect Partially Reversible Local Long Term Reversible	Medium	Minor	Beneficial Minor (9)

7.5 SOCIAL ENVIRONMENT

7.5.1 CHANGE IN AMBIENT NOISE LEVELS ALONG THE B4 AND WITHIN ORANJEMUND TO ROSH PINAH

Transportation activities and related increases in traffic flow along the designated route from the Oranjemund border post to the Namzinc Refinery will change as a result of an increase in noise levels emanating from the road use. This impact was deemed to be of significant effect to human receptors residing along the route during the scoping phase. However, during the ESIA investigations it became apparent that the location of the proposed project route to the identified sensitive receptors would render such an impact unlikely as the road network used is further away from residential properties. Additionally, it is important to note that outside baseline conditions are characterised by strong east winds.

A noise impact assessment was conducted to determine baseline conditions and suitable mitigation measures to manage noise related impacts. The proposed transportation related noise during operation is predicted to be within the IFC guidelines at all sensitive receptors on the designated route, however, project activities may potentially contribute to the increase in noise levels especially for a person with an average hearing acuity of less than 3 dBA. The speed of the trucks should be adhering to 40km/h within town centres and through residential areas and 80 km/h on the highways.

The overall increase in noise levels that may potentially occur at residential NSR due to project activities, is expected to result in 'little' to 'medium' reaction with 'sporadic' complaints. With mitigation measures such as restricted operation hours, traffic calming measures, defined routes to and from the sites, maintaining designated road networks will reduce the impact to be of minimal effect and low sensitivity.

TABLE 11 - NOISE IMPACTS FROM THE TRANSPORTATION ACTIVITIES

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Transportation activities and increased in noise levels due to increase in traffic on	– Residential property owners: Noise levels increasing from ambient noise levels on the road	The residential property owners in a close range to the proposed route used	Adverse Cumulative reversible Moderate Short-term local Likely	Low	Moderate	Minor (4)

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
the proposed route		for transport are likely to experience an increase in noise levels.				

7.6 TRAFFIC IMPACTS FROM TRANSPORT AND OPERATIONAL ACTIVITIES

7.6.1 ADDITIONAL HEAVY TRAFFIC LOAD ON THE C13 DISTRICT ROAD FROM ORANJEMUND TO ROSH PINAH

A traffic impact assessment was conducted out to determine baseline conditions and suitable mitigation measures to manage traffic related impacts. During transportation, increased traffic may disrupt normal traffic flow for the affected towns of Rosh Pinah and Oranjemund. Local residents may find the need to find alternative routes through the within town areas. This may result in the increased traffic congestion on the road to the port and within, increase in the risk of incidents, result in deterioration of road surfaces, and cause vibration related damage to existing infrastructure. The proponent is responsible for ensuring a practical traffic management plan is implemented to manage the potential effects on traffic conditions in Rosh Pinah and via the proposed project's designated route so as to reduce the level of significance on sensitive receptors. A traffic impact assessment was carried out to determine baseline conditions and suitable mitigation measures to manage traffic related impacts.

Vehicles such as trucks and tankers during operation should not be allowed to obstruct any traffic or access points to any businesses and facilities on the routes through to Rosh Pinah. If any extraordinary traffic impacts are anticipated, traffic management should be performed in conjunction with local traffic department, to prevent these. Traffic regulation on the national road should be adhered to.

TABLE 12 -IMPACT ASSESSMENT OF THE PROJECT ON TRAFFIC FLOW

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Traffic flow (community and local residents) during projects operation and transportation activities	– Community – Local residents of the towns (Rosh Pinah and Oranjemund)	Disruption to normal traffic flow due to an increase in vehicle movement.	Adverse Direct Reversible Minor Short-term Local Possible	Medium	Minor	Minor (4)

TABLE 13 -IMPACT ASSESSMENT OF THE PROJECT ON ADDITIONAL HEAVY TRAFFIC LOAD

Activity	Receptor	Impact	Nature of impact	Value & Sensitivity	Magnitude of change	Significance of impact
Transportation activities and additional heavy traffic load on the C13 and B4 roads within and from Rosh Pinah to Lüderitz via Aus	– Infrastructure – Community – Local residents of the towns (Rosh Pinah and Oranjemund)	This may result in the increase congestion in the towns, increasing the risk of incidents, result in deterioration of road surfaces, and cause vibration related damage to existing infrastructure	Adverse Direct Partially - reversible Moderate Short-term Local Unlikely	Low	Minor	Low (2)

7.7 BIOPHYSICAL ENVIRONMENT

7.7.1 DE-CONTAINMENT OF ZINC SULPHIDE CONCENTRATE ALONG THE TRANSPORTATION ROUTE TO THE REFINERY

The transportation of the zinc sulphide concentrate may involve steps aimed at preserving its properties, regulating temperature and humidity, and protection against mechanical impact. The potential uncontrolled or incidental spillage of the non-hazardous zinc sulphide concentrate during transportation was considered to be a significant impact, which could results into the type of event that increases the confusion that may exist at a normal traffic incident, and it may greatly reduce the normal capacity of roadways beyond the confines of the incident locality. All spillage should be contained and management as quick as possible to reduce the surface area and exposure into the environment. Mitigation is included in the contingency plan.

A summary of the potential impacts and mitigation and / or control measures are discussed below.

Table 14 sets out the findings of the ESIA assessment phase. Activities that could be the source of an impact have been listed, followed by receptors that could be affected. The pathway between the source and the receptor has been identified where both are present. Where an activity or receptor has not been identified, an impact is unlikely, thus no further assessment or justification is provided. Where the activity, receptor and pathway have been identified, a justification has been provided documenting if further assessment is required or not required.

TABLE 14 - IDENTIFICATION AND EVALUATION OF IMPACTS AND MITIGATION MEASURES

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT/DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT/CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
Surface water	Site activities such as during operational activities; Vehicle maintenance activities may result into loss of containment, incidental fuel / hydraulic fluid leaks and spills, or similar sources. Incidental spills of the non hazardous zinc sulphide along the proposed designated route	Hydrocarbon leaks and spills and could enter drainage systems and or surface water (Orange River) causing possible pollution and potentially affecting the surface water quality. Spills can potentially pollute drainage channels.	Adverse Direct Partly Reversible Moderate Medium term Local Unlikely	Medium	Minor	Minor (4)	- Good house keeping - Training through toolbox talks and induction - All stationary vehicles and machinery must have drip trays to collect leakages of lubricants and oil - Major spills to be reported, also to the authorities - Maintenance and service schedules on equipment is in place - Incidental spills and leaks (including absorption material) to be cleaned as soon as possible - Ensure integrity of containment with regularly inspections) - No damaged containers in use - Preventative measures will be in place when service and maintenance	Low (2)

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT/DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT/CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							activities are done (drip trays, non-porous surfaces, funnels, non-damaged containers) - Refuelling is done in areas with adequate preventative measures in place - Spill kits and absorption material available during sulphuric acid loading and offloading - Storage of the zinc sulphide to be in well bunded compartments - Interlink trucks to be well closed and covered during transportation	
Soil	Potential incidental spill of zinc sulphide along the proposed designated route	Possible soil pollution from non-hazardous concentrate spills may occur resulting into the risks of loss of soil quality	Adverse Direct Partially - Reversible Moderate Short term Local Unlikely	Medium	Low	Low (2)	- Training and awareness through toolbox talks and induction. - Implement a Standard Operational Procedure (SOP) on emergency spills and waste management, from cradle to grave. - Raise awareness about the importance of	Low (1)

RECEPTOR	DESCRIPTION OF ACTIVITY	DESCRIPTION OF IMPACT	EFFECT/DESCRIPTION OF MAGNITUDE	VALUE OF SENSITIVITY	MAGNITUDE OF CHANGE	SIGNIFICANCE OF IMPACT	IMPACT MANAGEMENT/CONTROL MEASURES	RESIDUAL IMPACT AFTER MITIGATION
							responsible spill management. - Spills should be contained and contaminated soil must be disposed of at an appropriately classified facility.	

8 ENVIRONMENTAL CONTINGENCY PLAN

The ECP for the proposed project is presented in Appendix A. It provides management options to ensure the impacts of the proposed project are minimised. An ECP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the corrective measures needed, although additional mitigation measures might be included if necessary.

The management measures should be adhered to during all stages of the construction activities. All persons involved and partaking in the proposed activities should be made aware of the measures outlined in the ECP to ensure activities are conducted in an environmentally responsible manner.

The objectives of the ECP are:

- To include all components of the development and operations of the project;
- To prescribe the best practicable control methods to lessen the environmental impacts associated with the project;
- To monitor and audit the performance of operational personnel in applying such controls; and
- To ensure that appropriate environmental training is provided to responsible operational personnel.

9 CONCLUSION

ECC's ESIA methodology was used to undertake the environmental assessment for the proposed project to identify if there is potential for significant effects to occur as a result of the proposed project. Through the ESIA process, the main risk identified to the environment was the potential for traffic impacts and noise levels to increase thereby impacting human receptors in proximity to the designated proposed project's route and operation. All other social and environmental receptors which were scoped out as significant effects were unlikely and therefore no further assessment was deemed necessary. The assessment concludes that the likely impacts on humans from traffic and noise impacts is expected to be minor and prior awareness and communication about the project shall be encouraged, while soil pollution was assessed to be possible and rare. Various best practice and mitigation measures have been identified to avoid and reduce effects as far as reasonably practical, as well as ensure the environment is protected and unforeseen effect and environmental disturbances are avoided.

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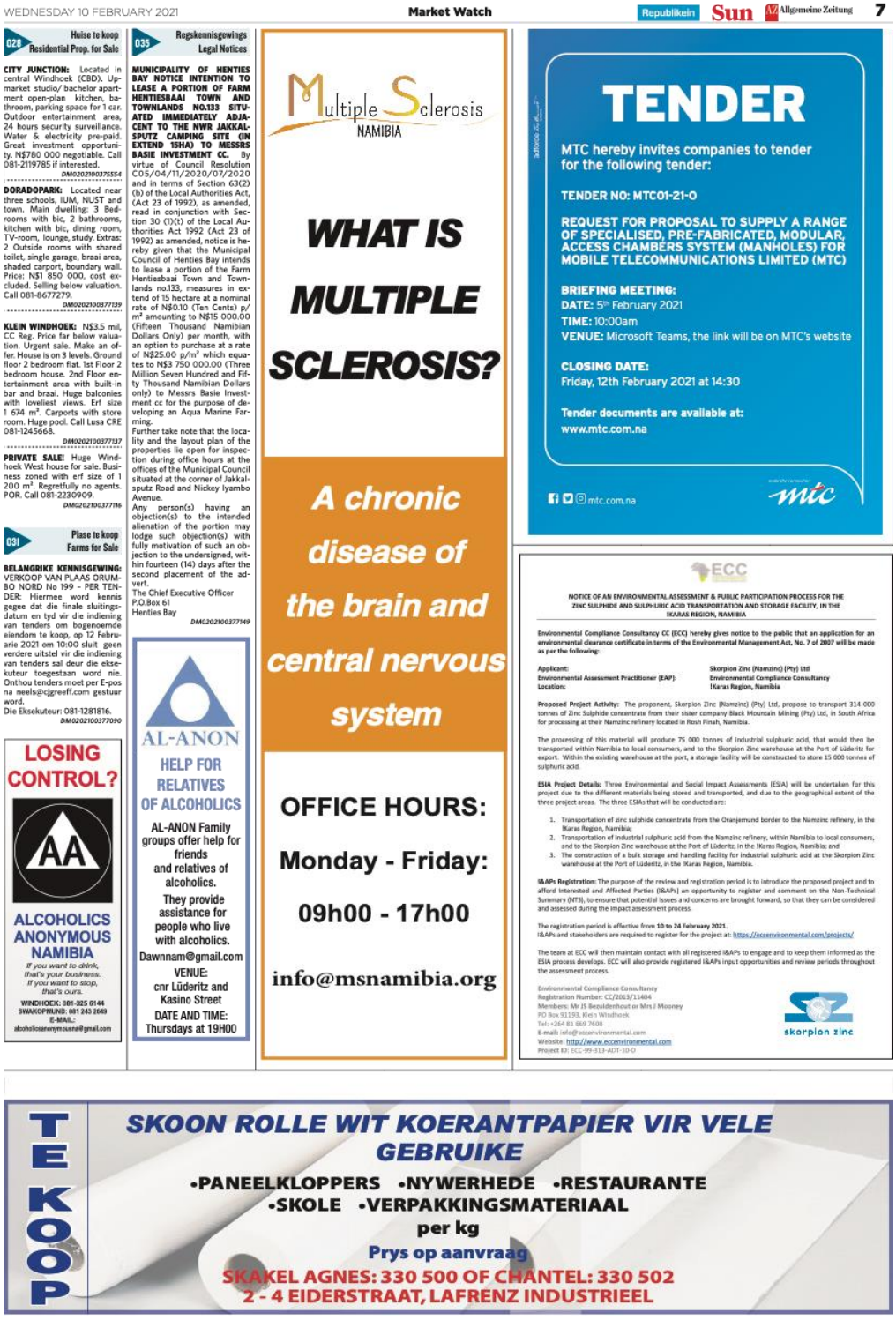
APPENDIX A - ECP

APPENDIX B - NON-TECHNICAL SUMMARY

APPENDIX C - EVIDENCE OF PUBLIC CONSULTATION

The following was advertised in the 'Republikein, Sun, and Allgemeine Zeitung' newspapers on the 10th February 2021.



WEDNESDAY 10 FEBRUARY 2021 — Market Watch — Republikein Sun Allgemeine Zeitung — 7

026 Huise te koop / Residential Prop. for Sale

CITY JUNCTION: Located in central Windhoek (CBD). Upmarket studio/ bachelor apartment open-plan kitchen, bathroom, parking space for 1 car. Outdoor entertainment area, 24 hours security surveillance. Water & electricity pre-paid. Great investment opportunity. N$780 000 negotiable. Call 081-2119785 if interested.
DM0202100375554

DORADOPARK: Located near three schools, IUM, NUST and town. Main dwelling: 3 Bedrooms with bic, 2 bathrooms, kitchen with bic, dining room, TV-room, lounge, study. Extras: 2 Outside rooms with shared toilet, single garage, braai area, shaded carport, boundary wall. Price: N$1 850 000, cost excluded. Selling below valuation. Call 081-8677279.
DM0202100377139

KLEIN WINDHOEK: N$3.5 mil, CC Reg. Price far below valuation. Urgent sale. Make an offer. House is on 3 levels. Ground floor 2 bedroom flat. 1st Floor 2 bedroom house. 2nd Floor entertainment area with built-in bar and braai. Huge balconies with loveliest views. Erf size 1 674 m². Carports with store room. Huge pool. Call Lusa CRE 081-1245668.
DM0202100377137

PRIVATE SALE! Huge Windhoek West house for sale. Business zoned with erf size of 1 200 m². Regretfully no agents. POR. Call 081-2230909.
DM0202100377116

031 Plase te koop / Farms for Sale

BELANGRIKE KENNISGEWING: VERKOOP VAN PLAAS ORUMBO NORD No 199 – PER TENDER: Hiermee word kennis gegee dat die finale sluitingsdatum en tyd vir die indiening van tenders om bogenoemde eiendom te koop, op 12 Februarie 2021 om 10:00 sluit geen verdere uitstel vir die indiening van tenders sal deur die eksekuteur toegestaan word nie. Onthou tenders moet per E-pos na neels@cjgreeff.com gestuur word.
Die Eksekuteur: 081-1281816.
DM0202100377090

035 Regskennisgewings / Legal Notices

MUNICIPALITY OF HENTIES BAY NOTICE INTENTION TO LEASE A PORTION OF FARM HENTIESBAAI TOWN AND TOWNLANDS NO.133 SITUATED IMMEDIATELY ADJACENT TO THE NWR JAKKALSPUTZ CAMPING SITE (IN EXTEND 15HA) TO MESSRS BASIE INVESTMENT CC. By virtue of Council Resolution C05/04/11/2020/07/2020 and in terms of Section 63(2)(b) of the Local Authorities Act, (Act 23 of 1992), as amended, read in conjunction with Section 30 (1)(c) of the Local Authorities Act 1992 (Act 23 of 1992) as amended, notice is hereby given that the Municipal Council of Henties Bay intends to lease a portion of the Farm Hentiesbaai Town and Townlands no.133, measures in extend of 15 hectare at a nominal rate of N$0.10 (Ten Cents) p/m² amounting to N$15 000.00 (Fifteen Thousand Namibian Dollars Only) per month, with an option to purchase at a rate of N$25.00 p/m² which equates to N$3 750 000.00 (Three Million Seven Hundred and Fifty Thousand Namibian Dollars only) to Messrs Basie Investment cc for the purpose of developing an Aqua Marine Farming.
Further take note that the locality and the layout plan of the properties lie open for inspection during office hours at the offices of the Municipal Council situated at the corner of Jakkalsputz Road and Nickey Iyambo Avenue.
Any person(s) having an objection(s) to the intended alienation of the portion may lodge such objection(s) with fully motivation of such an objection to the undersigned, within fourteen (14) days after the second placement of the advert.
The Chief Executive Officer
P.O.Box 61
Henties Bay
DM0202100377149

Multiple Sclerosis NAMIBIA

WHAT IS MULTIPLE SCLEROSIS?

A chronic disease of the brain and central nervous system

OFFICE HOURS:
Monday - Friday:
09h00 - 17h00
info@msnamibia.org

TENDER

MTC hereby invites companies to tender for the following tender:

TENDER NO: MTC01-21-O

REQUEST FOR PROPOSAL TO SUPPLY A RANGE OF SPECIALISED, PRE-FABRICATED, MODULAR, ACCESS CHAMBERS SYSTEM (MANHOLES) FOR MOBILE TELECOMMUNICATIONS LIMITED (MTC)

BRIEFING MEETING:
DATE: 5th February 2021
TIME: 10:00am
VENUE: Microsoft Teams, the link will be on MTC's website

CLOSING DATE:
Friday, 12th February 2021 at 14:30

Tender documents are available at:
www.mtc.com.na

mtc.com.na — mtc

ECC

NOTICE OF AN ENVIRONMENTAL ASSESSMENT & PUBLIC PARTICIPATION PROCESS FOR THE ZINC SULPHIDE AND SULPHURIC ACID TRANSPORTATION AND STORAGE FACILITY, IN THE !KARAS REGION, NAMIBIA

Environmental Compliance Consultancy CC (ECC) hereby gives notice to the public that an application for an environmental clearance certificate in terms of the Environmental Management Act, No. 7 of 2007 will be made as per the following:

Applicant: Skorpion Zinc (Namzinc) (Pty) Ltd
Environmental Assessment Practitioner (EAP): Environmental Compliance Consultancy
Location: !Karas Region, Namibia

Proposed Project Activity: The proponent, Skorpion Zinc (Namzinc) (Pty) Ltd, propose to transport 314 000 tonnes of Zinc Sulphide concentrate from their sister company Black Mountain Mining (Pty) Ltd, in South Africa for processing at their Namzinc refinery located in Rosh Pinah, Namibia.

The processing of this material will produce 75 000 tonnes of industrial sulphuric acid, that would then be transported within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz for export. Within the existing warehouse at the port, a storage facility will be constructed to store 15 000 tonnes of sulphuric acid.

ESIA Project Details: Three Environmental and Social Impact Assessments (ESIA) will be undertaken for this project due to the different materials being stored and transported, and due to the geographical extent of the three project areas. The three ESIAs that will be conducted are:

1. Transportation of zinc sulphide concentrate from the Oranjemund border to the Namzinc refinery, in the !Karas Region, Namibia;
2. Transportation of industrial sulphuric acid from the Namzinc refinery, within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia; and
3. The construction of a bulk storage and handling facility for industrial sulphuric acid at the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia.

I&APs Registration: The purpose of the review and registration period is to introduce the proposed project and to afford Interested and Affected Parties (I&APs) an opportunity to register and comment on the Non-Technical Summary (NTS), to ensure that potential issues and concerns are brought forward, so that they can be considered and assessed during the impact assessment process.

The registration period is effective from **10 to 24 February 2021.**
I&APs and stakeholders are required to register for the project at: https://eccenvironmental.com/projects/

The team at ECC will then maintain contact with all registered I&APs to engage and to keep them informed as the ESIA process develops. ECC will also provide registered I&APs input opportunities and review periods throughout the assessment process.

Environmental Compliance Consultancy
Registration Number: CC/2013/11404
Members: Mr JS Bezuidenhout or Mrs J Mooney
PO Box 91193, Klein Windhoek
Tel: +264 81 669 7608
E-mail: info@eccenvironmental.com
Website: http://www.eccenvironmental.com
Project ID: ECC-99-313-ADT-10-O

skorpion zinc

LOSING CONTROL?

AA

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HELP FOR RELATIVES OF ALCOHOLICS

AL-ANON Family groups offer help for friends and relatives of alcoholics.
They provide assistance for people who live with alcoholics.
Dawnnam@gmail.com
VENUE:
cnr Lüderitz and Kasino Street
DATE AND TIME:
Thursdays at 19H00

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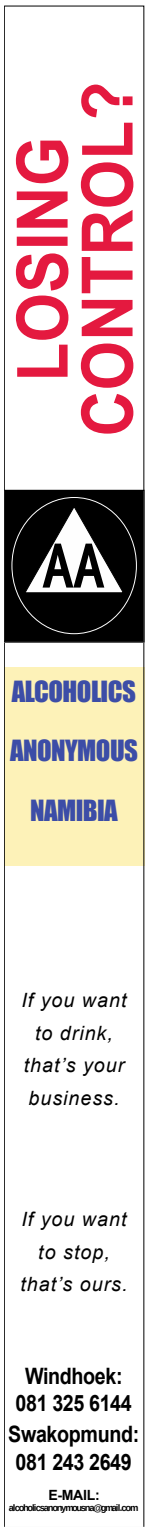
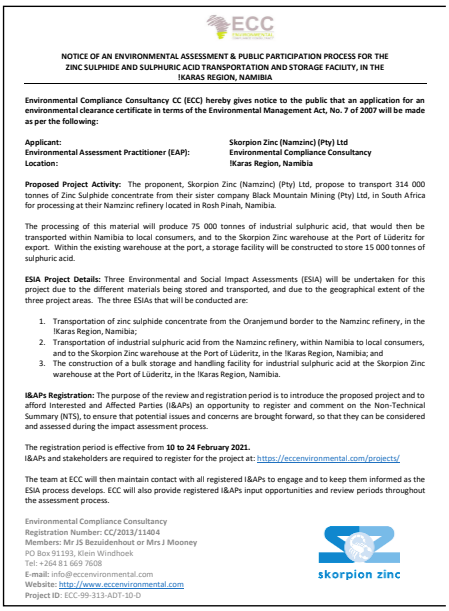
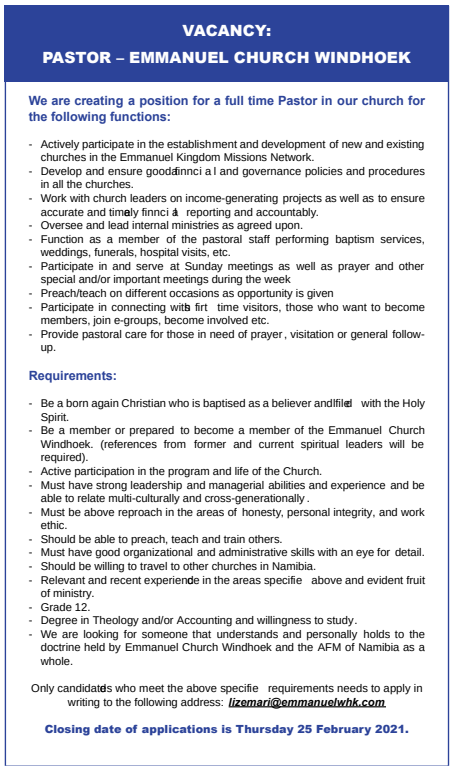
•PANEELKLOPPERS •NYWERHEDE •RESTAURANTE
•SKOLE •VERPAKKINGSMATERIAAL
per kg
Prys op aanvraag
SKAKEL AGNES: 330 500 OF CHANTEL: 330 502
2 - 4 EIDERSTRAAT, LAFRENZ INDUSTRIEEL

The following was advertised in the 'Republikein, Sun, and Allgemeine Zeitung' newspapers on the 17th February 2021.

8 Republikein Sun Allgemeine Zeitung Market Watch WEDNESDAY 17 FEBRUARY 2021







APPENDIX C.1 - SITE NOTICES AND STAKEHOLDERS LETTER

Boundaries of the Port of Lüderitz

Near by the Engine service station in Rosh Pinah

Near by the boarder post in Oranjemund

COPY

MINISTRY OF WORKS AND TRANSPORT
2021-02-17
RECEIVED MAURICE
OFFICE OF THE EXECUTIVE DIRECTOR

+264 81 669 7608
info@eccenvironmental.com
www.eccenvironmental.com

Stamped Received By:

Ministry of Mines and Energy: MINISTRY OF MINES AND ENERGY OFFICE OF THE EXECUTIVE DIRECTOR 2021-02-17 Lydia RECEIVED	Ministry of Environment, Forestry and Tourism: MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM DIRECTORATE OF ENVIRONMENTAL AFFAIRS 17 FEB 2021 Tel: 061 284 2701 RECEIVED 2 Signature:
Ministry of Fisheries and Marine Resources: MINISTRY OF FISHERIES & MARINE RESOURCES OFFICE OF THE EXECUTIVE DIRECTOR 17 FEB 2021 RECEIVED By:	Ministry of Works and Transport:
Ministry of Agriculture, Water and Land Reform: Natalia RECEIVED 061208 7649 2021-02-17 EXECUTIVE DIRECTOR'S OFFICE MAWLR	Ministry of Safety and Security: MINISTRY OF HOME AFFAIRS, IMMIGRATION, SAFETY & SECURITY RECEIVED 18 FEB 2021 OFFICE OF THE EXECUTIVE DIRECTOR

REFERENCE: ECC-99-313-LET-12-A
10 February 2021

Identified Stakeholder and or Potentially Interested Party:

Dear Sir or Madam:

RE: NOTIFICATION OF ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED ZINC SULPHIDE AND SULPHURIC ACID TRANSPORTATION AND STORAGE FACILITY, IN THE !KARAS REGION.

Environmental Compliance Consultancy (ECC) has been engaged by **Skorpion Zinc (Namzinc) (Pty) Ltd**, the proponent, to act on their behalf for the environmental clearance certificates applications.

ECC is conducting the Environmental and Social Impact Assessment (ESIA) in terms of the Environmental Management Act, No. 7 of 2007 and will be submitted to the competent authority and the Ministry of Environment, Forestry and Tourism for a record of decision.

ENVIRONMENTAL COMPLIANCE CONSULTANCY CC
PO BOX 91193 WINDHOEK, NAMIBIA
MEMBERS: J L MOONEY & JS BEZUIDENHOUT
REGISTRATION NUMBER: CC/2013/11404

The proponent, Skorpion Zinc (Namzinc) (Pty) Ltd, propose to transport 314 000 tonnes of Zinc Sulphide concentrate from their sister company Black Mountain Mining (Pty) Ltd, in South Africa for processing at their Namzinc refinery located in Rosh Pinah, Namibia.

The processing of this material will produce 75 000 tonnes of industrial sulphuric acid, that would then be transported within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz for export. Within the existing warehouse at the port, a storage facility will be constructed to store 15 000 tonnes of sulphuric acid.

ESIA Project Details: Three Environmental and Social Impact Assessments (ESIA) will be undertaken for this project due to the different materials being stored and transported, and due to the geographical extent of the three project areas. The proposed routes and location of the projects are provided on the maps hereto attached. The three ESIAs that will be conducted are:

1. Transportation of zinc sulphide concentrate from the Oranjemund border to the Namzinc refinery, in the !Karas Region, Namibia;
2. Transportation of industrial sulphuric acid from the Namzinc refinery, within Namibia to local consumers, and to the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia; and
3. The construction of a bulk storage and handling facility for industrial sulphuric acid at the Skorpion Zinc warehouse at the Port of Lüderitz, in the !Karas Region, Namibia.

This letter is intended to engage stakeholders and potentially Interested and Affected Parties (I&APs) of the project and provide a communication channel to ECC for the project. You have been identified as either a stakeholder, interested or affected party; therefore ECC wishes to inform you of how you can become involved in the project.

Public participation is an important part of the EIA process, as it allows public and stakeholders to obtain information about the proposed project. Public participation occurs at various stages throughout a project lifecycle including:

- Advertising in newspapers;
- Distributing a Non-Technical Summary (NTS) to identified stakeholders and I&APs;
- Registered I&APs will also be informed of the available draft scoping report for a 7-day comment and review period, during this period I&APs will have the opportunity to review the draft document and raise any issues or concerns, and
- Stakeholders and I&APs who wish to register as an I&AP must do so on the ECC website as per the link provided below: https://eccenvironmental.com/projects/

If you are unable to complete the registration form online please email info@eccenvironmental.com and request an electronic copy of the form that you can complete, sign, scan and return via email to info@eccenvironmental.com to register as an I&AP for the project.

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ECC values community input and participation in our projects and we look forward to working with you as the project develops.

The NTS can also be obtained from our website and provides a brief overview of the proposed projects https://eccenvironmental.com/projects/

Should you have any questions or require additional information please do not hesitate to contact either of us.

Yours sincerely,

Stephan Bezuidenhout
Environmental Compliance Consultancy
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Email: stephan@eccenvironmental.com

Jessica Bezuidenhout Mooney
Environmental Compliance Consultancy
Office: +264 81 669 7608
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ENVIRONMENTAL COMPLIANCE CONSULTANCY
CC/2013/11404
10 FEB 2021
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Environmental Compliance Consultancy website:

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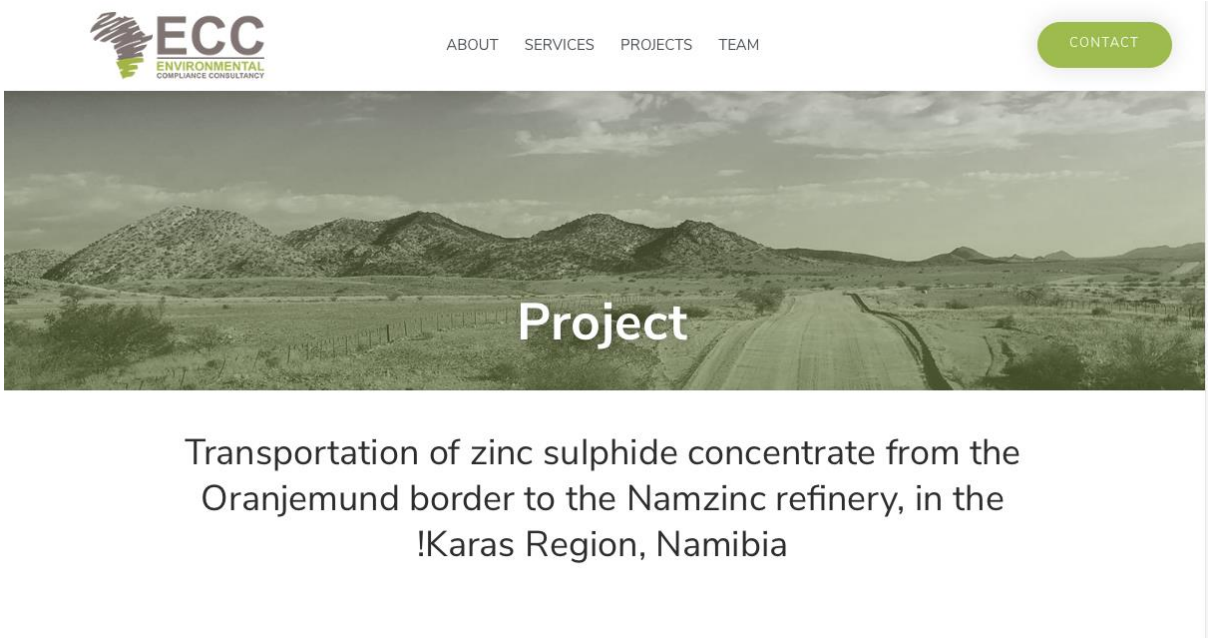

APPENDIX D - CONCEPT NOTE, DESIGNS AND MODELLING

APPENDIX E - TRANSPORT ROUTE ASSESSMENT

APPENDIX F - NOISE ASSESSMENT

APPENDIX G - ECC'S CVS