

FINAL ENVIRONMENTAL SCOPING REPORT
(DEAT APPLICATION NO. 12/12/20/806)

for the proposed
PHASE 2 EXPANSION OF THE TRANSNET IRON ORE HANDLING
FACILITY, SALDANHA BAY, WESTERN CAPE

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EXECUTIVE SUMMARY

INTRODUCTION

Transnet has identified the need to expand the current capacity of the bulk iron ore handling facilities along the Sishen - Saldanha Export Corridor, culminating at the Port of Saldanha. This is in response to the increased requirements of the mining companies to export more product and thereby growing the economy of South Africa (Figure 1). The expansion includes the increase of the iron ore handling capacity from approximately 45 to 93 million tonnes of iron ore per annum (MTPA), along with associated infrastructure at the port. The planned expansion of the iron ore handling facility will be undertaken in two stages: i.e. expanding infrastructure to cater for 67 MTPA (Phase 2A), and to cater for 93 MTPA (Phase 2B).

A Joint Venture of PD Naidoo & Associates (Pty) Ltd (PDNA) and SRK Consulting (SRK) (The Joint Venture) has been appointed by Transnet to undertake the required Environmental Impact Assessment (EIA) for the proposed expansion of the iron ore handling infrastructure at the Port of Saldanha, hereafter referred to as the "Proposed Phase 2 Expansion of the Transnet Iron Ore Handling Facility, Saldanha". A separate and independent EIA is being undertaken for the upgrade of the rail facilities between Salkor Rail Yard North to Sishen (DEAT Application Ref: 12/12/20/826).

The process being followed complies with Sections 21 and 26 of the Environment Conservation Act, 1989 (Act No. 73 of 1989), as the EIA process was started prior to the EIA regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) coming into effect. The Scoping Phase of the EIA process is aimed at identifying the important environmental issues and concerns and to focus the impact assessment phase that will follow on the significant impacts and appropriate alternatives. This stage also identifies and discusses alternative layouts for the expansion of the handling facility. As a follow up to the Scoping Phase, the second stage of the process will be a comprehensive environmental impact assessment (EIA) to determine the preferred site layout and to assess the significance of the environmental impacts in detail. Once the preferred site has been selected the methodology of selection as well as mitigation actions to minimise the effect of the impact on the surrounding environment will be further discussed.

Previously, EIAs were conducted for increases in export capacity, firstly from 24 to 38 MTPA (Phase 1A) and then from 38 to 45 MTPA (Phase 1B). In response to concerns raised by the environmental authorities and members of the public about this incremental approach, Transnet decided to conduct a comprehensive EIA to assess the cumulative impacts of an expansion in capacity up to 93 MTPA. The EIA for Phase 1B culminated at Scoping phase, with the Record of Decision issued on 13 March 2006, DEAT Ref: 12/12/20/237. The decision was appealed and the final approval was issued on 15 March 2007 and is currently being implemented.

It is estimated that the EIA for the Phase 2 upgrade will be submitted to the Authorities for authorisation during April 2008. The implementation of the project is expected to be undertaken over a phased period of approximately 4 years from mid 2008 (subject to environmental authorisation) to mid 2012. This would include the entire upgrade to accommodate 93 MTPA. The EIA will include various specialists studies in the Saldanha Bay area¹ which will include air quality, noise, economic impact, and shoreline dynamics.

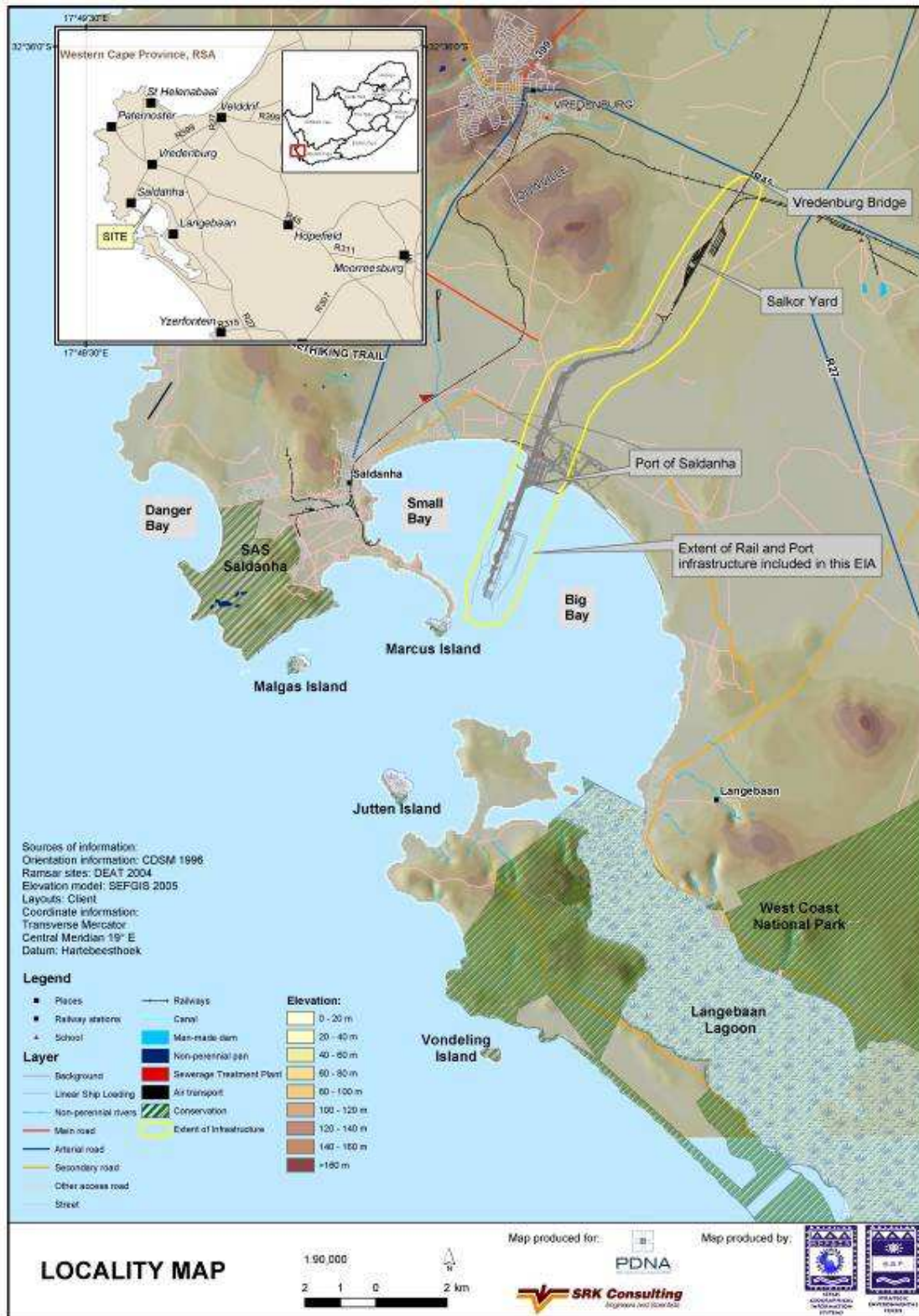


Figure 1: Locality Map of the Port of Saldanha, showing the extent of rail and port infrastructure included in this EIA process.

GENERAL PROJECT DESCRIPTION

The Iron Ore Handling Facility, also known as the Bulk Terminal Saldanha (BTS) functions as the export harbour for iron ore that is mined in the Sishen district of the Northern Cape Province. The iron ore mines are predominantly owned by Kumba Resources and Assmang and currently 32 MTPA of iron ore is transported by rail from Sishen to Saldanha. Of the total, 1.8 MTPA are consumed by the Mittal Steel smelter located at Saldanha Bay. The remainder of the iron ore (30 MTPA) is exported via the Port of Saldanha to the international market. In terms of agreements between Transnet and iron ore mining clients, Transnet will over the next five years invest in port and rail capacity on the Sishen - Saldanha export corridor to complement the investment by iron ore exporters (Business Report, January 2006).

Transnet is currently upgrading the capacity of the iron ore handling facility from 24 MTPA to 38 MTPA (Phase 1A). A Scoping Study was completed in 2006 for a further expansion of the iron ore handling capacity to 45 MTPA (Phase 1B). Authorisation was granted in August 2006 for the Phase 1B expansion. However, the decision was appealed for various reasons. The decision was finally upheld by the Minister of the Department of Environmental Affairs and Tourism in March 2007. The final phase of the expansion is to increase the iron ore handling capacity from 45 MTPA to 93 MTPA (Phase 2A and 2B). The additional iron ore throughput will require the expansion of both the rail side and port side operating infrastructure. The scope of this application does not include any upgrades to the railway line between Sishen/Beeshoek and rail infrastructure north of the Salkor rail yard at Saldanha, and as indicated earlier is being addressed in a separate EIA application process (DEAT Application Ref. No. 12/12/20/826). The extent of Port and Rail infrastructure included in this EIA application includes all infrastructure from the iron ore quay to the rail infrastructure at the Vredenburg bridge, including the Salkor rail yard (see Figure 1).



Figure 2: Current layout of the port.

ALTERNATIVES

The current layout of the port is shown in Figure 2. The underlying philosophy is to develop the iron ore handling facility at the port with the best practicable layout plan, by taking into account the physical, biophysical and social aspects of the environment. To this effect Transnet has identified three proposed layout alternatives for the additional expansion of the Stockyard areas. All three alternatives are described in the Scoping Report with a brief discussion on the advantages and disadvantages for each. In the impact assessment phase of the EIA, a team of specialists will determine which of the alternatives would have the least physical, biophysical and social impacts. Mitigation measures will be proposed in order to minimise potential negative impacts and ensure that benefits outweigh costs. The preferred layout will be identified through the EIA, and the engineering feasibility study being conducted in parallel with the EIA. This will feed into the decision-making process of the authorities.

Further project alternatives have been screened and are presented within Appendix B3. These included areas such as Tippler locations, berth locations and water supply alternatives.

PUBLIC PARTICIPATION

A comprehensive public participation process aimed at allowing the public to participate meaningfully and to be involved at an early phase of the environmental process was followed throughout the Scoping Phase. Through a process of stakeholder identification and involvement, approximately 500 Interested and Affected Parties (I&APs) were identified and subsequently notified of the project by various means. A number of public focus group meetings and public open days were held in the main towns within the study area. These meetings were informative and constructive, giving I&APs an opportunity to raise concerns in a small group environment. These concerns are all highlighted in the Scoping Report and will be addressed further within the EIA Report. The importance of a thorough public participation process, ensuring that the concerns of the people are heard, was borne in mind throughout Scoping.

Initial Public Meetings

Three Public Open Days were held on 15, 16 and 17 August 2006. The Open Days were held at the Langebaan Public Library, Protea Hotel Saldanha and at Vredenburg High School. The Public Open Days were used as an opportunity for I&APs to interact with the EIA team on a one-on-one basis, to obtain detailed information about the project and to raise concerns.

Focus Group Meetings

Seven focus group meetings were held with key stakeholders who were selected on the basis that they represent larger stakeholder groups or have a particular institutional interest in the project. The focus group meetings allowed for a more focussed discussion of those issues specific to the relevant group and facilitated information exchange and circulation within groups of stakeholders.

Issues Register

An issues register is included in this report (Appendix A10). The main issues raised were in the following categories:

- The need to consider alternatives including the **no-development alternative**;
- **Cumulative impacts** of expanding the iron ore terminal;
- **Dust** (iron ore) and its impacts in the area, including the perceived failure of measures to curtail current and past impacts of dust emissions;
- **Lack of confidence in the process of identifying alternatives** and a perception of mistrust of the proponent, due to perceived broken commitments;

- **Ecological issues**, such as impacts of blasting on the marine ecosystem, ballast water management;
- **Impacts on avifauna due to pressures on habitats** of important coastal and terrestrial birds;
- **EIA process** and how it is being conducted in terms of the old regulations instead of the NEMA regulations;
- Heritage issues;
- Marine hydrodynamics, i.e. **the potential impact of dredging on shoreline evolution, turbidity and water quality, ocean currents, increased sediment loading** and impacts of dredge disposal;
- Noise impacts from the Tiplers and rail wagon shunting;
- Planning issues, i.e. communication of long-term **port expansion plans** ;
- **Risk management**, i.e. in the event of oil spillages, etc.;
- **Impact on existing services and infrastructure**, such as increased road traffic, etc;
- **Water issues:** cumulative impact on **limited water resources** in the Western Cape, such as runoff into groundwater, availability of water for dust control;
- **Increased shipping traffic**, with the possible increase in shipping accidents and related **oil spills**;
- Socio-economic issues, such as **job creation** and **competition between migrant job-seekers** and locals; and
- Visual impacts of the iron ore terminal; such as **unsightly infrastructure, discolouration**, and **light pollution** into the national park and potential impact on tourism.

Public Review of the Draft Scoping Report

The Draft Scoping Report (DSR) was published for comment from the 22nd of January to the 23rd of February 2007 at public libraries in Saldanha, Diazville, Vredenburg, Louwville, Langebaan, Cape Town (central library), and The Blue Bay Lodge in Blouwaterbaai. Several I&APs, either identified as key stakeholders or on their request, were provided with additional copies of the DSR by post or email. Comments raised by the public during this period have been incorporated into the Final Scoping Report for submission to the Department of Environment Affairs and Tourism (DEAT) for consideration.

Scoping Report Focus Group Meetings

A second round of focus group meetings were held during the comment period provided for on the DSR. The notes of these meetings, including a list of attendees, are provided in Appendix A12. The purpose of these meetings was to discuss the findings of the Scoping Phase to date, to ensure that all key issues and potential impacts have been identified and adequately recorded and to discuss the proposed specialist studies and their terms of reference. The focus group meetings held were the following:

- Local Authority and Provincial Roads, 8 February 2007, with representatives of the Saldanha Bay Local Municipality and the Provincial Government of the Western Cape (PGWC) Department of Transport and Public Works: Roads Infrastructure Branch;
- Saldanha Bay Local Municipality Councillors, 12 February 2007, with members of the Saldanha Bay Local Municipality Council in the Saldanha Bay municipal boardroom on 12 February 2007;
- Saldanha Bay Forum, 14 February 2007;
- Langebaan Ratepayers Association, 14 February 2007; and
- Conservation bodies and Blouwaterbaai residents, 15 February 2007, i.e. CapeNature, SANP, Cape West Coast Biosphere Reserve and representatives of Blouwaterbaai residents in Blouwaterbaai on 15 February 2007.

Comments on Scoping Report

In addition to the letter (sent to all I&APs on the project database) announcing the release of the DSR and requesting comment from I&APs, key stakeholders were also approached and their written comments requested. At the time of writing this report, 43 written submissions with comments on the study to date had been received from I&APs. Copies of all written submissions are provided in Appendix A11.

RISKS AND KEY ISSUES

A site visit was undertaken in the study area (examining the 3 proposed alternative Stockyard layouts) in order to obtain a cursory overview of the potential risks and key issues associated with the development. Risks and key issues associated with the construction and operational phase were identified and addressed in consultation with I&APs, through a review process based on desk top studies, specialist input and the site visit.

The risks and key issues identified during scoping, which must be carried forward into the EIA phase, include:

- Impact on groundwater quantity and quality;
- Impact on storm water;
- Dust (health and nuisance);
- Visual impacts;
- Noise impacts;
- Beach erosion and litter;
- Social impacts;
- Economic impacts;
- Road traffic impact;
- Impact on electricity supply;
- Shipping traffic and ballast water impacts;
- Waste management and impacts on energy requirements;
- Ecological (terrestrial, avian, marine and botanical) impacts;
- Impacts on sensitive dune systems;
- Marine biodiversity (including compliance with the London Convention);
- Cultural and heritage resources;
- Availability of water for port operations: i.e. various sources such as recycled water, industrial water, desalination of sea water;
- Impact of dredging and disposal of dredged material; and

- Cumulative impacts of expanding the iron ore terminal, especially in the historical context of previous upgrades.

The potential impacts of each of the three proposed Stockyard layouts were identified in terms of the most important parameters applicable to environmental management and alternatives will be assessed in the EIA phase. These impacts are discussed in a preliminary way in this Scoping Report to obtain an overview of the issues associated with each alternative layout.

THE EIA PHASE

In order to assess in detail the impacts and issues identified, a number of specialist studies are proposed. The specialist investigations will include studies addressing the potential issues and impacts of the following aspects:

- Air Quality (Dispersion Modelling Study);
- Avi-fauna and non-avian fauna;
- Cultural heritage,
- Groundwater;
- Marine Studies (Sediment Quality, Water Quality Assessment, Water Quality Modelling, Ecological Assessment (including Ballast Water Issues, Blasting Assessment), Shoreline Stability, with an Integrated report on Marine Impacts);
- Incremental Shipping Risk Study;
- Social Impact Assessment;
- Economic Impact Assessment;
- Vegetation Impact Assessment;
- Noise;
- Traffic and Transportation;
- Energy Supply;
- Visual Impact Assessment;
- Health Impact Assessment (Dust); and

- Integrated Water and Waste Management, Potable Water, Storm water, Sanitation, Domestic Waste, Hazardous Waste, Construction Waste, Industrial Effluent/Waste water. These will all be incorporated into an Integrated Waste and Water Management Plan (IWWMP).

All three alternative Stockyard layouts will be assessed in the environmental impact report. A variety of mitigation measures will be identified to reduce the scale, intensity, duration and significance of the impacts during the construction and operational phases of the proposed development. These measures will be developed in conjunction with the relevant specialists.

CONCLUSION

The Scoping stage identified the scope of work required for the assessment of the proposed expansion of the iron ore handling facilities at Saldanha by identifying potential environmental issues and impacts related to the development. These impacts must now be assessed in further detail during the EIA phase and avoided or mitigated where possible. The process of identifying the preferred option will entail an analysis of the environmental impacts, technical constraints and socio-economic benefits or disadvantages of each alternative. The EIA phase will specifically identify:

- The impacts related to each alternative;
- Indicate possibilities of mitigation to acceptable levels; and
- Compare and contrast all alternatives to determine the preferred option.

The project is to proceed to a detailed impact assessment stage to assess the impacts further, to provide feasible mitigation measures and to choose alternatives that would allow the expected economic benefits to be realised without resulting in unacceptable damages to the environment.

A proposed Plan of Study detailing the terms of reference for the impact assessment phase has been provided (Appendix B5). Central to the next phase is the completion of the specialist studies to assist in the assessment of the residual and cumulative impacts of the expansion. The final Plan of Study for the EIA Phase will be submitted together with the Final Scoping Report to DEAT and DEA&DP. This Plan of Study outlines the terms of reference for the specialist studies; it proposes a strategy to continue the public participation process during the impact assessment phase, and it outlines the proposed impact assessment approach and methodology.

**PHASE 2 EXPANSION OF THE IRON ORE HANDLING FACILITY AT THE PORT OF
SALDANHA**

ENVIRONMENTAL SCOPING REPORT

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LIST OF ABBREVIATIONS

ASGISA	Accelerated and Shared Growth Initiative of South Africa
BID	Background Information Document
BTS	Bulk Terminal Saldanha, a business unit of SAPO
CAPCO	Chief Air Pollution Control Officer at DEAT
CBOs	Community Based Organisations
CD	Chart Datum, which is locally 0.865m below the national land levelling datum called Mean Sea Level (MSL) by surveyors.
CV	Conveyor
DEA&DP	Western Cape Department of Environmental Affairs and Development Planning
DEAT	National Department of Environmental Affairs and Tourism
DECAS	Department of Environmental, Cultural Affairs and Sport (predecessor to DEA&DP)
DSR	Draft Scoping Report
DWAF	Department of Water Affairs and Forestry
DWT	Deadweight Tonnage (typically reported in metric tonnes)
ECA	Environment Conservation Act, 1989 (Act No. 73 of 1989)
EIA	Environmental Impact Assessment
EMC	Environmental Management Committee
FSR	Final Scoping Report
HIA	Heritage Impact Assessment
HV	High Voltage
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
IEM	Integrated Environmental Management
ISO	International Organisation for Standardisation
IWWMP	Integrated Waste and Water Management Plan
JIS	Japanese Industrial Standard
JV	Joint Venture
MCM	Marine and Coastal Management
MPT	Multi-purpose Terminal
MSL	Mean Sea Level (MSL = +0.99m CD)
MTPA	Million Tones Per Annum
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NGOs	Non-Governmental Organisation
NPA	National Ports Authority (of South Africa), a Division of Transnet
PDNA	PD Naidoo & Associates (Pty) Ltd
PDNA/SRK-JV	A Joint Venture of PD Naidoo & Associates and SRK Consulting
POSS	Plan of Study for Scoping
ROD	Record of Decision
SAHRA	South African Heritage Resources Agency
SANP	South African National Parks

SANBI	South African National Biodiversity Institute
SAPO	South African Port Operations, a Division of Transnet
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
SEF	Strategic Environmental Focus (Pty) Ltd
SOE	State-owned Enterprise
SRK	SRK Consulting
TP	Transnet Projects, a Division of Transnet.
WESSA	Wildlife and Environment Society of South Africa

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GLOSSARY OF TECHNICAL TERMS

Alien species: A plant or animal species introduced from elsewhere: neither endemic nor indigenous.

Anthropogenic: of human origin or caused by human actions.

Applicant: Any person who applies for an authorisation to undertake an activity or to cause such activity to be undertaken as contemplated in Section 22(1) of the Environment Conservation Act, 1989 (Act No. 73 of 1989) or in terms of Section 24(5) of the National Environmental Management Act (Act 107 of 1998).

Berth: A place in a port where a ship or boat can be moored, usually with enough room for a ship to turn round in.

Caisson: A retaining, watertight structure used, for example, to work on the foundations of a bridge pier or jetty, for the construction of a concrete dam or for the repair of ships.

Chute: A sloping funnel-like chamber, down which iron ore is loaded into the hold of an ore vessel by utilising gravity flow, guided through a change of direction or from one piece of equipment onto another.

Conveyor: A moving rubber belt used for continuous transportation of iron ore, etc.

Critically endangered: A taxon is Critically Endangered when it is facing an extremely high risk of extinction in the wild, in the immediate future.

Deadweight Tonnage (DWT): Tonnage is a measure of the size or cargo capacity of a ship. Deadweight Tonnage is the tonnage difference in the displacement of a ship when unloaded and loaded. It includes the crew, passengers, cargo, fuel, water, and stores.

Dredging: The mechanical removal of sediment from the sea bed. It entails clearing the bottom of or deepening the sea or a river by excavating mud and waste.

Ecology: The study of the inter relationships between organisms and their environments.

Environment: All physical, chemical and biological factors and conditions that influence an object and/or organism.

Socio-economics: is the study of the relationship between economic activity and social life. Socioeconomics typically analyze both the social impacts of economic activity and economic impacts of social activity. In many cases, however, socioeconomists focus on the social impact of some sort of economic change.

Environmental Impact Assessment: An assessment of the effects of a development on the environment.

Environmental Management Plan: A working document, which can be legally binding and stipulates environmental mitigation measures that must be implemented by several responsible parties throughout the duration of the proposed project.

Eutrophication: Over-enrichment of aquatic systems, such that they are severely disturbed by unnaturally high nutrient loads as a result of natural or anthropogenic processes.

Feasibility Study: An investigation to determine whether a proposed project, system, etc would be desirable, cost effective, etc to develop or put into operation.

Iron Ore: The solid naturally occurring iron deposit which is mined, and from which one or more economically valuable iron products can be produced.

Local relief: The difference in elevation between the highest and lowest points in a landscape. For the purposes of this study, the local relief is based on a scale of 1:50 000.

Ore parcel: A train load of ore that may differ in grade and composition and is stored and loaded as a whole

Quay: Wharf or bank where ships and other vessels are loaded or offloaded.

Soil compaction: Mechanically increasing the density of the soil, by vehicle passage or any other types of loading.

Stacker Reclaimer: A mobile crane-like structure with a bucket loading system used to discharge the ore from a conveyor to form a shaped stockpile of iron ore, or to reclaim the ore from the stockpile and load it onto the feed conveyors for ship loading.

Ship Loader: A large crane-like structure used to load iron ore into ore vessels.

Stakeholders: Those people or organisations that could have an impact on or be affected by the proposed activities and include all people who may be interested in the proponent or its activities. Stakeholders are therefore often referred to as interested and affected parties (I&APs).

Study area: Refers to the area including the Salkor Rail Yard as indicated on the map of the study area (Figure 1).

Succession: The natural process of changes in the communities or species composition of an ecosystem over time.

Tipler: An automated piece of equipment, contained within a building structure, which is used to invert the iron ore cargo railway wagons to offload the ore into bins which feed the conveyor system.

Tonnage: The carrying capacity of a ship, measured in metric tonnes.

Vulnerable: A taxon is 'Vulnerable' when it is not 'Critically Endangered' or 'Endangered' but is facing a high risk of extinction in the wild in the medium-term future.