

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT SUMMARY

Project Name: Kalagadi Industrial Beneficiation Project
Country: South Africa
Project Number: P-ZA-B00-001

1. Introduction

The Bank has been invited to extend a senior loan of up to Euro 150 million to Kalagadi Manganese Pty Ltd, a joint-venture company. The Bankable Feasibility Study (BFS) of the project was prepared in September 2008, on the basis of which the sponsors conducted an Environmental and Social Impact Assessment (ESIA) study. The ESIA has been approved by the Department of Minerals and Energy (DME) and the Northern Cape Department of Tourism, Environment and Conservation (NCDTEC).

This document – the ESIA Summary- aims to present a précis of the major finding of the assessment study. It provides information on the project description and justification, the environmental and social baseline conditions of the project area, the envisaged adverse and beneficial impacts of the project as well as mitigation measures and monitoring programs which would be implemented to ensure that the project is developed and operated in a sustainable manner.

Kalagadi Manganese Pty Ltd (Kalagadi Manganese), a joint-venture company, which owns the mining rights, is the borrower and executing agency of the project. The shareholders of the joint-venture company are: ArcelorMittal (**50%**), Kalahari Resources (**40%**) and IDC (**10%**).

ArcelorMittal is the world's number one steel producing company, with industrial presence in 27 countries. It led the consolidation in the global steel industry and stands as the leading global steelmaker. It is the lead supplier of steel products into all major global markets, including automotive, construction, household appliances and packaging. The Group leads in R&D and technology, and holds sizeable captive supplies of raw materials and extensive distribution networks. The company reported combined revenues of US\$124.9 billion in 2008 and produced 103.3 million tons of steel,

representing approximately 10% of world output. In August 2008, ArcelorMittal purchased 50% interest in the Kalagadi for R3.4bn.

In South Africa, the company is focused on sustainability principles on three dimensions: Health and Safety, Environmental responsibility, Engagement with stakeholders. It is committed to continuous improvement of safety, health and environment (SHE) performance. In meeting this mandate, the company is guided by the Safety, Health and Environment (SHE) policy which is implemented across its activities. The company recognizes the challenges facing its commitments to world class sustainability performance and is committed to compliance with current environmental legislation in South Africa and cooperation with all relevant regulators and government departments.¹

The company has also developed a Corporate Social Investment (CSI) strategy is underpinned by the following principles:

- Addressing socio-economic imbalances.
- Contributing to meaningful transformation.
- Aligning objectives with government programmes such as ASGISA (Accelerated & Shared Growth Initiative for South Africa).
- Empowering historically disadvantaged communities to become self-sufficient.
- Promoting employee participation in social projects.

Kalahari Resources Pty Ltd (Kalahari) was founded by black African women entrepreneurs in 2001 to pursue investments in the mining sector. The Mining and Petroleum Reserves Development Act 2001 opened up the mainstream mining industry to black people. In 2005, Kalahari was granted a new order prospecting license for manganese in the Kalahari Basin. The company initiated a pre-feasibility study which was completed in May 2007 and included the Mineral Resource Estimation, Environmental Impact Assessment and defined the technical scope of the Project. Kalahari has brought together women's groups and entrepreneurs with broad-based participants and beneficiaries, creating a truly South African company, which is committed to transforming society and having a positive impact in the future.

Industrial Development Corporation of South Africa (IDC) is a self-financing, national Development Finance Institution (DFI), which was established in 1940 to promote economic growth and industrial development. The company's vision is to become the driving force behind commercially sustainable industrial development and innovation in South Africa and across the continent. In 2007,

¹ ArcelorMittal South Africa Limited Sustainability Report 2009

IDC bought 20% of the company for a consideration R60 million, which partially funded the Bankable Feasibility Study.

As a development finance institution, the IDC embraces sustainable development practices in the project financing process by integrating environmental management principles into decision-making. IDC has well developed Environmental and Social Management System which sets out IDC's environmental and social policies as well the procedures for integrating these policies in investment decision making. IDC has also established a separate environmental health and safety function department in 2007².

2. Project Description and Justification

Project Description

Kalahari Resources (Pty) Ltd (KR) proposes to establish a new Manganese Mine located on three (3) contiguous farms namely, Umtu (2000 hectares), Olivepan and Gama (both 4500 hectares), constituting a total area of approximately 6300 hectares (ha), located within the Northern Cape Province of South Africa. The project area falls within the Kalagadi District Municipality, situated just outside the Gamagara Municipality. The mine would be designed to produce up to 3.0 million tons of ore per annum and would produce up to 1.5 million tones per annum at full production. The mine would have the capability to produce alternative materials depending on the market demand for these materials. Alternative materials in this case refer to Ferromanganese (HCFeMn) – the primary product or its alternative Silico-manganese (SiMn). These products of the mine are used in alloy-steel production. The mine will be an underground mine and the ore body would be accessed by means of a twin decline, one of which would accommodate the conveyor belt and the employees, material. The second decline would be mainly used as the return airway and serve as the statutory second outlet. The ore will be crushed underground following which, a conveyor belt system will transport the ore out of the mine via one of the twin declines to a surface stockpile. The mineral extraction plant will consist of a secondary crushing and screening circuit, followed by a Dense Media Separation plant (DMS). Thereafter, the ore will be sintered (the powdering ore is heated to form a solid mass) in a sinter plant. Finally, the ore will be transported, by rail, to a smelter, which will be developed in the Industrial Development Zone of Coega, Eastern Cape.

² Industrial Development Corporation of South Africa Sustainable Development Report 2009

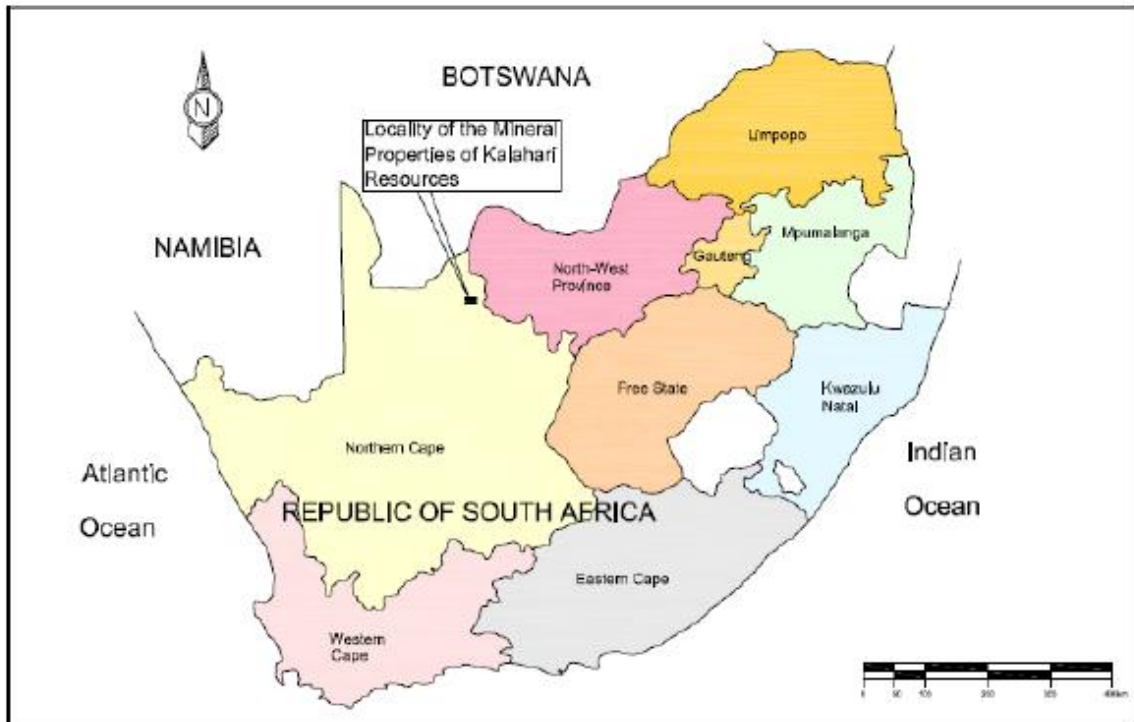


Figure 1: Locality of Mineral Properties of Kalahari Resources (KR, 2006)

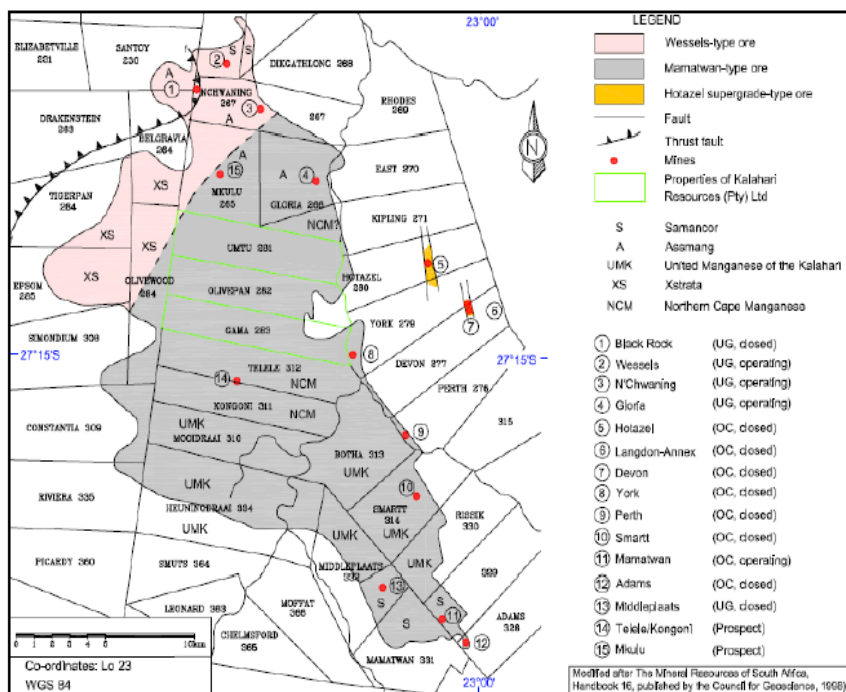


Figure 2: The location of the farms Umtu 281, Olivepan 282 and Gama 283 (outlined in green) in relation to the Kalahari Manganese Field (indicated in grey and pink) and surrounding manganese mines (indicated as red dots) (Council for Geoscience, 1998)

Project Justification

The primary purpose of this project is towards the production of steel-manganese alloys (alloys refer to a mixture of two metal types, in this case iron and manganese). The project area is underlain by the

Kalahari Manganese Field (KMF), the world's largest manganese deposit. Approximately 85 % of the manganese units mined from the ground is used in the production of mild and carbon steels. Based on manganese's pre-dominant use in steel making, manganese market trends closely follow that of the steel market. At present, further increases in the efficiency of manganese application are limited and thus the market for manganese should closely follow that of Steel as there is no current or potential substitute for manganese in steelmaking. It is envisaged that the bulk of manganese produced from this mine would be exported.

3. Policy, Legal and Administrative Framework

This section outlines the legal and regulatory framework, which is relevant to the proposed mine development. The legal and regulatory framework provides the various legal aspects that must be adhered to at project design, implementation and later when it is decommissioned and during operation. The following are the applicable policies and regulations.

African Development Bank Policies and Procedures: Environmental Policy (2004), Policy on Poverty Reduction (2004), Policy on Population (2002), Gender Policy (2001), Policy on, Involuntary Resettlement (2003), Policy on Disclosure of information (2005), Policy on Good Governance, Policy on Public Consultation and Cooperation with Civil Society (2001), African Development Bank Environmental and Social Assessment Procedure (2001). The Bank has also endorsed the Extractive Industries Transparency Initiative (EITI) in 2006.

South Africa's Environmental Policies and Regulations: Mineral and Petroleum Resources Development Act (MPRDA), 2002 (Act No. 28 of 2002), National Environmental Management Act, 1998 (Act No. 107 of 1998); National Environmental Management: Air Quality Act (AQA), 2004 (Act No. 39 of 2004); Air Pollution and Prevention Act, 1965 (Act No. 45 of 1965); National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) and National Spatial Biodiversity Assessment; National Water Act, 1998 (Act No. 36 of 1998); National Heritage Resources Act, 1999 (Act No. 25 of 1999); National Forest Act, 1998 (Act No. 84 of 1998); Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983); and Provincial ordinances of the Northern Cape Province.

4. Description of the Project Environment and Social Baseline Conditions

Geology: The project area is underlain by the Kalahari Manganese Field (KMF), the largest known land-based manganese deposit in the world. It is the largest known land-based manganese deposit in the world. The KMF is comprised of five erosional relicts of the manganese bearing Hotazel

Formation of the Paleoproterozoic Transvaal Supergroup. The manganese ore is of sedimentary origin. The Hotazel Formation, which is the host rock to the manganese ores of the KMF, is composed of three (3) symmetrical iron formation hematite-lutite-braunite-lutite sedimentary cycles that can be traced across the entire KMF and that display a remarkably uniform fine-scale litho-stratigraphy. Geological surveys for the project have indicated other minerals found in the Kalahari Manganese Field formation which include sand, clay, limestone, tillite, quartzite, red and grey shales, dolomite, iron ore.

Climate: In general the climate of the study area can be categorized as sem-arid, based on the unfavorable rainfall for growing crops, with average annual rainfall. The average annual evaporation rate exceeds the mean annual precipitation by more than four (4) times.

The area experiences a relatively extreme climate, characterized by hot days and cold nights. Temperatures vary between -9°C and 42°C , with an average of 18°C . The average maximum temperature for January, the warmest month, is $32,9^{\circ}\text{C}$, and the average minimum for July, the coldest month, is $3,1^{\circ}\text{C}$.

The mean average precipitation (MAP) taken from the closest weather station, Kuruman, located approximately 60 km South-east of the site, is 379 mm. The MAP taken from the closest weather station, Kuruman, located approximately 60 km South-east of the site, is 379 mm

Surface water: The study area itself can clearly be defined as a region with only periodic water flow. It is known that the Ga-mogara River flows only every 20 years.

Ground water: The regional aquifer is the fractured rock aquifer, which under confined conditions can be a major aquifer. It is noted that the Sishen mine (60 km south of the site) is located within a major aquifer. Borehole investigations indicate that parts of the project site may be underlain by either minor to poor aquifers. The indication from the groundwater use survey is that the average water level is at 45 m below surface and that the use is widespread with average yields less than 0.1 L/s, which indicates that the local site is underlain to a large extent by a renewable minor aquifer which may be used as a local source but seldom produces sufficient water for large abstractions.

The overall groundwater quality is good to poor and some investigate boreholes showed elevated concentrations of chloride and fluoride. There is also the possibility of encountering ground water with

unusually high concentrations of dissolved carbon dioxide (CO₂), Manganese Oxide (Mn₃O₄), Iron Oxide (Fe₂O₃), Magnesium Oxide (MgO), Phosphorous, and Boron. This is due to natural soil chemistry of the site.

Topography: The area is characterized by a typical Kalahari landscape characterized by flat plains. The study area has a relatively flat and monotonous topography. The Kuruman Hills are located 20 km east of the site and the Korana Mountains are located 20 km west of the site.

Soil: The dominant soil component of the project area is constituted of fine sand with very low fertility levels. In terms of the soil-landform resources, sensitive areas are typically identified on account of, *inter alia*, water and wind erosion hazards, soil compaction, dustiness and the loss of high potential arable land.

Ecology: The project site falls within the Kalahari Plains Thorn Bushveld, with the characteristic terrestrial ecology which is inherently poor from a floristic point of view, and has few endemic plants. There are, however, many different growth forms. The ecological sensitivity of the site was determined by assessing the ecological function and conservation importance of each ecological zone. Approximately 97 % of the site was considered of *medium* Ecological Function and *medium* Conservation Importance. The remaining three (3) percent was considered of *high* Ecological Function and *medium* conservation Importance. This area consists of the Ga-mogara River bed. It is noted that no red-data list plant species³ (plant species that are considered to be under the threat of extinction) were observed on site. However, given the erratic flowering and growth patterns of Kalahari plants, it is possibility of their occurrence on the site can not be dismissed. The site is still very much in a natural condition supporting many plant and faunal species. The species are also able to function with little human interference. Consequently, approximately 97 % of the site is considered to be of *medium* ecological function and *medium* conservation importance. The Ga-Mogara River and its associated vegetation makes up the remaining three (3) percent, and will also support many plant and faunal species. The large trees in the river systems provide indispensable and essential microhabitats for wildlife in these harsh climatic conditions. Consequently, this area has been classified as being *high* Ecological Function and medium Conservation Importance.

³ Red list plants refer to those plant species that are considered to be under the threat of extinction. This list is derived from the South Africa's Red list System which is based on the International Union for Conservation of Nature (IUCN) Red List Categories and Criteria Version 3.1 finalized in 2001. The South African Red List contains three additional categories (Critically Rare, Rare and Declining) to highlight plant species that are not in

Cultural Heritage: As part of the Heritage Impact Assessment (HIA), an archival study revealed important aspects about the history of the area. The area is characterized by relatively low human presence, with a physical concentration of human settlements located on or near water courses. Notably, a grave site a number of lithic artefacts is located within the 1.5 km buffer zone, it is therefore imperative that the 1.5 km no development zone is maintained.

Current Land Use: The proposed new mine falls in the Kgalagadi District Municipality, one of the five district municipalities of the Northern Cape Province. Described as a cross-border municipality, the largest part of the district area is characterized as rural land and extensively used for grazing, game farming and mining activities. All privately held land is used for cattle, sheep and game farming. The vast mineral wealth of the province attracted Kumba Resources, Samancor, and Associated Manganese into the province to mine manganese and iron ore. The three farms that make up the concession area of Kalagadi Manganese (Umtu, Oilvepan and Gama) are quite some distances from the surrounding town; Black Rock (7 km North west); Kuruman (55 km South east); Kathu (53 km South); Hotazel (4 km East); and Sonstraal (40 km North West).

Socio-economic conditions: In 2001, a census was conducted that put the population of Kgalagadi Municipal District at approximately one hundred and eighty one thousand people (181, 000). The population mostly consists of African people with smaller amounts of White and Colored people also living in the area. Unemployment is more than 50% as majority of people survive on pension/welfare payments and labour intensive jobs, the latter being temporary in nature. The province and the district face real challenges with regard to education and skills development. The Human Resource Development Strategy for the Northern Cape Province indicated that 18.2% of the Northern Cape population was categorized as functionally illiterate. Significant for this province, however, is that almost half of the potential work force is younger than 30 years. At the same time, unemployment is highest among the youth with unemployment rates of 54%. There is also a shortage of basic infrastructure such as transport, housing, water and electricity, which contributes to the lack of economic development in the region.

Until 1998 South Africa had one of the fastest expanding epidemics in the world, but HIV prevalence now appears to have stabilized and may even be declining slightly. Among teenage girls, the rate fell from 16.1% in 2004 to 12.9% in 2007, possibly indicating a drop in the rate of new infections. This has been attributed to a change in safer health practices among younger women. The Northern Cape

danger of extinction, but are of local conservation concern because they are rare, or there are threatening processes impacting their populations.

Province, in which the Kalagadi District Municipality falls, has HIV prevalence statistics which are lower than the national average.

The main economic activities are farming and mining. Mining activities are mainly iron and manganese, with some of the biggest deposits in the world found in the Northern Cape Province. According to the Human resource development strategy for the Northern Cape Province (2004: 8) the Northern Cape Province is the largest of the nine (9) South African provinces but has the smallest population at only 822 727. The province accounts for some 7 % of global diamond exports (by carat), 13 % of all zinc and lead exports and more than 25 % of the world's manganese exports. Mining giants like Iscor, Samancor, Goldfields, PPC Lime, Alpha and Assmang operate in the Northern Cape. The province also supplies most of the country's iron ore production. Other important metals and minerals include copper, limestone, gypsum, rose quartz, tiger's eye, mica, verdite and semi-precious stones. To a large extent, the processing of these metals and minerals takes place outside the province. Opportunities exist for investors to establish processing plants to add value to these minerals within the Northern Cape. The surrounding land uses in the area comprise primarily other mines as well as game farms.

The Northern Cape Province has articulated its strategic priorities, the summary of which is as follows:

- **Job Creation** - this is to be achieved through rural access roads, implementation of preferential procurement system.
- **Investment Creation** - this can be achieved through the strengthening of Small, Medium and Micro Enterprises (SMME's) policy of affirmative procurement.
- **Rural/Urban Development** - this is to be achieved through resettlement of families on their ancestral land, promote an implementation of the five Year Strategic Policy of the Northern Cape.
- **Infrastructure Development** - this involves building, rehabilitation and maintenance of social and economic infrastructure (e.g. school, hospitals, parks, water supply, roads, energy.)
- **Combating Crime** - this is to be achieved by enforcing code of conduct for Public Servants, preventing gangsterism, drug and violence at schools.
- **Skills Development** - this evolves skills development, training, capacity building.

- **Combating the impact of HIV/AIDS** - to be achieved through a review of cost of medical treatment and hospitalization, institutional as home-based care, education/information/awareness campaigns, selected social security grants and welfare projects/institutions, nutrition schemes.
- **Poverty Alleviation** - Job Creation has an impact on poverty alleviation, infrastructure development or investment in infrastructure and /or investment creation has an impact on job creation.

5. Project Alternatives

In the context of the proposed project, considerations for site alternatives do not apply as the location of the mine is determined by the geological location of the mineral resource, Furthermore, the study area is defined by the limitations associated with the prospecting right as issued by the Department of Minerals and Energy.

However, considerations for social, environmental and economic sustainability have been applied in decisions on other aspects of the proposal including: Site layout; Tailings site selection; Disposal of tailings; Access roads; Recycling; Energy savings and Technical Design. These considerations would ensure that beneficial impacts are optimized while adverse impacts are avoided or at least minimized.

In terms of the no-project scenario, in the implementation of the proposed development there is a potential impact on aquatic ecology. If no development were to continue, the status quo would apply and no physical change would accrue to the environment.

Simultaneously, if the development is not approved, the area will not be benefited by job creation and the demand for manganese for use in the production of steel will remain. This may have a negative effect on the economy of South Africa and the steel industry as a whole, as the price of manganese will be inflated by the deficit.

Also, the proposed project, in contrast to the no-project scenario, would lead to the protection of the identified heritage resources through the physical demarcation and isolation of restricted zones.

6. Potential Impacts and Mitigation/Enhancement Measures

Adverse Impacts:

The construction phase of the proposed project would involve some adverse impacts which can be reduced. These impacts include; decrease in ground water levels due to dewatering of the underground mines. The significance of these impacts on water resources is rated low to medium due to their importance to other users. Other impacts include those on terrestrial ecology through land clearing, impacts on fauna and aquatic ecology, impacts on air quality and noise levels and impacts on traffic.

During the operational phases the adverse impacts would include possibilities of groundwater and surface water pollution due to seepage from slime dams, alteration of landscape, visual impacts, and displacement of wildlife and noise, impacts on traffic.

Air quality impacts due to dust particle emissions are rated as low to medium during construction, medium to high during the operational phase, low to medium during the closure phase and medium during the post closure phase. Throughout all phases of the mine the air quality impacts can be mitigated to a level of significance rated as low.

In the same light green house gas emissions associated with the project is linked to energy supply systems managed by Eskom. The mine's 40MVA power requirement will be supplied by a 132kV line to be constructed from the Ferrum Substation on the Eskom grid, located close to the Sishen Mine. The 180MVA power requirement to the smelter site will be supplied from Coega IDZ Eskom grid.

The smelter will run an electric furnace while the sinter plant will use coke or char fines. However start-of- the-art technologies can be adopted to achieve higher energy use efficiency which would lead to lower greenhouse gas emissions that are directly linked to the projects processes. Energy savings can be achieved in the range of 10% to 30% at the different stages of the project and this directly leads to reduction in green house gas emissions.

Railway related emission will come from diesel powered locomotives. Pollutants in this respect will include particulates, nitrogen oxide, sulphur oxide, carbon monoxide and various hydrocarbon volatiles. These impacts would be mitigated through the regular maintenance of the locomotive engines.

The risk of manganese dust and fugitive dust pollution is also applicable to the project; however this can be managed extensively by good management practices. For example a dust extraction plant which is complies with ISO 14001 will be will be installed at the sinter.

Smelting facilities are significant emitters of pollutants (CO NO_x, fine metal particulates, SO_x Dioxins, waste water etc) which may result in health and safety hazards. To mitigate these risks the smelter will be will be situated within an approved Coega industrial development zone and will be operated following a comprehensive environmental, health, and safety program. An environmental impact assessment has already been conducted for the Coega industrial development zone.

Visual impacts would be in form of the alteration of and intrusion into the “landscape character” with respect to the natural views of the Kalahari Bushveld. Heritage resources may also be impacted, identified sites would however be managed appropriately.

Other socio-economic impact during all phases of the project may result from impacts on the tourism potential of the area and the presence of worker from other areas; this may be in form of health risks and pressure on local utilities, conflicts due to competition for employment opportunities.

Positive Impacts:

Major positive socio-economic impacts of the proposed project include its contribution to the revival of mining activities in the Northern Cape, which is relatively underdeveloped; the project will provide significant economic benefits to both provinces by providing long-term employment and wealth creation benefits during the life of the project estimated to be in excess of 30 years. The project will create in excess of 1,000 direct jobs and 19,767 indirect jobs in both provinces.

Furthermore, the household income is estimated to increase by R 767m in Northern Cape and Rands 865million in Eastern Cape. In the broader economy, as a result of the project, household income will increase by Rands 3.2billion, and Government tax revenue boosted by R 4.4billion.

Through the implementation of its management plans, the project would also contribute to the conservation and protection of sites and artefacts of archaeological and/or cultural interest.

Mitigation and Enhancement Measures:

The project proponents have developed an encompassing environmental and social management plan which indicates the time line and responsible entities for the different actions to be taking for avoiding or at least reducing adverse impacts. The project would also develop an Environmental Management System which is expected to be in compliance and in full compliance with ISO 14001. Some of the notable measures will include the following;

- Implementing the 1.5 km buffer zone along the non-perennial river, will reduce intrusions and interference with this river and its immediate surroundings which are considered to be of high ecological importance. No surface development will be carried out within this buffer zone.
- Developing proper chemical storage facilities to avoid environmental contamination.
- Important infrastructure components like the tailing dam will be designed to meet applicable legislative specifications.
- Water management and retention facilities minimize water wastages and ensure improved runoff volumes.
- Proper management of material stockpiles to avoid erosion induced losses and contamination
- Minimizing topsoil stripping to a maximum depth of 150mm to reduce impacts to soil structure.
- Properly identifying ecologically important plants prior to construction and making efforts to incorporate these into the development design.
- Applying proper mitigation measures in infrastructure design to reduce air pollution from dust particles.
- Providing adequate training and conditions for operation in line with stipulated industry health and safety standards.

Environmental Hazard Management

Major hazard which may be associated with the project is with respect to occupational health risks. Due to the nature of their work activities, employees of the might be subjected to dangerous working conditions. This is part of the occupational hazard associated with mining, and the people performing the tasks should have the necessary training and experience to conduct their work in a professional and safe way. It is important to bear in mind that this is a voluntary risk on the part of the miners. Mining is a dangerous industrial activity. There is a possibility that people may get injured or even die whilst executing their duties at the mine. However, safety standards and auditing requirements in the mining

industry in South Africa is well advanced and these are strict safety standards in the industry to which the project proponents must adhere.

To mitigate these risks the mine must ensure that all contractors on their site adhere to the rules. The mine will ensure that all employees are adequately trained and qualified to perform their duties. Visitors must be familiarized with the safety precautions of the project. This aspect will be addressed by the Occupational Health and Safety officer employed by the project proponent.

7. Monitoring Program

This section shall summarise the surveillance and monitoring activities proposed in the Environmental and Social Management Plan prepared for the project. It shall identify the roles and responsibilities of stakeholders in the implementation as well as the estimated cost of the activities.

An environmental and social monitoring program will be implemented with respect to all aspects of the project at all phases of the project including post-closure.

Monitoring activities would also cover several issues like employment statistics, occupational health and safety etc as required by applicable legislations. Monitoring activities would also extend to impacts on plants and biodiversity etc. In this respect it is of particular importance to monitor impacts of the project on groundwater and air quality. This is in view of the direct linkage to the project activities (underground dewatering and dust generation from ore handling) and scope of adverse impacts on these aspects of the environment.

Groundwater monitoring would involve a full spectrum analyses of water samples carried out on a monthly basis for at least one year. The analyses which would be carried out by accredited laboratories would cover issues of groundwater levels, flow rates and water chemistry.

An air quality monitoring program involving “dust fall” monitoring would be implemented. This would provide information on the success of measures aimed at mitigating sources of particulate emissions.⁴ This program will be implemented following the American Society for Testing and Materials standard test method for collection and analysis of dust fall (ASTM D1739).⁵

⁴ Particulate emission is important considering linkages to health hazards and fine metal particles.

⁵ ASTM D1739 is an internal measuring methodology recommended by the US EPA and also recognized as accepted practice in the National Framework for Air Quality Management in the Republic of South Africa (2007).

Overall, following the Mineral and Petroleum Resource Development Act, 2002 (MRDA) and associated Regulations the prescribed Environmental Management Program will be continually assessed in terms of its appropriateness and adequacy.

In terms of institutional responsibilities; ultimately, the project company is bound to responsibilities for ensuring that they adhere to all conditions contained in the environmental approvals. Contractors as project implementing agents on are bound to conditions as would be stipulated in the contractual agreements and are therefore responsible for fulfilling relevant parts of these agreements.

A SHEQ contracting company will be employed by Kalahari Resources during the construction phase, in order to address the Environmental Aspects of the Construction Phase. Once Operation of the mine commences, an SHEQ Department will form part of the management team of the Umtu Mine. A fulltime Environmental Control Officer (ECO) will be appointed during the Construction Phase. Once operation of the mine commences, the responsibilities of the ECO will be transferred to the Safety Health and Environment Quality (SHEQ) Department within the project company. The ECO employed during the construction phase must attend relevant project meetings, conduct inspections to assess compliance with the EMP and be responsible for providing feedback on potential environmental problems associated with the development of the mine. In addition, the ECO is responsible for: liaison with relevant authorities; liaison with contractors regarding environmental management; and undertake routine monitoring.

In terms of costs for environmental and social management activities; some of these costs have already been integrated in the design of the mine operation in the application of environmental and socially sustainable alternatives. In addition, a guarantee of Rand 43.8 million has been provided for the rehabilitation of the natural environment in the event of early termination of the mine operations. Once the project is commissioned and is generating economic profits, the guarantees will be replaced by an environmental trust.

8. Public Consultations and Public Disclosure

This section shall outline the actions undertaken to consult the affected groups and other concerned key stakeholders including Civil Society Organisations. It shall identify the documents that were disclosed and subject to consultations. It shall also present major findings and outcomes of public consultations and specify how concerns were addressed.

Phase 1

The initial public participation process commenced on the 3rd February 2006 and included advertisements in local and regional newspapers, erection of notices on site, in Kuruman, Kathu, Black Rock and Hotazel; direct notification of key stakeholders by means of a Background Information Document (BID) in both English and Afrikaans, distribution of five hundred flyers, two (2) focus group meetings (17th February 2006) and an information Session followed by a Public Meeting (18th February 2006). On the 17th July 2006, the draft Scoping Report was made available for a 30 day comment period ending on the 23rd August 2006. The identified stakeholders include Government Agencies, Adjacent Landowners and Business, Educational Institutions, Non-Governmental Organizations etc.

Phase 2

Two Public Information Sessions were held on the 1st August 2006 at the Kuruman Town Hall and the Hotazel Recreation Club. The purpose of these information sessions was to discuss the findings contained within the draft Scoping Report and acquire additional public input.

Phase 3

The Draft EIA and EMP were available for public review from the 9th to the 30th March 2007 in the Kuruman Library, Wrenchville Library, Mothibestad Library, Hotazel Recreation Club, and Cassel Library. Public comments and concerns were incorporated into the Final EIA and EMP, which was submitted to the Northern Cape Department of Mines and Energy (DME) for their consideration on the 5th April 2007. Public meetings were held on the 15th and 16th March 2007 to discuss key findings of the EIA. Once the comment period ended, the Environmental Impact Report (EIR) was updated and the Final EIR is submitted to the DME for review. The project will continue to engage all relevant stakeholders at all subsequent phases of the project through its community liaison programs.

9. Complementary Initiatives

Skills development Plan

The project proponents have developed a Social and Labour Plan with its main focus on Skill Development which will benefit the immediate communities. The aim of the Skills Development Plan is to ensure that the environment and the leadership / management of the company both create a culture that is conducive to ongoing learning and development for all employees, and that all learning interventions result in life long learning. The project proponents have undertaken to endeavor to source and employ at least 40 % historically disadvantaged South Africans in positions of various levels of management and 10 % women in core mining roles. Employment Equity policy and goals will be set that ensure legislative compliance from all Government Departments and the exceeding thereof – not only in terms of targets but also with respect to processes including Strategies and Forums. Objectives will have timelines that will be reviewed on an annual basis and will constantly raise goals not only in total numbers but also in the ratio of the numbers apportioned across management levels. Kalahari Resources (Pty) Ltd. undertakes to review all areas prescribed in the Employment Equity Act, 1998 (Act No. 55 of 1998), as a matter of priority in the establishment of the mine, including Employment Equity Statistics.

Financial Provisions for Mine Closure:

Financial provision will be in the form of an approved contribution to a trust fund which would be used to address costs for the decommissioning and closure of the mine operations. The financial provision will be provided for the first year of operation of the mine, assuming premature closure. Financial provisions would also be for the decommissioning and final closure of the operation.

10. Conclusion

In conclusion an Environmental and Social Impact assessment has been carried out which satisfies the applicable national legislations and relevant requirements applicable to the Environmental and Social Safegaurds Policies and Procedures of the African Development Bank. This assessment has also enabled the recommendation of mitigations action which are aimed to mitigate the adverse impacts of the project. The major adverse impacts of the project which can be readily mitigated include impacts on groundwater, air quality, terrestrial and aquatic ecology of the Ga-mogara.

Some of the mitigation actions to be implemented will include the preservation and protection of a 1.5 km no development zone occurring along the length of the Ga-mogara River located within the study area, design of tailing dams and other operating infrastructure to meet applicable health and safety standards and the implementation of strict monitoring programs for environmental and social parameters.

It is therefore recommended that the loan conditions and covenants for this project make explicit requirements for strict implementation and compliance to the recommended mitigation actions as contained in the relevant Environmental and Social Management Plans as well as other recommendations by the national government authorities.

11. References and Contacts

References

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