Environmental Impact Assessment Report (ESIA) Study Report for Proposed Iron Ore extraction plant in Tokechir, Mbaru area of West Pokot County

PROPONENT

Shaneebal Limited,

P.O. Box 74675-00200,

Nairobi, Kenya

AUGUST, 2020

CERTIFICATION

Certification by Lead Expert

I hereby certify that this Environmental Impact Assessment (EIA) Study Report for the proposed Mini-Iron Ore Extraction Plant in Mbaru area, West Pokot County has been done under my supervision and that the assessment criteria, methodology and content reporting conform to the requirements of the Environmental Management and Coordination Act Cap. 387 of the Laws of Kenya.

Signed: _____

Names: SIMON R.KAMAU

EIA/EA LEAD EXPERT

Reg no 8550

Certification by Proponent

We, **Shaneebal Limited,** confirm that this Environmental Impact Assessment (EIA) Study Report for the proposed Mini-Iron Ore Extraction Plant in Mbaru area, West Pokot County has been prepared and submitted to NEMA with our authority as the proponent.

Signed for and on behalf of **Shaneebal Limited,**

Name: *IQBAL OMAR* **Signature: _____**

Date: *25/08/2020*

Proponent Contact Details

Shaneebal Limited,

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Nairobi, Kenya.

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DOSHS Directorate of Occupational Safety and Health Services

EIA Environmental Impact Assessment

EMCA Environmental Management and Coordination Act

EMP Environmental Management Plan

GoK Government of Kenya

KFS Kenya forest service

MGR Meter Gauge Railway

NEMA National Environment Management Authority

OSHA Occupational Safety and Health Act

PPE Personnel Protective Equipment

SDG Sustainbale Development Goal

TBD To be determined

TOR Terms of reference

VOC Volatile Organic Compounds

WRA Water Resource Authority

WSB Water Service Board

WSP Water Service Providers

WSRB Water Service Regulatory Board

EXECUTIVE SUMMARY

The proponent, Shaneebal Limited, commissioned experts to conduct an Environmental Impact Assessment (EIA) Study and to Report for the proposed iron open cast extraction plant (mine) which lies within the Mbaru area of West Pokot County. The EIA study is prepared in accordance with Section 58 of Environmental Management and Coordination Act Cap. 387 of the Laws of Kenya. The document aims to provide baseline information of the environmental and social conditions of the project area and enable future monitoring of the environmental performance of the project.

In carrying out the EIA study, the consultants used various methods which are prescribed by the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003. These included site visits and observations, photography and public consultations. This stage followed exploration stage carried out by geologists from 8th July, 2019 and 10th July, 2019. The resource was inferred at1, 917,679 metric tonnes. The average production per day is estimated at 500 Metric tonnes.

The proposed project features an open cast mine and auxiliary facilities such as access roads, water tanks, site offices, sanitary facilities, generator room and explosive stores among others. Four main process will occur during mining; blasting, loading and transportation, crushing which will break them into different categories of aggregate.

The proposed project will have both positive and negative impacts. The positive impacts will include stimulation of industrial development in line with Kenya's Vision 2030, mitigation of national and regional demand for aggregates, source of revenue to both the County and National Governments, income generation to the proponent and creation of employment opportunities to both locals and non-locals. However, negative impacts on the environment will also manifest during the pre-establishment and establishment (Planning and Construction), operational and possible decommissioning phases of the aggregate mine.

At the pre-establishment and establishment phase, the possible negative impacts will include environmental risks of obtaining raw materials for construction works, occupational safety and health, water demand and effluent generation, solid waste generation, air and noise pollution.

At the pre-establishment phase, the proponent will obtain a change of user from the County Government of West Pokot before commencement of work. To mitigate the impacts of the establishment phase, the contractor will ensure sufficient quantities of materials are procured for the intended works and they are sourced from sites that are licensed as per the Environmental Management and Coordination Act Cap. 387 Laws of Kenya. The workforce and visitors to the site will be exposed to potential health and safety risks such as injuries and potential accidental falls. To mitigate these impacts, the proponent will register the site as a workplace with the Directorate of Occupational Safety and Health Services (DOSHS), provide and enforce the use of Personal protective Equipment (PPE), provide the correct equipment for the jobs assigned and

train the employees on their use, obtain insurance cover for the employees and comply with the provisions of the Occupational Safety and Health Act, 2007. The proponent will also procure and deliver to the site mobile toilets from a NEMA licensed solid waste contractor for use by the workers during the construction phase of the project cycle and ensure compliance with the Environmental Management and Coordination (Water Quality) Regulations, 2006.

Construction of the auxillliary facilities activities and workers are expected to generate solid waste. These will be disposed of by contracting the services of a NEMA licensed waste handler and ensuring compliance with the Environmental Management and Coordination (Waste Management) Regulations, 2006. Air and noise pollution from construction activities is expected. The report recommends sprinkling of water on excavation areas, provision and enforcement of the use of PPE and ensure compliance with the Air Quality Regulations, 2014 and Noise and Excessive Vibration Pollution (Control) Regulations, 2009.

Mining operations have the potential to have adverse effects on the environment including land degradation, effects on landscape and visual intrusions, occupational health and safety, increased water demand and wastewater generation, increased energy demand, solid waste generation, air and noise pollution, ground and surface water pollution, impacts of electric blasting, impact on biodiversity and road damage.

Land degradation will result from stripping of the topsoil and excavation to expose the ore-bearing rock. The proponent and contractor will treat these by initializing stabilization of the open pits walls and restoring the affected areas through rehabilitation of decommissioned Mine pits. Generation of overburden during excavation will be evident which If inappropriately disposed; it becomes an eyesore in addition to harboring insects and disease causing vectors. The overburden will later be reused as backfilling material in site rehabilitation and restoration. To mitigate the impact of visual intrusion resulting from stockpiles and Mine waste piling as well as Mine depressions, the proponent will take into consideration the existing landforms, settlements and vegetative cover in sitting and establishment of the Mine, backfill the Mine pits where applicable using the overburden generated and locate stockpiles, overburden, Mine waste & haul routes away from sensitive landscape & visual receptors.

Sections of the proposed site that will be cleared to pave way for excavation and other Mining activities will disrupt the macro habitat and the species they support. Dust produced from mining activities also have physical effects on the surrounding vegetation such as blocking and damaging internal structures hence impacting on their physiological activities. To reduce the impacts of mining to the ecosystem, the proponent will retain vegetation cover where possible and rehabilitate the mined areas by planting appropriate indigenous trees or approved exotic ones in collaboration with the Kenya Forest Service.

Mining activities pose potential threats to the health and safety of workers on site. This may be in the form of dust, fumes, accidents from machinery and equipment, injuries that may result from

excavation activities and accidental falls. During rainy seasons, accumulation of water in the Mine pits may pose a threat to community health and safety as they may become important breeding grounds for disease causing pathogens and accidental falls of both human and livestock could lead to drowning. To mitigate this impact, the proponent will provide adequate training to staff on health and safety and ensure use of correct machinery for each assignment given, provide and enforce the use of PPE, regulate access to the site by deploying adequate security measures and fencing where appropriate to protect workers, local community members and livestock from potential accidents, rehabilitate quarried areas and comply with the provisions of the Occupational Safety and Health Act, 2007.

Effluent from domestic water use will be managed through a bio-digester and the proponent will apply and obtain an Effluent Discharge License from NEMA. Solid waste generated will be managed through a NEMA licensed solid waste contractor and compliance with the Environmental Management and Coordination (Waste Management) Regulations, 2006.

The Mine will exert pressure on energy for running the machinery and equipment and for lighting and powering of electrical appliances. The study recommends maintenance of machines and equipment to maximize their efficiency on fuel.

Dust from mining activities i.e. from blasting, crushing and transportation of aggregates will be mitigated by sprinkling water at the Mine site, enforcing the use of PPE to all employees and visitors while at the facility, retaining existing vegetation in areas which are not earmarked for Mining to act as dust screens and a buffer zone between the Mine area and the settlements and complying with the provisions of the Air Quality Regulations, 2014.

Mining involves several activities that generate significant amount of noise and vibrations. To mitigate the impact of noise, the proponent will use buffer zones by locating the Mine facility away from settlements, enforce the use of earmuffs, increase the number of delay detonators used in a round of blasting, conduct noise mapping to inform mitigation measures, comply with Noise and Excessive Vibration Pollution (Control) Regulations, 2009 and adhere to the provisions of the Explosives Act. Blasting also poses safety and health concerns during its deployment and eventual use of explosives. This impact will be mitigated through ensuring a competent and accredited person(s) supervises all loading and firing, enforcing the use of earmuffs to all workers and visitors to the facility, increasing the number of delay detonators used in blasting, employing qualified personnel to handle and store the explosives and adhering to the provisions of the Explosives Act, 2016.

There is a potential for ground and surface water pollution during operations. Removal of the rock strata can cause the floor to heave and allow for water seepage and hence toxic materials from the mine could seep into the ground water. The activities of the proposed mine will have a potential to pollute the seasonal river that lie within the site. The proponent will ensure that blasting and drilling are not undertaken to the water table level and in the event of flooding,

water will be pumped out of the mines. The proposed site will be secured with an impermeable boundary wall to ensure that the mining tailings and overburden are contained within the site. The study also recommends maintaining maximum existing vegetation coverage and planting of more trees along the boundary wall to act as buffers.

Once the Mine begins operations, there will be heavy commercial vehicles ferrying aggregates to different areas. Overloaded trucks may cause damage on the roads leading to the mine facility reducing their life span. To mitigate this impact the proponent and truck drivers will adhere to the axle load limits set by the Kenya Roads Board.

A decommissioning phase is possible in the event of closure by government agencies due to noncompliance with environmental and health regulations, end of project life, an order by a court of law due to non-compliance with existing regulations and Change of user. Key environmental concerns at this phase will be loss of livelihoods for the employees and income to the proponent. The proponent will prepare and submit a due diligence decommissioning audit report to NEMA for approval at least 3 months in advance.

Public consultations were undertaken using questionnaires administered to neighbors and stakeholders to collect and document their concerns regarding the establishment and subsequent operation of the proposed iron mine. None of the respondents interviewed objected to proposed project. The main positive impacts identified include job opportunities for the locals, income generation to the proponent, improvement of businesses in the area, improved security, revenue to the government and improved economy. The key environmental concerns that were identified include air and noise pollution.

The study also reviewed various governance frameworks and the most relevant ones are the Constitution of Kenya 2010, Environmental Management and Coordination Act Cap. 387 of the laws of Kenya, Mining Act, 2014, Explosives Act, 2016, Occupational Safety and Health Act, 2007, Public Health Act Cap. 242, Energy Act, 2006, Water Act, 2016, Physical Planning Act, 2012 and Occupiers Liability act Cap 34.

The proposed project is considered important and beneficial to the economic growth of Kenya and is coherent with the Kenya's Vision 2030. This EIA proposes a comprehensive environmental management and a monitoring plan for the entire project cycle to address negative environmental impacts and improve the environmental performance of the project.

1 PROJECT BACKGROUND INTRODUCTION

1.1 Introduction

The proponent, Shaneebal Limited, proposes to set up a Mini-Iron Ore Extraction plant in Mbaru area, West Pokot County. Mining and other related activities including harvesting of aggregate, sand, gravel, soil and clay and exploration for the production of petroleum and minerals in any form are listed under the Second Schedule (6i) of the Environmental Management and Coordination Act Cap. 387 of the Laws of Kenya as high risk projects. Pursuant to Section 58 of the Act, all high risk projects listed under the Second Schedule should undergo an Environmental Impact Assessment (EIA) Study process.

Subsequently, the proponent commissioned an Environmental Consultant in June 2019 to prepare an EIA Study Report for the project proposal pursuant to Section 58 of Environmental Management and Coordination Act Cap. 387 of the Laws of Kenya. In addition, the report will provide a baseline of the environmental and social conditions of the project area and enable future monitoring of the environmental performance of the project.

1.2 Location of the project site

The area of study is located close to Kenya-Uganda border; and falls in Tokechir Village, Mbaru Sub-location (Fig. 1), Lopet location which is located off Kacheliba-Konyao road about 55 Km from Konyao Trading Centre. The area is approximately 133 km from Kapenguria Town which is the West Pokot County headquarters. The approximate grid reference of the area is 36N 0230571; UTM 0740224 at an approximate elevation of 1,560 metres above mean sea level.

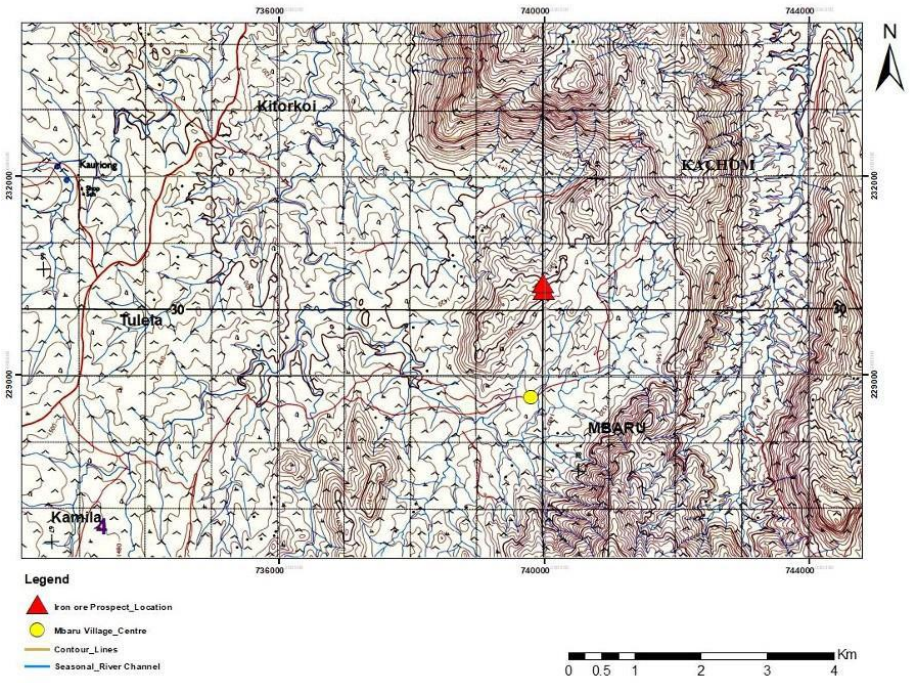

Figure 1; Location of the proposed Extraction Plant

The proposed site is currently undeveloped with the vegetation cover dominated by indigenous trees of acacia species and bush

1.3 Communication and Accessibility

The area is easily accessible through a well developed murrum road network which is currently being upgraded to an all weather tarmac road. The road runs from Kapenguria (Makutano) towards Mbaru study area via Kacheliba and Konyao major Trading Centres.

The remaining 55 Km stretch to Mbaru iron ore prospect is served by small motorable murram road that passes through Lossom, Lopet, Kawawa and Kamila which are smaller market centres. The murrum road along the stretch passes through various seasonal river channels and drifts without culverts some of which may require fixing to necessitate ease of movement. The surveyed prospect is located on a rocky sloppy highly raised hill without a motorable access track; about ten minutes walk from foot of hill. Hence any motor vehicle access to the mineralized area will warranty murrum road construction 1.3

1.4 Project design and description

The project features an open cast mine and auxiliary facilities such as access roads, power, water, site offices, sanitary facilities, generator room and explosive stores among others. The below mentioned main process will occur during mining. They include blasting, loading and transportation of boulders to the crushers. Before blasting occurs, the mining site will be cleared of any vegetation. A horizontal drill hole for loading explosives will then be made into the adjacent walls. Explosives are then loaded and detonated. Blasting then breaks the ore. Both primary and secondary blasting will be undertaken for the purposes of breaking rock boulders into acceptable sizes for onward transportation to the crushers.

At the crushers, rocks will be passed through a system of conveyor belts and sieves where they will be broken into different categories of rock fragments. The gangue rock, from the wall and the floor is separated from the ore. Unwanted boulders are dumped into stockpile that will be later used for backfills. The average production per day is estimated at 500 tonnes.

1.5 Study approach and methodology

The methods adopted for preparing the EIA study report were guided by the Third Schedule of the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003. The consultants prepared a scoping report and Terms of Reference (TORs) as required under Regulation 11 of the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003 and submitted them to NEMA for consideration for approval. The TORs were approved on 22nd August 2019 and the consultants began preparation of the EIA study report.

Site visits were undertaken in January 2020 for purposes of area reconnaissance, assessing the baseline environmental conditions of the proposed project site and screening of environmental risks associated with the proposed development as well as the applicable environmental

safeguards and standards. Environmental screening criteria were informed by the Second Schedule of the Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003. As per this schedule, the issues considered by the experts included ecological impacts, socioeconomic issues, landscape changes and land use character using the table below.

Table 1.Summary of results of the screening criteria

Criteria	Results
Ecological impacts	• Vegetation clearance and excavations will occur • No endangered species of trees and plants found at the site • There are indigenous tree species at the site • Project has a potential to pollute a nearby river which lies near the project site
Social-economic considerations	• Income to proponent and employment creation • Meeting demand for construction materials • Revenue to the government through taxes & licenses • The project compliments governments effort to attain economic pillar associated with development i.e. Vision 2030 • No cultural or heritage issues at the site
Landscape impacts	• The landscape of the area will be altered and new views created
Land uses	• Land cover is predominantly bush and indigenous trees • The current land is unused

1.6 Data collection

The methods for carrying out the study included site visits and observations, consultations with the neighbors through administration of questionnaire and literature review of relevant documents.

2 BASELINE CONDITIONS OF THE PROJECT SITE

2.1 Overview

Baseline conditions of the project site were assessed and documented for the purposes of determining the future impacts of the proposed project on the environment and the local community. This section details on the environmental, socio-economic and bio-physical characteristics of the site, and the findings of the survey which will form a basis for impact monitoring plans and improvement of the environmental and social performance of the project during implementation.

2.2 Demographics

West Pokot County is inhabitated by the Pokot ethnic group with Sengwer as the Minority community. According to the 2019 census, the county has a population of about 621,241 people. The site under study lies within Kiwawa Ward, Kacheliba Constituency with a population 28,235 people covering an area of 938.60KM2.

2.3 Rainfall and Climate

The area experiences a hot semi-arid climate with an average temperature of 24.4ºC and an average rainfall precipitation of 508mm per annum. The driest month is January in which there is 11mm of precipitation. Most of the precipitation in the area falls in April, averaging 96 mm. March is the warmest month with an average temperature of 25.4ºC while July is the coldest month averaging 23.3ºC

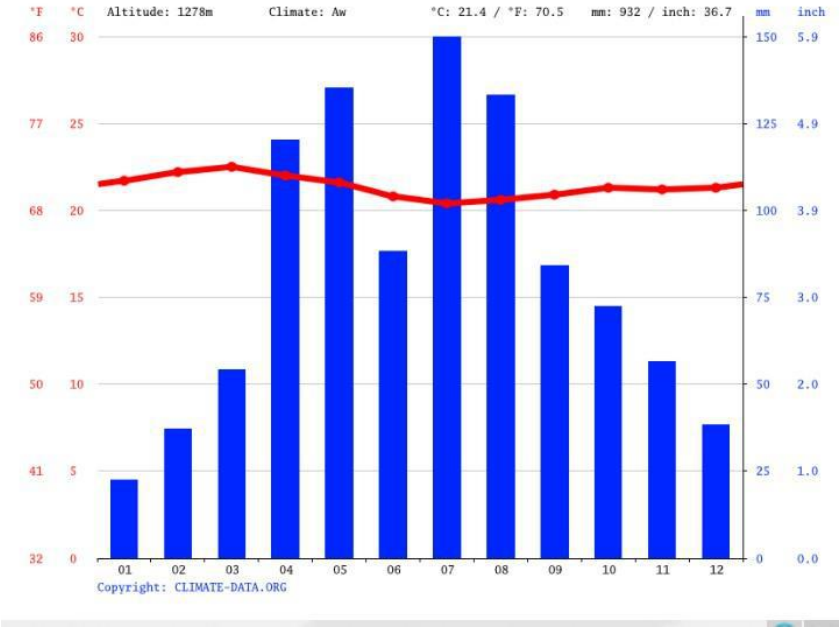

Figure 2; Climate of Kacheliba area

Mbaru area lies in a semi-arid zone thus the vegetation consists of bush and acacia trees. The fauna is comprised of various species of birds

2.4 Land use patterns and socio economic activities

Land use patterns in Mbaru area feature nomadic pastoralism, livestock rearing, subsistence agriculture and sparse settlements. The bulk of the population in the area practice nomadic pastoralism owing to the dry weather conditions. The main livestock types reared include cows, goats and sheep. Subsistence agriculture is carried out in small areas along rivers and springs

2.5 Topography, geology and soils

In general terms the topography can be said to be undulating with small open valleys and ridges slanting gently south west. The areas lie within the extensive orogenic Mozambique belt which comprises mainly metamorphosed rocks. The area has loose porous silt-sandy soils.

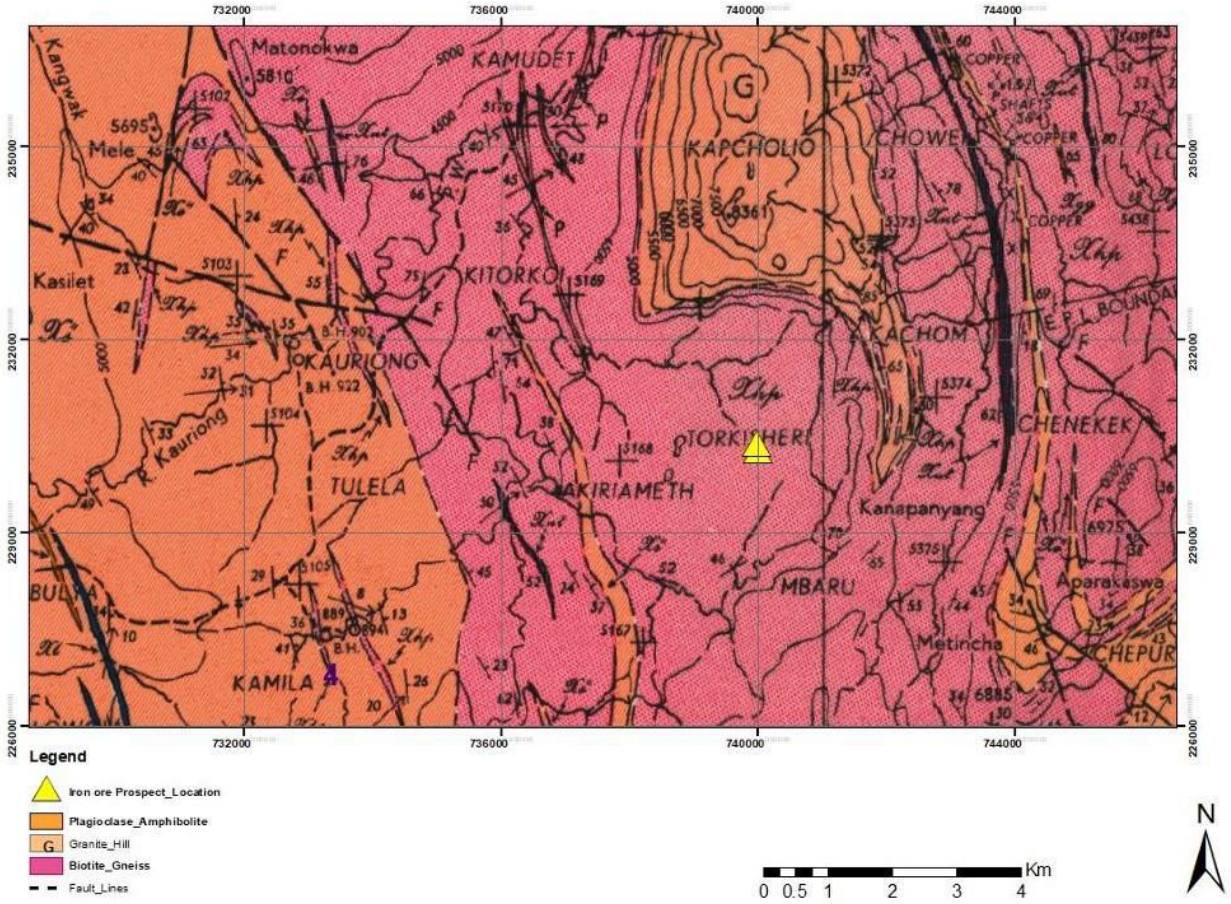

Figure 3; Geological map of the area

2.6 Water resources and Hydrology

The county has three main catchment zones; the Turkwel, Kerio and Nzoia catchments. The Kerio and Turkwel catchments are channeled towards Lake Turkana while Nzoia catchment drains its waters into Lake Victoria. The project area is water stressed thus the local population is dependent on small hand built dams, streams and springs. Ground water potential is fair to

medium with aquifers being intercepted at fractured basement rocks. The county has forest that covers an area of 36,576 ha which act as water catchments and their conservation is key for the county survival. Conservation efforts are being undertaken by both government agencies and community to conserve forest catchment areas in the entire county. This effort has not been very successful due to the high population pressure, illegal encroachment, high demand of timber for the construction industry, and the demand for farming land.

Based on the location of the proposed project, no adverse hydrological impacts are anticipated a part from more short term demand on water during construction.

3 POLICY, LEGISLATIVE AND REGULATORY FRAMEWORKS

3.1 Introduction

This section identifies the most pertinent legislation and regulations and standards governing the environmental quality, solid and liquid waste management, health and safety, protection of sensitive areas, land use control at the national and local levels and ecological and socio-economic issues.

3.2 Social Issues

There is no legal instrument in the country that addresses social issues in development interventions. However, over the years, the Kenya Government has recognized the importance of entrenching social dimensions of development in its development agenda. Notably, development initiatives are required to deliberately ensure that the marginalized and more vulnerable people in society are actively involved in development processes. Thus the new constitution has emphasized on the need for public participation and awareness on any development initiatives.

3.3 Environmental Issues

It is the Government's policy that the rights of its citizens to clean and health environment are met. In return, every person has responsibility to protect and manage the environment. In this regard, the Government enacted the EMCA (2015) and the Environmental Impact Assessment and Audit Regulations (2003) to provide a framework law for the coordinated management of environment.

Both the EMCA and the EIA regulations require EIA to be undertaken for certain new projects. The umbrella body administering this requirement is NEMA. The Authority has a designated Environmental Committees to oversee the implementation of the EMCA at the Provincial and District levels. With the observance of international laws by organizations such as the World Bank, it's now possible to factor social impacts of proposed development projects.

3.4 Applicable Laws and Regulatory Frameworks

3.4.1 Environmental Management and Coordination Act 2015:

Part 6 of the EMCA (2015) of Kenya, provides for environmental impact assessment. This is in agreement with Principle 17 of the Rio Declaration which extends the rule of prior assessment of potentially harmful activities to include those activities which have impacts solely within a state:

"Environmental Impact Assessment (EIA), as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent National authority."

The EMCA 2015 provides under the **Second Schedule**, a list of projects that must undergo screening for EIA. The proposed iron ore mine project falls under this schedule and as such requires that an EIA Project Report be undertaken and submitted to NEMA for review. The

expert review by NEMA of the project report shall then advice on whether the proposed project requires a full EIA study or not. EIA is undertaken by registered experts and their report is submitted to NEMA. Both the project report and the EIA report are open to review by the public and individuals.

The EMCA Section 68 and 69 also states that the proponent must submit an Environmental Audit Report one year after commencement of the project, and thereafter undertake Self Audits.

The mandate of NEMA is to "exercise general supervision and co-ordination over all matters relating to the environment and to be the principal instrument of Government in the implementation of all policies relating to the environment"

The functions of NEMA under the Act are:

Coordination of the various environmental management activities being undertaken by the lead agencies and promote the integration of environmental considerations;

- Prepare and issue an annual report on the state of the environment in Kenya;
- Monitor and assess activities, including activities being carried out by relevant lead agencies, in order to ensure that the environment is not degraded by such activities;
- Public education and awareness creation on environmental matters;
- Compliance and enforcement of environmental legislation;
- Enhancement of the effectiveness of the Provincial and District Environment Committees;
- Development of linkages involving the private sector, inter-governmental organizations, non-governmental organizations and government agencies of other states, on issues related to the environment; and
- Coordination and development of the necessary capacity for environmental management.

3.4.2 Environmental (Impact Assessment) and Audit Regulations, 2003:

These Regulations stipulate how an EIA will be undertaken and what the EIA study report should contain. It also provides regulations on Environmental Audits (EA), which the proposed project proponent will be required to undertake. The Regulations are presently under review.

3.4.3 Environmental Management and Co-ordination (Water Quality) Regulations 2006:

The New Water Quality Regulations provide for the protection of lakes, rivers, streams, springs, wells, and other water sources. The regulations also stipulate that all industries should refrain from any actions, which may directly or indirectly cause water pollution. All industries are therefore required to refrain from discharging effluent into water bodies. This regulation gives a minimum distance from a water body for which any development may be undertaken and as such affect the proposed projects with regards to the choice of line route.

3.4.4 Environmental Management and Co-ordination (Waste Management) Regulations 2015:
The Waste Management Regulations sets out standards for handling, transportation and disposal of various types of wastes. The regulations stipulate the need for facilities to undertake, in order of preference, waste minimization or cleaner production, waste segregation, recycling or composting. These regulations provide guidelines on how to store, transport and dispose any wastes generated during the pre-establishment and establishment phases of the mine. Some of these wastes may fall under the hazardous wastes category and thus require particular disposal arrangements.

3.4.5 Environmental Management and Co-ordination (Noise and Excessive Vibrations) Regulations 2015:
These have recently been gazette. The regulations define noise as any undesirable sound that is intrinsically objectionable or that may cause adverse effects on human health or the environment. The regulations prohibit any person from making or causing to be made any loud, unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment.

3.4.6 Environmental Management and Co-ordination (Fossil Fuel Emission Control) Regulations 2015:
The Fossil Fuel Emission Control Regulations provide for acceptable emission standards in Kenya. Section 4 of the regulations states that any internal combustion engine for motor vehicles and generators must comply with the emission standards provided for in the First Schedule of those regulations. Hence anyone who operates such engines whether on the road, street, public highway or any premises, which emits smoke in excess of the emissions standard in the First Schedule, contravenes the regulations and is liable to prosecution. Section 8 provides that any person intending to use any fuel catalysts other than those permitted by the authority to disclose it and seek prior approval. Establishments that use generators as alternative sources of energy must take account of the regulation on the emission standards.

3.4.7 Environmental Management and Coordination (Air Quality) Regulations, 2015:
These regulations provide for the safeguarding of the ambient air quality and give guidelines to prevent and control air pollution. The first and seventh schedules of the regulations provide a list with associated emission limits of prohibited, controlled, and un-controlled air pollutants. The regulations also give ambient air quality tolerance limits. The regulations will be particularly relevant to the construction works (including transportation) and also to operational mine site.

3.4.8 The Water Act 2002:
The Water Act, 2002, provides for the management, development, conservation, use and control of water resources and for the acquisition and regulation of rights to use water, to provide for the regulation and management of water supply and sewerage services. The Act focuses on two key sub-sectors- Water Resources Management (WRM) and Water and Sanitation Services (WSS). The Water Act 2002, commenced by virtue of Legal Notice No. 31 of 18th March 2003 and Legal Notice No. 158 of 29th August 2003, provided for a reformed legal/institutional

framework for the management and development of Kenya's water resources and the provision of water services. The Act establishes relevant authorities and creates catchment management bodies and seven regional service boards. It specifies “public participation”, in relation to any application made, or action proposed to be taken. The act further provides for the strategic management of the water resources.

3.4.9 The Public Health Act (Cap 242):

Health and hygiene are particularly important where communities congregate for a shared resource such as water. Section 116 requires Local Authorities to take all lawful, necessary and reasonably practicable measures to maintain their jurisdiction clean and sanitary to prevent occurrence of nuisance or condition liable for injurious or dangerous to human health. Part IX Section 115 of the Act states that no person/ institution shall cause nuisance or condition liable to be injurious or dangerous to human health. Such nuisance or conditions are defined under Section 118, waste pipes, sewers, drains or refuse pits in such a state, situated or constructed as in the opinion of the medical officer of health to be offensive or injurious to health. Any noxious matter or waste water flowing or discharged from any premises into a public street or into the gutter or side channel or water house, irrigation channel or bed not approved for discharge is also deemed as a nuisance. Other nuisances are accumulation of materials or refuse which in the opinion of the medical officer of health is likely to harbor rats or other vermin. This will be of particular relevance to any temporary worker camps set up during the construction phase of the project.

3.4.10 The Physical Planning Act, 1996:

Local Authorities are empowered under section 29 of the Act to reserve and maintain all land planned for open spaces, parks, urban forests and green belts. The same section allows for prohibition or controls the use and development of land and buildings in the interest of proper and orderly development of an area. Section 30 states that any person who carries out development without development permission will be required to restore the land to its original condition. It also states that no other licensing authority shall grant license for commercial or industrial use or occupation for any building without development permission granted by the respective local authority. Finally, section 36 states that, if in connection with a development application, the local authority is of the opinion that the proposed development activity will have injurious impact on the environment, the applicant shall be required to submit, together with the application, an EIA report. EMCA, 2015 echoes the same by requiring that such an EIA is approved by NEMA and should be followed by annual environmental audits.

3.4.11 Way Leaves Act (Cap. 292):

The Act provides for certain undertakings to be constructed e.g. transmission lines, pipelines, canals, pathways etc., through, over or under any lands. This project is under the provision of the Act. Section 3 of the Act states that the Government may carry any works through, over or under

any land whatsoever provided it shall not interfere with any existing building or structures of an ongoing activity. Where the line touches buildings or interferes with people's livelihoods, the Act requires written consent of affected parties and compensation thereof.

3.4.12 Land Acquisition Act (Cap. 295):

This Act provides for the compulsory or otherwise acquisition of land from private ownership for the benefit of the general public. For the acquisition to take place, the minister responsible must issue a gazette notice. The Act also provides for full compensation to the affected parties. This provision is not applicable to the proposed project for the land is already in place and belongs to the proponent.

3.4.13 The Lakes and River Act, Cap 409, Laws of Kenya:

This Act provides for protection of rivers, lakes and associated flora and fauna. Part IV of the Act specifies that the Minister may make rules for the protecting bird or animal life on or in a lake or river. It is not anticipated that the proposed project will have any adverse effects to the streams close by. Measures have been proposed to mitigate any potential impacts with respect to pollution and waste management.

3.4.15 National Museums and Heritage Act 2006:

The Act gives provision for an area of land of cultural significance to be set-aside or acquired under compulsory provision and declared a protected area under Sections 34 and 35 of the Act. This provides for the gazettement of national monuments. Monuments gazetted under this Act fall under the management of the National Museums of Kenya. Several of these monuments include forests of cultural and biodiversity significance. It is therefore appropriate for the proponent to check whether the proposed project falls with sacred sites, ruins, caves or areas of national significance before construction.

3.4.16 The Antiquities and Monuments Act, 1983 Cap 215:

The Act aims to preserve Kenya's national heritage by empowering the National Museums of Kenya to collect, document, preserve and enhance knowledge, appreciation, management and the use of these resources for the benefit of Kenya and the world. Through the National Museums of Kenya, many sites are protected by law by having them gazetted under the Act.

3.4.17 The Local Government Act, Cap 265, Laws of Kenya:

This provides for making by-laws and institutions by the Local County Councils. By-laws can be made on the governance of a project under the provisions of this Act.

3.4.18 Labour Laws of Kenya including employment Act 2007:

This is the revised employment act in Kenya, repealing the former employment Act Cap 226. It deals with new employment conditions of employment and the rights of workers including for paternity leave for fathers. All workers, including those employed during the construction phase, will be employed under this Act which includes provision with respect to minimum wage, working conditions and time, and also in the resolution of disputes.

3.4.19 The Factories and Other Places of Work Act (Cap 514):

This is the core legislation governing requirements for occupational health and safety at the place of work. The Factories Act identifies up to 43 requirements which include; observing high standards of cleanliness, avoiding overcrowding, constructing and maintaining adequate ventilation, and providing and maintaining suitable natural or artificial lighting, as appropriate. This will be once again of particular relevance to all the phases of the work.

3.4.20 The Penal Code (Cap. 63):

Section 191 of the Penal Code states that any person or institution that voluntarily corrupts or foils water for public springs or reservoirs, rendering it less fit for its ordinary use, is guilty of an offence. Section 192 of the same act says a person who makes or violates the atmosphere in any place to make it noxious to health of persons/institution in dwellings or business premises in the neighborhood or those passing by, commits an offence punishable by law.

3.4.21 Traffic Act Cap 403:

The Traffic Act prohibits air pollution through Section 51 which requires that motor vehicle use proper fuels. The Act requires that every vehicle be so constructed and used as not to emit any smoke, or visible vapor. The amendment further prohibits the use of any stationary internal combustion engine, discharging exhaust gas into the atmosphere without treatment.

3.4.22 National Environmental Action Plan (NEAP)

According to the Kenya National Environmental Action Plan (NEAP, 1994) the Government recognized the negative impacts on ecosystems emanating from development programmes that disregarded environmental sustainability. Established in 1990, the plan's effort was to integrate environmental considerations into the country's economic and social development. Under the NEAP process EIA was introduced and is nowadays a requirement for any proposed project.

3.4.23 National Policy on Water Resources Management and Development

While the National Policy on Water Resources Management and Development (1999) enhances a systematic development of water facilities in all sectors for the promotion of the country's socioeconomic progress, it also recognizes the by-products of these processes as wastewater. It, therefore, calls for the development of appropriate sanitation systems to protect people's health and water resources from pollution. The project's internal wastewater system will be connected to a septic tank proposed by the proponent. This will ensure safe wastewater disposal.

3.4.24 Occupation Health and Safety Act (OSHA), 2007

The Act makes provision for the health, safety and welfare of persons on work places. The provision requires that all practicable measures be taken to protect persons in work places from potential Hazards. The provisions of the Act are also relevant to the management of hazardous and non-hazardous wastes, which may arise from/in workplaces.

For developments such as construction projects, the Act is important as it requires project proponents to have adequate management procedures of occupational safety and health at the work places. For safe construction works, the contractor and project managers should ensure the following:

- Provision of personal protective equipment (PPE), fire safety, electrical safety, and other precautions essential for safe construction work.
- Provision of physical barriers and solid separators (dust barriers, hazard barriers, temporary walkways, among others, as explained in the extract of the Act.)
- Inspection of equipment to ensure that they are in good working condition before beginning a job. In addition, the contractor/proponent will ensure that regular inspections and maintenance of the equipment are conducted accordingly.

3.4.25 Land Planning Act Cap. 303

The operative clauses of this Act are contained in the Development and Use of Land (planning) Regulations, which provide that land be dealt with either under an area plan or a town plan, superintended by an interim planning authority. Under this Act, all developments or any form of land use in the designated areas are subject to approval by the interim planning authority or the Central Authority (the overall governing body under the Act) in the absence of an interim planning authority. The Central Authority decides instances when the proposal is to be referred to the relevant Local Authority.

Any change of use or actual development without authority is prohibited. Similarly, deposition of refuse, scrap or waste materials in a designated area without the consent of the planning authority or the relevant local authority is prohibited under this Act.

Thus, project proponent is subjected to seek legal permission before commencing the project from the relevant local authority.

3.4.26 Building code 2000

This provides the basic rules, guidelines and standards that must be observed during construction. It is a comprehensive document, which every developer/proponents/ contractor should have. All approvals shall be sought and regular monitoring will follow to ensure compliance.

3.4.27 County Intergrated Development Plan 2013-2017

The County Governments Act, 2012 (CGA), 104 obligates a county to develop an integrated plan which reflects the strategic midterm priorities of the county governments The CIDP contains specific goals and objectives, a coasted implementation plan, provisions for monitoring and evaluation and clear reporting mechanisms. The West Pokot CIDP 2013-2017 in Chapter 4 recognises the importance of a healthy environment because it is being depended strongly by the main productive sectors of Agriculture, tourism, manufacturing and energy and thus aims at enhancing access to clean, secure and sustainable environment. Therefore, this sector aims at

enhancing access to clean, secure and sustainable environment. With this in mind, the project proponent strives to satisfy the aim of the West Pokot CIDP by using the EIMP tool to ensure that no environmental degradation occurs as a result of the project.

4.5 International Conventions Applicable in Kenya:

Kenya has ratified various international conventions on environment that are applicable to this study. Conventions are agreements that are legally binding on states that have become parties to them. Kenya has the International Convention on Biological Diversity (1992) which promotes the protection of ecosystems and natural habitats, respects the traditional lifestyles of indigenous communities, and promotes the sustainable use of resources. The importance of wetlands and water birds are also covered under the Ramsar Convention 1971, which governs wetlands of international importance. The convention entered into force in Kenya in 1990 and it governs Saiwa Swamp National Park which lies near Kapenguria. Kenya is therefore committed to avoid degradation of wetlands under its jurisdiction. The United Nations Framework Convention on Climate Change (UNFCCC or FCCC) is an international environmental treaty produced at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro from 3rd to 14th June, 1992. The objective of the treaty is to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The treaty itself sets no mandatory limits on greenhouse gas emissions for individual countries and contains no enforcement mechanisms. In that sense, the treaty is considered legally non-binding. Instead, the treaty provides for updates (called "protocols") that would set mandatory emission limits. The principal update is the Kyoto Protocol, which has become much better known than the UNFCCC itself.

4.6 Other Development Targets

The Millennium Development Goals (MDGs) are eight international development goals that all 192 United Nations member states international organizations have agreed to achieve by 2015. They include eradicating extreme poverty, reducing child mortality rates, fighting disease and epidemics, such as HIV/AIDS, and developing a global partnership for development.

The proposed projects are in line with the MDGs in terms of poverty eradication, through creation of employment and improving livelihoods through provision of energy and may also make some contribution towards reducing diseases such as bronchitis which is related to a high dependence on firewood as source of energy.

Kenya Vision 2030 is an economic development plan by the Kenyan Government to develop different economic zones in various parts of the country. The plan aims to produce annual economic growth rates of 10%. Currently, Kenya has a GDP growth of 4.9% (2007). The Vision calls for a series of five-year plans, with the first one being from 2008 to 2012. The first plan

calls for investments in six key sectors; tourism, agriculture, manufacturing, trade, information technology and financial services.

4 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 Overview

The proposed project will have both socio-economic benefits and associated negative environmental impacts. The purpose of the EIA process is to therefore systematically assess the value of the benefits against the environmental concerns and provide measures to avoid prevent or reduce the magnitude of the impacts. The mitigation measures are based on the underlying principle of EIA that everyone is entitled to a clean and healthy environment and a duty to enhance and safeguard the environment.

4.2 Positive impacts of the proposed project

The following are the positive impacts of the proposed development.

4.2.1 Simulation of industrial development coherent with Kenya's Vision 2030

Mining ensures industrialization and development through the utilization of the country's mineral resources to catalyze diversified industrial development. This is in line with the Kenya Vision 2030 which aims at harnessing the mineral resources for industrial development and transforming Kenya into a newly industrializing middle income country.

4.2.2 Mitigating national and regional demand for metallic products

The establishment of the quarry will increase production of iron which will help mitigate the deficit in national and regional demand as well as provide adequate raw materials for infrastructural industries.

4.2.3 Creation of employment opportunities

This proposed project will provide short term and long term employment opportunities for various experts and person(s) that will be hired during the planning and implementation activities. This will include both skilled and unskilled personnel especially from the local population. Hence, the experts and the local community members will derive income from the project.

4.2.4 Source of revenue to the government

Both the County and National government will generate revenue in form of taxes generated during the acquisition of licenses and operations of the facility and also PAYE remitted from the employees' salaries.

4.2.5 Source of income to the proponent

The proposed facility through its operations will accrue income to the proponent enabling expansion of business and creating more employment opportunities for Kenyans.

4.3 Negative environmental impacts

Alongside the project benefits, there will are potential negative environmental impacts at the three phases of the project cycle. These are pre-establishment and establishment, operational and

possible decommissioning phases. The proceeding sections discuss each of these phases' impacts on the environmental and the livelihoods of the local community.

4.3.1 Pre-establishment phase

4.3.1.1 Change in land use

The land is unused but minor herding takes place. However, the proponent proposes to set up an iron ore mine which is inconsistent with the current land use.

Mitigation measure

- The proponent will apply and obtain a change of user from the County Government of West Pokot

4.3.1.2 Environmental risks of obtaining raw materials

Installation of the mining equipments and other construction activities will require raw materials such as aggregate, cement and sand among others which will be sourced from the environment. These materials will have an impact at their points of origin.

Mitigation measures

- Procure quantities that are sufficient for the intended works and recycle as far as practical to curtail wastage
- Source raw materials from sites that are licensed as per the Environmental Management and Coordination Act Cap. 387 Laws of Kenya

4.3.1.3 Occupational safety and health

The workforce and visitors to the site will be exposed to potential health and safety risks such as injuries that may result from accidental falls and the use of construction tools and equipment with a potential to cause injury, permanent disability or death. Further, workers may be exposed to high noise levels and dust which may cause health problems.

Mitigation measures

- Register the site as a work place with the Directorate of Occupational Safety and Health Services (DOSHS)
- Provide adequate and appropriate PPE and enforce their use
- Provide employees with correct tools and equipment for the jobs assigned and train on their use
- Obtain insurance cover for the workers at the site
- Provide first aid services and an emergency vehicle at the site
- Regulate the entry of visitors to the site by deploying adequate security measures
- Ensure moving parts of machines and sharp surfaces are securely protected with guards to avoid unnecessary contacts and injuries during construction phase
- Comply with the provisions of the Occupational Safety and Health Act 2007

3.3.1.4 Water demand and effluent generation

The construction activities will utilize substantial quantities of water for mixing and casting concrete, drinking and sanitation purposes which will lead to an increased demand for water. Water will be sourced from a borehole that will be sunk in the area and 70% of domestic water use will generate effluent.

Mitigation measure

- Procure and deliver to the site mobile toilets from a NEMA licensed waste contractor for use by the workers during the construction phase of the project cycle
- Comply with the Environmental Management and Coordination (Water Quality) Regulations, 2006

3.3.1.5 Solid waste generation

The workforce at the site and activities undertaken during site preparation and construction of auxiliary facilities are expected to generate significant quantities of solid waste such as cuttings, plastic materials and rejected materials among others. The proponent will therefore ensure proper management of solid waste to avoid potential risks associated with poor disposal.

Mitigation measures

- Procure and strategically place adequate solid waste collection bins with a capacity for segregation within the construction site
- Create awareness on best waste management practices among the workers i.e. on the process of solid waste collection, segregation and proper disposal
- Procure a sizeable central solid waste collection bin with chambers to accommodate separated waste
- Procure the services of a NEMA licensed waste handler to dispose the solid waste
- Comply with the Environmental Management and Coordination (Waste Management) Regulations, 2006

3.3.1.6 Air pollution

Sources of air pollution during the construction activities and installation of the plant will result mainly from excavation works, mixing of aggregates and from movement of vehicles carrying construction materials. If generated in large quantities, dust may present a respiratory hazard, cause eye irritation or visual intrusion. It will potentially affect the workers, visitors to the project site and the neighbors if it is in excess of 100 µg/m3.

Mitigation measures

- Restricting the speed of trucks and other vehicles accessing the project site to 40km/hr
- Sprinkling water on excavation areas
- Provision and enforcement of appropriate PPE to workers such as dust masks

- Develop and implement an air quality monitoring plan to ensure compliance with the limits set under Schedule 1 of the Environmental Management and Coordination (Air Quality) Regulations, 2014

3.3.1.7 Noise pollution

Noise and vibration emanating from vehicle accessing the site, excavation works and machinery operations may be a concern during operations at the site. Noise may lead to hearing impairments which will reduce the workmanship of the employees and also affect their finances due to treatment and medication. Construction sites such as the proposed mine which are near residential areas can only emit noise levels of up to 60 dB(A) during the day and 35dB (A) during the night as per the Second Schedule of the Environmental Management and Coordination (Noise And Excessive Vibration Pollution) (Control) Regulations, 2009. Some of the project activities such as use of heavy machinery and equipment may produce noise levels which are above these limits and are a health hazard. While the noise at this stage is inevitable its impact can be mitigated in the following ways

Mitigation measures

- Provision and enforcement of appropriate PPE to workers such as ear muffs
- Truck drivers will be sensitized to avoid unnecessary hooting or running of vehicle engines
- Minimizing the frequency of transport of construction materials
- Compliance to the Environmental Management And Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations 2009

3.3.2 Operational phase impacts

3.3.2.1 Land degradation

This mainly results from stripping of the topsoil and excavation to expose the rock strata. This will tamper with the soil structure exposing the site to possible landslides and soil erosion as well as interrupting the continuity of open space.

Mitigation measures

- Treat the mine faces by initializing stabilization of the quarry pits walls through stepping of the faces to prevent erosion. This also reduces the risk of loose boulders falling from mine faces during blasting
- Restore the affected areas through rehabilitation of decommissioned mine pits and planting of indigenous plant species which create a stable final landform with acceptable post-mining land use capability

3.3.2.2 Removal and disposal of mine overburden

Establishment of the quarry will result in generation of overburden comprised of top soils, vegetation and rock rumble. If inappropriately disposed, the overburden becomes an eyesore apart from harboring insects and disease causing vectors.

Mitigation measure

- Reusing overburden as backfilling material during site rehabilitation and restoration

3.3.2.3 Effects on landscape and visual intrusions

Stockpiles and quarry waste piling have a negative effect on the landscape by causing visual intrusion. Blasting activities usually destroy the original landscape of the affected area leaving behind huge depressions and a potential point of collecting water forming artificial ponds. These water pools have a potential to be hazardous and pose a threat to health. There is also a huge possibility that many of the surface features that were present before mining activities cannot be replaced after the process has ended.

Mitigation measures

- Take into consideration the existing landforms and vegetative cover in sitting before drilling and excavation
- Locate stockpiles, overburden, mine waste & haul routes away from sensitive landscape & visual receptors
- Backfill the mine pits where applicable using the overburden generated during excavation

3.3.2.4 Impact on biodiversity

Sections of the proposed site will be cleared to pave way for excavation and other quarrying activities. Quarrying activities disrupts the macro habitat and the species they support. There are species that are resistant to such disturbances while others are adversely affected to the extent of completely disappearing from the mining zone. Endemic plant and animal species are most affected since they are very sensitive and they require specific environmental conditions, even the slightest disruption of their habitats can result in extinction or put them at high risk of being wiped out.

Dust produced will also have physical effects on the surrounding vegetation such as blocking and damaging internal structures hence impacting on their physiological activities. Vegetation provide habitat for organisms. They also protect ground surface from wind and water erosion and stabilizes other physical environmental attributes such as microclimate, water and soil moisture regimes which in turn influence organisms' abundance.

Mitigation measures

- Retain vegetation cover where possible within the site
- Rehabilitate the quarried areas and plant appropriate indigenous trees or approved exotic ones in collaboration with the Kenya Forest Service

3.3.2.5 Occupational health and safety

Mining activities pose potential threats to the health and safety of workers on site. This may be in the form of dust from excavation works, fumes from machinery and vehicles accessing the site, accidents from machinery and equipment, injuries that may result from excavation activities and accidental falls. The pits may also pose a threat to community health and safety as they may

become important breeding grounds for disease causing pathogens especially during the rainy seasons, and accidental falls of both human and livestock in the water pools could lead to drowning.

Mitigation measures

- Register the site as a workplace with the Directorate of Occupational Health and Safety
- Provide adequate training to staff on health and safety
- Provide and enforce appropriate PPE among workers and visitors to the site
- Provide a fully equipped first aid box, first aid services and emergency vehicle at the site
- Provide the correct equipment to employees for the jobs assigned and trained on their use
- Designate a fire assembly point within the facility
- Set-up a fire safety plan for the facility
- Regulate access to the site by deploying adequate security measures and fencing where appropriate to protect workers, local community members and livestock from potential accidents
- Backfill the quarried areas to reduce the risk of becoming breeding ground for disease causing pathogens
- Ensure compliance with the provisions of the Occupational Safety and Health Act, 2007

3.3.2.6 Water demand and effluent generation

The mine will exert pressure on water for washing of vehicles and machinery, sanitation purposes, dust suppression and general housekeeping around the area during operations. 70% of the domestic water use will be generated as effluent while the rest will seep into the ground areas within the site. Effluent generated will need to be disposed off appropriately.

Mitigation measures

- Install a bio-digester to manage effluent
- Undertake quarterly analysis of the effluent
- Compliance with Environmental Management and Coordination (Water Quality) Regulations, 2006

3.3.2.7 Energy demand

The operations of the mine will increase the demand on energy for running the machinery and equipment and for lighting and powering of electrical appliances. Energy supply for development will be obtained from generators and solar systems.

Mitigation measure

- Maintenance of machinery and equipment in a serviceable and good working order to maximize their efficiency on fuel

3.3.2.8 Solid waste generation

The facility will generate solid waste mostly in form of explosives packaging, oil and grease containers used for maintenance of machinery and overburden among others. These have a potential of pollution if not disposed off appropriately. The proponent will therefore ensure proper management of solid waste during the operation of the quarry through the following measures.

Mitigation measures

- Procure and strategically place adequate solid waste collection bins with a capacity for segregation within the site
- Create awareness on best waste management practices among the workers i.e. on the process of solid waste collection, segregation and proper disposal
- Procure a sizeable central solid waste collection bin with chambers to accommodate separated waste
- Procure the services of a NEMA licensed waste handler to dispose the solid waste
- Re-use mine waste and soil materials piled at the site to refill (restore) the excavated areas that exist as a result of mining
- Complying with the Environmental Management and Coordination (Waste Management) Regulations, 2006

3.3.2.9 Air pollution

Dust from mining activities is a major source of air pollution. Mining requires soil to be removed which eventually causes the particles to become airborne through road traffic and wind erosion. The unrefined particles can be composed of toxic materials and ultimately affect the human health causing respiratory diseases. Blasting and crushing of the boulders will also produce lots of dust. In addition fumes and hydrocarbons produced by the heavy commercial vehicles and heavy machinery may lead to respiratory complications.

Mitigation measures

- Sprinkling water at the site to suppress dust
- Provision and enforcement of appropriate PPE to workers such as dust masks
- Retaining existing vegetation in areas which are not earmarked for open cast mining to act as dust screens and a buffer zone between the quarry area and the settlements
- Develop and implement an air quality monitoring plan to ensure compliance with the limits set under Schedule 1 of the Environmental Management and Coordination (Air Quality) Regulations, 2014

3.3.2.10 Noise pollution

Mining involves several activities that generate significant amount of noise. These include blasting, use of powered machineries to transport the aggregates and processing plants that will crush and grade the materials. Excessive vibrations are mainly from drilling and crushing of the boulders is a nuisance and cause further disturbance to the environment.

Mitigation measures

- Use buffer zones by locating the quarry facility away from settlements
- Provide and enforce the use of earmuffs to all workers and visitors accessing noisy areas of the facility
- Increase the number of delay detonators used in a round of blasting so as to yield minimal ground vibrations and noise
- Conduct noise mapping to inform mitigation measures 5. Comply with the Environmental Management And Coordination (Noise and Excessive Vibration Pollution) (Control) Regulations, 2009

3.3.2.11 Impacts of electric blasting

Blasting has both safety and health concerns during its deployment and eventual use of explosives. It exposes workers to airborne hazards from naturally occurring gases, chemical vapors and principal hazard such as noise, segmental vibration and heat. Susceptible structures to ground vibrations cause disturbances to the occupants.

Mitigation measures

- All loading and firing shall be directed and supervised by competent person(s) thoroughly experienced in this field and accredited accordingly
- Employing qualified personnel to handle and store the explosives
- Providing and enforcing the use of earmuffs to all workers and visitors to the facility
- Increasing the number of delay detonators used in a round of blasting
- Adhere to the provisions of the Explosives Act, 2016

3.3.2.12 Ground and surface water pollution

Mining activities present potential ground and surface water pollution. The hydrogeology regime will be affected by the distinct aspects of surface mineral extraction and associated activities which will result in groundwater pollution. Removal of the rock strata can cause the floor to heave and allow for water seepage. Sometimes quarries are dug below the water table and hence toxic materials could seep into the ground water. The activities of the proposed quarry will have a potential to pollute the river that lies approximately 1km from the proposed site. Surface water pollution can be caused by acid mine drainage and loading of Sediment, debris and impurities from soil erosion or surface runoff.

Mitigation measures

- Ensure that blasting and drilling are not undertaken to the water table level
- In the event of flooding, water will be pumped out of the mines to avoid acid rock drainage and dissolution. In case of any contamination, pumped water will be treated to neutralize the contaminants
- Secure the site with an impermeable boundary wall to ensure that the mining tailings and overburden are contained within the site

- Maintain maximum existing vegetation coverage and plant more trees along the boundary wall to act as buffers

3.3.2.13 Impact of heavy trucks on roads

Once the mine begins operations, there will be heavy commercial vehicles ferrying aggregates to different areas. Overloaded trucks may cause damage on the roads. To mitigate this impact the proponent and truck drivers will adhere to the axle load limits set by the Kenya Roads Board.

3.3.3 Decommissioning phase impacts

The lifespan of the mining is dependent on the quantities of the rock deposit, technology used to mine and financial sustainability of the business. Other circumstances that may warrant decommissioning include withdrawal or expiry of licenses issued by government agencies, closure by government agencies, court orders and natural calamities. The proponent will prepare and submit a due diligence decommissioning audit report to NEMA for approval at least three (3) months in advance. The impact at this phase will include the following:

1. Creation of an ecologically vulnerable land
2. Economic decline
3. Insecurity
4. Safety and health risks
5. Waste generation

3.3.3.1 Creation of an ecologically vulnerable land

At this phase, destruction of various fauna and flora at the site is evident. Quarrying activities also have a direct impact on the land by leaving pits and heaps of waste material. Excavation, drilling and blasting will tamper with the soil structure exposing the site to possible landslides and soil erosion. Additionally, the terrain of the site would be against the topography of the area.

Mitigation measures

- Construct contour banks to protect disturbed areas from erosion prior to stabilization
- Rip along the contoured slopes and immediate re-vegetation to increase slope stability
- Promote re-vegetation through the encouragement of the natural process of secondary succession

3.3.3.2 Economic decline

Employment opportunities and the County and National economic gain from the investment activity will be lost in the event of decommissioning of the proposed project.

Mitigation measures

- Train employees on alternative livelihoods prior to decommissioning
- Pay terminal benefits to all employees
- Comply with the Labor laws

3.3.3.3 Insecurity

Insecurity will result from the site when it's abandoned succeeding the decommissioning. Unoccupied structures and uncovered pits within the site will act as criminal dens and the security boost that had been provided by the facility to the local community would be lost.

Mitigation measure

- The proponent will contract a reputable security firm to man the site.

3.3.3.4 Safety and health risks

Any remaining structures will collapse and the open pits will accumulate water overtime. There will be environmental hazards stemming from the exposed left over substances which may cause soil and water contamination and/or generate noxious odor. Possible dust emission and accidents during rehabilitation of the site could also pose a health and safety hazard to workers and general public.

Mitigation measures

- Ensure the process of rehabilitation is supervised by competent personnel
- Install signage to warn person(s) of the ongoing activities
- Provide adequate and appropriate PPE and enforce their use
- Ensure first aid kit are be available on site
- Ensure workers are given the correct hand tools and equipment for the jobs assigned

3.3.3.5 Waste generation

Demolition activities will result in generation of both solid waste and effluent. The main sources of solid waste will include demolition waste from the auxiliary facilities. Effluent generated will also need to be disposed off appropriately.

Mitigation measures

- Contract a licensed construction company to carry out demolitions
- Reuse and recycle demolition waste and equipment as far as practical
- Contract a NEMA licensed waste handler to handle and dispose both solid waste and effluent generated

3.3.5 Impact analysis

Potential project impacts are predicted and quantified to the extent possible. The magnitude of impacts on resources such as water and air or receptors such as people, communities, wildlife species and habitats is defined. Magnitude is a function of the following impact characteristics;

1. Type of impact (direct, indirect, and induced)
2. Size, scale or intensity of impact
3. Nature of the change compared to baseline conditions (what is affected and how)

4. Geographical extent and distribution (e.g. local, regional, international) 5. Duration and/or frequency (e.g. temporary, short-term, long term, permanent)

Magnitude describes the actual change that is predicted to occur in the resource or receptor. It takes into account all the various impact characteristics in order to determine whether an impact is negligible or significant. Some impacts can result in changes to the environment that may be immeasurable, undetectable or within the range of normal natural variation. Such changes can be regarded as essentially having no impact and are characterized as having a negligible magnitude.

The levels of impacts are defined using the following terms

1. **Negligible impact (very low)…0…** - Where a resource or receptor would not be affected by a particular activity or the predicted effect is deemed to be imperceptible or is indistinguishable from natural background variations.

2. **Less than significant impact (Low)...1…-** Is a minor impact where a resource or receptor would experience a noticeable effect but the impact magnitude is sufficiently low (with or without mitigation) and /or the resource or receptor is of low sensitivity. In either case, a less than significant impact must be sufficiently below applicable standard threshold limits.

3. **Potentially significant impact (moderate)…2…** - A moderate impact that meets applicable standards but comes near the threshold limit. The emphasis for such moderate impacts is to demonstrate that the impact has been reduced to a level that is as minor as reasonably practicable so that the impact does not exceed standard threshold limits.

4. **Significant impact (high)….3…** - One where an applicable standard threshold limit would or could be exceeded, or if a highly valued or very scarce resource would be substantially affected

All the Environmental impacts have been weighted to be of moderate magnitude, Blasting however has the highest impact

3.4 Rehabilitation Plan

Rehabilitation will involve the following:

- Re-profiling-reinstate soils to a more stable landform
- Contouring the site- Land form reinstatement involves surface contouring to create a stable land formation consistent with the surrounding land form.
- Re-vegetation-The re-vegetation of the site will involve direct seeding of native species. This species selection is guided by soil conditions, micro-climate and aspect of the new land form.

4 PUBLIC CONSULTATION AND PARTICIPATION

4.1 Introduction

The following section describes the public consultation. The aim of consultation is to ensure that stakeholder interests are identified during the ESIA study and that stakeholder views, and in particular those of PAPs, are taken into account at the project planning stage. Stakeholders' views are also important in shaping the development of the ESMP. Public consultation is a key component in the EIA process since it;

- Ensures that the process is open and transparent
- Provides valuable sources of information on key impacts, potential mitigation measures and possible alternatives
- Ensures that the proposed project meets the community needs
- Ensures that the project is legitimate and it is a way of ensuring that conflicts can be addressed before the Authority makes a decision
- Assists in informed decision making - Promoted better implementation of the project once the authority has made a decision on the proposed project
- Enlightens the community on the opportunities and benefits arising

The main findings and feedback from these events is summarized within this section while copies of the lists of attendees at the various consultations are provided in this report.

4.2 Stakeholder/ Public Consultation and Participation

This is a very important and an integral part of the ESIA process, which are a legal requirement and a very important tool for collection of the data and especially the baseline/background information. The ESIA helps bring out the contentious issues and gives a chance to those who may be affected by a proposed project to give their views, inputs and opinions and any significant issue is addressed at the initiation stage. This enables evaluation of the public and neighbors views and is thus a very important part of the study. Questionnaires, interviews and Focused Group Discussions (FGDs) with members of immediate community such a youth and women were used to collect their views.

4.3 Questionnaires and Interviews

Some of the targeted stakeholders did not respond while others refused to complete the questionnaires. Others were cautious and wanted to give their views without completing the questionnaires arguing that they do not wish to have their names indicated. Almost all the respondents were positive. Majority was reluctant to fill in their details in the questionnaires and preferred to give oral submissions.

4.4 Baraza

The Baraza started with a word of prayer and immediately followed by a brief introduction by the participators who were 30 in total. The chief introduced the EIA team. The Lead Expert gave a brief introduction on the proposed construction of the new courts. The participants were not given a chance to view the questions before the discussion started. The questions were centered on their views on the appropriateness of the proposed new mine its potential negative positive or no impacts, suggestions on mitigation measures. The discussions were allowed to flow freely but focusing on the issue at hand. The women and youth who were a bit reserved in the discussion were highly encouraged to contribute in the discussion. The Baraza gave the following feedback; Most of the respondents endorsed the project and the most emerging issue was employment creation for the youth and women. They also indicated various potential benefits including increase in residential premises, enhancement of security or otherwise, utilization of the land was long overdue. However, they raised some issues regarding pressure on existing infrastructure, noise, potential pollution, dust and safety (during construction), enhanced social crime risks they recommended should be controlled to the minimum. They also mentioned the need for safe and adequate drive way, sounds drainage system and solid waste management. They indicated the obvious advantages including potentially better housing, creation employment, and promotion of development in the area and enhancing the utility of the land and urbanization. They indicated that issues of infrastructure should be addressed by the respective service providers in conjunction with the proponents beforehand e.g. power provider should assess the requirements and install the necessary equipment and facilities.

The issues raised and many others foreseeable have been adequately addressed in the report and in the ESMP

5 ANALYSIS OF PROJECT ALTERNATIVES

5.1 Overview

The environmental management plans proposed for the entire project cycle are considered adequate to mitigate the identified potential negative environmental and social impacts. However it is important to analyze the possible alternatives to the project to inform decision making by relevant government agencies and improve the environmental performance of the project. For the proposed project, four alternatives are feasible as follows;

I. **The 'No Project' alternative**
II. **The 'Yes Project' alternative**
III. **Alternative site**
IV. **Alternative project**

5.2 The 'No Project' alternative

Under this alternative the project will not be implemented and hence the status quo will be retained. This alternative represents the ideal mitigation measure for the negative environmental and social impacts as they will not occur as a result of the project. Conversely, the positive impacts of the project which include simulation of industrial development coherent with Kenya's Vision 2030, increased production of mineral resources, creation of employment opportunities and revenue generation to the government will be lost. This alternative is therefore not viable.

5.3 The 'Yes Project' alternative

This alternative envisions that the proposed project will be implemented as proposed in its entirety. It is the best alternative in mitigating the potential loss of benefits to the proponent, the community and the Government of Kenya. In addition, the project will improve the development ranking of West Pokot County.

5.4 Alternative site

An alternative site could be considered for the proposed iron ore mine if the proposed project would present serious environmental challenges that cannot be reasonably be effectively managed. However, the proposed mitigation measures are considered adequate to minimize the impacts to levels that do not warrant significant environmental damage. Additionally, the proposed site is considered suitable as it has sufficient and substantial rock deposit quantities. Hence, this alternative is not considered viable.

5.5 Alternative project

An alternative project such as a social amenity facility, a farm or a ranch could be possible in the event a mine is not feasible. There is availability of adequate land and substantial rock deposit quantities suitable for mining activities and this project is deemed economically viable compared to other project alternatives. Thus, an alternative project is not viable.

6 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

6.1 Introduction

This Environmental and Social Management Plan (ESMP) provides a logical framework within which the negative environmental and social impacts identified during the ESIA study can be mitigated and any beneficial environment effects can be enhanced. Monitoring and management practices as well as cost estimates included as applicable. Responsibilities and time frames for the implementation of the various aspects of the ESMP will be identified.

The actions have been grouped according to the various phases of the project cycle i.e. Planning, Construction, Operation, and Decommissioning. This categorization shall improve the implementation of the suggested mitigation measures throughout the project cycle. Each phase has a distinct set of activities that will need to be undertaken.

6.2 ESMP for Planning Phase

The planning phase involved all the steps to be followed by the proponent before the start of the mine development. These include the approvals from all the relevant authorities such as the County Council of West Pokot, Ministry of Mining and NEMA. The ESMP for planning phase provides a set of actions that the proponent needs to implement before the commencement of the construction and development of the structures and the plant phase. Foremost, the ESMP requires that the proponent should have applied for and obtained all the requisite approvals and procedures before the actual implementation of the project. The following are some of the activities carried out including the actors at the planning phase.

Table 2; ESMP for planning stage

Environmental/ social impact	Proposed mitigation and aspects for monitoring	Actors	Monitoring	Estimated Cost	Frequency of Monitoring
Uncontrolled and incompatible development that is out of character with its context	Plan and obtain development permission for the project from relevant authorities	Registered Physical Planner and architect	Project approvals; routine inspections	10% of project cost	Random
Lack of Environmental Awareness on proposed project	Provide project information at entry to the project site.	Proponent, County Council of West Pokot, NEMA	Routine inspections; Sign boards and notices at project	150,000	Random

			site		
Uncontrolled site demarcation	Survey of plot and establishment/confirmation of beacons before commencement of construction.	Proponent, surveyor	Survey plan; site inspections	200,000	Once
Uncontrolled construction contrary to approved plans and of poor workmanship	Appointment of a qualified project manager and contractor	Proponent; Project Manager	Verification ; inspection	450,000	Routine
Mismanagement of site operations contrary to conditions of approval.	Appointment of project manager Appointment of Clerk of Works	Proponent; Project Manager	Verification ; inspection	2,050,000	Routine
Vulnerability to accidents and hazards during project implementation	Obtaining insurance to cover all accidents including Workmen's Compensation.	Proponent	Verification ; Inspection	300,000	Once

6.3 ESMP for Mine Construction Phase

The phase included the construction of the extraction plant. This will be done in accordance with the mine design and plan. A contractor will conduct the works with supervision and oversight from the proponent. The Construction Environmental Management Plan below indicates the likely environmental impacts, which were anticipated from the project, and it indicates ways of mitigating them.

Table 3; ESMP for Construction Phase

Environmental/ social impact	Proposed mitigation and aspects for monitoring	Actors	Monitoring	Estimated Cost	Frequency of Monitoring

Noise and vibration	• Equip workers with standard noise attenuation features • Inform neighbours of any abnormal sound and response measures • Compliance with noise and excessive vibration regulation • No discretionary use of noisy machineries • No construction work at night	Contractor, workers	Inspection	20,000	Daily
Air pollution and dust	• Provision of PPE`s which must be worn • Suppression of stockpile by spraying water • Reduce speed of vehicle on site & on road linked to the site	contractor	Routine inspection	10,000	Weekly
Solid waste	• Use of durable long lasting materials • Provide facilities of proper handling of waste on site • Perishable materials should be purchased only when needed • Use building materials with minimal packaging • Carefully budget for construction material	Contractor, workers	Routine inspection	20,000	Daily
Vegetation	• Demarcate project area to be affected by the construction works to restrict disturbance to	Contractor and proponent	Observation of the ground	20,000	One-off

	actual project area • Re-vegetate disturbed area through a proper landscaping & planting trees along the fence and in compound once the construction is complete (at least 10% of site be vegetated) • Location of project plant & components in area with least vegetation		vegetation cover		
Health and safety risk	• Site shall be fenced and security services provided on site • Construction workers , visitors and everyone on site shall wear PPE`s • Reduce employees` exposure to dust and noise at the workplace • Have a well-stocked /equipped first aid box on site • Close supervision of work • Construction of pit latrine for workers • Instruct the workers on safety and health issues before the work begins every morning • Construction of warning signs shall be in place to warn public to avoid construction site • Adherence to standard operational procedures and emergency procedures • Project vehicles to observe speed limits • Safety slogans should be	Contractor and proponent	Routine inspection	60,000	daily

	strategically posted as a reminder to employees				
Water use	• Ensure efficient use of water and reuse where necessary • Construction workers shall be sensitized to avoid irresponsible water use • Harvest rain water	Contractor and his workers	Routine Inspection	50,000	Weekly
Energy use	• Ensure responsible energy use by switching off energy consuming Equipment or appliances when they are not in use • Planning of transportation schedule • Monitor energy use	Contractor and his workers	Routine inspection and maintenance	Nil	Monthly

6.4 ESMP for Operation Phase

The phase included the operation of the mini-extraction plant. The Operation Environmental Management Plan below indicates the likely environmental impacts, which were anticipated from the project, and it indicates ways of mitigating them.

Table 4; ESMP for Operation Phase

Environmental/ social impact	Proposed mitigation and aspects for monitoring	Actors	Monitoring	Estimated Cost	Frequency of Monitoring
Air pollution from dust and fumes	• Ore transportation vehicles shall be covered • Ore will be transported using a dump tank • Suppress dust within the project site	Project management	Inspection Routine maintenance	120,000	Weekly

	• Locate dust and fume generating activities where prevailing winds will blow it away from the premise and neighbouring settlement. • Every person working on the site must wear nose masks. • Introduce vegetation on bare grounds along the fence to act as windbreakers and air cleaner • Regular maintenance of all equipment`s on site				
Vegetation loss	• Replant areas where vegetation was unnecessarily removed • Landscaping and planting all disturbed areas • Planting and grassing should be done just before the rains or irrigated on dry spells	Contractor; project manager	Observation	150,000	Random

Occupational health and safety	• Provide scaffolding to facilitate safe operations at high level • Every person on site must wear appropriate and adequate PPE`S relevant to where they work • Sensitize and train workers on nature of environment they are working in, occupational health and safety • Firefighting equipment be provided and strategically placed • Provision of a fully stocked first aid box and a person trained on its application be employed • Incidence and accident record shall be kept • Only frequently inspected road-worthy vehicles and well-trained drivers will be permitted • Develop an emergency response plan • and enlighten the staff on safety measures and procedures through training • Strict adherence to factory and other	Proponents / workers	Inspection	300,000	Daily

	places of work Act and all occupational health and safety rules and regulation • Instruct all workers on safety health issues every day before work begins • Provide right tools, operations, instructions & manuals during work/operation phase • Engage the services of qualified personnel in the processing • Processing area (barren tanks, laboratory &leach tank areas shall be enclosed) • Sensitize staff on social/health issues such as drugs and HIV/AIDS • Ensure machinery and equipment`s servicing and maintenance as per schedules and legal requirements  • Medical examination of employees before, during and after their employment will be ensured  • Working equipment`s and their postures shall be user friendly				

	• Put speed control bumps on the road linked to the site to the main road to control speed • Hygienic conditions at work will be maintained and enforced • Working procedures be implemented to minimize near miss and incidence • Water for consumption be provided for employees and it be located far from processing area to prevent its contamination • An antidote chemical to be in place on site to be used in case of any accidental poisoning				
Waste generation and management	• Adapt on site sound waste management system to ensure proper solid disposal	Project management	Routine inspection	50,000	

	and collection facilities • Disposal of the waste shall be appropriately without compromising the environment and community in the recipient area • Segregation of waste before disposal • Reuse of waste material where possible				
Energy consumption	• Use of energy saving bulbs • Switching off unnecessary light • Servicing the generator and other energy consuming /utilizing equipment`s regularly • Using alternative sources of energy especially renewable ones such as solar in lighting should be considered	Project management	Observation	100,000	
Security	• Provide security guards and facilities during the entire project cycle • The premise will be fenced and security personnel put	Project management	Observation	300,000	

	in place				
Environmental audits	• Monitoring will involve measurements, observations, evaluations, assessment of changes in water quality, waste management, noise levels, and contractor safety etc.	Contractor/ proponent; NEMA	Inspection; assessment	300,000 annually	Random
HIV/AIDS	• Develop programmes to sensitizing the community and workers on HIV/AIDS and /or other sexually transmitted diseases(STDs) • Develop appropriate training and awareness materials for Information, Education and Communication (IEC) on HIV/AIDS • Identify other players (local CBOs, NGOs and government organizations)on HIV/AIDS for enhanced collaboration • Have programmes that will distribute condoms to the workers and the community	project management and County government	Enforcement		

6.5 ESMP for Decommissioning Phase

This will be the final stage of the project, the phase will take place after the mining operations have taken place and the ore has been depleted. Decommissioning will involve demolishing the structures and rehabilitating the land to its original position.

Table 5; ESMP for decommissioning phase

Environmental/ social impact	**Proposed mitigation and aspects for monitoring**	**Actors**	**Frequency of Monitoring**
Planning decommissioning	Inform the relevant authorities and employees on decommissioning and submit a decommissioning plan for approval	The proponent	3 months before Decommissioning
Removal of structures	All structures that will not be used for other purposes must be removed and recycled as much as possible or disposed	The proponent Decommissioning Contractor	One off
Demolition and other decommissioning related wastes	Where recycling/reuse of the equipment and other demolition waste is not possible, the materials should be taken to a licensed waste disposal site Disposing shall be in accordance with the environmental legislation	The proponent Decommissioning Contractor	One off
Covering/filling of excavations on site	All excavations shall be refilled with gangue rocks	Decommissioning contractor	One off
Public health concerns	• Provide suitable PPE`S to workers • Provide first Aid Kit • Promote & maintain a safe work place • Dismantle all electrical connections • Check potential hazards	Decommissioning contractor	One off

	and risks to workers and the public • Fence off all dangerous areas		
Rehabilitation of project site: Vegetation disturbance Land deformation, soil erosion, drainage problem	• Monitoring and inspection of the area for indication of erosion will be conducted and appropriate measure taken to correct any occurrence • Comprehensive landscaping • Implement an appropriate re-vegetation Program to restore the site to its original status • During the vegetation period appropriate surface water run-off controls will be taken to prevent surface erosion	Decommissioning contractor	One off

6.6 Possible displacement and relocation of people

The land for the proposed mine is non-inhabited and not in use by the locals. The land hosting the iron mine is rocky in nature and with little pasture thereby abandoned by the locals. Approximately 75% of the land surrounding the proposed mine is unused and undeveloped. The closest settlement is approximately 500m from the site with the iron ore. Displacement of persons is not anticipated during all the three phases of the mine activities. Involuntary displacement owing to noise levels and increased vehicle movement maybe witnessed albeit on a lower scale. However, these factors will be monitored closely and mitigated on as per the Environmental and Social Management Plan (ESMP). Physical planning will be carried out not only on the proposed location but also on the possible transport routes to ensure that the roads to be used are not on private lands.

7 CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

The proposed project is considered important and beneficial as it has the advantage of optimal use of land, stimulation of industrial development coherent with Kenya's Vision 2030 and revenue generation to the government. Additionally, it will provide raw materials for construction and socio-economic benefits to the proponent and the residents of Mbaru area. However, there will be negative impacts at all phases of the project cycle. The main concerns include habitat degradation, pollution of environmental media and health and safety concerns.

These impacts are found mitigatable and hence the EIA proposes a comprehensive Environmental Management Plans and Monitoring plans to improve the environmental performance during the entire project cycle.

7.2 Recommendations

The main recommendation of the EIA is the need for concerted implementation of the EMP and Monitoring Plans by the proponent. These include;

1. Register the site as a work place with Directorate of Occupational Safety and Health Services
2. Install a bio-digester
3. Provide adequate and enforce the use of PPE
4. Procuring a sizeable central solid waste collection bin with chambers to accommodate separated wastes
5. All loading and firing of explosives to be directed and supervised by competent person(s)
6. Comply with the provisions of the Mining Act, 2016
7. Adhere to the provisions of the Explosives Act Cap 115 5. Comply with Environmental Management and Coordination (Air Quality) Regulations, 2014
8. Comply with the provisions of the Occupational Safety and Health Act, 2007
9. Comply with the Environmental Management and Coordination (Water Quality) Regulations, 2006
10. Comply with the Environmental Management and Coordination (Waste Management) Regulations, 2006

On the basis of a commitment by the proponent to implement the proposed mitigation measures and the Environmental Management Plan, we recommend the issuance of an EIA License as per the Environmental Management and Coordination Act Cap. 387 of Kenya Laws and Environmental Management and Coordination (Impact Assessment and Audit) Regulations, 2003.

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9 APPENDICES

1. Certificate of Incorporation for Shaneebal Limited
2. K.R.A PIN Certificate for Shaneebal Limited
3. Land leasing agreements
4. Geological Assessment Report (Inferred)
5. Approval of the scoping report and Terms of Reference for the study
6. Consultation questionnaires
7. Practicing Licenses for EIA Expert

IRON ORE DEPOSIT ASSESSMENT

IN

MBARU AREA,

WEST POKOT COUNTY

CLIENT: *SHANEEBAL LTD.*

JULY 2019

By Geologist John Lugalia
Sign

Executive summary

Iron is the world's most commonly used metal. Steel, of which iron ore is the key ingredient, represents almost 95% of all metals used per year. Apart from oil, iron is more integral to the global economy than any other mineral. As a developing nation, Kenya has set a target to be industrialized by 2030. One of the driving sectors in the vision is the manufacturing industry. Raw materials including natural resources like minerals will play a key role in realization of the goal.

This report presents the findings of a geological assessment of iron ore occurrence in West Pokot County approximately 133 Km north of Kapenguria town (Makutano).

In the period between 8th July, 2019 and 10th July, 2019, the geologists conducted reconnaissance geological survey over Mbaru iron ore prospects in West Pokot County. The purpose of the surveys was to obtain data that would guide the next phase of detailed follow up surveys.

Though the measured volume of a resource is only given after drilling and geochemical analysis, the INFERRED volumes from these locations is put at **1,917,679 metric tonnes**. The geochemical analyzed percentage of iron in the Mbaru prospect ores from current studies puts it at an average of 87%. Though this is an average value, it should be noted the lowest acceptable iron ore grade that can be exploited profitably is 25%. Hence this is a 'natural ore grade' deposit since magnetite content in the ore is greater than 60%.

Table of Contents

1.0 Introduction

This report presents findings of investigative work on Iron ore deposits in Mbaru area of West Pokot County. The study area is covered by Topographical Sheet Karapokot Hills (50-3).

This work is a follow up on previous geological report indications of iron ore occurrence in the area and evident iron ore samples collected and submitted by local people to Shaneebal Ltd.

The work involved a quick reconnaissance geological mapping and sample collection to ascertain iron ore mineralization potential of identified areas and make recommendations.

In Kenya, iron ore has been extracted mostly on a small scale basis and supplied as an additive in cement manufacture locally for the construction industry. Since construction of high-rise buildings, factories and structures are on the rise, establishment of an iron ore mine is the client's desired project.

The client commissioned a geologist to undertake iron ore exploration exercise in the area on the possibility of an iron ore deposit presence. The research was to give insights on the quality of the ore, the approximate volume of the resource and the anticipated lifetime of the mine.

2.0 Background Information

2.1 Location and Physiography

The area of study is located close to Kenya-Uganda border; and falls in Tokechir Village, Mbaru Sub-location (Fig. 1), Lopet location which is located off Kacheliba-Konyao road about 55 Km from Konyao Trading Centre. The area is approximately 133 km from Kapenguria Town which is the West Pokot County headquaters. The approximate grid reference of the area is **36N 0230571; UTM 0740224** at an approximate elevation of 1,560 metres above mean sea level.

In general terms the topography can be said to be undulating with small open valleys and ridges slanting gently south west. The general area is covered by shrubs and acacia trees. Most people in the area are pastoralists with a nomadic lifestyle.

2.2 Communication and Accessibility

The area is easily accessible through a well developed murrum road network which is currently being upgraded to an all weather tarmac road. The road runs from Kapenguria (Makutano) towards Mbaru study area via Kacheliba and Konyao major Trading Centres.

The remaining 55 Km stretch to Mbaru iron ore prospect is served by small motorable murram road that passes through Lossom, Lopet, Kawawa and Kamila which are smaller market centres. The murrum road along the stretch passes through various seasonal river channels and drifts without culverts some of which may require fixing to necessitate ease of movement. The surveyed prospect is located on a rocky sloppy highly raised hill without a motorable access track; about ten minutes walk from foot of hill. Hence any motor vehicle access to the mineralized area will warranty murrum road construction.

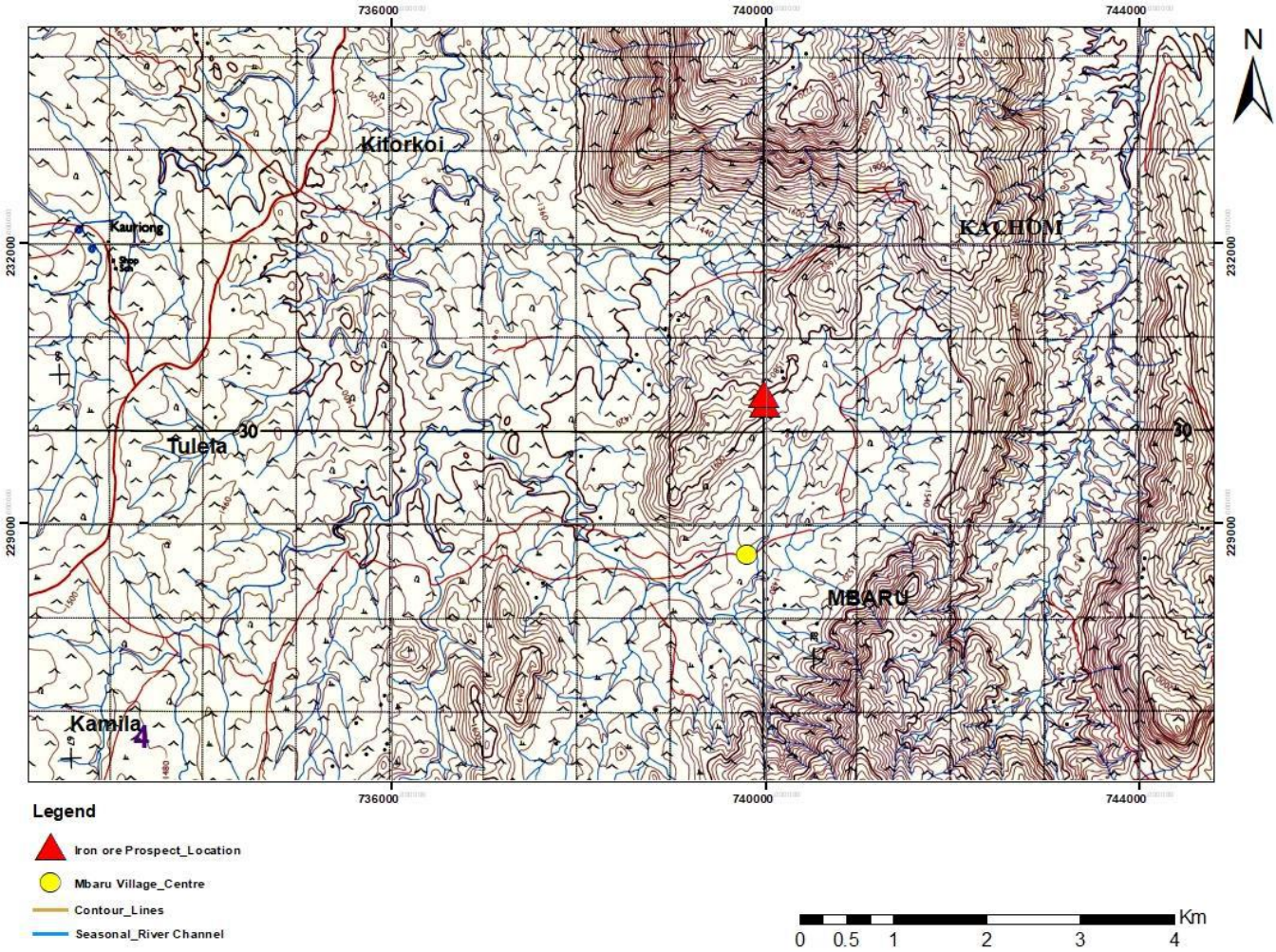

Fig 1. Iron ore prospect location.

2.3 Rainfall and Climate

The area experiences a hot semi-arid climate with an average temperature of 24.4ºC and an average rainfall precipitation of 508mm per annum. The driest month is January in which there is 11mm of precipitation. Most of the precipitation in the area falls in April, averaging 96 mm. March is the warmest month with an average temperature of 25.4ºC while July is the coldest month averaging 23.3ºC (https//en.climate-data.org).

2.4 Current Land use

The community occupying the area is mainly pastoralist rearing cattle which include goat, sheep, camel and cows; hence they use most of the land area as grazing fields.

3.0 Geology

The areas lie within the extensive orogenic Mozambique belt which comprises mainly metamorphosed rocks.

3.1 Regional Geology

The metamorphic Mozambique belt rocks regionally dominate the area, a crystalline complex of late Precambrian age, including one major basic intrusion and a number of minor intrusions ranging from acid to ultra-basic in composition. They are in many places covered by superficial deposits of Pleistocene and Recent age (Walsh, 1964).

The general geology of the area comprise of plagioclase amphibolites rock which covers the central and eastern part of the area. The western zone is underlain by biotite gneisses with apparent faulting at north of lithology and at eastern contact with plagioclase gneiss formation. The main granitic intrusion cuts through the north part of study area forming Kapcholio hill (Fig. 2).

The iron ore prospect sits on a complex meta-igneous rock possibly micacous amphibolite or schist, weathering to micaceous grey soils. The rock is dark grey in colour, slightly weathered, medium to coarse grained and massive.

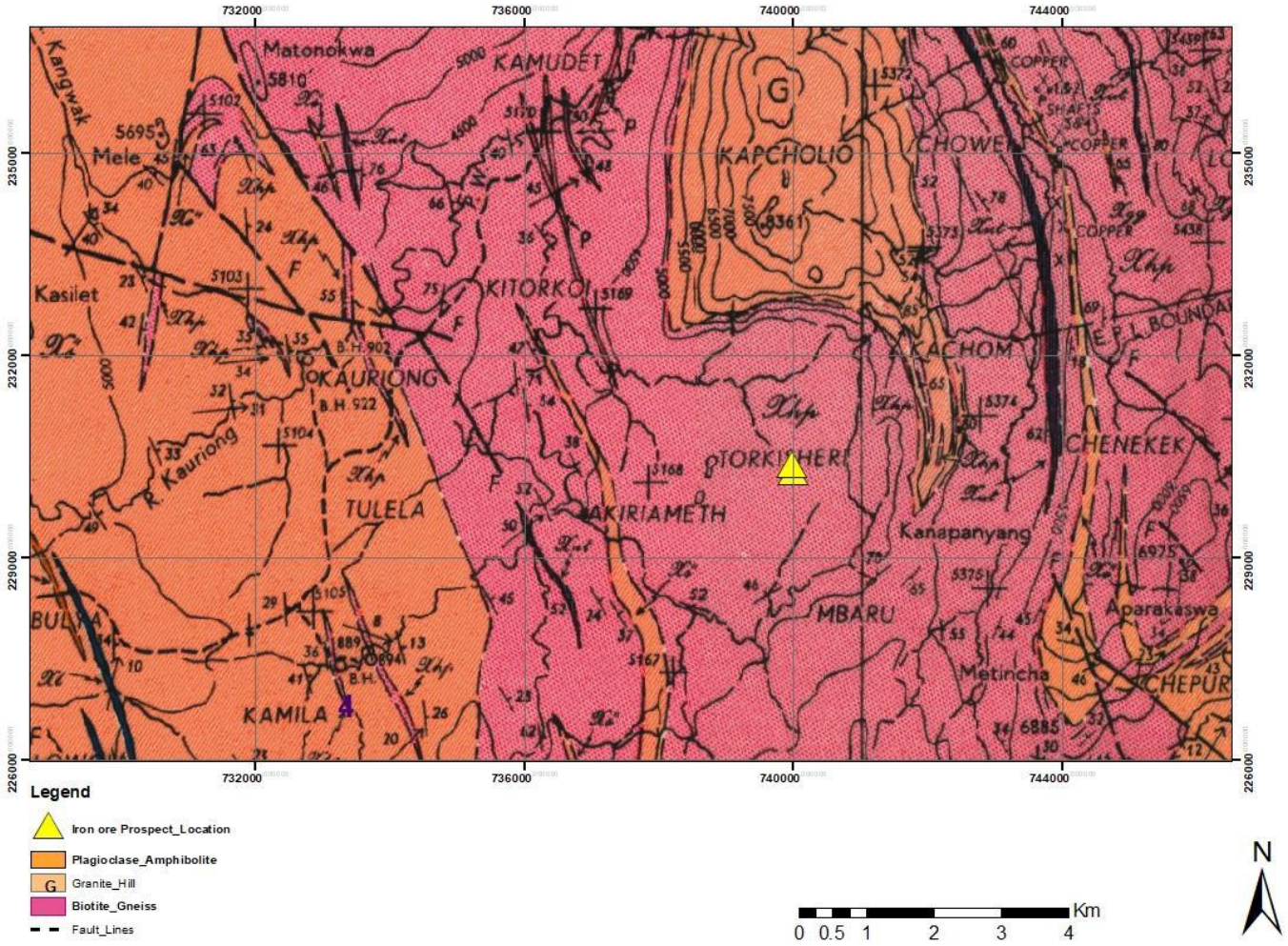

Fig. 2: Geology of study area.

4.0 Methodology

Changes to regulations effected by the Mining Act of 2016, require firms engaging in exploration and mining to report about their resources and give assessment reports.

The scope of work involved a 5 phase approach that included;

- Desktop Study; this involves study on the available geological, geographical and geotechnical and mineralogical publications, reports, academic papers and data. The materials reviewed are based on the subject and area under scrutiny.

- Field Reconnaissance and Interviews; at this stage, the site is visited with the experts to have 'a feel' of the terrain and to ascertain whether actual fieldwork is possible. In addition an oral interview with the immediate neighbors and relevant authorities is carried out to get their view on the proposed work.

- Actual Field work; A 7day fieldwork is then done. It involved geological mapping and geophysical data acquisition.

- Random iron ore vein and angular float sampling for geochemical analysis and study to ascertain the type, quality of the iron ore and the mineralogy of the deposit. 5 rock chip samples were collected and analyzed.

- Filtering, analysis and interpretation of all the collected data and generations of outputs that replicate the land's geological status.

- Compile and submit to the Client a comprehensive report that shall include all the details of the above investigations and the Consultants recommendations

The iron ore exploration exercise has therefore been conducted using measurements obtained in the field during the assessment. These however have been weighted against natural factors like waste rock in ore, pinch and swell structured nature of iron ore vein in mineralized zones.

5.0 Field work

Fieldwork commenced with reconnaissance geological survey from 20th June 2019 to 22nd June 2019. Preliminary sampling iron ore floats were collected at location UTM Co-ordinates 36N 0740224, 0230571. The detailed fieldwork was conducted from 7th to 11th July 2019.

Geophysical data was collected from the first to the last; measurements and data obtained from all the sources have therefore been used to calculate the resource as reported herein. On 21st June 2019 a representative 5 iron ore samples were randomly collected from insitu iron ore sites and taken to lab in Nairobi for whole rock analysis and XRD tests.

6.0 Concepts and Techniques

The survey was undertaken using the most efficient geophysical and geological techniques

6.1 Geological Mapping

It involves study of the exposed rocks within the vicinity. Traverses and paths are done in the land. Rock and ore properties are observed and recorded in special sheets. Changes in the lithology are noted. Samples are broken off exposed rock outcrops at random interval across the study area. Representative samples from rock and ore outcrop are then after collected and taken to the lab for analysis,

6.2 Geophysics

Geophysical methods are available to assist in the assessment of geological subsurface conditions. In the present survey Ground Magnetics Survey has been used.

6.2.1 Ground Magnetic Survey Method

The magnetic geophysical exploration method relies on detecting variations in the Earth's magnetic field caused by changes in the subsurface geological structure or differences in the magnetic properties of near-surface rocks.

Magnetic measurements (readings) were collected at specified seven meter interval locations along planned survey (profile) lines or grid using a magnetometer. The magnetometer readings were taken along ten profile traverse lines, with a separation of 100 meters from each other.

Ground magnetics is used to define more local exploration or engineering targets often prior to drilling.

6. 2.2 Voxi earth Modelling Technique

It is a cloud-based 3D modelling technique geophysical inversion software service that generates 3D voxel models from ground magnetic data.

The software converts geophysical measurements directly into 3D images of subsurface rock properties that can be integrated with other exploration information in three dimensions.

The result is a more realistic representation of rock magnetization, which is the fundamental rock property measured with the magnetic method. This technique was applied on magnetic data obtained from the study area.

7.0 Results

7.1 Study area Nature of Mineralization

Geological mapping and evaluation reveals iron ore is hosted in a meta-igneous rock possibly micacous amphibolite or a schist. The magnetic massive black to sub metallic dense mineral rock appears insitu assuming a veined form and has a general NE-SW trend, probably dipping towards the west.

Mineralization appears in an area with topography a part from the insitu outcrop veined occurrence (See appendix 1), there are numerous angular 5cm to 50cm iron ore rock mineral fragments which seem to be rolling downhill on breaking down from veins within the amphibolites host rock (See appendix 2).

A thick white pegmatite with "augen-tourmaline crystals' is observed with a trend orthogonal to the ore under study. The magnetite outcrops are encountered in different spots with thickness of up to 1 meter and may have a strike length of up to 700m.

7.2 Geochemical Sample Analysis

XRD and a whole rock analysis were carried out on the 5 samples extracted from outcrops in the study area during geological mapping exercise. The outcome results showed an average geochemical grade of 87% iron ore. XRD results indicated presence of magnetite and magnesioferrite-a magnetite series of spinel (See appendix 6 & 7).

7.3 Magnetic anomaly Interpretation

The band-limited and reduced to pole data (Fig. 3) were used in this voxel inversion process. The data dynamic range after the above processes is between -288 and 332 nT. On line 7 a continuous West-East high is observed while the rest of the area is marked by arcuate mounds, and short N-S anomalies.

A forward model was implemented before inversion to estimate the error margin between the measured value and the predicted response. This forward model yielded, on average, an error below 2 nT. The inversion mesh was set with cell dimensions of 13m, 19m, and 2m for the [x,y,z] spaces.

The Susceptibility of voxel inversion results was clipped to 0-0.6 magnetic susceptibility and the outcome isosurface attributes observed (See appendix 4 & 5). This result depicts an inferred magnetic iron ore body with indicted volume.

The inversion outcome displays a high level of confidence on the presence of a magnetic iron ore body; however further follow up work like drilling is necessitated to confirm the ore to a measurable deposit.

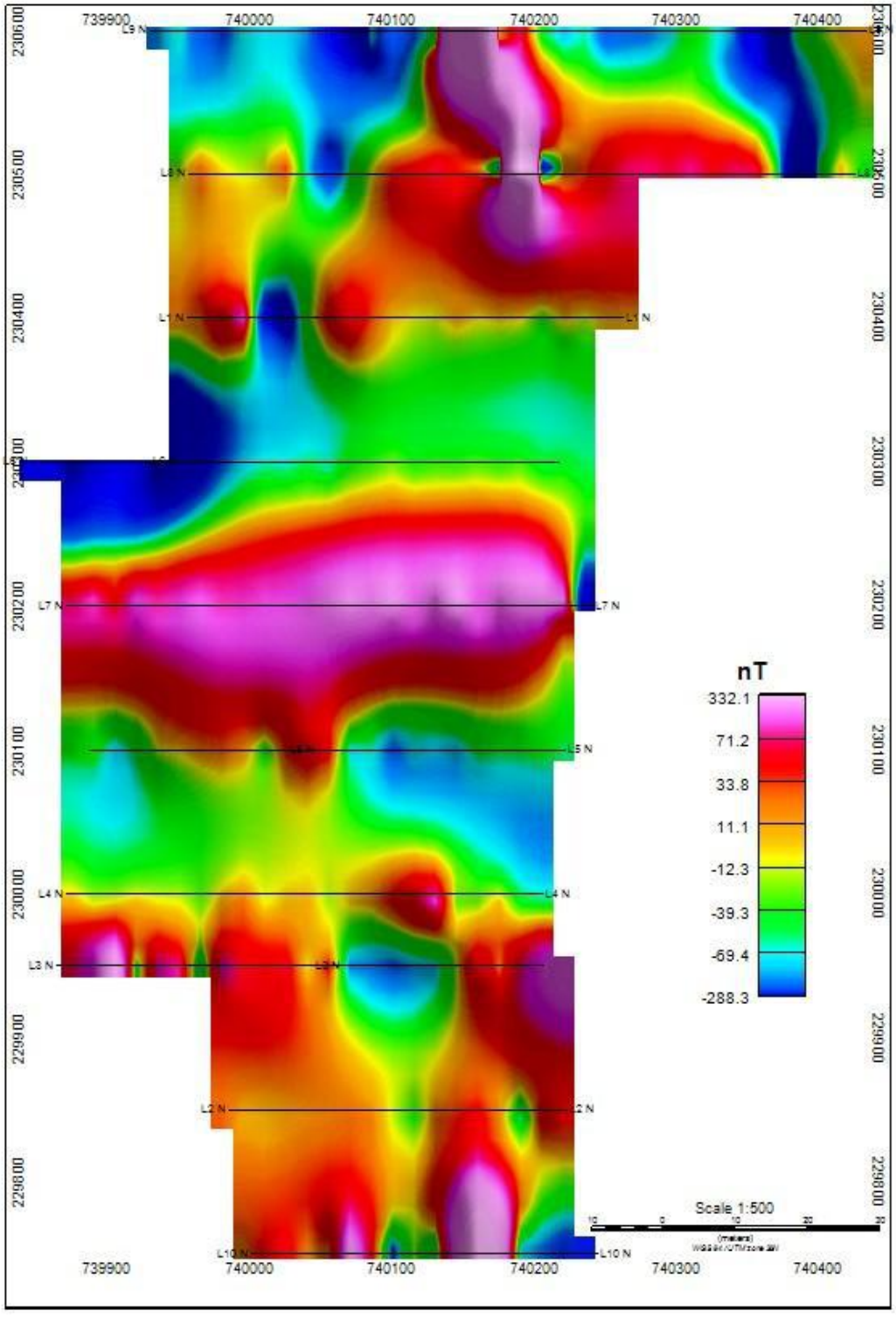

Fig. 3: Magnetic susceptibility map and total magnetic intensity field TMI data residualized after IGRF correction and reduction to pole.

8.0 Projections and Conclusion

This reconnaissance magnetic survey was conducted in a bushy hilly area measuring about 40 acres at Mbaru, the prospect area is characterized by undulating terrain with a raised topography of elevation difference of approximately 80 meters from lower ground surface.

The synthesis of the collected data concludes that the easily mineable rock is up to 80m depth (height of the hill).

The average thickness of this land mass can reasonably be estimated at over 80m but for purposes of tabulations and reasons of the nature of uneven upper surface of hill, we are conservatively using 40m. The **inferred** reserve is therefore given below;

8.1 Mbaru Iron Ore Prospect Inferred Resource Calculation

Relative density of iron is 2850kg/m^3.
Out of the 40 acres, calculation of the tonnage shall be based on 5 acres; this is because some part of the land mass will be waste rock due to iron ore vein nature of mineralization.

1km^2 =247.105acres

Therefore 5acres = 0.020242915 km^2

Then 0.020242915 km^2 is the surface area.
Average depth of reserve = 0.03km.
Volume = surface area of measured reserve X average depth of reserve.

= 0.076890 km^2 x 0.03 km = 0.0006728745 km^3. Or 672.87 m^3

Mass = (Density of Basalt) X (Volume).

= 2850kg/m^3 × 672.87m^3 = 1,917,679.5

1,917,679MT

NB: At a proposed production rate of 500 metric tonnes (MT) per day, the mine has a tentative lifespan of over 10 years from today.

The inferred tonnage is therefore

1,917,679MT

At a proposed production rate of 500 metric tonnes (MT) of iron ore per day, the mine has a lifespan of over 10 years from today.

NB: There is a high confidence level of an extended mine lifespan given the nature of veined mineralization.

9.0 Recommendations

- Excavation or drilling to confirm continuity of the observed detected magnetic iron ore anomaly
- Further infill ground magnetic and extended traverse survey lines where anomaly was truncated by end of traverses.
- Geological mapping to be carried out extensively on areas and hills adjacent to the study area to probe continuity of veined ore and presence other mineralized zones,

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https//en.climate-data.org

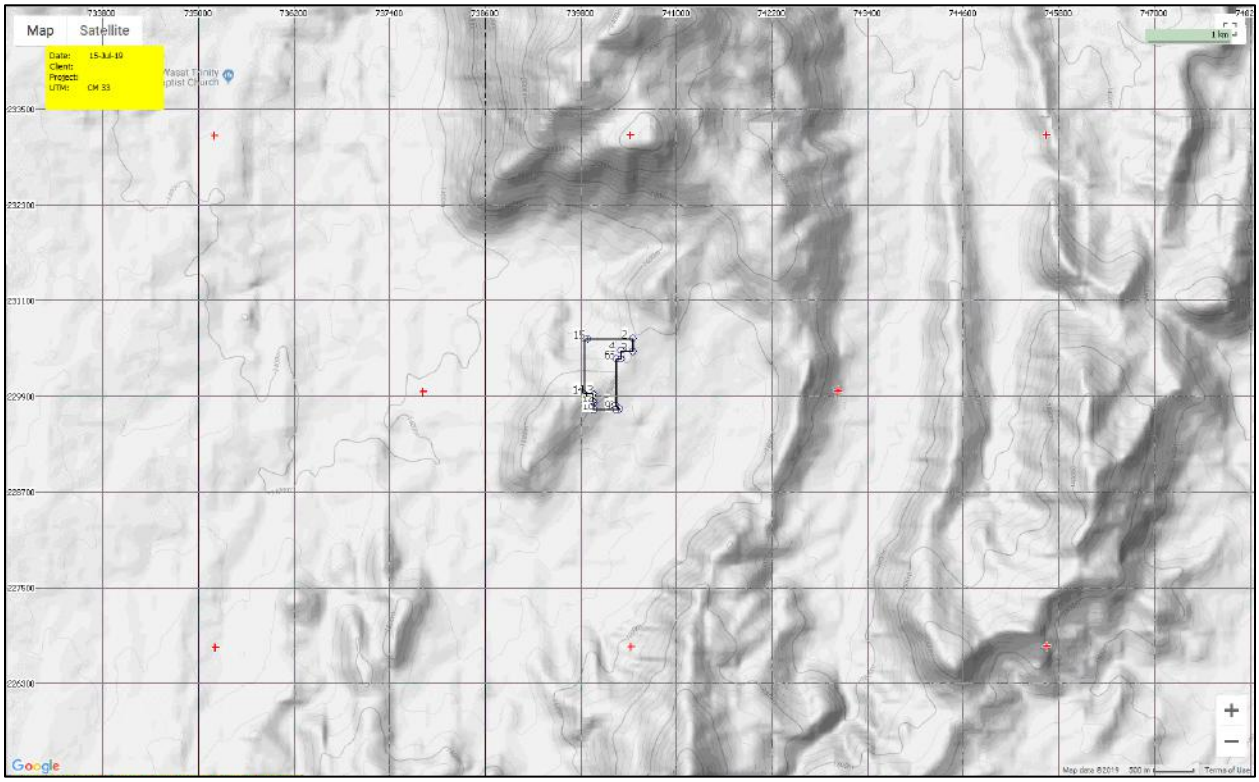
https://earthexplorer.usgs.gov/.

APPENDIX

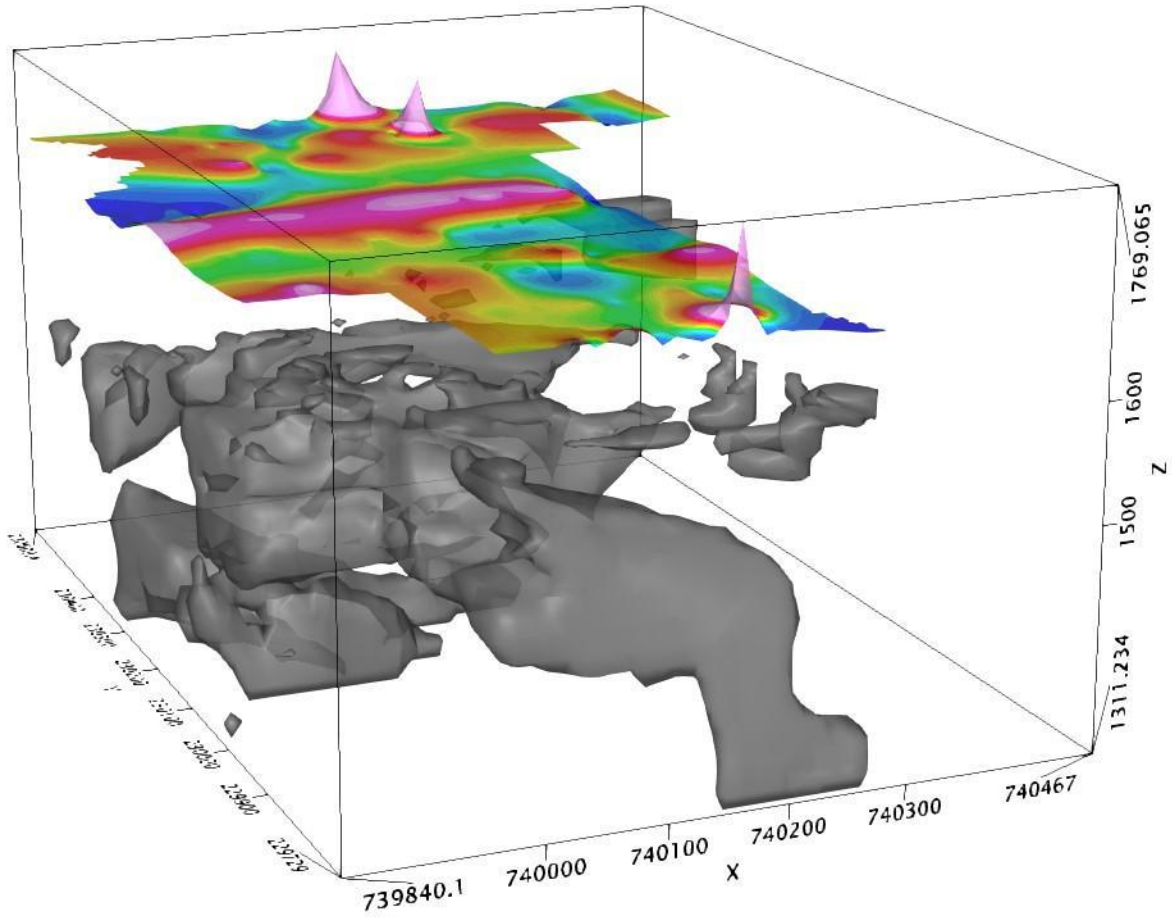
1. *Iron ore mineral rock cutting through host plagioclase amphibolite outcrop*

2. *Sub angular Iron ore mineral rock boulders on slope of propect area*

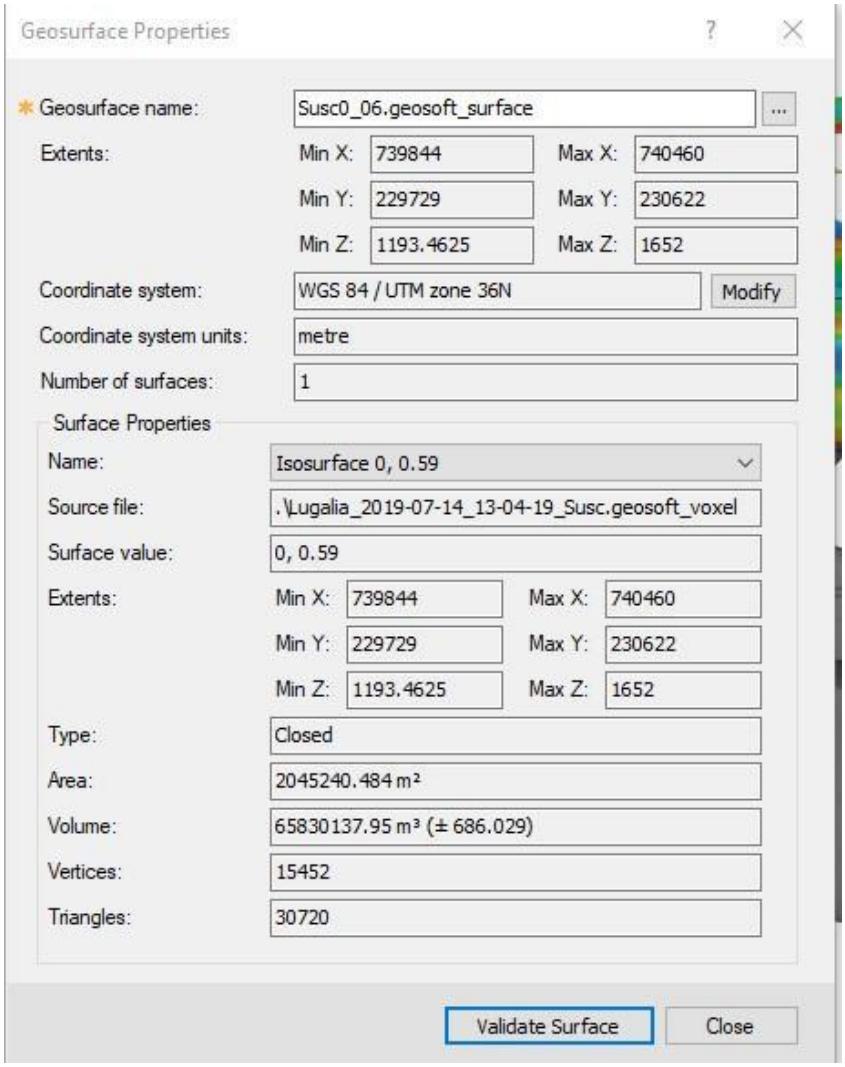
3. *Location of survey area is demarked using the polygon at the central part of the image also depicting relief of prospect.*



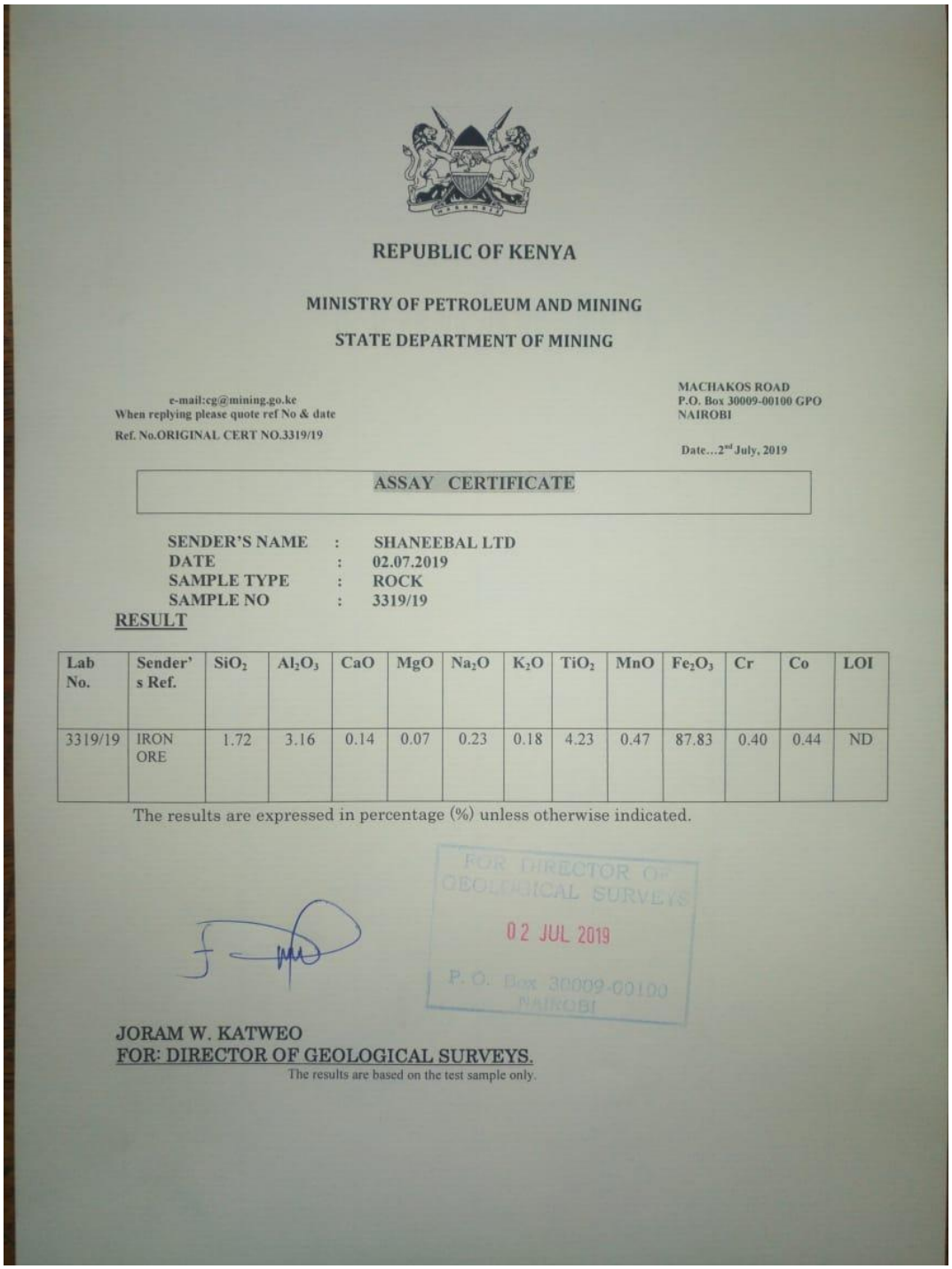
4. *Susceptibility inversion results clipped to 0-0.6 magnetic susceptibility*



5. *Isosurface attributes indicating estmate volumes of clipped area*



6. ***Whole rock analysis results***



REPUBLIC OF KENYA

MINISTRY OF PETROLEUM AND MINING

STATE DEPARTMENT OF MINING

e-mail:cg@mining.go.ke
When replying please quote ref No & date
Ref. No.ORIGINAL CERT NO.3319/19

MACHAKOS ROAD
P.O. Box 30009-00100 GPO
NAIROBI

Date...2nd July, 2019

ASSAY CERTIFICATE

SENDER'S NAME : SHANEEBAL LTD
DATE : 02.07.2019
SAMPLE TYPE : ROCK
SAMPLE NO : 3319/19

RESULT

Lab No.	Sender's Ref.	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	TiO_2	MnO	Fe_2O_3	Cr	Co	LOI
3319/19	IRON ORE	1.72	3.16	0.14	0.07	0.23	0.18	4.23	0.47	87.83	0.40	0.44	ND

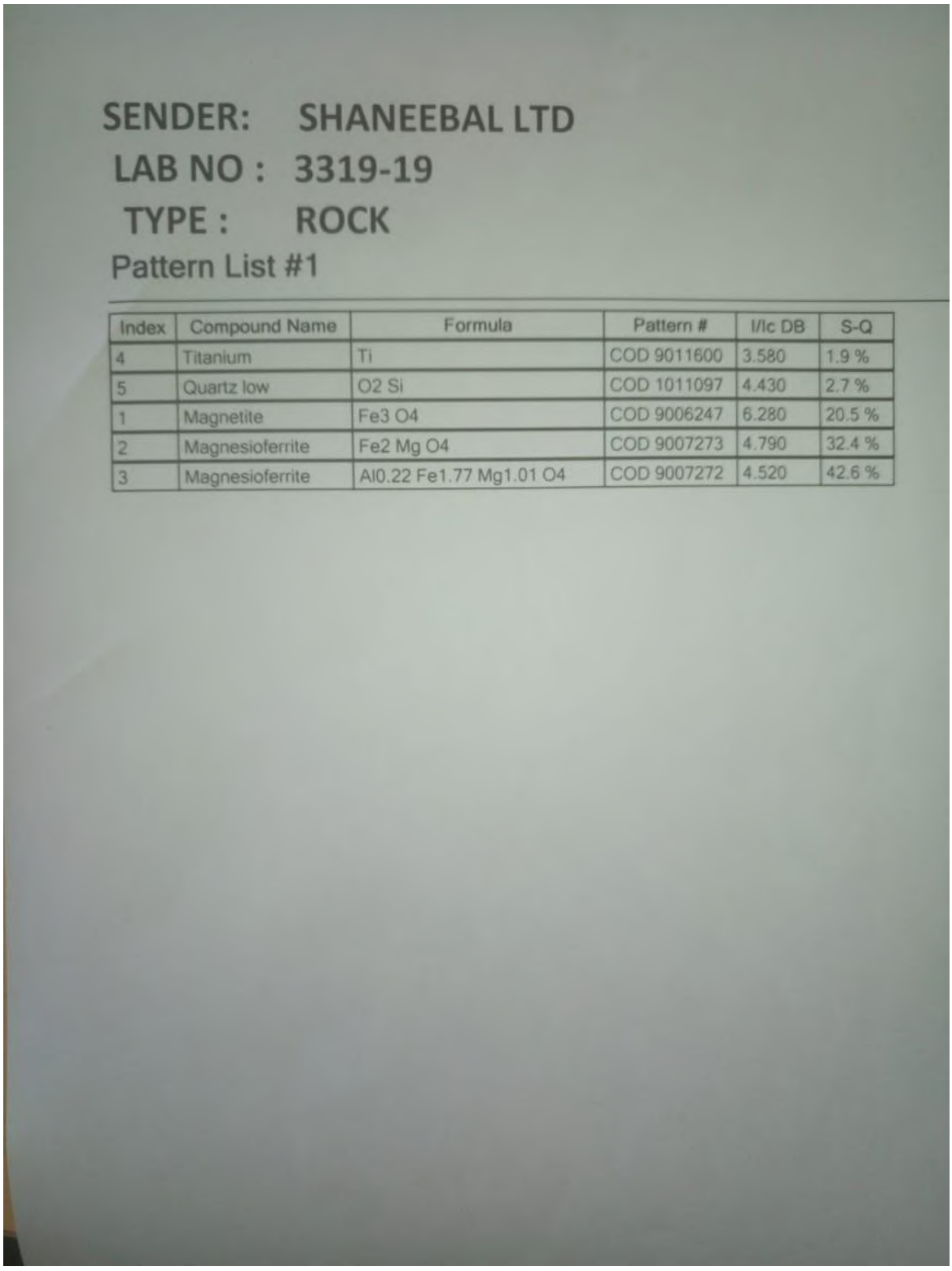
The results are expressed in percentage (%) unless otherwise indicated.

FOR DIRECTOR OF GEOLOGICAL SURVEYS
02 JUL 2019
P. O. Box 30009-00100 NAIROBI

JORAM W. KATWEO
FOR: DIRECTOR OF GEOLOGICAL SURVEYS.

The results are based on the test sample only.

7. XRD analysis results



SENDER: SHANEEBAL LTD

LAB NO : 3319-19

TYPE : ROCK

Pattern List #1

Index	Compound Name	Formula	Pattern #	I/Ic DB	S-Q
4	Titanium	Ti	COD 9011600	3.580	1.9 %
5	Quartz low	O2 Si	COD 1011097	4.430	2.7 %
1	Magnetite	Fe3 O4	COD 9006247	6.280	20.5 %
2	Magnesioferrite	Fe2 Mg O4	COD 9007273	4.790	32.4 %
3	Magnesioferrite	Al0.22 Fe1.77 Mg1.01 O4	COD 9007272	4.520	42.6 %

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village NAKWAPOO Location LOREI Division KIWAWA District POKOT NORTH County W-POKOT

The proponent (NAME)...................................... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent ESTHER CHEPIUM.

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10000 people
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development and Displacement
10.	Any particular issues that you want to be taken into account?	compensation in any interference

SIGNATURE [signature] PHONE............................ DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village NAKWAPUO Location LOPEI Division KIWAWA District PoKot NORTH County W POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... ELIZABETH RLORKAPEL .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10 1000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any Interference

SIGNATURE..... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village..MBARU..Location..LOPEI..Division..KIWAWA..District..POKOT NORTH..County..W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..CHEPSERUM LOMUGERENA..

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE..20/10/2019..

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village MBARU Location LOPET Division KIWANDA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... SIWARENG LOROPET .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village MOINDI ...Location LOPET .....Division KIWAWA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent LOMERINHOLE NHORIAREPH

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village NAKWAPOU Location LOPEI Division KIWAWA District POKOT NORTH County WPOKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent. CHEMANANG NGORIAKURU

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development and Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE..... PHONE..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village NAKWAPOI Location LOPEI Division KWAWA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent. LORIMA KUMULUNGIRO

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village. MOINOI Location. LOPET Division. KIWAWA District. POKOT NORTH County. W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent. AKORKIMOI TARANGOLE

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Ye
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE. 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village..MOINOI..Location..LOPEI..Division..KIWAWA..District..POKOT WORTH..County..W.: POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..CHEPOSETEM LOILEMOI.....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development and Displacement
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SIGNATURE..... PHONE..... DATE..20/10/2019.....

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village..MOINOI..Location..LOPET.....Division..KIWAWA..District..POKOT NORTH.....County.....W.POKOT

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Name of the respondent..... KAPEL KOMOLINGIRO .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE..20/10/2019.....

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village..MOINOI..Location..LOPET.....Division..KIWAWA..District..POKOT NORTH.....County.....W.:POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... KAPEL KOMOLINGIRO .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE..20/10/2019.....

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOT Location LOPET Division KIWANA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... CHEPOTUMEGHO TENAITA .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE..... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village..SITOI.....Location..LOPET.....Division..KIWAWA...District..POKOT NORTH.....County.....W: POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..CHEPARKONH LOSIA.....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE..... PHONE..... DATE..20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOT Location LOPET Division KIVAWA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... CHEPOCHERUWOW LOREMA .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE 20/10/2019 .....

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village. NAKWAPUD Location... LOPEI ....Division. KIWAWA District.....County.....

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... LOESEMUK AYANHILE .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Duplacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOT Location LOPEI Division KIWAWA District POKOT NORTH County W-POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent... CHEPARWITS NAIADA

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Duplacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE..... PHONE..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village MBARU Location LOPET Division KIWAWA District TURKANA NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent CHEMKET SIWARENA

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 101000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village MBARU Location LOPET Division KIWAWA District TURKANA NORTH County ..... W.: POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent CHEMKEI SIWARENA

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 101000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE ..... PHONE ..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village..SITOI....Location..LOPEI.....Division...KIWAWA.District.POKOT NORTH.....County.............W.POKOT

The proponent (NAME).. intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent....KORSEI PICHON...

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE....[signature]........................ PHONE............................ DATE....20/10/2019..........................

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPEI Division KIWANSA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent KORSEI PILTON

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village...SIIOI....Location..LOPET....Division....KIWAWA....District..POKOT NORTH...County..........W-POKOT

The proponent (NAME)....................................... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent.....CHEPONYORIO LOMOSIWA.........................

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any Interference

SIGNATURE.. PHONE.............................. DATE....20/10/2019.................................

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPET Division KWANZA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... EVALYNE LIMANHORIA

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Duplacement
10.	Any particular issues that you want to be taken into account?	Comperation in any interferance

SIGNATURE..... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPET Division KIWAWA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... CHEPSERUM RIONOTIMO .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE..... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village..SITOI.....Location..LOPET.....Division..KWANZA.....District..POKOT NORTH.....County.....W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent.....LIMAYE RIOROTIMU.....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development in Any Interference
10.	Any particular issues that you want to be taken into account?	Compensation in Any Interference.

SIGNATURE..... PHONE..... DATE..20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPET Division KAWATWA District POKOT NORTH County W. POKOT

The proponent (NAME).. intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent CHEPOSANGIY LOLEMTUM

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE [signature] PHONE.............................. DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SIIOI Location LOPEI Division KIWANJA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent SIMONNURA LORIPO

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE..... PHONE..... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPET Division KIWAWA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent JACKSON LONYAREN

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000 People
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any Interference

SIGNATURE ..... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPET Division KIWAWA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent CHEPSERUM RIONOSIMU

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference

SIGNATURE ~~Nee~~ PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPET Division KIWAWA District POKOT NORTH County W. POKOT

The proponent (NAME).. intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent LONYANHAPAT AYANGILE

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development a Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE.......................... PHONE.......................... DATE 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village: SIGOR Location: LOPET Division: KIWAWA District: POKOT NORTH County: W. POKOT

The proponent (NAME).. intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent: CHEPOTINDAR RIONONHOLE

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any Interference.

SIGNATURE: [signature] PHONE.............................. DATE: 20/10/2019.

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITI Location LOPET Division KWATAWA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent CHEMOKOI LOMOSIKA

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	No
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE..... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village...SIIDI.....Location...LOPET......Division..KIWAWA..District..POKOT NORTH......County........W.: POKOT

The proponent (NAME)....................................... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent...NGACHOLIAI KAPLATAGH...........

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	compensation in any interference.

SIGNATURE...[signature]............................... PHONE............................ DATE.........20/10/2019...............

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village...SITOI......Location..LOPET......Division...KIWAWA District..POKOT NORTH....County..........W. POKOT

The proponent (NAME).. intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent....CHEPONAREWO LONHURANHOLE

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

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ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPEI Division KWANZA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent CHEPONHARIAMA LONKURANGOLE

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any Interference

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ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SITOI Location LOPIET Division KWANZA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... LOSIA AYANWILE .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	~~Over 10,000~~ NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

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ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village SIIOI Location LOPET Division KIWANJA District POKOT NORTH County W. POKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent... LOREN AYANWILE

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference.

SIGNATURE... PHONE..... DATE 20/10/2019

ENVIROMENTAL IMPACT ASSESMENT: PUBLIC PARTICIPATION QUESTIONNARE FOR THE PROPOSED IRON ORE MINE

Village. SITOÍ ..... Location. LOPET ..... Division. KIWAWA ..... District. PÓKOT NORTH ..... County ..... W. PÓKOT

The proponent (NAME)..... intends to develop an iron mine Mbaru Area . The activities involved during implementation and operational phases of the project will bring about positive and negative impacts on environment health and socio-economic status of the area. In efforts towards ensuring safe and sustainable environment, National Environment Management Authority (NEMA) works in consultation with stakeholders. This is a voluntary questionnaire upon which your views are crucial in enabling NEMA make an informed decision in either approving/ or recommending remedial measures in the development of the project for the mutual benefits and co-existence. Please add a comment where you are obliged to do or where the question doesn't raise your full feeling. Thank you for contributing towards improving the environment.

Name of the respondent..... LOSIROKOU LOKASIKWANG .....

ITEM	QUESTION	ANSWER,YES/NO OR COMMENTS
1.	Are you aware of the project?	Yes
2.	In your own feeling, do you consider such project in your development appropriate in this particular area?	Yes
3.	Do you expect any interference to essential facilities such as roads, buildings, vegetation and farms during implementation of the project?	Yes
4.	How many people do you estimate to benefit from the project?	Over 10,000
5.	What are your expectations regarding this project?	Development
6.	Do you expect the excavation works involved in this project to adversely affect the environment?	Yes
7.	Do you expect any interference to your premises during installation and construction works?	Yes
8.	Do you feel that people employed during implementation phase will pose a security threat to the area?	NO
9.	What other impacts(positive or negative) do you consider the project will have(to you, the host community and general environment)	Development & Displacement
10.	Any particular issues that you want to be taken into account?	Compensation in any interference displacement

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