

MISRILALL RESOURCES PVT LTD

GRAPHITE BUSINESS PLAN 10,000 TONES PER ANNUM

TANGA REGION

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AN INTRODUCTION TO GRAPHITE

Graphite is an allotrope of carbon that is a material unlike any other, displaying various unique properties.

The structure of Graphite is responsible for its vast properties. Graphite is a non-metallic conductor, a solid-state lubricant and a non metal with a luster. Graphite is an allotrope of carbon; however, it has a structure that is unique to it. Graphite exists in hexagonal structures that are formed in layers. Different layers of a graphite sheet are bonded layers above and below it by the means of weak Vander-Waals forces. This allows for movement of electrons when placed in an electric field, thus allowing graphite to exhibit its various properties.

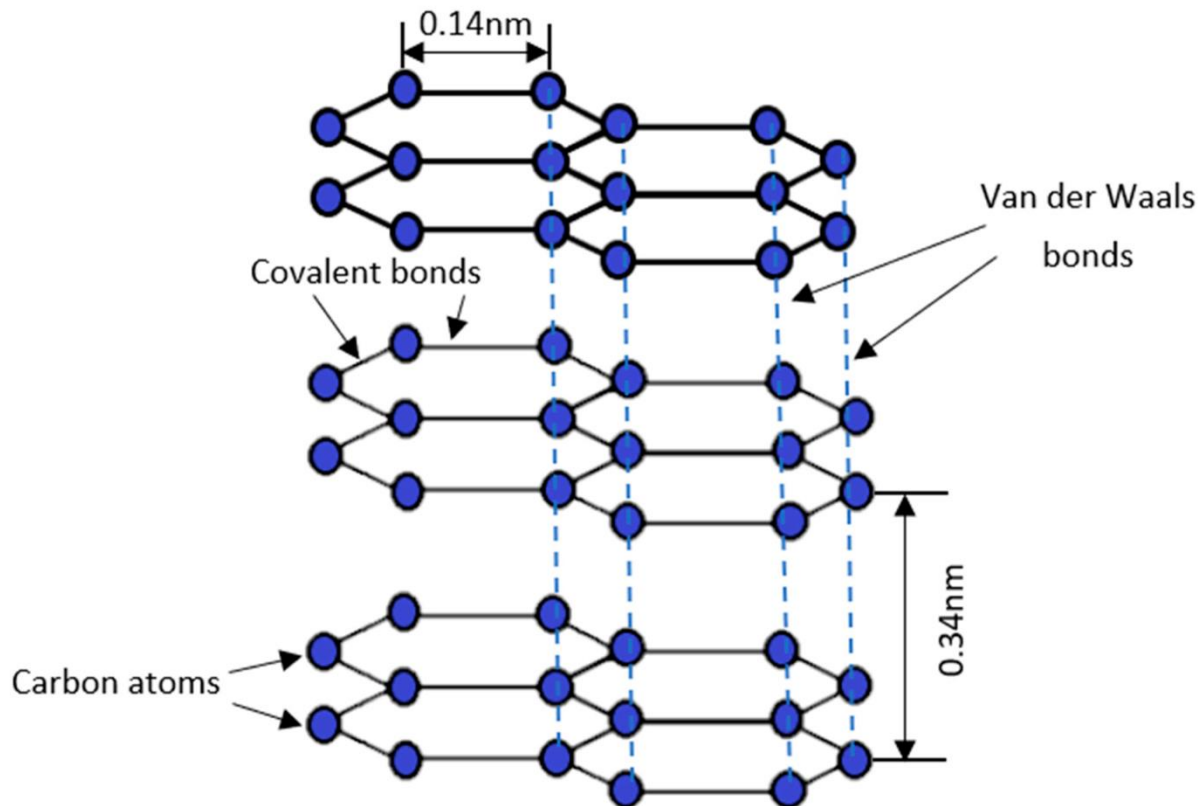


Figure 1: Structure of Graphite

Traditionally, graphite has found its usage in the refractory, steel making, paints and coatings, brake pads and other friction materials etc. The global graphite demand was constant at nearly 1 million tons of natural flake graphite for the past few decades.

However, over the last couple of years, newer, high growth areas of consumption is largely seen as a bright spot in the industry and the global consumption of flake graphite is expected to grow at roughly 8% per annum to reach a global consumption of 2.5-3 million tons per year by 2030.

Most of this demand is forecasted to be coming in from the Li battery space. Additionally, fields such as fire retardants, graphene, etc. are seen as another general bright spot in the consumption growth of graphite.

Much of today's supply of graphite is from China with Brazil, Mozambique, Madagascar, India. Africa currently holds one of the largest undeveloped graphite resources globally. The quality of graphite resources around Africa is considered to be at par with global standards. Today, large consumers of graphite are seeking supply of graphite from outside of China to mitigate location-based risks and this presents African nations with a wonderful opportunity to make the most of the upcoming boom.

GLOBAL GRAPHITE MARKET

The total consumption of natural graphite was 9,00,000 tons per annum in the year 1990. The consumption grew at a very slow pace to be close to 1 million tons of graphite annually by 2015. Approximately 60% of this total consumption is that of natural flake graphite. The sector is expecting a 100% growth rate by 2025 from the 2015 levels owing to the large growth in consumption of specialized applications.

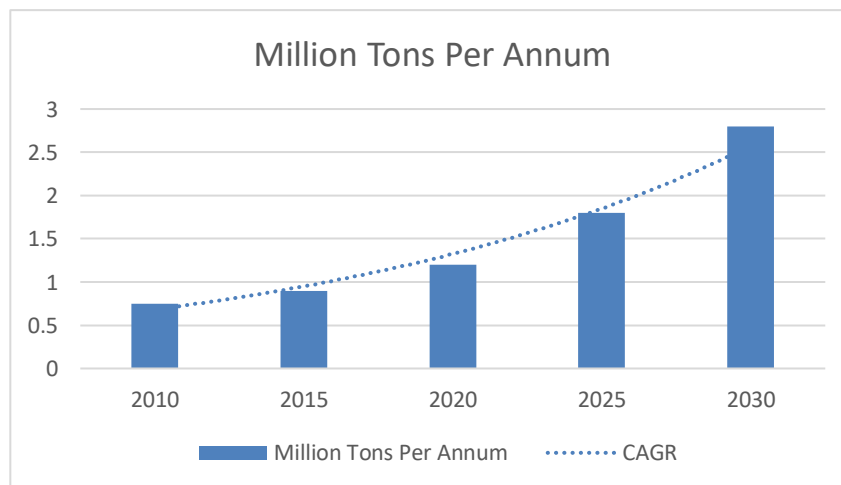


Figure 2: Projected Graphite Demand

Traditional applications in steel making and refractories were the biggest consumers of graphite for decades. Since the turn of the 21st century, graphite has once again come into limelight with the advancement in LiBs and Graphene. Further, the potential growth due to Fire Retardants and other traditional fields, now puts flake graphite on a path of multifold growth providing the business case for the development of the resource. Historical industries of consumption of graphite include re - factories, crucibles, gaskets, coatings, brake pads, graphite foils, lubrication, pencils and nuclear. In the recent years, the high potential demands for major driver of future growth. The graphite industry largely expects that by 2026, there would be a requirement of half a million tons of flake graphite only to meet the global LiB requirements. This is approximately 50% of today's, total global consumption.

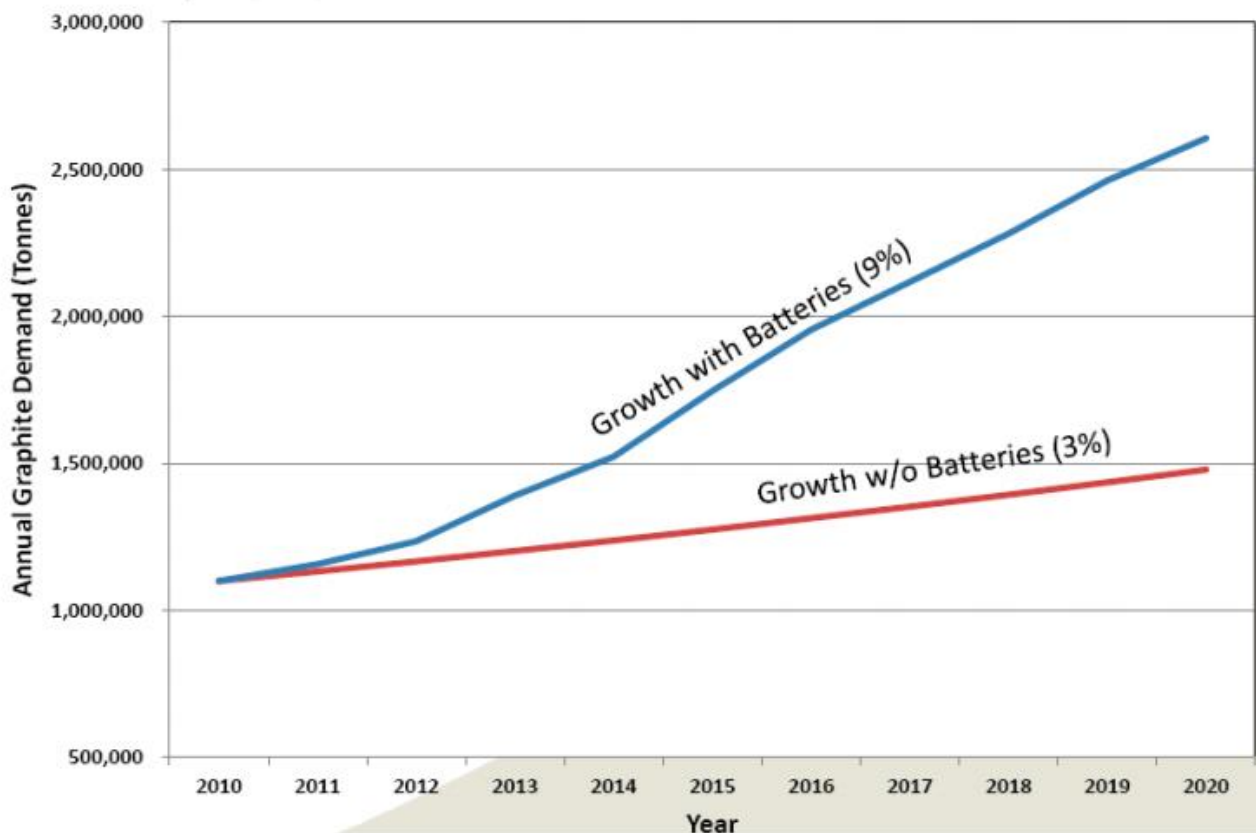


Figure 3: Graphite Demand Scenarios

The Republic of China, has been the world’s largest producer and the world’s largest consumer of flake graphite. It is also a net exporter of graphite and has been supplying the material to some of the world’s largest consumers of graphite. China was able to sell graphite at very competitive prices primarily due to little or no environmental regulations, cost of labor and finance and numerous other governmental supports. However, in 2016-17, the Government of China enforced stricter environmental norms for graphite production and this has since reduced its share in the global market.

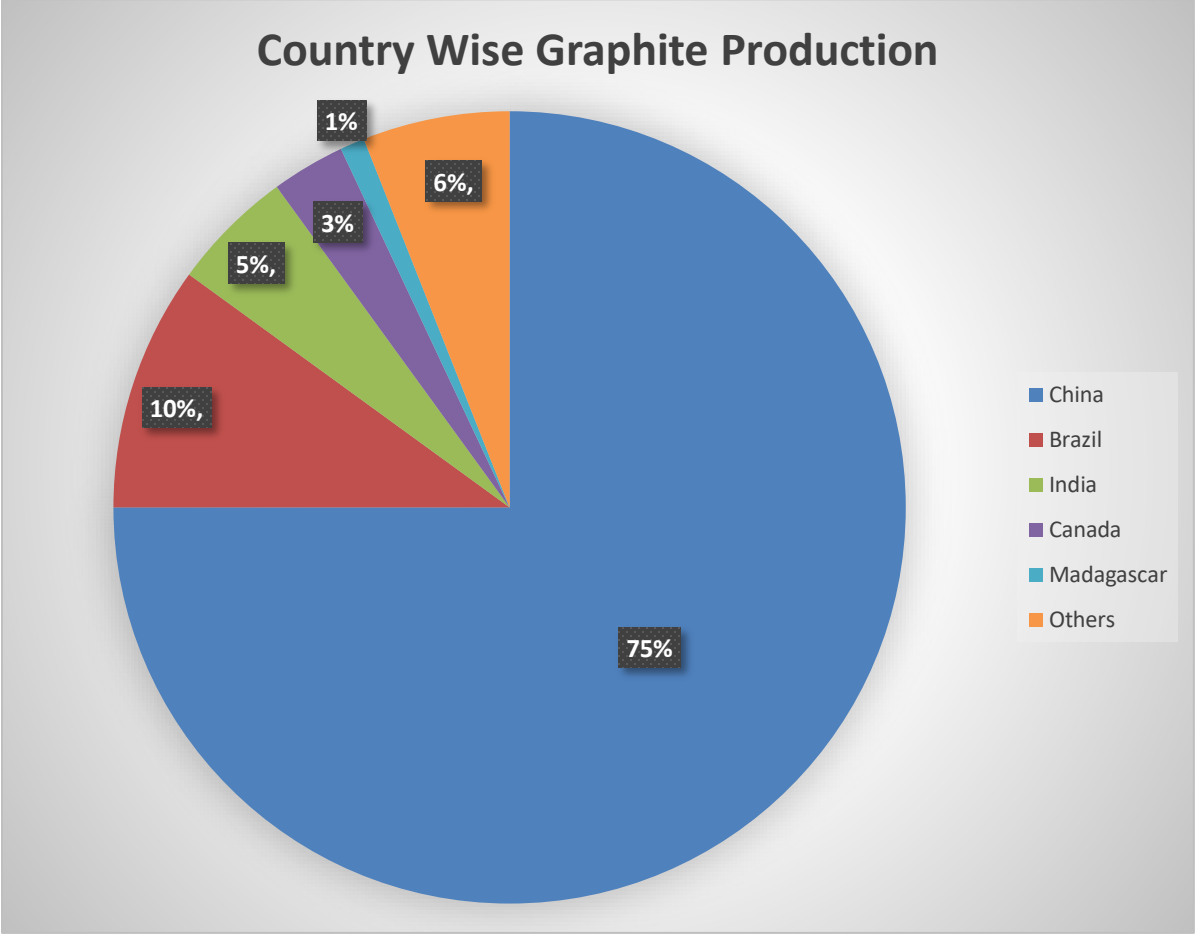


Figure 4: Graphite Production by Country

Today, as many of China's smaller producers are being forced to close shop due to noncompliance and with the larger producers also having to revise their long-term pricing and production targets, the world has no other option but to look elsewhere for its graphite requirements.

Additionally, in 2023, China has placed a ban on the export of certain critical minerals, including graphite. This once again places the industry at a strong supply risk and threatens to derail the global ambition to switch to clean energy and mobility. As a result, developing new sources of raw materials is essential in ensuring a smooth functioning of a number of industries.

Other large producers of graphite include Brazil, India, Sri Lanka and Canada. African graphite has caught the spotlight in recent years due to increasing viability of development of the resource, the quality of the ore and the abundance of reserves.

It is now projected that in the decades to come over 30-60% of the global graphite requirement could be sourced from different African nations. Graphite has been found in different parts of Africa. Different regions have displayed a wide variety of resource thus ensuring that Africa can be a source of graphite for any and all applications.

Madagascar, is a historical exporter of graphite and has now been able to develop some of the leading projects globally. Apart from Madagascar, Mozambique, Tanzania, New Guinea, Malawi, Nigeria, etc. are other countries that are now catching the eye of the global graphite market.

MISRILALL RESOURCES PVT LTD, TANZANIA

HISTORY

Misrilall Resources Pvt. Ltd., having company registration number 159281639, was formed in the year 2022 to develop a world class graphite production company based out of Tanzania and aid in the development of the country, as well as establishing reliable sources of this critical raw material for the global economy.

The Associates of company is having experience in graphite production in INDIA for 15 yrs.

Misrilall Resources Pvt. Ltd has acquired Mines in Tanzania and plans to develop the following production facility of graphite in Tanzania over the next 3 years: -

1. 10000 Tons Per Annum Misrilall Resources Pvt Ltd Processing Plant

The company has currently acquired significant permits in order to cater to these potential production facilities.

The company has established a Geological & Mining team in the form of permanent organization and hired team members as well as external consultants. These team members of the company are now conducting detailed Geological surveys in the PL areas, near its plant location, in order to establish the most viable mining options. The aim of the company remains to establish one of the largest proven resource bases over the next 3 years in order to be a globally significant source of natural flake graphite.

FOR THE PURPOSE OF FEEDING THE RAW MATERIAL (ORE) TO THESE PROCESSING FACILITIES, MISRILALL RESOURCES PVT. LTD. HAS ACQUIRED THE P.L AT KWACHAGA WHOSE CO-ORDINATES ARE AS BELOW.

BOUNDARY COORDINATES

SL.NO	LATITUDE	LONGITUDE
1	05° 38 ' 01.74"S	038° 11' 32.18"E
2	05° 38 ' 01.74"S	038° 11' 36.97"E
3	05° 38 ' 08.01"S	038° 11' 36.98"E
4	05° 38 ' 08.08"S	038° 11' 54.03"E
5	05° 38 ' 01.74"S	038° 11' 54.03"E
6	05° 38 ' 02.09"S	038° 11' 33.66"E
7	05° 38 ' 59.69"S	038° 11' 30.14"E
8	05° 38 ' 59.64"S	038° 11' 29.93"E

FOUNDING TEAM

DIRECTORS: MR UJJWAL KUMAR SINHA

CAPT. GURVEER SINGH AHLUWALIA (RETD)

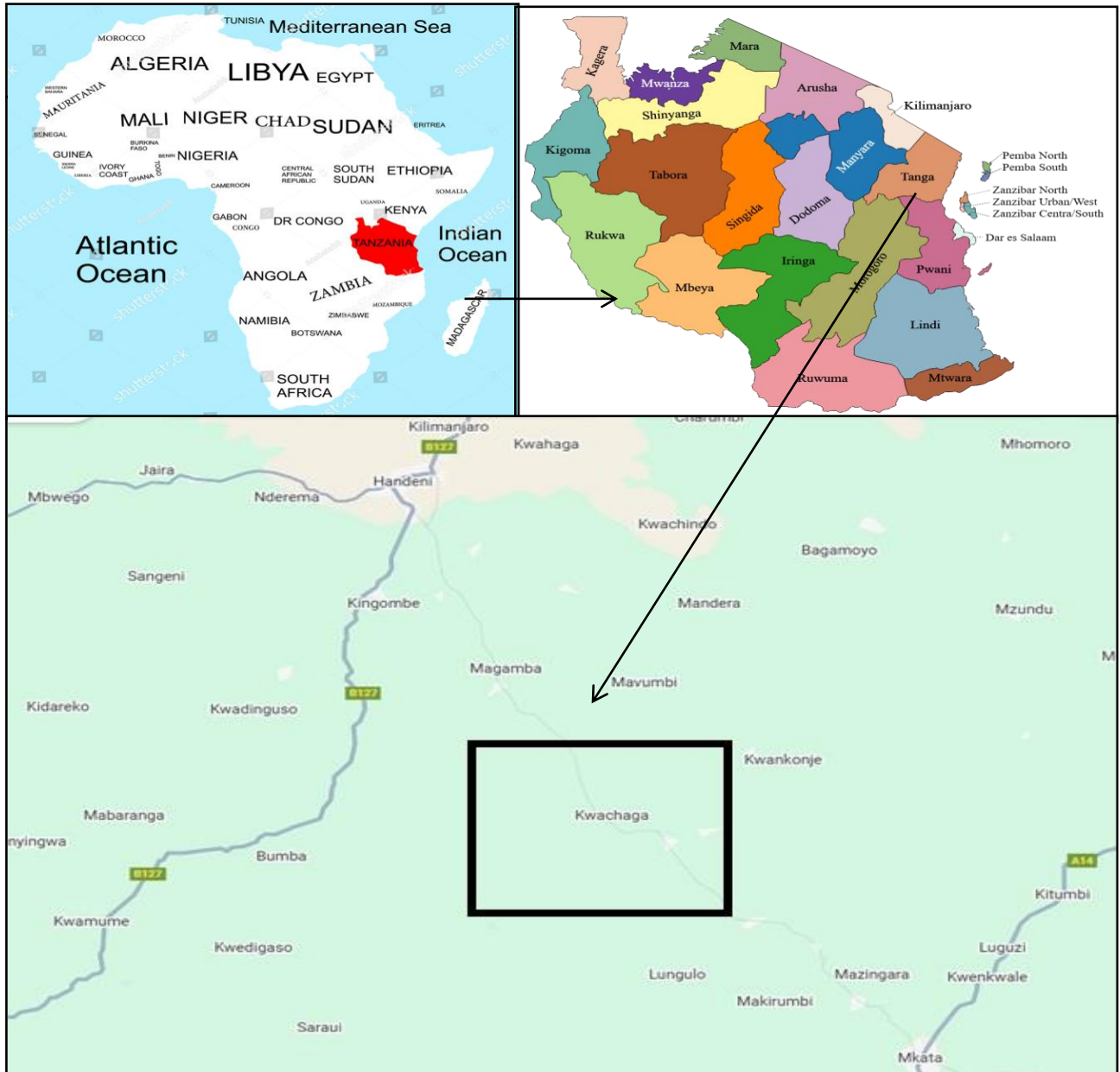
Leadership Team

Assisting the Founding team are the various team leaders, who are running various different verticals at the firm. These include:

1. General Manager
2. Lead Geologist
3. Mining Head.
4. Plant Head
5. Construction Manager
6. Legal and Compliance Lead
7. Accounts Manager

LOCATION MAP

The Project is located in village Kwachaga 6Km from the Highway B 127, approximately 40 kms from Handeni and 30 kms from Mkata. The project falls in the Handeni district and is hence, under the jurisdiction of Handeni District Council. The project site is also 230 kms from the Dar Es Salaam port, which is the point from where all the material will be shipped to consumers.



THE MISRILALL RESOURCES PVT LTD PROCESSING PLANT

The Misrilall Resources Pvt Ltd Processing Plant would be a good graphite project being developed in Tanzania.

The project is envisioned to be a world class facility to produce 10,000 Tons per Annum of Flake Graphite for the purpose of sales in the international market, thereby, creating employment in the local community, as well as earning valuable foreign currency for the country.

The first step before heading to the field is to obtain all available information on the project area. This includes the study of published and unpublished scientific papers, geological maps, reports etc.

The total land area of the Misrilall Resources Pvt Ltd project is approximately 4.5 Acres, which will prove sufficient for the processing plant, the required ore storage, limited tailings storage and warehousing of the finished material.

OVERVIEW

The Misrilall Resources Pvt Ltd Project is being developed on 4.5 Acres of land in the village Kwachaga, Handeni district on Highway B127. The project is expected to be completed in 2026 subject to getting all statutory clearance. The project has a name plate capacity of 10,000 Tons of Graphite per Annum. It is expected to employ over 110 including local workers. The project is being set up at a total investment of \$ 550,000.

The Plant will produce graphite up to 95% purity and in various flake sizes. The factory will use a proprietary processing technology developed by the founders. This will allow us to have the lowest consumption of electricity and water, thereby ensuring that the final production is much more sustainable. The basic technology for beneficiation of graphite is going to be floatation and the plant is going to be an extremely low discharge plant, ensuring that most of the water used is going to be recycled and reused.

The output from the plant is expected to be used in a wide range of applications, including, but not limited to Refractories, Batteries, Casting and Gaskets, Anode Material for LiB, Flame Retardants, etc. The main markets that will be served by the Misrilall Resource Pvt Ltd Project include, but is not limited to India, South East Asia, Europe, Japan and the United States of America.

PROCESSING TECHNOLOGY

The Misrilall Resources Pvt Ltd plant is being developed to treat graphite ore that exists in meta igneous, meta sedimentary rocks and produce flake graphite up to 95% purity.

The different technologies and processes that will be involved are:

Crushing: Crushing of ore into smaller rocks to be processed. These will be done primarily in a jaw crushing circuit.

Milling: The Milling operations include sticking of the graphite ore, repeatedly, in a ball mill, in order to break the rocks and release the graphite particles.

Flotation: The Flotation operation leads to the final separation of the graphite particles that are embedded into the rocks

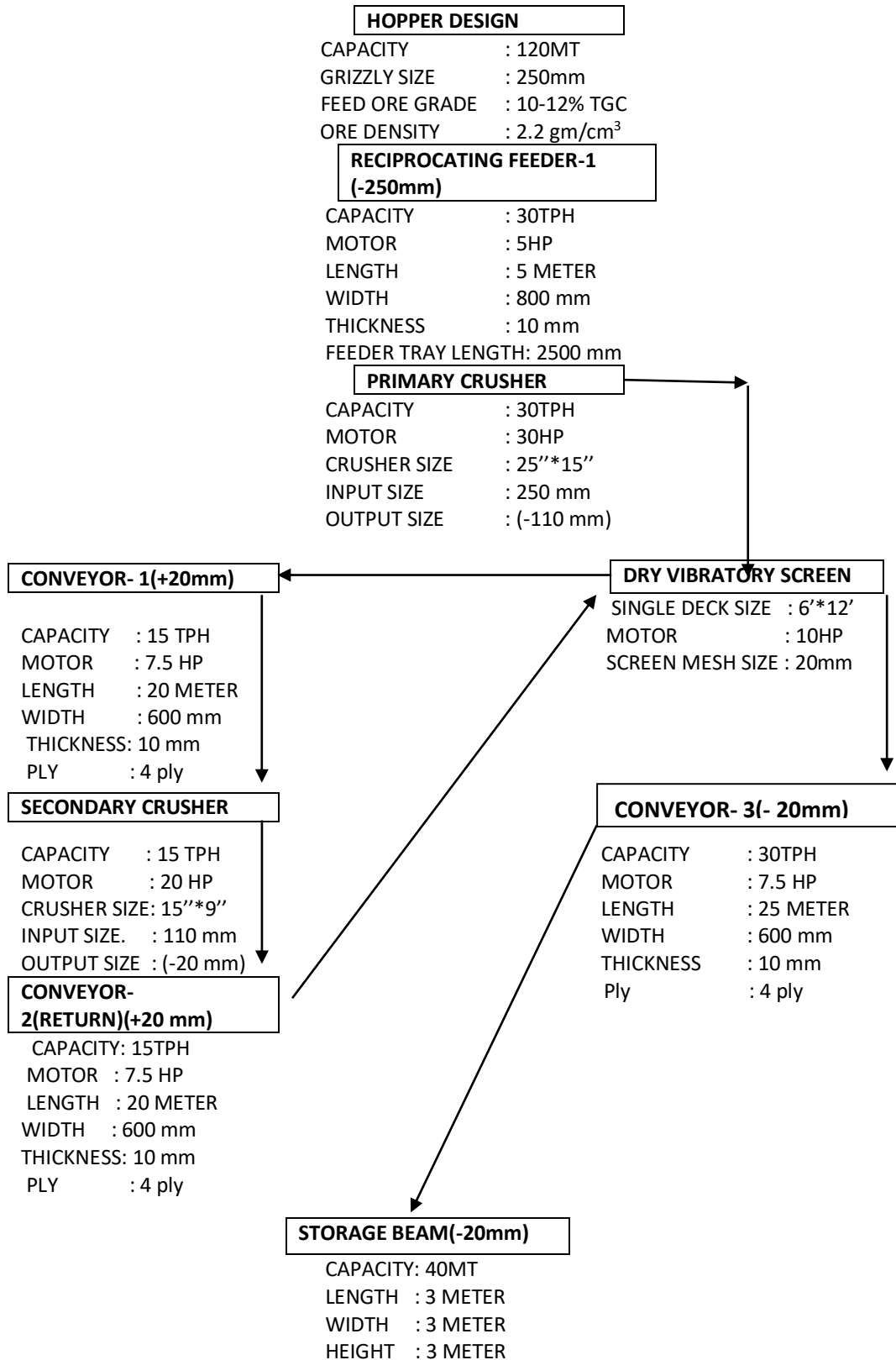
Water Extraction: The Water is now removed through a press filter.

Drying: The final drying of the processed graphite is now conducted in order to remove the water present and make the product useable

Sieving: Different sized particles find different applications, and hence, the dried graphite is now sieved into different sizes

Packing: The sieved output is now packed into HDPE bags for the purpose of shipping to the site of the end consumers.

PROCESS FLOW CHART OF GRAPHITE BENEFICIATION PLANT (10 TPH AUTOMATIC PLANT) (TANZANIA)



BELT FEEDER-1 (-20mm)

CAPACITY : 10TPH
MOTOR : 5 HP
LENGTH : 8 METER
WIDTH : 600 mm
THICKNESS: 10 mm
PLY : 4 ply

CONVEYOR – 4(-20mm)

CAPACITY : 10TPH
MOTOR. : 7.5 HP
LENGTH. : 20 METER
WIDTH : 600 mm
THICKNESS: 10 mm
PLY : 4 ply

BALL MILL- 1(-1mm)

CAPACITY : 10 TPH
MOTOR : 75 HP
GRINDING : WET GRINDING (1 MT ORE+ 650LTR WATER (3:2))
DENSITY RATIO: ORE: WATER: POLYMER (SODIUM SILICATE) = 2.2: 1:0.1
GRINDING MEDIA: CAST IRON BALL (80MM SIZE)
BALL MILL SIZE: OD- 6', LENGTH- 10'
BALL MILL RPM: 25-28 RPM
INPUT SIZE : 20 mm
OUTPUT SIZE : (-1 mm)

BLONJOR- 1

CAPACITY : 10TPH
MOTOR : 15 HP
AGITATOR : AGITATING WITH WATER (1MT+ 1000LTR WATER(1:1))
DENSITY RATIO: ORE: WATER= 2.2: 1
BLONJOR SIZE: OD- 4.5', HEIGHT- 5.5'

FLOTATION CELL- 1

CAPACITY : 10TPH
PROCESS : FROATH FLOTATION
MOTOR : 10HP (4 NOS)
AGITATOR : AGITATING WITH WATER (1MT+ 1000LTR WATER (1:1))
DENSITY RATIO: ORE: WATER: HSD: PINE OIL= 2.2: 1: 0.2: 0.05
SIZE OF THE FLOTATION CELL: LENGTH- 4', BREADTH- 4', HEIGHT- 5'
FLOTATION CELL- 8 CHAMBERED
OUTPUT GRADE: 45-50% TGC

SAND PUMP

CAPACITY : 10 TPH
MOTOR : 20HP
PUMP TYPE : CENTRIFUGAL HORIZONTAL
HEAD : 15/20 METER
FLOW RATE : 100 M³/HR
SUCTION ID : 4'
DELIVERY ID : 3

SLURRY PUMP

CAPACITY : 10TPH
MOTOR : 7.5 HP
PUMP TYPE: CENTRIFUGAL HORIZONTAL
HEAD : 15-20 METER
FLOW RATE: 30 M³/HR
SUCTION ID : 3"
DELIVERY ID : 2"

STORAGE TANK- 1

CAPACITY: 18 MT
MOTOR : 3 HP
STORAGE TANK SIZE : LENGTH- 10', BREADTH- 10', HEIGHT- 3'
STORAGE TANK : 6 CHAMBERED

BALL MILL- 2

CAPACITY : 2.5TPH
MOTOR : 20HP
GRINDING : WET GRINDING (1 MT SLURY+ 650LTR WATER (3:2))
DENSITY RATIO: SLURY: WATER: POLYMER (SODIUM SILICATE) = 2.2: 1:0.1
GRINDING MEDIA: CAST IRON BALL (50MM SIZE)
BALL MILL SIZE: OD- 3', LENGTH- 6'
BALL MILL RPM: 25-28 RPM
INPUT SIZE : (-1 mm)
OUTPUT SIZE : (-0.6 mm)

FLOTATION CELL- 2

CAPACITY : 2.5TPH
MOTOR : 5 HP (6 NOS)
AGITATOR : AGITATING WITH WATER (1 MT SLURY+ 750LTR WATER (4:3))
DENSITY RATIO: SLURY: WATER: HSD: PINE OIL= 2.2: 1: 0.2: 0.05
SIZE OF THE FLOTATION CELL: LENGTH- 2', BREADTH- 2', HEIGHT- 3'
FLOTATION CELL- 12 CHAMBERED
OUTPUT GRADE: 65-70% TGC

BALL MILL- 3

CAPACITY : 2.5TPH
MOTOR : 20 HP
GRINDING : WET GRINDING (1 MT SLURY+ 650LTR WATER (3:2))
DENSITY RATIO: SLURY: WATER= 2.2: 1
GRINDING MEDIA: CAST IRON BALL (40MM SIZE)
BALL MILL SIZE: OD- 3', LENGTH- 6'
BALL MILL RPM: 25-28 RPM
INPUT SIZE : (-0.6 mm)
OUTPUT SIZE : (-0.5 mm)

FLOTATION CELL- 3

CAPACITY : 2.5TPH
MOTOR : 5 HP (3 NOS)
AGITATOR : AGITATING WITH WATER (1 MT SLURY+ 750LTR WATER (4:3))
DENSITY RATIO: SLURY: WATER: HSD: PINE OIL= 2.2: 1: 0.2: 0.05
SIZE OF THE FLOTATION CELL: LENGTH- 2', BREADTH- 2', HEIGHT- 3'
FLOTATION CELL- 6 CHAMBERED
OUTPUT GRADE: 75-80% TGC

BALL MILL- 4

CAPACITY : 2.5TPH
MOTOR : 20HP
GRINDING : WET GRINDING (1 MT SLURY+ 650LTR WATER (3:2))
DENSITY RATIO: SLURY: WATER= 2.2: 1
GRINDING MEDIA: CAST IRON BALL (40MM SIZE)
BALL MILL SIZE: OD- 3', LENGTH- 6'
BALL MILL RPM: 25-28 RPM
INPUT SIZE : (-0.5 mm)
OUTPUT SIZE : (-0.4 mm)

FLOTATION CELL- 4

CAPACITY : 2.5TPH
MOTOR : 5 HP (3 NOS)
AGITATOR : AGITATING WITH WATER (1 MT SLURY+ 750LTR WATER (4:3))
DENSITY RATIO: SLURY: WATER: HSD: PINE OIL= 2.2: 1: 0.2: 0.05
SIZE OF THE FLOTATION CELL: LENGTH- 2', BREADTH- 2', HEIGHT- 3'
FLOTATION CELL- 6 CHAMBERED
OUTPUT GRADE: 85-90% TGC

STORAGE TANK

CAPACITY : 10 MT
MOTOR : 3HP
SIZE OF THE TANK: LENGTH- 10', BREADTH- 10', HEIGHT- 4'
STORAGE TANK – 3 CHAMBERED

FILTER PRESS- 1

FILTER PRESS- 2

CAPACITY: 1 MT CAPACITY: 1 MT
MOTOR : 5 HP MOTOR : 5 HP
SIZE OF THE PRESS: LENGTH:-12', BREADTH: 4', HEIGHT: 4' (EACH)
DENSITY RATIO: SLURY: WATER = 2.2: 0.5
RETAINSION TIME: 30-35 MINUTES
MOISTURE CONTENT: 18-20% MOISTURE CONTENT: 18-20%

STORAGE TANK

CAPACITY: 4 MT
MOTOR : 3 HP
SIZE OF THE TANK: LENGTH- 10', BREADTH- 10', HEIGHT- 6'
STORAGE TANK: 1 CHAMBERED

ROTARY DRYER FUEL FIRED

CAPACITY: 2 TPH
MOTOR : 20 HP
SIZE OF THE DRYER: LENGTH- 30', OD- 5'
DRYER RPM: 10-12 RPM
INLET TEMPERATURE: 600 DEG CENTIGRADE
OUTLET TEMPERATURE: 120 DEG CENTIGRADE
RESIDENCE TIME: 30-40 MINUTES
FIRING MEDIA: FUEL FIRED (HSD/LDL)
FUEL CONSUMPTION: 10-15 LTR/HR

STORAGE BEAM

CAPACITY: 4 MT
MOTOR : 3 HP
SIZE OF THE BEAM: LENGTH- 10', BREADTH- 10', HEIGHT- 6'
STORAGE BEAM: 1 NO

DRY VIBRATORY SCREEN

CAPACITY: 2 TPH
MOTOR : 15 HP
SCREEN DECK SIZE: WIDTH- 4.5', LENGTH- 10'
NUMBER OF SCREEN DECK: 5 NOS
SCREEN MESH SIZE: 50 MESH, 70 MESH, 80 MESH, 100 MESH, 120 MESH

PACKING SECTION

PACKING OF DIFFERENT MESH AND GRADE (85-90%) TGC

STACKING SECTION

STACKING IN DIFFERENT STACK WITH DEMARKATION AS PER PARTY'S REQUIREMENT

PLANT AND MACHINERY

The complete project would consist of three different units:

Processing Unit

Electrical Unit

Effluent Treatment and Handling Unit

PROCESSING UNIT:

The processing unit is being set up approximately 2-2.5 kms from the mining sites for the raw material. The plant has been envisioned to ensure low operation costs and fast turnaround from ore to finished product.

The plant would be set up based on our proprietary technology and designs for graphite processing which have been developed through decades of experience and experimentation. Our design and equipment manufacturing allows us to build and operate the lowest CAPEX and OPEX graphite operations thus maximizing the efficiencies of the same.

The Misrilall Resources Pvt Ltd Processing plant will have a capacity of 10,000 ton per annum. This would include graphite ranging from 95% purity to 98% purity and having flake size distribution between - 100mesh to +32 mesh.

The plant would be a low discharge unit. The total water consumption will be lower than that of other considerable units as the water used in the process is recycled through the effluent treatment unit that will be built alongside the plant. The only water loss will be in the process of drying, which will lead to a water loss of about 10%. Additionally, water will be lost through evaporation. Hence, over 80% of all the water being consumed in production will be reused.

The unit would consume one of the lowest power per ton of produced graphite due to energy efficiency optimization of designs. The total power requirement of the plant will be approximately 500 kVA and this power would be sourced from the national power grid of Tanzania and be backed up by the means of diesel Generators.

The total manpower requirement of the unit will be approximately 25 workmen and 6 supervisors per shift and 2 Managers. We plan to run the plant in 3 shifts of 8 hours each thus employing over 110 people. We will train the local population for meeting these personnel requirements, thereby helping in the up skilling as well as the growth of the local economy.

The plant will consist of the following equipment:

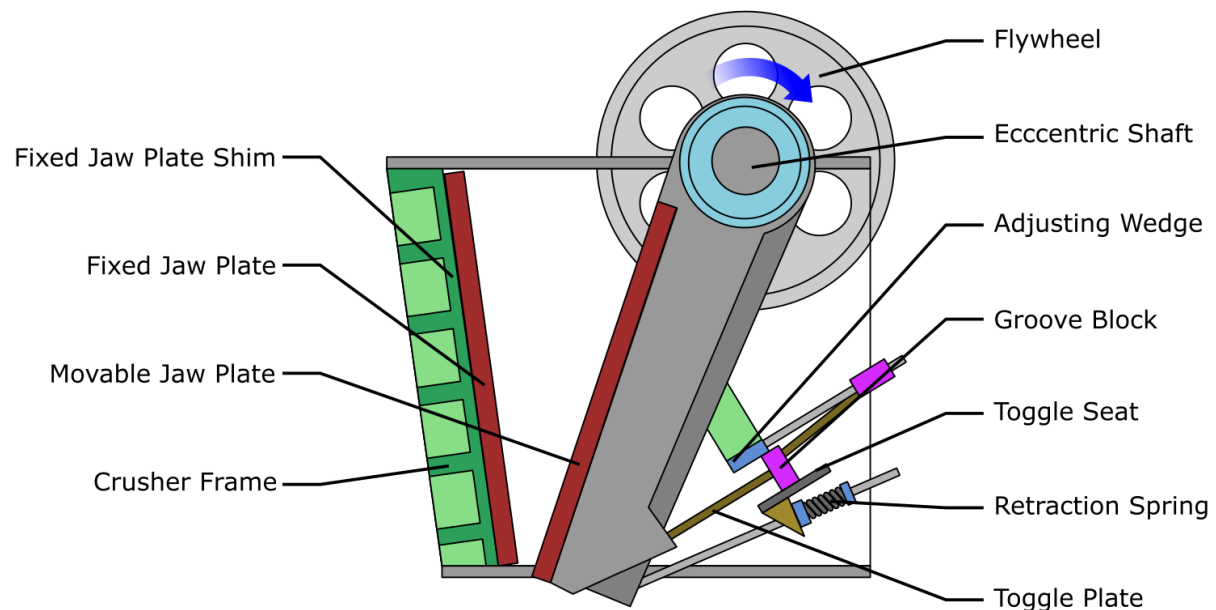
ITEM	QUANTITY
JAW CRUSHER	2
PRIMARY BALL MILLS	3
SECONDARY BALL MILLS	1
PRIMARY FLOATATION CELLS	3
SECONDARY FLOATATION CELLS	1
PRESS FILTER	2
VACCUM DRYER	1
AUTOMATED SEIVING MACHINE	1
AUTOMATED PACKING MACHINE	1
TYRE MOUNTED LOADER.	1

MACHINERY

JAW CRUSHERS

The feed material for the Misrilall Resources Pvt Ltd Plant will be hard, igneous and sedimentary rocks, mined from the Handeni region in Eastern Tanzania. Hence, these rocks need to be broken down into smaller pieces for the extraction of the embedded graphite particles. This function is performed by the jaw crushers.

A Jaw crusher serves as a fundamental component in mineral processing, designed to efficiently break down large rocks into smaller, manageable sizes. Its primary purpose is to reduce the size of hard materials, facilitating subsequent processing stages. The basic principle involves a set of jaws, one fixed and the other movable, exerting pressure to crush the rocks. The process begins with the feeding of rocks into the chamber, where the movable jaw compresses the material against the fixed jaw. This mechanical action transforms the input into smaller fragments, enabling easier handling and enhancing the efficiency of downstream mineral processing operations.



AT THE MISRILALL RESOURCES PVT LTD PLANT, WE WILL BE USING 2 SETS OF JAW CRUSHERS.
THE SPECIFIC DETAILS OF THE SAME ARE MENTIONED BELOW:

PRIMARY CRUSHER

The Specifications of the Primary crusher to be used are as per the below specifications:

Capacity : 30 TPH

25"*14"

250mm

30 HP

SECONDARY CRUSHER

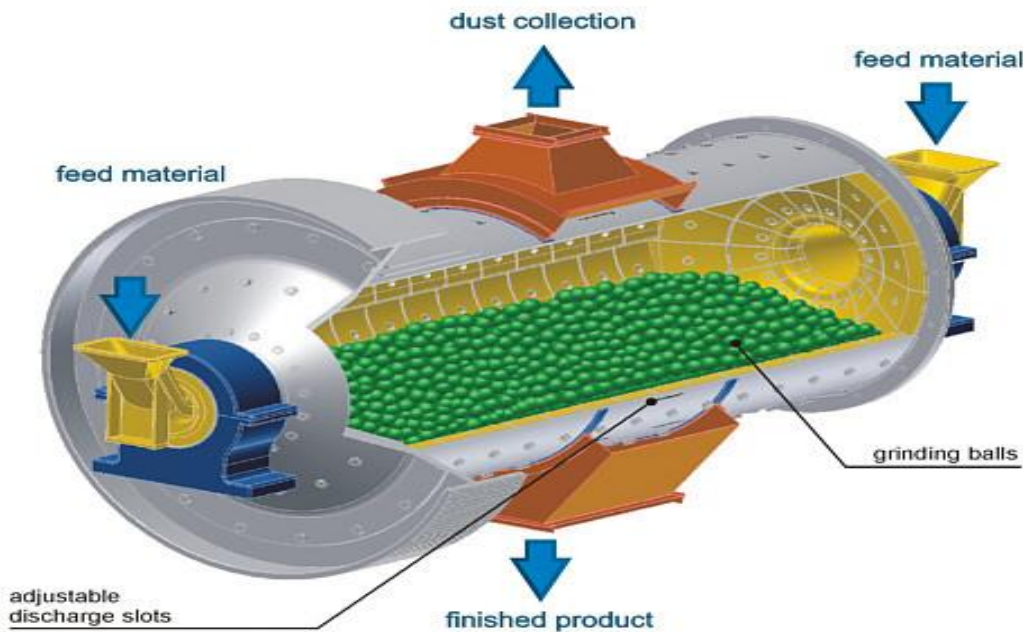
The specifications of the secondary crushers to be used are as per the below specifications:

Size **14"*09"**

Maximum Feed Size	115 mm
Motor Size	20 HP
Output	15 Tons per Hour

BALL MILLS

A ball mill is vital equipment in graphite processing, employed to grind and blend materials for various industrial applications. Its primary purpose is facilitating efficient extraction of valuable minerals from ore and separating the soil and impurities from it. Functioning on the principle of impact and attrition, the mill consists of a rotating drum filled with grinding media, such as steel balls. As the drum rotates, the grinding media cascade and crush the material, promoting a finely ground product. This combination process is crucial for enhancing surface area, enabling optimal chemical reactions during subsequent mineral extraction processes, contributing significantly to overall processing efficiency.



In Graphite processing, the milling operations is performed in an aqueous medium. At Misrilall Resources Pvt Ltd, we propose to use our proprietary developed ball mills that have been developed specifically for graphite production. These ball mills are able to deliver a better output, in terms of the recovery percentage of graphite from the ore while keeping the flakes intact, thereby ensuring a better valued output.

THE MISRILALL RESOURCES PVT LTD PLANT, WILL UTILIZE 2 TYPES OF BALL MILLS. THESE HAVE BEEN CATEGORIZED AS PRIMARY AND SECONDARY BALL MILLS:

PRIMARY BALL MILL

The Misrilall Resources Pvt Ltd plant proposes to use 3 Primary Ball Mills to conduct the initial milling operation of the ore. These ball mills, will work in parallel in order to mill the entire output of the crushers.

PRIMARY BALL MILL

The Primary ball mills will be of the dimensions 1500mm*3000mm one number. It will be able to process approximately 10 tons of ore per hour, giving the plant a capacity to process 10 tons of ore per hour.

SECONDARY BALL MILL

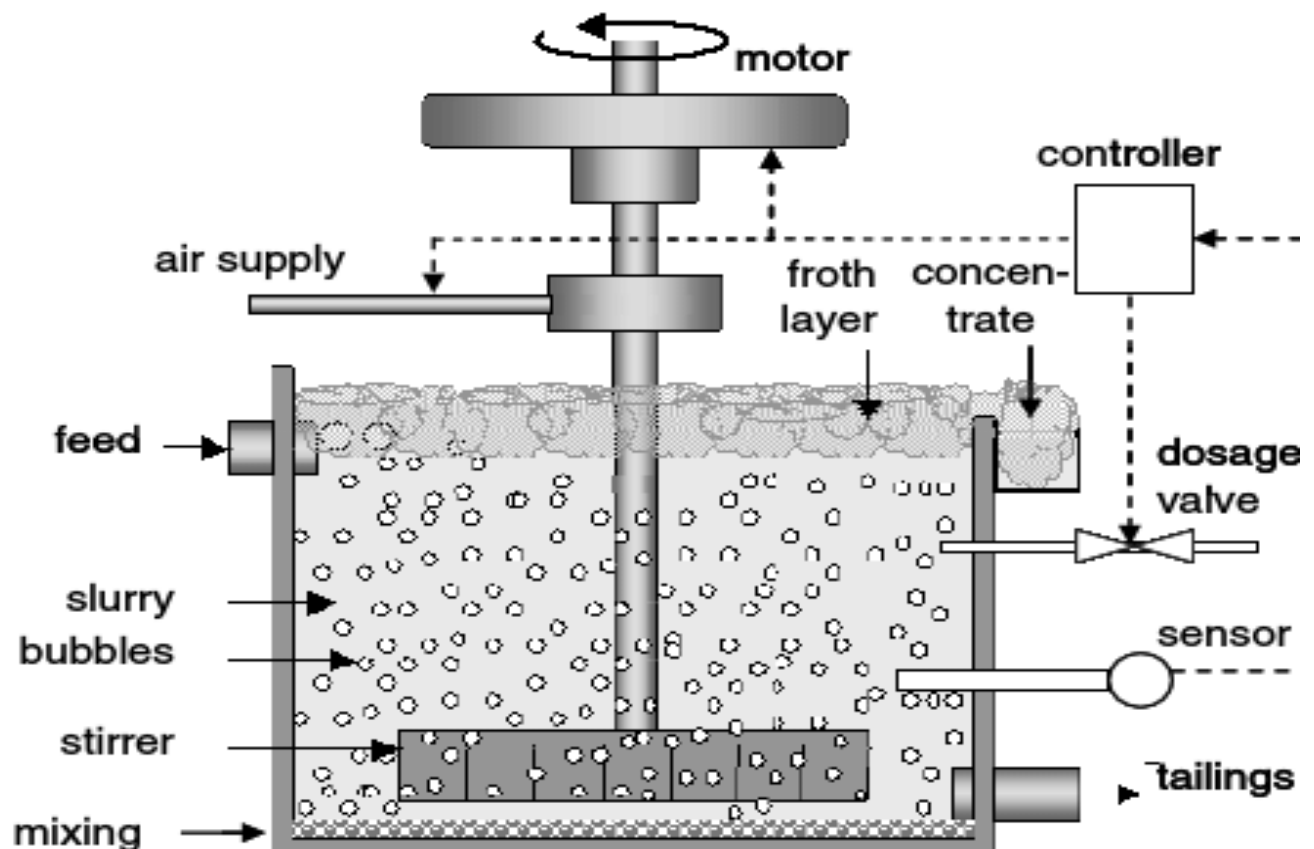
The Misrilall Resources Pvt Ltd plant proposes to use 3 Secondary Ball Mills to conduct the final milling operation of the ore. These ball mills will be working in series (one after the other), in order to achieve the required purity of the final graphite product.

The Secondary ball mills will be of the dimensions 900mm*1800mm. Hence, it has an effective volume of 1.15m³. They will be able to process approximately 3 tons of graphite per hour, giving the plant a capacity to 3 tons per hour.

FLOATATION CELLS

In graphite production, a flotation cell plays a pivotal role in separating valuable graphite particles from impurities through the process of froth flotation. The cell's purpose is to create a froth layer on the surface of slurry, containing graphite and other materials. Through the introduction of chemicals, the hydrophobic graphite particles selectively attach to air bubbles, forming froth, while hydrophilic impurities sink. As the froth is collected, it carries the enriched graphite concentrate, ready for further processing. This method exploits differences in surface properties to achieve efficient separation, ensuring high-quality graphite suitable for various industrial applications.

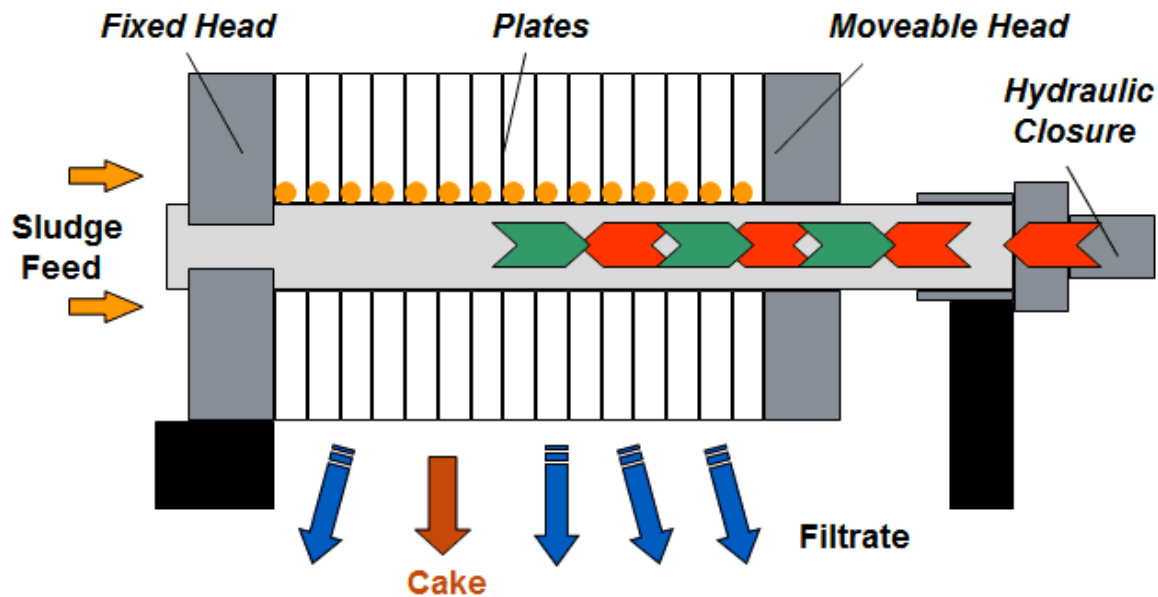
The Misrilal Resources Pvt Ltd Plant has been designed with the Proprietary Developed floatation cells. At These cells are able to deliver a better output, in terms of the recovery percentage of graphite from the ore.



WATER EXTRACTION SYSTEM

The graphite slurry from the final floatation cell now needs to be dried. The remove of water, will happen in two stages. The first stage is the removal of water through a press filter. A press filter, essentially compressed a material, in order to remove a bulk of the water that it is carrying.

Below is a schematic representation of a press filter



The press filter to be used at the Misrilall Resource Pvt Ltd plant will have a total capacity of approximately 1 ton per hour.

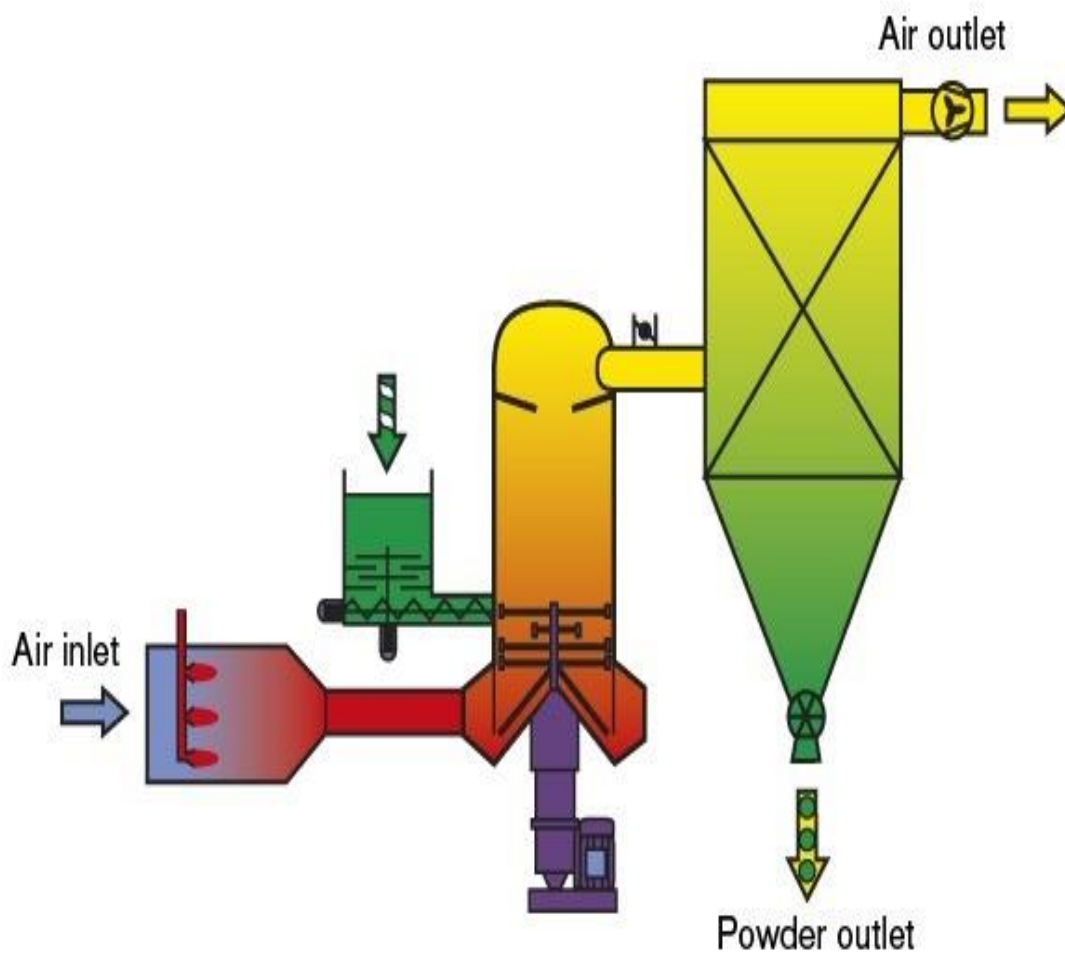
The final output of the press filter will have water content below 20%

DRYING SYSTEM

The output of the press filters is now fed into a hot air dryer, in order to remove the excess water that is contained in the material.

The dryer will use Natural Gas as a burning medium to produce heat and then, subsequently, dry the graphite output from the press filter to produce the final, marketable product.

The dryer will have a capacity of 2 tone per hour.



EFFLUENT TREATMENT PLANT

We strongly believe in the concept of sustainability and design all our plants keeping the same in mind. As such we ensure that the total water consumption in all of our units is the bare minimum with zero wastage. This is achieved by actively reusing and recycling of the water being used in the process. As a result, there is no discharge of waste water into any natural or manmade water body thereby ensuring that the health of the environment we live and operate is in secure.

We plan to set up an effluent treatment plant within the premises of the main plant itself. The effluent treatment plant will ensure that the water being used in the process is not lost or discharged.

The only loss of water will occur in the following ways:

Water Lost as Steam from the Dryer

Water loss due to evaporation

Water loss due to precipitation

The effluent treatment plant will be located within the plant premises of the Graphite Processing Plant.

THE EQUIPMENT REQUIRED FOR THE EFFLUENT TREATMENT PLANT

ITEM	QUANTITY
SETTLING TANK	3
TREATMENT UNIT	1
BACK HOE CUM LOADER	1
DUMPER	2

PRODUCT MARKETING AND DEMAND POTENTIAL

The Misrilall Resources Pvt Ltd, given the decades of experience of the Promoters in the field of Natural Flake Graphite, already has the required clientele in place to market the product of the Misrilall Resource Pvt Ltd Plant successfully. The company currently has a strong presence in important graphite markets allowing us to ensure a continuous and strong demand very quickly for 100% of the production of the Misrilall Resource Pvt Ltd Plant.

Traditionally, the company has found strong interests of its products from industries such as crucibles, refractories, lubrication, pencils and brake pads. Newer applications have now been demanding a high quantity of graphite and we have found a large scope for growth in these segments.

Initially, all the production of the Misrilall Resources Pvt Ltd Plant will be sold to the existing customers of Tanzania and for Export. These will primarily be users from the traditional graphite consumption industries such as Electrode, Battery, crucibles, refractories, lubrication, brake pads, rubber, paints etc.

We are confident of 100% off take from all the units that are being set up by us. Due to a broader source-based manufacturing capabilities being developed by the company we are able to meet varied customer requirements with customized products that best suit their requirements allowing us to ensure top customer satisfaction and ensuring long term mutually beneficial customer relationships.

SCHEDULE OF IMPLEMENTATION

Due to its strong interest in fast tracking the project, the Misrilall Resource Pvt Ltd has been working very diligently and aggressively in Tanzania for the better half of 2024. In this time, the team has already identified various potential mining sites and has already received prospecting licenses in much of those sites. Additionally, the company has already created the project blueprint and detailed engineering documents for the project. As a result, the team is confident of becoming a graphite producing company in a very short span of time.

Broadly, the steps ahead to commission the project falls in 3 categories:

PL requirements before start of work

Grant of Mining License

Approval of project by the government

Environmental authorization and clearance

Upon the successful completion and granting of all the above permits, we will begin work on the plant and implement the same in the swiftest manner. The plans for deployment of the project from the date of granting of the said permissions are as follows:

<u>Step</u>	<u>Target Start Date</u>	<u>Target Completion Date</u>
Permissioning	15 Dec 2025	15 Jan 2026
Land Procurement	26 th Aug 2025	18 Nov 2025
Machine Procurement and Fabrication	1 March 2026	30 th Aug 2026
Plant Construction	1 st April 2026	31 st July 2026
Installation of Equipment	1 st Aug 2026	30 th Nov 2026
Test Run	1 Dec 2026	30 th Dec
Final Commissioning	1 Jan 2027	31 Jan 2027

FINANCIAL MODEL

The Misrilall Resources Pvt Ltd Project is envisioned to be one of the lowest CAPEX and OPEX per ton of production capacity of flake graphite globally. This will be achieved due to the following reasons:

In House developed proprietary production technology that minimizes CAPEX and OPEX

High graphite recovery, more than the industry standards

Established sales channels reducing selling costs

High Grade graphite ore in the mining area

Established basic infrastructure that would be required for the project

A DETAILED COST OF THE PROCESSINGkZ FACILITY IS SHOWN BELOW

Item	Cost
Land Procurement	\$ 50,000
Construction	\$ 70,000
Plant Machinery	\$ 300,000
Material Handling Machinery	\$ 50,000
Logistics	\$ 50,000
Contingencies	\$ 30,000
Total Project Cost	\$ 550,000

A DETAILED BREAKUP OF THE OPERATING COST IS SHOWN BELOW

Item	Cost / Tone
Manpower	\$25,000 / Month = \$50 / Tone
Fuel	\$35
Electricity	\$45
Raw Material	\$50
Consumables	\$40
Royalty	\$25
CSR	\$5
Total Project Cost	\$250

THE OUTPUT OF THE PRODUCTION IS SHOWN BELOW. THE PRICES CONSIDERED HERE ARE KEEPING IN MIND THE CURRENT COST OF GRAPHITE IN THE INTERNATIONAL MARKET AS ON DECEMBER, 2023.

Product Size	% of Final Product
Fines	30%
Medium	30%
Large	40%

FINANCIAL IMPACT

- Capacity : 10,000 MT/Year
- Product : Flake Graphite + Battery Grade + Fines
- Selling Price : \$900/MT Avg
- CAPEX : \$ 550,000
- Operating Cost: 45% of Revenue (Industry Standard)
- TAX : 25%
- Currency : USD

FINANCIAL HIGHLIGHTS

- Annual Revenue at Full Capacity:
- 10,000 X\$900 = \$9,000,000 Per Year.
- EBITDA Margin ~ 55%
- Annual Net Cash Flow (Post TAX) ~ \$ 3.7 million / Year
- Payback Period: Less than 1 year after Production Starts.
- Extremely High ROI Project (Bases on low CAPEX)

A CASH FLOW ANALYSIS OF THE PROJECT FOR THE NEXT 10 YEARS IS SHOWN BELOW

Year	Production	Revenue (USD)	Operating Cost (USD)	EBITDA (USD)	Tax (USD)	Net Cash Flow (USD)
1	0	0	0	0	0	-550000
2	0	0	0	0	0	0
3	10000	9000000	4050000	4950000	1237500	3712500
4	10000	9000000	4050000	4950000	1237500	3712500
5	10000	9000000	4050000	4950000	1237500	3712500
6	10000	9000000	4050000	4950000	1237500	3712500
7	10000	9000000	4050000	4950000	1237500	3712500
8	10000	9000000	4050000	4950000	1237500	3712500
9	10000	9000000	4050000	4950000	1237500	3712500
10	10000	9000000	4050000	4950000	1237500	3712500

Figure 5: Misrilal Resources Pvt Ltd Projected Financials

The net present asset value of the project, on the basis of the above figures works out to be \$ 26,291,337.

On the basis of the above calculations, the project is found to be extremely feasible financially

CORPORATE SOCIAL RESPONSIBILITY

We at Ace Graphite strongly believe that the true success of our operations can only be realized if it also helps in the wellbeing and growth of all the stakeholders, especially the local communities where our projects are located. This is why, we are determined to create tangible and intangible values for the local communities in and around our projects. The promoters have time and again, delivered a holistic wellbeing for the local communities wherever we have operated.

We design our projects to ensure the social and economic well being of the local community, sustainable environmental operations and ethical overall governance of the projects.

ENVIRONMENTAL RESPONSIBILITY

We are determined to produce graphite for the new, green economy of the world. This is why, we are determined to produce graphite that is environmentally green and sustainable.

Zero discharge and recycling of water from processing.

Low energy consumption of the process operations.

Systematic Plantation of Trees in the Mining area and the production area.

Misrilall Resources Pvt. Ltd has proposed to conduct the following activities towards the projects for the welfare of the community: -

- Building of school to support the growth of children from economically backward families.
- Free medical camps for all the people from the community and not just the employees or their families to ensure the health of the community
- Building of community centres
- Building of roads to ensure the connectivity of the local community
- Building provision of tube wells in the local villages around the plant

CONCLUSION

We look forward to develop a world class graphite processing unit in the country of Tanzania. We will be bringing in our expertise in the field and the values that we operate by, thereby creating immense value for all stakeholders.

The company aims to begin its operations, located in the Handeni district of Tanzania and establish additional capabilities in a stage manner post that.

The founders have an opportunity to develop a leading global graphite company out of Tanzania.

The company has developed an in-house capacity for designing essential process equipments allowing it to maintain strict norms and control over the finished product and allowing it to customize the finished product as per the end consumer's requirement. This also allows us one of the lowest CAPEX and OPEX per ton of finished product in the industry globally.

The Misrilall Resources Pvt. Ltd Graphite plant is envisioned to be a 10,000 Tone per annum production facility and generate a total of 250 number of jobs directly / indirectly in the region. The unit will be a 100% export-oriented unit and will be selling in the major graphite markets around the world.

The company has extensively surveyed various graphite belts in Tanzania and has identified various possible mining regions for ore mining. The company has acquired various prospecting licenses to meet the essential requirement in Tanzania

With these in place, Misrilall Resources Pvt. Ltd now seeks the support of the Government of Tanzania in order to establish and build a leading source of graphite for the international market out of Tanzania

We hope for a long and mutually beneficial relationship with Tanzania.
