

MANGANESE ORE

Manganese is the twelfth most abundant element in the Earth's crust and is found in many minerals with the two main manganese minerals being pyrolusite (MnO₂) and rhodochrosite (MnCO₃). Manganese is essential to iron and steel making because of its Sulphur fixing, deoxidizing and alloying properties as well as its low cost.

Commodity



Miner / Exporter of Metal Products

ELIPSE is a well-established producer/supplier of manganese ore and many other minerals located in South Jos Plateau State of Nigeria, a Sub-Saharan African region. Our emphasis on delivery quality products and reliable services to our clients is what set us apart from our competitor. We are well positioned to provide our client with competitive pricing, quality and reliability as we continually improving our services to add value to our existing and future customers.

Manganese (Mn) is a brittle, hard gray-white to silvery metal that looks much like iron and is an essential ingredient of steel. Manganese is mined as an oxide ore, converted to ferromanganese or silico-manganese in a blast furnace/electric arc furnace, and then used mainly in the steel production process.

The incorporation of manganese is important during the steel-making process as its act as a deoxidizing and desulphurizing agent, as well it improves the strength of steel, while marginally impairing its elasticity. Thus, manganese is a vital alloying and refining element in steelmaking.

Background

Locating a deposit is often the first step in manganese mining. After locating significant deposits of manganese ore, equipment is usually brought in to form a mine. When manganese has been successfully dislodged from the rock bed, it is usually transported to a processing facility. Processing is usually done to remove impurities and the processed manganese can be refined into many different products.

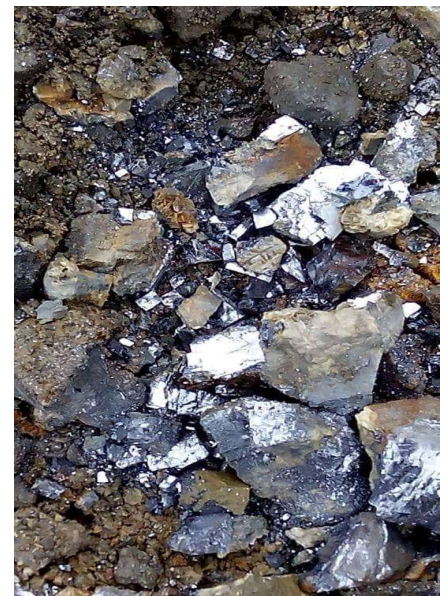
Manganese mining often requires a specific method of extraction, because nodules can be embedded among various other rock bed materials. Transportation is an important part of manganese mining, because raw ore must be transported from the mine before it can be processed, refined and sold.

Once manganese ore has been freed from the rock bed, it is often transferred by a heavy-duty excavator to a transportation vehicle. Large dump trucks with high weight capacity are often essential for this function. Once transported to a processing machine or facility, many of which are near the mine, stationary machines often carry the mined material through the processing and refining machinery.

Machines often crush the raw material, after which chemical or mechanical processes separate the manganese ore from the rest of the material.

Nigeria is one of the top African countries that is richly blessed with manganese deposits in Bauchi, Benue, Adamawa, Kaduna, Kebbi, Katina, Plateau and Nasarawa States. The mineral spread in Nigeria is significant with evidence of 34 various minerals distributed richly endowed geology. The Nigeria manganese is a silvery-gray metal resembling to iron and it's hard and very brittle, difficult to fuse but easy to oxidize that is essential to iron and steel production.

Manganese Ore Specs	
Manganese (Mn)	40 – 58%
Copper (Cu)	0.05% max
Lead (Pb)	3.0% max
Cadmium (Cd)	0.05% max
Mercury (Hg)	0.01% max
Iron (Fe)	10.0% max
Arsenic (As)	0.20% max
Moisture (H ₂ O)	7.0% max
Sulfur (S)	0.5% max
Zinc (Zn)	3.5% max
Silica (SiO ₂)	11.0% max
Size:	20mm – 120mm



Why work with ELIPSE? The reasons are many.

In this rapidly changing buy/sell environment, ELIPSE strongly believed that we bring value to our clients by maximizing cost-effective solutions by taking care of all freight logistics procedures like vessel chartering, customs clearance, freight forwarding, transportation, containerization, warehousing, insurance, etc. by aligning ourselves with reliable service partners both locally and internationally.

ELIPSE is committed in providing our clients the basic function as international trading specialist role we perform virtually to every activity necessary to assure continued and efficient supply of minerals on every contractual transaction at the most favorable price, quality and conditions from loading port to final destination port at the lowest transportation cost in the shortest possible time.



ELIPSE has a strong operating result that are driven by solid and consistent performance from a diverse portfolio of mines located in five regions. After gaining additional mineral rights in 2017, ELIPSE plan to proceed with its expansion project during the first quarter of 2019. In doing so, ELIPSE will become the largest producing mines in the region and as part of the ELIPSE's goal of becoming an efficient manganese producer, the new strategy focuses on three main areas: 1) Over the short-term growth focus on existing assets and ramping up production at existing mines to achieve full production capacity, 2) On medium-term growth, continues exploration on existing properties to expand our minerals resource base, extend mine longevity and bring new mines into production, and 3) On long-term growth, expand mineral exploration and mining in chromate, tin and even gold.

Uses of Manganese

Demand for manganese is primarily driven by the steel industry which consumes 94% of the manganese ore being produced globally in the form of manganese alloys. Steel is one of the most basic engineering metals with versatile applications throughout the economic value chain and therefore the demand for manganese, which is inelastic in nature, is likely to remain on the higher side particularly in developing countries like China and India due to their high rate of infrastructure growth and industrial expenditure.

Processing and refining the ore are usually the final steps in manganese mining. Manganese nodules often contain significant levels of other materials, such as rock, mud and water, as a result of the mining process. Machines often crush the raw material, after which chemical or mechanical processes separate the manganese ore from the rest of the material. Once free of impurities, manganese is often heated or smelted, a process that can strengthen the material by changing its molecular composition. Once fully processed, manganese is added to various product, such as steel, fertilizer and paint.

In addition, manganese Ore is the one of essential ore used in various applications that includes, $KMnO_4$ (Potassium Permanganate), Steel Manufacturing, Silico Manganese, Ferro Manganese, for the Manufacturing of MnO and $MnSO_4$, Welding flux, Agriculture, Water treatment, Battery, as Oxidizing agent, Catalyst, Metal Coating, Colorant/Pigment, Match Industry & Ceramics for various other purposes.