**WHAT ARE MINERAL RESOURCES?**

Mineral resources are essential natural occurring materials or commodity found on or in the earth crust in such small amounts which are mined for their potential uses or their intrinsic values.

Ekiti land is naturally endowed with numerous mineral resources. The state is potentially rich in mineral deposits. This includes granite, kaolinite, columbite, channockete, iron ore, barite, gemstone, gold among others, most of them still untapped.

**MINERAL RESOURCES IN EKITI STATE**

|  |  |  |  |
| --- | --- | --- | --- |
| TOWN | LOCAL GOVT AREA | TYPE OF MINERALS | USES |
| Isan- Ekiti | Oye | Clay Kaolin | Abrasive, plastics, ceramics ware, pharmaceuticals, textiles, Fertilizers, white tiles, insulator wares pencils. |
| Ijero –Ekiti | Ijero | Cassitterite, tin ore, columbite | Tin plating, tin can production, alloys and dying |
| Orin- Ekiti | Ido/Osi | Bauxite (Aluminum Ore) | Aluminum Production |
| Ikere Ekiti | Ikere | Charconite Granite | Stone cutting and polishing road aggregate |
| Emure – Ekiti | Emure/ Ise/ Orun | Charconite Granite | Stone cutting and polishing road aggregate |

**IJERO EKITI**

Ijero Ekiti is a town in Ekiti State of Nigeria in West Africa. “Ijero Ekiti” refers to a common thought or mutual understanding which is situated in the northwest part of Ekiti state. Ijero Ekiti is the headquarters of Ijero Local Government since 1976.

Ijero among it contemporaries is rich in mineral resources like: cassitterite and tin ore.

**NATURAL RESOURCES IN IJERO- EKITI**

**1. CASSERITE**

Cassiterite is a tin oxide mineral, SnO2. It is generally opaque, but it is translucent in thin crystals. Its luster and multiple crystal faces produce a desirable gem. Cassiterite has been the chief tin ore throughout ancient history and remains the most important source of tin today.

**PROCESS OF EXTRATING TIN FROM IT ORE**

The process of extracting tin from tin ore ( cassiterite) varies according to the source of the ore deposit and the amount of impurities found in the ore.

Regardless of the source, each process consists of several steps in which the unwanted materials are physically or chemically removed, and the concentration of tin is progressively increased. Some of these steps are conducted at the mine site, while others may be conducted at separate facilities.

Below are the steps used to process cassiterite;

(a) Tin exist as stanum(IV) oxide, SnO2 in the mineral cassiterite , that is tin. Tin contains a lot of foreign matter such as sand, soil, sulphur, carbon and oil.

(b) Firstly, the tin ore is made concentrated by the method of floatation. In this process, the ore is crushed and shaken in oily water. The foreign matters such as sand and soil drown while the tin ore sticks to the oil and floats on the surface of the water.

(c) the tin ore is the collected and roasted to take away foreign matter such as carbon, sulphur and oil.

(d) Lastly, the tin ore is mixed with carbon in the form of charcoal and is heated in a blast furnace at a high temperature.

(e) SnO2 in the ore is reduced to tin by the reducing agent carbon and carbon monoxide

(f) The melted tin that is formed collects at the base of the furnace and then is channeled out into a mould to form tin ingot.

**USES OF CASSITERITE (TIN ORE)**

1. It is used as a collectors mineral with the transparent forms being highly desired.
2. It is used as minor gem stone
3. It is the primary ore of the metal tin.

**IMPORTANCE OF CASSITERITE TO IJERO – EKITI**

1. It provide employment opportunity for both indigenes and non – indigene.
2. It generates internal revenue to the government of the state.
3. It serves as a medium of exchange.
4. It brings about social recognition.
5. It is a raw material (starting materials ) for production.

**DISADVANTAGES OF CASSITERITE MINING**

Although mining of cassiterite is of great importance to the people of Ijero Ekiti, it also has disadvantages which cannot be overlooked. This include;

1. Mining causes damage to the environment
2. It causes noise
3. It causes pollution
4. It destroys habitats
5. Deep mine shafts can be dangerous even after the mine has been abandoned.

**2. COLUMBITE**

Columbite is a black m, crystalline mineral group and the main ore of niobium which is also called columbate, niobite – tantalite [(Fe, Mn) Nb2o6], it is also a niobate of iron and manganese.

Columbite is found in granite , permatites, and placer deposits together with tantalite, but have a less density.

In Nigeria, West Africa , we havevarious exploration and minig companies that specializes in columbite, niobium and tantalite mining, such as Saltire Mineral Resources (Nigeria) Limited, including also buyers and exporters. If government is fully involved in this mining sector, it will once again boost the country’s economy and will make Nigeria once again the largest producer of columbite in Africa and among top leading producers in the world

USES OF COLUMBITES

1. it is used in industries as an ore to very useful metal
2. it is used to form weldable steel when used as an alloy for heat sensitive detective devices and radio transmitting valves.

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**FEDERAL UNIVERSITY OYE EKITI**

**MINERAL RESOURCES IN MY HOME TOWN (IJERO – EKITI)**

COURSE TITLE: AFRICAN PEOPLE AND CULTURE

COURSE CODE: GST110

LECTURER: MRS ONAFOWORA

NAME: DARAMOLA AFEEZ AYODEJI

DEPARTMENT: MECHANICAL ENGINEERING

MATRIC NO: MEE/2017/1027

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