GEOLOGICAL SETTING

Most of Liberia is underlain by crystalline Precambrian rocks, generally granitic in nature, capped by supracrustal sequences which are mainly metasediments consisting of schists, quartzites and iron formations. Regionally, Liberia is underlain mostly by Precambrian rocks which form part of the West African Craton.

There are three age provinces: the Liberian Age (2.7 b.y); the Eburnean (2.0 m.y); and the Pan African (500 m.y).

- **The Liberian Age Province (2700 m.y.)** prevails in Western and Central Liberia and comprises the basement gneissic complex of granitic to granodioritic composition with percentage of meta-volcanic sedimentary rocks such as quartzites, amphibolites, pelitic schists and banded iron formation (BIFs);

- **The Eburnean Age Province (2000 m.y),** is mostly characterized by a succession of sub-parallel structures which comprises of tightly folded, paragneiss, migmatites, amphibolites, ophiolites, tuffs, meta-andesites and less important outcrop of granitic intrusions, thus being similar to the Birimian formations of Ghana; and

- **The Pan African Age Province (550 m.y.)** which occupies two-thirds of the coastline of the Country contains mainly reworked equivalents of both the Liberian and Eburnean rocks and mafic gneisses (granulites). It is separated from the other two age provinces by Todi shear zone which is characterized by mylonite suture.

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**MINISTRY OF MINES & ENERGY**

**INVESTMENT OPPORTUNITIES**

**LIBERIA MINERAL SECTOR**

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*Figure 1: Age Province Map of Liberia (After: Tysdal and Thorman, 1983)*
“Equitable and optimal exploitation of Liberia’s Mineral Resources to Underpin Broad-based Sustainable Growth and Socio-economic Development”

INTRODUCTION
The Ministry of Mines and Energy, by the Executive Law of 1972 and subsequent legislations, was designated the responsibility to administer Liberia’s land, mineral and energy sectors.

Liberia has a free enterprise system modeled after that of the United States of America. Private sector participation drives the engine for the revival of our mineral sector and constitutes the basic framework in the formulation of our national mineral policy.

CREATING CONDITIONS FOR PRIVATE SECTOR INVESTMENT
Concrete steps have been taken to create the enabling environment for private sector investment in the mineral sector:

- Setting up of the government Diamond Office in order to ensure the compliance with the Kimberly Process Certification Scheme (KPCS);
- Ensuring Liberia’s meet the requirements of the EITI through the establishment of the LEDIT;
- Formulation of Liberia’s first Mineral Policy which became effective on April 1, 2010 which seeks to promote the equitable and optimal exploitation of Liberia’s mineral resources to underpin broad-based sustainable growth and socio-economic development;
- Promulgation of Liberia’s first Mineral Exploration Regulations which outline the guidelines and procedures governing the activities of holders of mineral exploration licensees and MDA holders that are still carrying out mineral exploration activities.

MINERAL RESOURCES
Like other cratonic areas, Liberia is endowed with a variety of mineral resources. Among the numerous mineral resources, gold, diamonds and iron ore are widespread. Most of the mountain ranges in the country are also capped with Iron Ores.

Establishment and implementation of the Mineral Cadastre Information Management System (MCIMS) which records and provides reliable information about the status, stage and precise location of exploration and mining rights as well as protected areas and special needs areas in the country. The cadastral procedures helps to limit discretion of the authorities in the allocation of rights; and also help to monitor and enforce the financial, social, safety and environmental obligations of license holders.

Traces of zinc, copper, silver, nickel, tin, platinum group metals, uranium, columbite-tantalite, kyanite, manganese, bauxite, and other minerals have been found.

Additionally, exploration efforts need to be enhanced to improve the economic viability of the below resources:

- Heavy mineral beach sand deposits - containing Ilmenite, Zircon and Thorium are present in certain coastal zones along the 300mile NW-SW coastal stretch as small raised beaches.
- Bauxite - occurs in the North-west and Southeastern parts of the Country. Detail exploration work needs to be done to ascertain the total reserves;
- Phosphate - the Bambata phosphate deposit is located in the Clay district in Western Liberia. It has been proven to have high grade phosphate mineralization;
- Manganese - The Mount Dorthow Manganese deposit is located in Grand Gedeh County, Eastern Liberia. Commercial grade has not yet been established;
- Kyanite - prospecting and exploration activities have revealed reserves up to 10 million tons of Kyanite bearing rock in Bassa County;
- Kimberlites - several kimberlite dikes and pipes have been discovered in recent years within the western most part of the country. More are yet to be discovered.

MINERAL TRADING AND ALLUVIAL MINING
Local and international companies are welcome to invest in mineral trading and mining activities in Liberia.

Figure 2: Mineral Occurrence Map of Liberia. (After: Sherman 2005)