NOTIFIED MINERALS

1. BAUXITE:

Bauxite, ore of Aluminium, occurs in the form of cappings in the Shevaroy hills of Yercaud Taluk. The Shevaroy hills are chiefly made up of the Charnockite group of rocks inter Banded with meta sedimentary units and cut across by dykes of dolerite. Only low grade bauxite available at the depth of maximum 2m in all the hills followed by ferruginous clay.

2. IRON ORE:

A) KANJAMALAI

The Iron ore deposits of Kanjamalai hill is of Banded Magnetite Quartzite. Kanjamalai is situated about 8 Km West of Salem Town. It is about seven kilometres long and four kilometres wide and rises to a maximum height of 986 metres above Mean sea level. The Iron ore outcrops of scattered, generally the Magnetite Quartzites occur at three distinct levels. The first or lowermost band occurs near to the base of the Kanjamalai. It can be traced over a length of some 13 Kilometres. The width is very variable (probably depending to some extent on the degree of tight folding) but the average width is about 25 metres. The second or middle band occurs some 300 metres about the plain. In outcrop it is discontinuous over its strike length of about 6 kilometres. The third and uppermost and occurs some 60 metres higher than the second band at a height of some 350 to 370 metres above ground level. The band is about 10 kilometres long (around the complete elliptical outcrop) and about 10 metres wide.

The ore in the first and second bands appears similar with an iron content of 33 to 39% Fe. In the band cropping out at the highest level the rock is much more siliceous with much lower iron content and there is more hematite present. This rock is best described as a ferruginous Quartzite and is of less economic potential than the lower bands. The Iron ore

reserves in the first band (lower band) of Kanjamalai 99.3 Million Tonnes and second band reserves (middle band) is about 50 to 60 million tonnes.

A) GODUMALAI

The Godumalai hill in which the ore crops out is about 7 Kms long and about 3 Kms wide at the Eastern end but in the Western end the iron bands are only some 3 metres wide. The Iron ore bands occupy the crest of the East-West striking ridge and form a series of disjointed folds; in some areas the bands are completely folded in on themselves. The apparent thickness at the Eastern end of the hill is due to this type of tight folding. In some localities the ore is crushed, sheared and fine grained. It contains some hematite and jasper not commonly reported from the Tamil Nadu iron ores, was noted here. The average Fe content of the ore is about 34% and the estimated reserves from this area are 60 to 70 million tonnes.

3. LIMESTONE:

The crystalline limestone of Precambrian age occurs in the form of lenticular and linear bands in the Sankari Taluk which is exploited for the production of Cement by India Cements Limited, Sankari West. The calc-Gneisses and crystalline limestone represent ancient calcareous sediments which have suffered repeated metamorphism, intrusions by Granites and folding during the Archean age. The harder pink Granites which are abundant in the region stand out as hills and knolls resisting erosion. The disposition of the crystalline limestone bands in this region reveals that they maintain a structural conformity with the batholith, by a pattern of skirting around granitic mass from West to East and continuing southward from Sankaridurg to Tiruchengode and beyond.

MAJOR MINERAL

1. MAGNESITE:

The origin and occurrence of the Magnesite deposits of the Chalk Hills in Salem District has been elaborately discussed by Mr. C.S.Middlemiss (Ref. Geological survey of

India-XXIX, 31,1896). Later a short report on the mineralization of the Chettichavadi Jagir was made by Mr. Vinayaka Rao of Geological Survey of India (Ref. Geological Survey of India L XIII, 46, 1929).

In 1939, the Magnesite Deposits of Chettichavadi Jagir was examined in detail by Mr. A.M.Comber to justify further development of the Magnesite resources to provide raw material for a large industry, with substantial investments. The whole area is impregnated with white Magnesite veins of good quality. Hence, the area is called as Chalk Hills of Salem. The Chalk Hills of Salem mainly consists of the ultra basic suite of rocks. The Magnesite deposits of the area occur in two detached belts. The smaller belt is on the Southern side and the larger on is on the Northern side. The ultra basic suite formed due to differentiation of magma has intruded into the older metamorphic rocks of the neighbourhood consisting mainly of Biotite Hornblende Gneisses and Charnockite. The two belts of ultra basic rocks are separated by Metagabro and Charnockite rocks. Stratigraphic succession is that the older Archaean Gneisses are intruded by younger ultra basic suite of rocks-Dunite, Peridotite and Pyroxenite.

The most prominent deposit of Magnesite is located in Chalk hills of Salem over an area of 17 Sq. Kms. This is mined by Burn & Co (SAIL Refractory Company Limited), TANMAG, Ponguru Magnesite Mines and Dalmia Bharat Sugars and Industries Limited.

MINOR MINERALS

DIMENSIONAL STONES: (Multi-Colour Granite and Black Granite)

1. MULTI- COLOUR GRANITE

Peninsular Gneiss is the rock wide spread in many parts of Salem District. The rock formation is popularly known as Granite Gneiss essentially made up of a supra crustal assemblages of Quartz and Feldspar as major constituents, closely inter Banded with calc-silicate rocks and dolomite, as well as Granite Gneiss or schist, occurring within a vast area of Biotite Gneiss. The rock type is leucocratic, euhedral, medium to fine grained, equigranular texture. This rock commercially called as Imperial White and

Tippu White. The rock formations are found in the area of Edappadi, Sankari, Attur and Yercaud Taluks.

2. BLACK GRANITE (DOLERITE):

The Dolerite dyke rocks, commercially called as Black Granite occur in Paithur, Seeliampatty Manjini, Umayalpuram of Attur Taluk and in Yellikaradu, Sampalli, Kaveripuram and Kannamoochi of Mettur Taluk. The Black Granites mainly occur in Attur, Gangavalli, Mettur, P.N.Palayam, Valapady and Yercaud Taluks which is extensively quarried for building and ornamental purposes,

3. ROUGH STONE / CHARNOCKITE:

The major parts of the hilly terrain of the area are formed of Charnockites of varying chemical composition from acid variety Charnockite of granitic composition (Hypersthene - Granite) to basic variety. They are mesocratic to Melanocratic, Medium to Coarse grained rocks consisting of Blue Quartz, Grey Coloured Feldspar, Hypersthene with accessory minerals like Garnets, Magnetite and Biotite. The basic Charnockite is mostly fine grained, dark coloured and occurs as thin lensoid body within the charnockite. Charnockite is mainly used as rough stone and is being quarried for road metals, jelly and making of M-sand.

4. Gravel:

Gravel is a loose aggregation of rock fragments. Gravel is classified by particle size range and includes size classes from granule- to boulder-sized fragments. Gravel is categorized into granular gravel (2 to 4 mm or 0.079 to 0.157 in) and pebble gravel (4 to 64 mm or 0.2 to 2.5 in). ISO 14688 grades gravels as fine, medium, and coarse with ranges 2 mm to 6.3 mm to 20 mm to 63 mm. The Gravel/ Brick Earth/ Red soil mainly occurs in Salem, Sankari, Mettur and Attur Taluk and in and around in Salem District.

31 MINOR MINERALS

1. QUARTZ AND FELDSPAR:

Quartz and Feldspar deposits associated with Granitic Pegmatites occur in various places of Sankari, Omalur, Mettur and Edappady taluk. The Pegmatite bands occurring in this area are of the simple acid type consisting chiefly of coarse grained Quartz and Feldspar with subordinate amounts of Biotite. The Quartz and Feldspar crystals range from a few cms. to as much as a half metre across. The Quartz found in this area in both colourless and milky white with little of impurities. The associated Feldspar is Coarse grained being pink to flesh red in colour and perthitic in texture.

2. DUNITE:

Dunite is an ultrabasic igneous rocks, associated with Magnesite. Dunites are medium grained Grey green rocks almost entirely consisting of olivine. In chalk hills there are patches with a mixture of Pyroxene and the rock is transitional to peridotite. Accessory minerals of Dunite are Chromite and Garnet.

3. SOAPSTONE / STEATITE:

The deposits of Talc and Steatite, which are derived from ultramacfic rocks, are more abundant than those in magnesian limestone and dolomites. Usually they are derived from Serpentine, which are formed at first and later transformed into Steatite. Thus, it is evident that Talcose substances are the alteration products of magnesium-bearing minerals which may be primary or secondary in character. The deposit found in Periyasoragai, Aranganur, Tholasampatty, Marakottai and Kongupatty of Omalur Taluks.

4. CALCITE:

Calcite, which is the predominating mineral ingredient in all the limestone formations, is formed in large masses of contact metasomatic deposits by the process of recrystallisation of limestones. The deposit found in Sankari Taluk.