Mineral Resources of Jhalawar

A test geophysical survey by resitivity method was carried out in November 1987 near the miens of Shri Devraj-Mathura-Lal in Arolia area, district Jhalawar. The resistivity sounding was conducted with the aim to find the depth of limestone by surface measurements.

The limestone in the area belongs to lover Vindhyan in age and is being mined for limestone slabs. A clear geological section was seen in the area particularly above the top of splittable limestone. A 9.2 m thick overburden comprising soil (6.7 m) and highly weathered trap in the form of boulders and soil (2.5 m) are seen. Most of the soil is wet and the water table is very shallow being at the contract of soil and top of weathered tropes. There seems to be abundance of ground water in the area.

The test geophysical survey was carried out using Schlumberger electrode configuration spreading current electrodes up to 200 m and potential electrodes up to 40 m. The field data so obtained has been plotted on a double log scale graph and is enclosed here with. The curve has been interpreted by curve-matching technique using two-layer and three-layer master curves.

The results indicate three zones of different electrical resistivities. These are 1.2 m of dry soil and 8.6 m of wet clay with weathered traps above the zone of limestone. The depth to the top of limestone has thus been interpreted as 9.8 m by surface geophysical surveys. The limestone is depicted as a rock formation having a very high electrical resistively as compared to the low resistivities of 17 and 6.5 ohmmeter respectively of the top soil and the wet soil.

Results

The depth of limestone below the ground surface as seen in the open pit and a calculated by surface geophysical surveys are quite comparable within ±1 m. the weathered traps are not depicted as separate zone by geophysical method due to fact that traps are highly weathered and the boulders of traps are found enclosed in wet soil.

Further utilization of geophysical surveys to find out the thickness of overburden is recommended.

Mineral Resources of Dausa

1. Introduction

Dausa district was constituted in the year 1992 by including Dausa, Baswa, Lalsot, Sikrai tehsils of district Jaipur and Mahuwa tehsil of district Sawai Madhopur (lying between latitude 26^0 23' and 27^0 15' and longitude 75^0 0' and 77^0 02'). It is bounded on the north by Bhaeatpur and Alwar, on the west by Jaipur, on the south and east by Sawai Madhopur districts respectively. The district head quarter is 55 km from Jaipur. Dausa is situated on Delhi-Jaipur broad gauge line of western railway. Bandikui is the prominent railway junction of this district, which connects Delhi and Agra.

2. Physiography

Area is almost plain and covered by cultivated fields and barren lands. Prominent hill range falls in the southeastern part of the district trending NE-SW. General elevation of the area is 300 mts above MSL. Highest point is 523 mts SW of village-Khawa. The seasonal river Banganga flows through the district.

3. Geology of the District

The oldest rock unit belonging to pre-cambrian, granite gneisses and schist forms the basement and exposed in the form of low lying isolated outcrops near village Sainthal, Geejgarh and Lalsot. These gneisses are overlain by rocks of Delhi Super group comprising Raialo and Alwar groups. Raialo group of rocks represented by dolomite/marble are in the NW of Sainthal in a small part. It is overlain by Alwar group of rocks i.e. quartzite and schist exposed in the form of about 100 km long impersistent hill ranges trending NW-SE stretching right from Mahuwa, Mandawar in NE of Lalsot in southwest, occupying southeastern periphery of the district. Isolated small hills of these quartzite are also seen near Baswa, Kundal, Dausa and north of Sainthal. These are intruded by amphibolite and quartz veins. Prominent amphibolite exposures can be observed in NW of Sainthal and near Geejgarh. The litho stratigraphic succession of the area is as below.

Subrecent to Recent	-	Alluvium and Sand
Post Delhi-Intrusive	-	Amphibolite and Quartz veins
Delhi Super Group	-	Alwar Group-Quartzite and Schist
		Raialo Group-Marble/Dolomite
Pre-Cambrian	-	Granite Gneiss & Schist

4. Mineral Resources

The district possesses iron ore, among the metallic minerals and silica sand, soapstone, clay, marble/dolomite, building stone in the non-metallic category. Out of this only silica sand deposits are quantitatively potential besides iron ore.

4.01 Metallic Minerals

4.011 Iron Ore

Small iron deposits are located near Lalsot and west of Sainthal. About 2.5 km east of Lalsot iron ore occurs in the form of hematite in ferruginous quartzite. A reserve of 1.93 million tones having iron content 64 to 67% was estimated in the area. In addition 2.57 million tones reserves were also inferred. This deposits falls in reserve forest.

In west and north of Sainthal iron ore occurs with crystalline limestone in the form of irregular disseminations, pockets, veins and stingers, up to 25 mts in length and 22 mts in width. In composition it ranges from ore have 56% to 60% Fe has been estimated.

4.02 Non-Metallic Minerals

4.021 Silica sand

Among non-metallic minerals quantitatively it is most prominent. The main localities of silica sand are Kundal, Dantli and Girota in tehshil Dausa and Sikari. The silica sand of Kundal area is fine to medium grained and buff to white in colour. The SiO_2 varies 96-98.5%. In the Dantli area it is medium grained and reddish to white in colour with SiO_2 varying from 97.12% to 97.52%, Fe_2O_3 0.56%, $A1_2O_3$ 0.32% to 0.62%. In Girota also it is medium to coarse grained and pale red in colour. SiO_2 varies from 97 to 98.5%. Other than these, minor occurrences; have also been reported near village Chhaprala, Bhedoli, in tehsil Dausa and Dendadera and Ranoli of tehshil Sikarai. As a whole the silica sand available in the district is mostly ferruginous, hence, it is being used in making coloured bottle glass and bangles, and sent to Firozabad, Agra, etc. Most of the silica sand areas are leased out.

Important quartz occurrences in the district are near village Ramawas, Bhankri and Dausa town. Quartz generally is of good quality and is being used in glass, foundry and ceramic industries.

4.022 Soapstone

In the areas soapstone occurrences are near villages Nabhawala, Achalpur, Geejgarh, Kawa, Raoji, Rewali and Kaled. It is found in the form of lenses, veins and stringers within quartzites and calc chlorite schist. In general soapstone of Dausa district is of pesticide grade.

4.023 Clay

Clay deposit occurs near village Go1 in tehsil Lalsot. A total of 1.05 million tones reserves of clay has been estimated by the department. Clay is suitable for making sewer pipes. Area is leased out. Other insignificant occurrences were also reported near village Girota, tehsil Sikarai and Naharkhora tehsil Mahuwa.

4.024 Marble/Dolomite

In NNW of Sainthal fine to medium grained, white coloured, jointed and fractured, at places ferruginous marble/dolomite is available. Small marble blocks for tile making are being extracted along with Khandas.

4.025 Building Stone

The area is extensively occupied by quartzite, which has been found suitable as masonry stone. Therefore it is being worked out at a number of places in the district. The main localities are Lalsot, Geejgarh, Girota, Mahuwa, Dausa, etc.

Besides building stone patti and katla are being extracted from Bhankari area since long. In the past department was also involved in the mining operation for a considerable period.

5.00 Industries

The district possess sufficient reserves of silica sand having SiO_2 varying from 95 to 98.5% with varying percentage of ferruginous impurities. Hence it can be used in making coloured bottle glass and bangles. As such there is potential for establishing silica sand based industries for making coloured glass and bangles.

6.00 Future Work Proposed

For mineral survey a scheme named "Regional Mineral Survey for economic minerals near villages Parla Khalsa, Churkhera, Thekra, Salimpur, etc. tehsil Mahuwa, district Dausa" is as proposed during the year 1994-95. About 101 sq. km. area was covered under regional mineral survey and 10 sq. km. area was mapped on regional scale. A small occurrence of red ochre was seen within quartzite near Khobherko. The quartzite is suitable for masonry stone and is being used locally.

Occurrences of barites and silica sand have been seen near Duiddi, Lalwau, etc. areas. The area also comprises Post Delhi granites. Thus, it is proposed to carry out prospecting in this area to locate new mineral occurrences and also to assess the suitability of granite for use as decorative stone.