Mineral Resources of Churu

Introduction

Churu district covers an area of 16,866 sq km in Thar Desert. The National Highway No. 11 connecting Agra with Bikaner passes through the district. The Delhi-Bikaner metregauge section of the Northern-Railway touches Churu, the district headquarters.

In the mineral domain Churu district is not so rich, however with the recent discovery of halite and potash (an important mineral for fertilizer industry) deposits it has gained national importance. Heather to there was not any known source of potash minerals in India and all its requirement is met through imports. This discovery has opened new avenues for search of potash minerals in this district and neighbouring areas. No other industrial mineral has been reported, owing to the fact that the major part of the district being covered by wind blown sand.

Churu district in general is characterized by high longitudinal sand dunes with a general trend in NE-SW direction. The migration of sand dunes is quite extensive which sometimes cause blocking of metalled and car-roads and encroach on the cultivated fields. In order to maintain vehicular traffic on main roads, the dunes are cleared regularly especially during summer season.

The drainage is mostly inland. Kantli River, which flows in Jhunjhunu district, adjoining Churu in the south, disappears in the sand dunes near Rajgarh. Small 'Nadis' retain some rainwater during the summer.

Geology

The geology of the major portion of the district is obscure, the country being covered by dunes of blown sand. There are practically no hill features in the district. The only exposures are in the Sujangarh area where rocks belonging to the Delhi Super Group are represented by the Ajabgarh group comprising phyllites slates and quartzite around Gopalsar, Dungarsar, Challu and Biramsar. The later Malaniigneous suite is mainly represented by an effusive phase, which comprises rhyolites and volcanic tuffs. These are exposed in the Randhisar hill and in the hill south of Lodasar. The Marwar Super Group is represented by the rocks of Jodhpur, Bilara and Nagaur, which include sandstone, shale, limestone, dolomite, anhydrite, gypsum and halite.

Mineral Resources

(i) Potash Salts

The Geological Survey of India took up investigations for potash minerals in Churu district on the basis of some indications in the tube wells dug by the C.G.W.B. In the year 1973-74, a thick zone (at 104 mts) of halite was intersected in a borehole drilled at Lakhasar, which contained potash values. In this boreholes about 8 mts zone of polyhalite containing up to 8%

K2 O was encountered. Subsequently three more boreholes were drilled at Sudsar, Gosainsar and Jhunjhunu. The borehole at Jhunjhunu, which has already reached a depth of more than 106.6 mts, has not intersected any halite bed, though all the other sequences encountered in the Lakhasar boreholes are represented here. This borehole is being deepened to see if the basement (Delhi or Malani's) can be encountered. The borehole at Sudsar was closed at a depth of 650 mts after intersecting the entire evaporite sequence. This borehole has also not encountered any halite bed. The borehole drilled at Gosainsar has encountered halite bed between 580 mts to 720 mts.

(ii) Gypsite

The occurrences of gypsite have been reported at and around Dungargarh, Sudsar, Churu, Sardarshahar, Tarangar and Ratangarh which occur at 0.30 to 1.5 mts below the surface. The gypsum occurrences of Bhallan, Bhanin, Deogariya and Sathon are quite promising. The mineral mainly being utilized for masonary purposes. The annual production is approximately 12,000 tonnes.

(iii) Salt-Peter (Kno3)

Saltpeter in the form of effloresance (powder substance after exposure to air) is found on the soil at certain localities in Rajgarh tehsil, which contain some amount of sodium chloride and sodium sulphate.

(iv) Stone-ballast

There are about 60 mining leases around Randhisar, Gopalpura and Rajdi having an approximate total production of 4 lakh tones, which fetch revenue of about Rs. 3.3 lakh annually, and the mineral is being used for masonry purposes.

(v) Brick-Earth

This is being mined around Dungargarh, Sudsar, Sardarshahar, Churu Tarangar and Ratangarh and eleven mining leases are existing. A total annual production is 400 tonnes with revenue of Rs. 2000.00/- approximately.

(vi) Copper

The only known copper occurrences are at Bidasar and Biramsar areas. From the old records it appears that the copper at Bidasar was discovered in the year 1753. At present the only evidence of its past existence is an old silted up quarry a heap of slag near about. Copper mineralisation has also been reported from Biramsar hills located on the eastern most part of the district, forming a border region of Churu and Sikar districts. The mineralisation at both the localities is confined to formations of Delhi Super Group. They are mostly argillaceous rocks altered into schist bearing quartz veins often stained by copper carbonates.

(vii) Limestone

During some reconnoitory traverses in the area lying in the southern most part of the district forming a border region of Churu and Nagaru districts, occurrences of localized high grade limestone surrounded by sanddunes were noticed at Kalyansar tehsil. Further similar occurrences were noticed at Saru and Asalsar villages also. The departmental investigations are under progress.

In recent years G.S.I. has carried out deep drilling in Lakhasar area where potash salts have been encountered and it is expected that further mineral discoveries can be made. Similarly as an outcome of departmental reconnaissance, occurrences of high-grade limestone have been located in the southern part of the district.