

The glass making  
and rubber industry.  
both sphalerite



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The important ore of lead is Galena (sulphide of lead) which contains about 86% of the metallic lead. Other lead ores are cerusite (which is carbonate of lead) which contains about 77% of the metallic content and Angestite (the sflphate of lead) in which metal content is 68%. Most important industries of lead is as a constituent of alloys, lead oxide is used in lead sheeting, cable covers, ammuniton, glass making and rubber industry.

Both sphalerite (sulphide of zinc) and galena occur associated together in nature. Galena characteristically breaks into small cubic pieces of hammered.

#### **Production and Distribution:**

The production of lead concentrates at 145 thousand tonnes increased by 8.3% over the previous. Rajasthan accounted for the entire production of lead concentrate. Rajasthan: Galena is found associated with zinc blende in Zavar mines in Udaipur district operating at the site of the old abandoned mines. The Zavar ores belong, geologically, to the class of metasomatic replacement, an Aravalli limestone, being replaced by the sulphides and carbonates of lead and zinc, by the process of molecular replacement.

A recoverable reserve of 21.63 million tonnes of lead and zinc ore has been proved in the district of Udaipur where 289 thousand tonnes of lead metal and 660 thousand tonnes of zinc metal have been estimated. In addition the probable and possible recoverable reserves of lead and zinc in the district have been estimated at 69.

50 million tonnes; the metals of lead and zinc respectively being 1,015 and 1,887 thousand tonnes 34,142 tonnes of lead concentrate and 89,134  
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tonnes of zinc concentrate have been produced from the district during the year 1986. Lead-ore is also reported to occur near Rikhabdeo and Debari in Udaipur district, Ghughra and Mando in Dungarpur district, Wardalia in Banswara district and Gudha Kishori Das in Alwar district. The lead-ore of Mewar is on a fairly large scale and is often argentiferous, yielding a few decagrams of silver per tonne of lead. Here, again, large mounds of slag found in Mewar in Jaipur indicate the production of the metal in the past. These mines have lately begun to produce. A total of 147.

5 million tonnes of recoverable reserve of lead and zinc ore; and 2, 014 thousand tonnes of lead concentrate and 7, 236 thousand tonnes of zinc have been estimated in the state of Rajasthan, the important districts being Udaipur and Bhilwara. Andhra Pradesh: Galena occurs at Chityala and Chelima in Kurnool district, Karempudi in Guntur district and Zangamrajupalle in Cuddapah district. The Chityala occurrence is in granites, presumably associated with the fault breccia of quartz. The other occurrences are in shales and limestones of Cuddapah. Galena is also reported to occur near Chintakunta in Nalgonda district and Jestaipalli in Khamam district. The prospects of proving large deposits of galena do not appear bright, but some of the occurrences deserve detailed examination.

Bihar: Occurrences of argentiferous lead ore had been located in Hazaribagh district. The ore yielded a few ounces of silver per ton of lead. Galena is found in parts of Singhbhum, Ranchi, Hazaribagh and Palamau districts but with little chance of success in their working.

The GSI has taken up investigation in some parts of the State. Jammu and Kashmir: Lead-ore (galena) is known to occur in the Buniyar area, Baramula district, in quartz veins and as stringers in the Salkhala metasediments. Sulphides of iron, zinc and rarely copper are also recorded from the area, where two small ore horizons have been located. Disseminations and veins of galena occur, around Nigote in Udhampur district over a length of 3 kms in the " Great Limestone" formation at shallow depths of 1. 2 to 6 m below the surface. Madhya Pradesh: Lead-ores, often argentiferous, are on a fairly large scale, yielding a few decagrams of silver per tonne of lead.

Stringers and nests of galena have been reported to occur in the limestone exposed in the bed of Mahanadi River near Padampur, Bilaspur district. Occurrences have been reported at Ranitalao near Chicholi, Thekkad and Karamatara in Durg district. Galena has also been recorded from Bhelaunda and Chiraikhurd in Sarguja district.

Old excavations in the limestones at Jogakhurd in Hoshangabad district have revealed the presence of argentiferous galena. Specks of argentiferous galena have been noticed in limestone in Damoh district and also in association with copper lodes at Sleemanabad in Jabalpur district. Galena occurs as veinlets, patches and specks in the decomposed gneisses at Andar in Shivpuri district and near Kurol in Gwalior district. In the past, however, considerable amount of ingot- lead was produced here for centuries.

Karnataka: Lumps of galena were found at Metri, 40 kms north-west of Bellary during 1951-52; but detailed prospecting by drilling and pitting has shown that the deposits are not of economic importance.

Some minor occurrences of lead-ore are known near Ingaldhal in Chitradurga district. Odisha: The lead-ore deposits were located along a 35 km belt of the Sargipalli-Dhumohali area. During the year 1986 the district of Sundargarh produced 5, 451 tonnes of lead concentrate. Punjab and Vicinity: Galena occurs at Jari, in Parbati valley, Kulu subdivision, and at Tabo in Kangra district. West Bengal: Small pockets of argentiferous galena, cerussite and sphalerite occur in the dolomite bands in Buxa Duars area of Jalpaiguri district. Lead-ores occur also in a number of other places in Darjeeling and western Duars area.

In the district of Darjeeling 2. 27 million tonnes of probably recoverable reserves have been estimated in which each of the lead and zinc metals, are estimated at 56 thousand tonnes. The other places in which lead ore has been reported are the districts of Bans Kantha in Gujarat, South Arcot in Tamil Nadu and East Sikkim in Sikkim. Lead has been mainly consumed in cable sheathing and battery end-use sectors.