

STATE REVIEWS



Indian Minerals Yearbook 2017

(Part- I)

56th Edition

STATE REVIEWS
(Sikkim)

(FINAL RELEASE)

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SIKKIM

Mineral Resources

The important mineral resources of the State are **copper-lead-zinc** and **silver**, reported in Bhotang, Rangpo and Dikchu in East Sikkim districts. Occurrences of other minerals reported in the State include **dolomite**, **quartzite** and **talc/steatite/soapstone** in West Sikkim district; **limestone** in North Sikkim district and **marble** in East Sikkim and North Sikkim districts Table -1. The reserves/resources of coal and the coalfield located in Sikkim are reflected in Table - 2.

Exploration & Development

Details of exploration activities conducted by GSI for base metal (Cu,Pb, & Zn) in the Sikkim State are furnished in Table-3.

Production

No mineral production (except minor minerals) was reported in 2016-17. The value of minor minerals' production was estimated at ` 188 lakh for the year 2016-17.

Mineral-based Industry

SMC, a joint venture of Government of Sikkim and Government of India was established for the purpose of development of Bhotang polymetallic ore deposit at Rangpo. Sikkim's Mines & Geology Department had set up a pilot dimension rock cutting unit and pilot lime making unit to ascertain the feasibility of setting up of commercial lime plant and dimension rock cutting plant in the State. A ferro alloys plant, namely, Akshay Ispat & Ferro Alloys Ltd with an installed capacity of 6,000 tpy is located at Mamring, South Sikkim district. The present status of these industries is not available.

Table – 2 : Reserves/Resources of Coal as on 1.4.2017 : Sikkim

(In million tonnes)				
Coalfield	Proved	Indicated	Inferred	Total
Total/Rangit Valley	-	58.25	42.98	101.23

Source: Coal Directory of India, 2016-17

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Table – 3 : Details of Exploration Activities in Sikkim, 2016-17

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI							
Basemetal							
West & South Sikkim	Chakung-Chong Bong- Malthek-Naya Bazar area	-	-	-	-	-	G4 stage reconnaissance survey has been carried out in and around Chakung, Chongbong, Borbatey, Jugdum, Malbasey, Zoom, Khani Shirbung and Timberbong. Mineralisation was observed at Jugdam and Namrek. The analytical result reveals that in Namreek area, the copper content varies from 10 to 18 ppm from PTS samples. In Zoom area, Cu values range from 1.4 to 54 ppm in concentration. One rolled boulder in a nala section near Malbasey indicated 7.1% copper content and 218 ppm Pb content. The values for Co, Ni, Pb & Zn are not significant.
East Sikkim	Pachekhani-Pakyong- Mamring-Assam	-	51	-	-	-	G4 stage reconnaissance survey has been carried out in Pakyong, Linkey, Pachey, Pacheykhani, Pachekhola, Dugalakha, Rorathang and Dikling areas. In Pachekhani area, Copper values range from 591 ppm to a maximum of 3322 ppm with corresponding Zn value ranging from 517 to 613 ppm. Malachite/azurite stains are observed in mica schist/phyllitic rocks (Daling Group) at Pache-Linkey road section, Dikling-Lusing road sections and Terethang-Takshang areas.
	Rolep- Charapathang area	-	-	-	-	-	G4 stage reconnaissance survey was carried out by large-scale mapping which has revealed the main rock types related to mineralised locations in the study area are amphibolites intrusion within quartzite of Chungthang Formation and Darjeeling Gneiss, phyllite interbanded with quartzite and chlorite-mica schist of Daling Group. Malachite stains were observed at few places along with specks of pyrite and chalcopyrite within the mica schist and phyllites. Chemical analyses for Bed Rock Samples (BRS) show copper concentrations of 5012 ppm to 26520 ppm in Suketar area and 8937 ppm in Rorathang-Rongli road section. Samples from Lossep Village show higher value of BRS results with 1909 ppm of Cu, 393 & 935 ppm of Pb, 39 ppm of Co and 173 ppm of Zn.

Table – 1: Reserves/Resources of Minerals as on 1-04-2015 : Sikkim

Mineral	Unit	Reserves					Remaining Resources					Total resources (A+B)		
		Proved STD 111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Measured STD331	Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)
			STD121	STD122			STD221	STD222						
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Copper														
Ore	'000 tonnes	-	-	-	-	445	63	300	-	150	-	958	958	
Metal	'000 tonnes	-	-	-	-	7.86	0.91	8.47	-	4.23	-	21.47	21.47	
Dolomite#	'000 tonnes	-	-	-	-	-	-	-	-	2756	-	2756	2756	
Lead-Zinc														
Ore	'000 tonnes	-	-	-	-	436	64	300	-	150	-	950	950	
Lead metal	'000 tonnes	-	-	-	-	6.9	1.68	-	-	-	-	8.58	8.58	
Zinc metal	'000 tonnes	-	-	-	-	12.88	3.14	3	-	1.05	-	20.07	20.07	
Limestone	'000 tonnes	-	-	-	-	-	-	-	-	2380	-	2380	2380	
Marble#	'000 tonnes	-	-	-	-	-	-	-	-	2382	-	2382	2382	
Quartzite#	'000 tonnes	-	-	-	-	-	-	-	675	16444	-	17119	17119	
Silver														
Ore	tonne	-	-	-	-	435843	63780	300000	-	150000	-	949623	949623	
Metal	tonne	-	-	-	-	15.25	0.04	27.6	-	13.8	-	56.69	56.69	
Talc/Steatite/ Soapstone#	'000 tonnes	-	-	-	-	-	60	-	-	-	-	60	60	

Figures rounded off

Declared as Minor Minerals vide Gazette Notification dated 10.02.2015

Minor Minerals before Gazette Notification dated 10.02.2015