

STATE REVIEWS



# Indian Minerals Yearbook 2020

(Part- I)

59<sup>th</sup> Edition

**STATE REVIEWS  
(West Bengal)**

**(ADVANCE RELEASE)**

**GOVERNMENT OF INDIA  
MINISTRY OF MINES  
INDIAN BUREAU OF MINES**

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## WEST BENGAL

### Mineral Resources

West Bengal is the principal holder of country's apatite resources. It is said to possess 57% apatite and 14% china clay resources of the country. Important minerals that occur in the State are: **apatite** in Purulia district; **coal** in Bardhaman, Bankura, Birbhum, Darjeeling, Jalpaiguri & Purulia districts; **china clay** in 24-Parganas, Bankura, Birbhum, Bardhaman, Hoogly, Midnapur & Purulia districts; and **fireclay** in Bankura, Birbhum, Bardhaman & Purulia districts.

Other minerals that occur in the State are **barytes, copper, gold, kyanite, pyrite & titanium minerals** in Purulia district; **dolomite** in Jalpaiguri district; **felspar** in Bankura & Purulia districts; **granite** in Bankura, Birbhum & Purulia districts; **lead-zinc** in Darjeeling district; **limestone** in Bankura & Purulia districts; **manganese ore & sillimanite** in Midnapur district; **quartz/silica sand** in Bankura, Hoogly &

Purulia districts; and **tungsten & vermiculite** in Bankura district (Table-1). Reserves/resources of coal and lignite along with details of coalfields/districts are provided in Table-2 & Table -3.

### Exploration & Development

Exploration activities were reported by GSI during the year 2019-20 and are provided in Table-4.

### Production

During the year 2019-20 production of Coal, Natural Gas (ut.) and Sulphur was reported from West Bengal.

The value of minor mineral's production was estimated at ₹ 146 crore for the year 2019-20.

### Mineral-based Industry

The present status of each mineral-based industry is not readily available. However, important mineral-based industries located in the State with their total installed capacities are furnished in Table - 6.

**Table – 2 : Reserves/Resources of Coal as on 1.4.2020: West Bengal**

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
<b>Total</b>	<b>14219.25</b>	<b>12846.87</b>	<b>4624.03</b>	<b>31690.15</b>
Raniganj	14018.46	7103.37	3707.69	24829.52
Barjora	200.79	–	–	200.79
Birbhum	–	5743.50	901.34	6644.84
Darjeeling	–	–	15.00	15.00

*Source: Coal Directory of India, 2019-20.*

**Table –3 : Reserves/Resources of Lignite as on 1.4.2020: West Bengal**

(In million tonnes)

District	Proved	Indicated	Inferred	Total
<b>Total</b>	<b>–</b>	<b>1.13</b>	<b>2.80</b>	<b>3.93</b>
Bardhaman Rakshitpur, Gaurangapur-Bankati	–	0.29	1.82	2.11
Birbhum Mahalla, Dhobbanpur & Djara	–	0.84	0.98	1.82

*Source: Coal Directory of India, 2019-20.*

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Table – 1 : Reserves/Resources of Minerals as on 1.4.2015: West Bengal

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						
Apatite	tonne	-	-	-	1385734	491818	1225345	120000	8845250	852605	666646	13587398	13587398	
Barytes <sup>#</sup>	tonne	-	-	-	-	-	-	-	433000	-	-	433000	433000	
China clay <sup>#</sup>	'000 tonnes	1476	727	754	2957	3617	248	857	38	332236	79923	5793	422712	425669
Copper	'000 tonnes	-	-	-	-	-	-	-	-	113	-	-	113	113
Metal	'000 tonnes	-	-	-	-	-	-	-	-	2.09	-	-	2.09	2.09
Dolomite <sup>#</sup>	'000 tonnes	-	-	-	-	12528	-	48000	-	73226	104275	-	238029	238029
Feldspar <sup>#</sup>	tonne	70906	54375	0	125281	135639	200000	-	900000	3400000	201250	-	4836889	4962170
Fire clay <sup>#</sup>	'000 tonnes	981	-	377	1359	201	580	1349	-	419	11114	958	14622	15981
Gold	Ore	-	-	-	-	-	-	-	-	-	-	-	-	-
(Primary)	tonne	-	-	-	-	-	-	-	-	-	-	-	-	-
Metal	tonne	-	-	-	-	-	-	-	-	-	-	-	-	-
(Primary)	tonne	-	-	-	-	-	-	-	-	-	-	-	-	-
Granite <sup>##</sup>	'000 tonnes	3658	-	-	3658	-	-	-	19827	1140	8802	-	29769	33427
(Dim. Stone)	tonne	-	-	-	-	-	-	-	-	-	26520	-	26520	26520
Kyanite	tonne	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead-Zinc	'000 tonnes	-	-	-	-	-	-	-	-	3371	335	-	3706	3706
Ore	'000 tonnes	-	-	-	-	-	-	-	-	130.07	10	-	140.07	140.07
Lead metal	'000 tonnes	-	-	-	-	-	-	-	-	130.42	13	-	143.42	143.42
Zinc metal	'000 tonnes	-	-	-	-	-	-	-	-	15482	22120	-	44706	44706
Limestone	'000 tonnes	-	-	-	-	-	-	-	7104	-	200	-	200	200
Manganese ore	'000 tonnes	-	-	-	-	-	-	-	-	-	2500	-	2500	2500
Pyrite	'000 tonnes	-	-	-	-	-	-	-	-	-	21	-	66	66
Quartzite <sup>#</sup>	'000 tonnes	-	-	-	-	24	-	21	-	-	-	-	-	-
Quartz-	'000 tonnes	-	-	-	-	-	-	-	-	-	-	-	-	-
Silica sand <sup>#</sup>	'000 tonnes	2853	400	939	4193	310	151	229	-	-	4896	-	5586	9779
Sillimanite	tonne	-	-	-	-	-	-	-	-	-	1653000	-	1653000	1653000
Tungsten	tonne	-	-	-	-	-	-	173063	-	190739	400000	-	763802	763802
Ore	tonne	-	-	-	-	-	-	-	-	-	-	-	-	-
Contained	tonne	-	-	-	-	-	-	450	-	80.84	1000	-	1530.84	1530.84
WO <sub>3</sub>	tonne	-	-	-	-	-	-	-	-	490	5076	-	5566	5566
Vermiculite	tonne	-	-	-	-	-	-	-	-	-	-	-	-	-

Figures rounded off.

# Declared as Minor Mineral vide Gazette Notification dated 10.02.2015.

## Minor Mineral before Gazette Notification dated 10.02.2015

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Table – 4 : Details of Exploration Activities in West Bengal, 2019-20

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
<b>GSI</b>							
<b>Gold</b>							
Bankura	Ambikapur- Ranibandh- Porapahar area	1:12500	100	-	-	-	Reconnaissance Survey (G4) for Gold in and around this area was carried out by Large-scale Mapping. An area of 100 sq km was mapped in 1:12,500 scales. The area under investigation was mainly characterised by streaky gneiss, different variants of acid volcanics, quartzite, quartz mica schist, calc silicates and metabasic rocks which were seen intruded by quartz-tourmaline and quartz vein at certain places. Two potential target zones for further search, namely Tepra zone and Narayanpur-Kheriyakocha Zone were demarcated, on the basis of Large-scale Mapping recovery of grains and flakes of gold from pan concentrate of stream sediments, termite mounds, in situ soil and rock scrap through panning and limited analytical results. Tepra zone acid volcanic rocks were found to be highly sulphidised, containing specks and stringers of pyrite, chalcopyrite and profuse arsenopyrite. They are mainly observed in strata bound quartz-carbonate (ankerite) veins and are manifested by distinct sulphide staining. The analytical results of pan concentrate from this Tepra zone have showed gold value ranging from 10 to 22 ppm and gold value in pan concentrate of stream sediments in Narayanpur-Kheriyakocha zone ranged in between 22 & 23 ppm.
<b>Multi Metal (Cu,Zn,Ni,Au,Pb and PGE)</b>							
West Medinipur	Bhulabeda- Olodchua area	1:12500	100	-	-	-	Reconnaissance Survey (G4) for multi-metal (Cu, Zn, Ni, Au, Pb and PGE) mineralisation around this area was carried out by Large-scale Mapping. A total of 100 sq km area was covered by LSM on 1:12500 scale. The northern part of the study area was seen occupied monotonously by mica schist of Chaibasa Formation, which is coarse-grained, well-foliated

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Table –4 (concl'd)

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							and crenulated containing porphyroblasts of andalusite, tourmaline, staurolite and euhedral garnet grains. Dhalbhum Formation of the area was represented by phyllite with intercalated bands of quartzite, banded iron formation and acid volcanics. Dalma Volcanics consisted of metabasalts, metaultramafites, agglomerates, gabbro, phyllites and occupy the central part of the area. The sulphide mineralisation was mostly disseminations of chalcopyrite and pyrite observed in the study area was associated with the metabasalt, amphibolites, metaultramafites and acidic tuff. Besides sulphide, magnetite and haematite were also observed in talc-schist. The metaultramafites at Gohalberia was found highly silicified and showed encouraging values for Ni (833 and 970 ppm) and Cr (2,266 and 2,378 ppm) and Cu (1,000 ppm). The BRS sample collected from quartz vein at Gohalberia reported 4,100 ppm Pb.
<b>Rare Metal</b> Purulia	Khatanga area	1:12000	0.2	-	-	20	Reconnaissance Survey (G4) for Rare Metal in this area was carried out by detailed mapping. A total of 0.2 sq km detailed mapping on the 1:2000 scale were carried out. The area comprised of mainly three litho-units viz. granite gneiss, calc-silicate rock and pegmatite. The pegmatites were emplaced within the granite gneiss. Calc silicate rocks were of various dimensions ranging from a few meters to 900 m in length and a few cm to ~100 m in width. Coarse-grained pegmatite (MCP) was the dominant variety which was composed of both fine and coarse-grained minerals. Fine-grained pegmatite behaves like matrix material within MCP and it showed sugary nature while breaking. Chemical analytical data (20 samples) showed anomalous cesium (40 to 207 ppm) and rubidium (1,000 to 2,578 ppm) values and the maximum value comes from amazonite.

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**Table – 5 : Mineral Production in West Bengal, 2017-18 to 2019-20  
(Excluding Atomic Minerals)**

(Value in ₹'000)

Mineral	Unit	2017-18			2018-19			2019-20 (P)		
		No. of mines	Qty	Value <sup>\$</sup>	No. of mines	Qty	Value <sup>\$</sup>	No. of mines	Qty	Value <sup>\$</sup>
<b>All Minerals</b>		<b>1</b>		<b>1455113</b>	<b>1</b>		<b>1455113</b>			<b>1455113</b>
Coal	'000t	-	29240	-	-	33136	-	-	33614	-
Natural Gas (ut.) + m cu m		-	531	-	-	350	-	-	306	-
Apatite	t	1	-	-	1	-	-	-	-	-
Sulphur <sup>#</sup>	t	-	40653	-	-	43627	-	-	35566	-
Minor Minerals @		-	-	1455113	-	-	1455113	-	-	1455113

*Note: The number of mines excludes fuel and minor minerals.**\$ Excluding the value of Fuel minerals. + Coal-bed Methane**# Recovered as by-product from oil refinery.**@ Figures for earlier years have been repeated as estimates because of non-receipt of data.***Table – 6 : Principal Mineral-based Industries**

Industry/plant	Capacity ( <sup>'000</sup> tpy)
<b>Asbestos Products</b>	
Everest Building Products Ltd, Kolkata	NA
Ramco Industries Ltd, Haratara, Distt Paschim Medinipur	NA
UAL Industries Ltd, Tungadhowa, Distt Paschim Medinipur	150
<b>Abrasives</b>	
Carborandum Universal Ltd, Gopalpur	NA
K.L.Thirani & Co. Ltd, Kolkata	NA
Satya Narayan Roller Floor Mill Pvt. Ltd, Chandur Tarkeshwar	MOG-303 0.35 MOG-302 0.40 MOG-M2 0.40 MOG-220 0.20 Fine-0.15
<b>Cement</b>	
ACC Ltd (Damodar Cement), Purulia (G)	750
Ambuja Cement Ltd, Sankrail, Distt Howrah (G)	2400
Ambuja Cement Ltd, Farakka, Distt Murshidabad (G)	1250
Birla Corporation Ltd (Durgapur Cement Works & Durga Hitech Cement), Durgapur (G)	2300
Burnpur Cement, Asansol, Distt Burdwan (G)	300
Century Textiles, Sonar Bangala Grinding Unit, Distt Murshidabad	1500
Emami Cement Ltd, Panagarh Burdwan	2000
Emami Cement Ltd, Kotagram, Ausgram-II	2000
JSW Cement, Salboni, P Medinipur	2400

(contd)

Table - 6 (contd)

Industry/plant	Capacity ( <sup>'000</sup> tpy)
Lafarge Cement Pvt. Ltd, Mejia (G)	1650
Maa Chandi Cement Bamunara Burdwan,	330
NUVOCO Vistas Corp. Ltd, Amdang, Bakura	1650
OCL India Ltd, , Bengal Work Mednapore	1350
Ramco Cement (formerly, Madras Cement), Kolaghat, Distt Purba Medinipur (G)	950
Shristi Cement Mangalpur	360
Swasata Cement Ltd, Purulia	1500
UltraTech Cement Works, Dhankuri Hoogly, West Bengal	1600
UltraTech Cement Ltd, WBCW (G) Burdwan	1400
<b>Ceramics</b>	
WBCDC Ltd, Kolkata	0.18
<b>Chemical</b>	
Hindustan Heavy Chemicals Ltd, Khardah, Distt 24-Parganas	14.8 (caustic soda) 6 (Cl), 9.8 (HCl) 4.5 (ferric alum) 18.7 (H <sub>2</sub> SO <sub>4</sub> )
Alchrome Chemical	1.2 (sodium bicarbonate)
Industries Kalyani, Kalyani Industrial Estate	0.6 (sodium sulphate)
<b>Electrodes</b>	
GEE Ltd, Kandua	18
Graphite India Ltd, Kolkata	NA
Radix Arc Pvt. Ltd, Dangadighila	4
Shield Arc Equipment Pvt. Ltd, Raspunja	2.5

(contd)

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Table - 6 (contd)

Industry/plant	Capacity ('000 tpy)
<b>Fertilizer</b>	
Tata Chemicals Ltd, Haldia	675 (DAP)
Tata Chemicals Ltd (Phosphatic Division), Haldia, Medinipur	160 (SSP)
Teesta Agro Industries Ltd, Rajganj, Jalpaiguri	165 (SSP)
Jay Shree Chemicals & Fertilizers, Khardah, 24 Parganas	132 (SSP) 62.70 (H <sub>2</sub> SO <sub>4</sub> )
The Phosphate Company Ltd, Rishra, Hoogly	112.8 (SSP)
Sai Fertilizers Pvt. Ltd, Dewanmara, W. Medinipur	132 (SSP)
<b>Flux</b>	
Priyanka Tradelink Pvt. Ltd	0.60
<b>Glass</b>	
Hindustan National Glass & Industries Ltd, Rishra	680 TPD
<b>Iron &amp; Steel</b>	
Durgapur Steel Plant, SAIL, Durgapur	3009 (sinter) 2400 (pig iron) 2200 (crude/liquid steel) 13.0NH <sub>4</sub> So <sub>4</sub>
IISCO Steel Plant, SAIL, Burnpur, Distt Bardhaman	2695 (pig iron) 2500 (crude/liquid steel) 3800 (sinter)
Alloy Steel Plant, SAIL, Durgapur	234 (crude/ liquid steel)
Rohit Ferrotech Ltd, Bishnupur	100 (stainless steel) 71.4 (ferroalloys)
Rashmi Metaliks Ltd, Gokulpur, West Midnipore	1800 (pellets) 580 (sinter)
<b>Pig Iron</b>	
Electrosteel Castings Ltd, Khardah	250 365 (sinter)
Jai Balaji Industries Ltd, Banskopa Distt Bardhaman	428.7 608 (sinter)
Kajaria Iron Castings Ltd, Durgapur.	110 326 (sinter)
KIC Metaliks Ltd, Raturia Angadpur, Durgapur	336 (sinter) 165 (pig iron)
Orissa Metallic Pvt. Ltd, Mathurakismat, Gokulpur	1370 (pellets) 300 (pig iron)
Shyamraipur Pachmi medinipur Unit -I & Dhekia & Chaksonadhar Pachmi Medinipur Unit II	329.72 (sponge Iron)
Rashmi Metaliks Ltd, Shyamraipur, Gokulpur, Medinipur	600 (sinter) 900 (pellets) 180 (pig iron)
Tata Metaliks Ltd, Kharagpur.	345 528 (sinter)

(contd)

Table - 6 (contd)

Industry/plant	Capacity ('000 tpy)
Tata Metaliks Ltd, Gokulpur, Maheshpur	600
Neo Metaliks Ltd, Gopalpur, Durgapur	300 (Sinter) 187.9
<b>Sponge Iron</b>	
Adhunik Corporation Ltd, Angadpur, Durgapur.	72
Ankit Metal & Power Limited Jorehira Chhatna	210 600 (pellet)
Aryavrata Steel Pvt. Ltd, Lohamelya Distt West Medinipur.	36
C. P. Sponge Iron Pvt. Ltd, Raturia Angadpur, Industrial Area Durgapur	60
C. P. Ispat Pvt. Ltd, G.T. Road Bhirigee	60
Divya Jyoti Sponge Pvt. Ltd, Nandanpur	60
Electrosteel Castings Limited, Haldia	60
Howrah Gasses Ltd, Raniganj, Distt Bardhaman.	60
Jai Balaji Sponge Ltd, Raniganj, Mangalpur Distt Bardhaman. I	105
Jai Balaji Sponge Ltd, Banskopa Distt Bardhaman. IV	120
Kunj Bihari Steel Pvt. Ltd, Jamuria Nandi	30
M. B. Sponge & Power Limited, Hijalgola Jamuria	60
Maithan Steel & Power Ltd, Bora, Bonra	60
Rashmi Ispat (Pvt.) Ltd, Jhargram Distt W. Medinipur	150
Rashmi Cement Ltd, Jetusole Jhargram Distt W. Medinipur	492.7 33 (Ferroalloys)
Ravindra Enterprise Pvt. Ltd, Digha, Purulia	30
Rishabh Sponge Ltd, Barjora, Bankura	90
SRS Sponge Pvt. Ltd, Dantia Balrampur	15
Satyam Iron & Steel co. Pvt. Ltd, Asansol	60
Sen Ferro-alloys Pvt. Ltd, Dejudi	15
Shyam Sel Ltd, Dewabidighi, Burdwan	100
Shyam Steel Industries Ltd, Anandpur, Durgappur	79
Sunil Sponge Iron Ltd, Kolkata	115
<b>Ferroalloys</b>	
Kartik Alloys Ltd, Durgapur	10.7
Bhaskar Shrachi Alloys Ltd, Durgapur	40
Corporate Ispat Alloys Ltd (Abhijit Group), Durgapur	74
Dimension Steel and Alloys Pvt. Ltd, Bakura	38
Gagan Ferro Tech. Ltd, Jamuria	138.6
Jai Balaji Industries Ltd, Durgapur (JBIL Group)	106
Jai Balaji Industries Ltd, Unit IV, Banskopa	76.5
Jai Balaji Industries Ltd, Mangalpur	30.1
Maithan Alloys Ltd, Kulti Bardhaman	94.6

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Table - 6 (contd)

Industry/plant	Capacity ('000 tpy)
Modern India Con-Cast Ltd, Bishnupur, Distt Bankura	75
Modern India Cone-Cost Ltd, Haldia	100
Nilkanth Ferro Ltd, Radhamadhavpur	39.9 (silico - manganese)
Rohit Ferro-Tech Ltd, Haldia	100.6
Shyam Ferro Alloys Ltd, Burdwan	100 (50 MVA)
Shyam Ferro Alloys Ltd, Durgapur	100 (50 MVA)
Shri Vasavi Industries Ltd, Bishnupur, Distt Bankura	45
Srinivasa Ferro Alloys Ltd, Durgapur, Distt Bardhaman	84.2
Shri Goyatri Minerals Pvt. Ltd, Bishnupur, Distt Bankura	24
<b>Refractory</b>	
Alcoa-ACC Industrial Chemicals Ltd, Kalatalahat	10
Barakar Refractories (P) Ltd, Barakar, Distt Bardhaman	3.6

(contd)

Table - 6 (concl'd)

Industry/plant	Capacity ('000 tpy)
Kero Rajendra Monolithics Ltd, Banjora	NA
National Refractories Prop. Snowtex Udyog Ltd, Salanpur	43.2
Saswat International Ltd, Kulti, Distt Bardhaman	NA
Vesuvius India Ltd, Kolkata	96.5
<b>Coke Oven Batteries</b>	
IISCO Burnpur Works, Burnpur, Distt Bardhaman	1084
<b>Petroleum Refinery</b>	
IOCL, Haldia	7500
<b>TiO<sub>2</sub> Pigment</b>	
Kolmak Chemicals Ltd, Kalyani, Distt Nadia	4.8

(G): Grinding units.

**Note:** Data, not readily available for fertilizer and cement Industries on respective websites, is taken from Indian Fertilizer Scenario, FAI Statistics, and Survey of Cement Industry & Directory.