

STATE REVIEWS



Indian Minerals Yearbook 2013 (Part- I)

52nd Edition

**STATE REVIEWS
(West Bengal)**

(FINAL 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 and is said to possess 16% china clay resources. Important minerals that occur in the State are: **apatite** in Purulia district; **coal** in Bardhaman, Bankura, Birbhum, Darjeeling, Jalpaiguri and Purulia districts; **china clay** in 24-Parganas, Bankura, Birbhum, Bardhaman, Hoogly, Midnapur and Purulia districts; and **fireclay** in Bankura, Birbhum, Bardhaman and Purulia districts.

Other minerals that occur in the State are **barytes, copper, gold, kyanite, pyrite** and

titanium minerals in Purulia district; **dolomite** in Jalpaiguri district; **felspar** in Bankura and Purulia districts; **granite** in Bankura, Birbhum and Purulia districts; **lead-zinc** in Darjeeling district; **limestone** in Bankura and Purulia districts; **manganese ore** and **sillimanite** in Midnapur district; **quartz/silica sand** in Bankura, Hoogly and Purulia districts; and **tungsten & vermiculite** in Bankura district (Table- 1). Reserves/resources of coal along with details of coalfields are provided in Table-2 & Table-3.

Exploration & Development

The details of exploration activities conducted by various agencies for coal and other minerals during 2012-13 are furnished in Table-4.

Table – 2 : Reserves/Resources of Coal as on 1.4.2013 : West Bengal

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total	13395.95	12995.28	4891.96	31283.19
Raniganj	13281.68	7273.84	4012.39	24567.91
Barjora	114.27	-	-	114.27
Birbhum	-	5721.44	864.57	6586.01
Darjeeling	-	-	15.00	15.00

Source: Coal Directory of India, 2012-13.

Table –3 : Reserves/Resources of Lignite as on 1.4.2013 : West Bengal

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total	-	1.13	1.64	2.77
Rakshitpur	-	0.29	0.86	1.15
Mahalla	-	0.64	-	0.64
Dhobbanpur	-	0.20	0.78	0.98

Source: Coal Directory of India, 2012-13.

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Table – 1 : Reserves/Resources of Minerals as on 1.4.2010 : West Bengal

Mineral	Unit	Reserves				Remaining resources					Total resources (A+B)		
		Proved STD111	Probable		Total (A)	Measured STD331	Pre-feasibility		Indicated STD332	Inferred STD333		Reconnaissance STD334	Total (B)
			STD121	STD122			STD221	STD222					
Apatite	tonne	2052517	-	-	2052517	120000	8845250	852605	666646	11709846	13762363		
Barytes	tonne	-	-	-	-	-	433000	-	-	433000	433000		
China clay	'000 tonnes	1232	185	906	2323	38	332236	80335	5826	419340	421663		
Copper													
Ore	'000 tonnes	-	-	-	-	-	113	-	-	113	113		
Metal	'000 tonnes	-	-	-	-	-	2.09	-	-	2.09	2.09		
Dolomite	'000 tonnes	-	12528	48000	60528	-	73226	104275	-	177501	238029		
Felspar	tonne	25874	-	-	25874	900000	3400000	201250	-	4501250	4527124		
Fireclay	'000 tonnes	771	104	854	1729	-	419	11115	958	13852	15581		
Gold													
Ore (primary)	tonne	-	-	-	-	-	-	-	12833333	12833333	12833333		
Metal (primary)	tonne	-	-	-	-	-	-	-	0.65	0.65	0.65		
Granite (Dim. stone)	'000 cu m	3658	-	-	3658	19827	1140	8802	-	29768	33426		
Kyanite	tonne	-	-	-	-	-	-	26520	-	26520	26520		
Lead-zinc													
Ore	'000 tonnes	-	-	-	-	-	3371	335	-	3706	3706		
Lead metal	'000 tonnes	-	-	-	-	-	130.07	10	-	140.07	140.07		
Zinc metal	'000 tonnes	-	-	-	-	-	130.42	13	-	143.42	143.42		
Limestone	'000 tonnes	-	-	-	-	7104	15482	22120	-	44706	44706		
Manganese ore	'000 tonnes	-	-	-	-	-	-	200	-	200	200		
Pyrite	'000 tonnes	-	-	-	-	-	-	2500	-	2500	2500		
Quartz-silica sand	'000 tonnes	779	-	1022	1801	11	11	4607	-	4629	6430		
Sillimanite	tonne	-	-	-	-	-	-	1653000	-	1653000	1653000		
Titanium minerals*	tonne	-	-	-	-	-	-	2279000	-	2279000	2279000		
Tungsten Ore	tonne	-	-	-	-	-	190739	400000	-	763802	763802		
Contained WO ₃	tonne	-	-	-	-	450	80.84	1000	-	1530.84	1530.84		
Vermiculite	tonne	-	-	-	-	-	490	5076	-	5566	5566		

Figures rounded off.

* Resources of ilmenite, rutile and zircon as per Department of Atomic Energy for the minerals are provided in the respective Mineral Reviews.

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Table – 4 : Details of Exploration Activities in West Bengal, 2012-13

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI							
REE							
Purulia	Parga and Alkhusa areas	1:12,500	12	7	-	120	Reconnaissance stage investigation (G-4) was carried out to delineate potential zones of Cs enrichment in the targetted rare metal enriched pegmatites and aplite host rocks for evaluation of RM/REE potential within Chhotanagpur Gneissic complex. The area is comprised by garnetiferous sillimanite gneiss, garnetiferous mica schist, quartzofeldspathic biotite gneiss, very coarse pink porphyroblastic granite gneiss, quartzites, amphibolites and calc silicate. Numerous pegmatite bodies trending E-W to ENE-WSW, varying in length from 5 m to 200 m and width from 50 cm to 35 m are present in the area and these pegmatites are mostly clustered near Damrughutu, Tatuwara and along Parga Alkusha and Chapainala sections. These pegmatites are associated with quartzofeldspathic biotite gneiss and mica schist and are composed of quartz, feldspar, tourmaline, muscovite with minor amounts of garnet and biotite. Channel samples, BRS & PTS samples were collected from this area for chemical analysis. The investigation has been completed.

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Production

The value of mineral production in West Bengal at ₹11,085 crore in 2012-13 increased by 34% as compared to the previous year. The state accounted for 4% of the value of mineral production in India. Coal alone accounted for 98% of the value of mineral production in the state and natural gas (utilised) contributed about 1% during the year under review. There was an overall upward swing in the mineral production of the state. The production doubled in the case of felspar and that of quartz 88%, silica sand 40%, natural gas (utilised) 27%,

sulphur 15%, fireclay by 14%, coal 9% and kaolin 4% as compared to the previous year.

The production value of minor minerals was estimated at ₹146 crore for the year 2012-13 (Table- 5).

The number of reporting mines in West Bengal in 2012-13 was 126 as against 123 in the previous year.

The index of mineral production in West Bengal for 2012-13 (base 2004-05 =100) was 112.3 as compared to 102.8 in the previous year.

**Table – 5 : Mineral Production in West Bengal, 2010-11 to 2012-13
(Excluding Atomic Minerals)**

(Value in ₹'000)

Mineral	Unit	2010-11			2011-12			2012-13 (p)		
		No. of mines	Qty	Value	No. of mines	Qty	Value	No. of mines	Qty	Value
All Minerals		109		29954033	123		82795647	126		110849055
Coal	'000t	98	21659	28164100	100	24230	80662100	101	26467	108398800
Natural Gas (utilised)	m cu m	-	41	262441	-	84	604239	-	107	884904
Apatite	t	1	1261	2211	1	136	295	1	-	-
Felspar	t	-	2702	1321	-	5031	1947	-	13560	2462
Fireclay	t	3	36868	4716	6	82423	7974	6	93733	14105
Kaolin	t	3	89845	37937	11	92148	37249	13	95607	53175
Quartz	t	3	16906	4194	4	16084	5000	3	30258	9495
Quartzite	t	-	-	-	-	-	-	1	300	90
Silica Sand	t	1	55000	22000	1	51130	21730	1	71772	30911
Sulphur#	t	-	25292	-	-	31749	-	-	36382	-
Minor Minerals@		-	-	1455113	-	-	1455113	-	-	1455113

Note: The number of mines excludes minor minerals.

Recovered as by-product from oil refinery.

@ Figures for earlier years have been repeated as estimates, because of non-receipt of data.

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Mineral-based Industry

Important large and medium-scale mineral-based industries located in the State with their total installed capacities are given in Table - 6.

Table - 6 : Principal Mineral-based Industries in West Bengal

Industry/plant	Capacity ('000 tpy)
Asbestos Products	
Everest Building Products Ltd, Kolkata.	NA
Ramco Industries Ltd, Haratara, Dist. Paschim Midnapur.	NA
UAL Industries Ltd, Tungadhowa, Dist. Paschim Midnapur.	150
Abrasives	
Carborandum Universal Ltd, Gopalpur.	NA
K.L.Thirani & Co. Ltd, Kolkata	NA
Cement	
Ambuja Eastern, Sankrail (G).	1000
Birla Corporation Ltd, Durgapur (G).	600
Damodar Cement, Purulia (G).	525
Ultra-Tech Cement Works, Durgapur (G).	1000
Durga Hitech Cement (G).	1000
Ceramics	
WBCDC Ltd, Kolkata.	0.18
Chemical	
Hindustan Heavy Chemicals Ltd, Khardah, Dist. 24-Parganas.	14.8 (caustic soda) 6 (Cl) 9.8 (HCl) 4.5 (ferric alum) 18.7 (H ₂ SO ₄)
Electrodes	
Graphite India Ltd, Kolkata.	NA
Fertilizer	
Jay Shree Chemicals & Fertilizers Ltd, Khardah, Dist. 24-Parganas.	159.72 (SSP) 62.70 (H ₂ SO ₄)
TCL-Haldia.	121.5 (N ₂) 310.5 (P ₂ O ₅)
Glass	
Hindustan National Glass & Industries Ltd, Rishra.	680 TPD
Iron & Steel	
Durgapur Steel Plant, SAIL, Durgapur.	3070 (sinter) 2000 (pig iron) 1586 (saleable steel) 1800 (crude/liquid steel)
IISCO Steel Plant, SAIL, Burnpur, Dist. Bardhaman.	254 (pig iron) 500 (steel ingot) 9.5 (Ammonium sulphate)
Alloy Steel Plant, SAIL, Durgapur.	178 (Saleable Steel) 264 (crude/liquid steel)

(Contd.)

Table - 6 (Concl'd.)

Industry/plant	Capacity ('000 tpy)
Pig Iron	
Electrosteel Castings Ltd, Khardah.	110
Kajaria Iron Castings Ltd, Durgapur.	110
Tata Metaliks Ltd, Kharagpur.	90
Sponge Iron	
Adhunik Corporation Ltd, Durgapur.	60
Aryavrata Trading Pvt. Ltd, Lohamelya Dist. Paschim Midnapur.	36
Howrah Gasses Ltd, Raniganj, Dist. Bardhaman.	60
Jai Balaji Sponge Ltd, Raniganj, Dist. Bardhaman.	105
Rashmi Cement Ltd, Paschim Midnapur.	60
Rashmi Ispat (Pvt) Ltd, Raghunathpur, Dist. Paschim Midnapur.	60
Shyam Sel Ltd, Dewabdighi, Bardhaman.	100
Sunil Sponge Iron Ltd, Kolkata.	115
Ferro-alloys	
Kartik Alloys Ltd, Durgapur.	10.7
Maitan Alloys Ltd, Bardhaman.	12.5
Modern India Con-Cast Ltd, Bishnupur, Dist. Bankura.	22
Rohit Ferro-Tech Ltd, Bishnupur, Dist. Bankura.	55
Corporate Ispat Alloys Ltd, Durgapur.	40
Modern India Cone Cost Ltd, Bishnupur, Dist. Bankura.	75
Shyam Ferro Alloys Ltd, Bardhaman.	100
Shri Vasavi Industries Ltd, Bishnupur, Dist. Bankura.	45
Srinivasa Ferro Alloys Ltd, Durgapur, Dist. Bardhaman.	84.2
Shri Goyatri Minerals Pvt. Ltd, Bishnupur, Dist. Bankura.	24
Refractory	
Alcoa-ACC Industrial Chemicals Ltd, Kalatalahat.	10
Barakar Refractories (P) Ltd, Barakar, Dist. Bardhaman	3.6
Kero Rajendra Monolithics Ltd, Banjora.	NA
Saswat International Ltd, Kulti, Dist. Bardhaman.	NA
Vesuvius India Ltd, Kolkata.	96.5
Coke Oven Batteries	
IISCO Burnpur Works, Burnpur, Dist. Bardhaman.	1084
Petroleum Refinery	
IOCL, Haldia.	7500
TiO₂ Pigment	
Kolmak Chemicals Ltd, Kalyani, Dist. Nadia.	4.8

(G) : Grinding units.