

STATE REVIEWS



# Indian Minerals Yearbook 2021

(Part-I)

60<sup>th</sup> Edition

**STATE REVIEWS  
(Jammu & Kashmir)**

(ADVANCE RELEASE)

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

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## JAMMU & KASHMIR

### Mineral Resources

Jammu & Kashmir is the sole holder of country's borax, sapphire and sulphur (native) resources and possesses 33% graphite, 23% marble and 14% of gypsum. Coal, gypsum and limestone are the important minerals produced in the State. **Coal** occurs in Kupwara district; **gypsum** in Baramulla & Doda districts; **limestone** in Anantnag, Baramulla, Kathua, Leh, Poonch, Pulwama, Rajauri, Srinagar & Udhampur districts; and **magnesite** in Leh & Udhampur districts.

Other minerals that occur in the State are **bauxite & china clay** in Udhampur district; **bentonite** in Jammu district; **borax & sulphur** in Leh district; **diaspore** in Rajouri & Udhampur districts; **graphite** in Baramulla district; **lignite & marble** in Kupwara district; **quartz & silica sand** in Anantnag, Doda & Udhampur districts; **quartzite** in Anantnag district; and **sapphire** in Doda district (Tables - 1 and 2).

### Exploration & Development

The details of exploration carried out by GSI in the State during 2020-21 are furnished in Table - 3.

### Production

Coal and Limestone were the principle mineral items reporting production in the state. The value of minor mineral's production is estimated as ₹ 164 crore for the year 2020-21. There were 19 reporting mines in 2020-21 in case of MCDR of minerals (Table-4).

### Mineral-based Industry

Jammu & Kashmir Cements Ltd, a State Government Undertaking, operates a cement plant of 4.00 lakh tpy capacity at Khrew in Pulwama district and 1.00 lakh tpy capacity at Samba Jammu. The Company also owns a small cement plant of 20,000 tpy capacity located at Wuyan in Srinagar district, besides two other tiny cement plants that have a total capacity of 5,20,000 tpy. Khyber Indus. (P) Ltd operates a cement plant of 3,30,000 tpy in the State. The State also has a 1,800 tpy capacity Unit that manufactures ceramic and refractory products in District Kathua. A 3,000 tpy capacity calcium carbide plant is situated at District Pulwama. J. K. Minerals Ltd has a plant of 30,000 tpy of DBM and 75,000 tpy of sized magnesite at Chipprian deposit near village Panthal in Udhampur district in the state. (Table-5)

**Table – 2 : Reserve/Resource of Lignite as on 1.4.2021: Jammu & Kashmir**

District	Proved	Indicated	Inferred	Total
<b>Total/Kupwara</b>	–	20.25	7.30	27.55

*Source: Coal Directory of India, 2020-21.*

Table – 1 : Reserves/Resources of Minerals as on 1.4.2020 : Jammu &amp; Kashmir

Mineral	Unit	Reserves			Remaining Resources				Total resources (A+B)	
		Proved STD 111	Probable STD121 STD122	Total Feasibility (A) STD211	Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334		Total (B)
Bauxite	'000 tonnes	-	-	-	1323	182	1220	-	2725	2725
Borax	tonne	-	-	-	-	-	-	74204	74204	74204
Graphite	tonne	-	-	-	-	-	1059520	61681035	62740555	62740555
Limestone	'000 tonnes	156757	15852 12881	185490 122422	67456	26704	1703261	218054	2242071	2427561
Magnesite	'000 tonnes	-	-	-	-	-	150	45	4145	4145
Sapphire	kilogram	-	-	-	-	-	450	-	450	450
Sulphur (Native)	'000 tonnes	-	-	-	-	-	210	-	210	210

Figures rounded off

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Table –3 : Details of Exploration Activities in Jammu &amp; Kashmir, 2020-21

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>Graphite</b>							
Baramulla	Boniyar area Uri Block	1:12500	50	-	-	165	Reconnaissance survey (G4) was carried for graphite and associated mineralisation in Boniyar area, Uri Block. The rock types observed in the area belonged to Salkhala, Dogras, Panjals and Quaternary sediments. The Salkhala Formation was observed to be represented by gypsum, graphite schist, milky white quartzite, quartz mica schist, limestone with intercalations of schist and gritty quartzite. Dogra Group was represented by three formations viz. Trikanjan, Baren and Chananwari formations of Mesoproterozoic Age. Panjal volcanics were usually fine-grained, light to dark green in colour with vesicles filled with secondary quartz and calcite as amygdules. Primary bedding $S_0$ was seen to be well developed in phyllite and quartzite of Baren and Chananwari formations. The gypsum and graphite were observed in Salkhalas from Maidanan in the west to Ijara in the east. These gypsum and graphite bands were found to be displaced by the N-S strike slip faults in the area. Besides, sulphide mineralization as weathered sphalerite was observed at Dachina Salamabad within quartz sericite phyllite (Baren Formation). LSM on 1:12500 scale was completed covering 50 sq.km of area along with samples collection (BRS-100 nos.), PT-(50 cu.m), PTS-(50 nos.), XRD-(5 nos.), SEM-(5 nos.) and Raman Spectroscopy-(5 nos.) for detailed analysis. About 8 samples showed 10 to 20 % fixed carbon, 7 samples showed FC from 5.40% to 9.18% and 12 samples showed FC between 0.11% and 4.83 %, respectively.
<b>Bauxite</b>							
Reasi	Salal- Haimna area	1:4000	3	-	-	19	Preliminary exploration (G3) for bauxite, REE & lithium in Salal-Haimna areas was carried out by Detail geological mapping of an area of 03 sq. km on 1:4000 scale. The study area exposed limestone and

(contd)

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Table –3 (concl'd)

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq. km)	No. of boreholes	Meterage		
							dolomite of Trikuta Formation, Quartzite and chert-brecciated quartzite of Khairikot Formation of Sirban Group of Mesoproterozoic Age. It is unconformably overlain by bauxite column comprises of pisolitic bauxite, non- pisolitic bauxite, clay, variegated clay/shale of Jangalgali Formation of Upper Cretaceous Age. The rocks of Jangalgali Formation were overlain by rocks of Subathu Formation (Carbonaceous shale with coal lenses and Fe- nodules, khaki shale with impersistent bands of Nummulitic limestone) of Palaeocene – Eocene Age. The analytical results of Major oxides and V, Ga etc. by XRF & REE with Be, Ge, Sn, Hf, Ta & U by ICMPS) Li and Cs for different types of samples was received. The bauxite samples were showing Al O 43.51% to 69.69%, SiO 10.39% to 36.44% with TiO -1.56% to 4.8%, V- 140ppm to 785ppm and Ga- 58ppm to 140ppm. The total REE (La to Lu) in the bedrock samples of bauxite ranged from 65.57 to 340.14 ppm with average of 155.16 ppm. Li values for 19 core samples indicated concentration between 166 ppm and 497 ppm with an average of 306 ppm in the top layer of the bauxite up to 3.5 to 4m depth.

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**Table – 4 : Mineral Production in Jammu & Kashmir, 2018-19 to 2020-21  
(Excluding Atomic Minerals)**

(Value in ₹'000)

Mineral	Unit	2018-19			2019-20			2020-21 (P)		
		No. of mines	Quantity	Value <sup>§</sup>	No. of mines	Quantity	Value <sup>§</sup>	No. of mines	Quantity	Value <sup>§</sup>
<b>All Minerals</b>		<b>22</b>	<b>3845383</b>		<b>17</b>	<b>3710260</b>		<b>19</b>	<b>1960163</b>	
Coal	'000t	-	13	-	-	14	-	-	10	-
Limestone	'000t	22	1228	359423	17	959	280284	18	1173	322897
Magnesite	t	-	-	-	-	-	-	1	-	-
Minor Minerals <sup>@</sup>		-	-	3485960	-	-	3429976	-	-	1637266

*Note : The number of mines excludes Fuels and Minor minerals.**§ Excludes the value of Fuel minerals.**@ Excludes data for Ladakh for 2019-20 & 2020-21 as information is not available.***Table – 5: Principal Mineral-based Industries**

Industry/plant	Capacity ('000 tpy)
Jammu & Kashmir Cement Ltd, Khrew, Pulwama	400
Jammu & Kashmir Cement Ltd, Samba Jammu.	100
Jammu & Kashmir Cement Ltd, Wuyan Srinagar.	200
Khyber Indus (P) Ltd	330

(contd)

Table-5 (concl'd)

Industry/plant	Capacity ('000 tpy)
Ceramic & Refractory Product, Kathua.	1.8
Calcium Carbide Plant, Pulwama	3
J. K. Mineral Ltd, Chipprian, Panthal, Udhampur	30 (DBM) 75 (Magnesite)
Nayyar Electrode Pvt. Ltd, Barri Brahmana	4.45