

STATE REVIEWS



Indian Minerals Yearbook 2021

(Part- I)

60th Edition

STATE REVIEWS
(Uttarakhand)

(ADVANCE RELEASE)

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UTTARAKHAND

Mineral Resources

Important minerals that are found to occur in the State are high-grade **limestone** in Almora, Bageshwar, Dehradun, Nainital, Pauri-Garhwal, Pithoragarh & Tehri-Garhwal districts; **magnesite & steatite** in Almora, Bageshwar, Chamoli & Pithoragarh districts; and **tungsten** in Almora district.

Other minerals that occur in the State are: **asbestos** in Chamoli district; **barytes & marble** in Dehradun district; **copper** in Almora, Dehradun & Pithoragarh districts; **dolomite** in Dehradun, Nainital & Tehri-Garhwal districts; **graphite** in Almora district; **gypsum** in Dehradun, Pauri-Garhwal & Tehri-Garhwal districts; **lead-zinc & silver** in Dehradun & Pithoragarh districts; and **rock phosphate** in Dehradun & Tehri-Garhwal districts (Table - 1).

Exploration and Development

GSI carried out exploration for Tungsten and REE in the State of Uttarakhand during 2020-21. Details of exploration are furnished in Table-2.

Production

Magnesite was the only important mineral item produced in Uttarakhand during 2020-21. The value of production of minor minerals was estimated at ₹ 216 crore for the year 2020-21. There were only two reporting mines in Uttarakhand and that of Magnesite only (Table-3).

Mineral-based Industry

The present status of each Mineral-based Industry is not readily available. However, the important medium and large-scale mineral-based industries in the Organised Sector in the State are furnished in Table - 4.

Table –2 : Details of Exploration Activities in Uttarakhand, 2020-21

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI Tungsten Almora &	Almora area	1:12500	-	-	-	177	Reconnaissance survey (G4) for tungsten, tin and associated mineralization around Almora, Almora District. Large Scale mapping was carried out on 1:12,500 scale during this mapping programme to delineate the potential zones of W and Sn mineralization in and around the Almora, Petshal, Jakheta, Balta and Phalsima areas. Total 50 bed rock samples, 50 nos. of channel samples and 77 nos. of panned stream sediment samples were collected and submitted for chemical analysis in respective laboratories. The stream sediment samples were collected from 2nd and 3rd order streams at accessible locations for panning and heavy concentration for chemical analysis.
REE (Rare earth Metal) Chamoli, Rudraprayag and Uttarkashi	Chardam route Pauri, Tehri	1:25000	-	-	-	145	Reconnaissance survey (G4) for RM, REE and associated strategic mineralisation along Chardam route Pauri, Tehri, Chamoli, Rudraprayag and Uttarkashi districts. The work

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Table –2 (Contd)

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							carried includes Traverse Mapping of 25 lkm in 1:12,500 scale, collection of 75 nos. of Bed Rock Samples (BRS), 25 nos. of channel/chip samples, 15 nos. of Petrological Samples (PS), 20 nos. of Fixed Carbon samples, XRD and EPMA analysis of 05 nos. of samples each. Based on field study the rocks of the study area can be grouped into four categories viz., Central crystalline rocks of undifferentiated Proterozoic age comprising quartz mica schist, Garhwal Group of Mesoproterozoic age with limestone, quartzite, amphibolites, granite gneiss, diorite and chlorite schist, Jansaur Group of Neoproterozoic age comprising phyllite and carbanaceous phyllite/schist/slate and undifferentiated Quaternary sediments. A total of 100 Bed Rock Samples (BRS) were collected from all bands of carbanaceous slate/phyllite/schist by chip and channel sampling method. Out of 100 BRS half of the samples (55 BRS) show REE values ranging from 24.71 to 415.81 ppm. V value ranges from 15 to 736 ppm. 20 Bed Rock Samples (BRS) show fixed carbon value ranging from 0.16 to 8.49%, moisture content from 0.01 to 1.14 %, volatile matter from 2.64 to 16.53 % and ash content from and 82.97 to 95.76%.

**Table-3 : Mineral Production in Uttarakhand, 2018-19 to 2020-21
(Excluding Atomic Minerals)**

(Value in ₹ '000)

Mineral	Unit	2018-19			2019-20			2020-21 (P)		
		No. of mines	Qty	Value	No. of mines	Qty	Value	No. of mines	Qty	Value
All Minerals		3		2023524	3		1649607	2		2201339
Magnesite	t	3	87123	153564	3	44209	81345	2	24437	44280
Minor Minerals @		-	-	1869960	-	-	1568262	-	-	2157059

Note: The number of mines excludes Minor minerals.

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

Table -1: Reserves/Resources of Minerals as on 1.4.2020: Uttarakhand

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						
Asbestos	tonne	-	-	-	-	-	-	-	311	-	-	311	311	
Copper														
Ore	'000 tonnes	-	-	-	-	-	-	3170	390	660	-	4220	4220	
Metal	'000 tonnes	-	-	-	-	-	-	53.45	1.44	5.15	-	60.04	60.04	
Graphite	tonne	-	-	-	-	-	-	10700	-	-	-	10700	10700	
Lead-Zinc														
Ore	'000 tonnes	-	-	-	-	-	-	3170	1790	660	-	5620	5620	
Lead metal	'000 tonnes	-	-	-	-	-	-	138.85	34.25	9.5	-	182.60	182.60	
Zinc metal	'000 tonnes	-	-	-	-	-	-	151.21	87.99	27.63	-	266.83	266.83	
Limestone	'000 tonnes	-	-	-	5035	91872	60429	29486	164879	1191059	33011	1575771	1575771	
Magnesite	'000 tonnes	8177	1782	9959	4056	602	33873	58902	58756	73287	-	229476	239434	
Rock Phosphate	tonne	-	-	-	3063503	-	1734370	2760000	-	16620513	-	24178386	24178386	
Silver														
Ore	tonne	-	-	-	-	-	-	1600000	1400000	390000	-	3390000	3390000	
Metal	tonne	-	-	-	-	-	-	134	4.2	0.39	-	138.59	138.59	
Tungsten														
Ore	tonne	-	-	-	-	-	-	-	138000	-	520000	658000	658000	
Contained														
WO ₃	tonne	-	-	-	-	-	-	-	25	-	680	705	705	

Figures rounded off.

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Table – 4: Principal Mineral-based Industries

Industry/plant	Capacity ('000 tpy)
Abrasives	
Tirupati Microns, Bhagwantpur, Kashipur, Udham Singh Nagar	0.15 (Abrasives Powder)
Cement	
The KCP Ltd, Distt Haridwar (G)	1100
Ambuja Cement, Roorkee, Distt Haridwar (G)	1000
Shree Cement, Roorkee, Distt Haridwar (G)	1800
Shree Cement, Laskar Grinding unit Akbarpur-ODU, Laskar	1800
DBM	
Almora Magnesite Ltd, Village-Matela Distt. Bageshwar	24 (DBM, calcined & semi calcined magnesite)
Minerals & Refractories. Haldwani Pithoragarh	3 (DBM)
Ramesh Chandra Binjola, Kumaon Refractories, Narsingh Talla, Haldwani	8(DBM, calcined magnesite)
Glass	
Hindustan National Glass & Industries Ltd, Rishikesh	4395 TPD
G: Grinding Unit	