

STATE REVIEWS



Indian Minerals Yearbook 2021

(Part- I)

60th Edition

STATE REVIEWS
(Assam)

(ADVANCE RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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July, 2023

ASSAM

Mineral Resources

Coal, petroleum & natural gas, limestone, fuller's earth, sillimanite and minor minerals are the chief mineral resources of the State. **Coal** occurs in Mikirs Hills, Dilli-Jeypore, Makum and Singrimari coalfields. Coal extracted from the State is friable and contains high sulphur. **Petroleum & natural gas** occurs in Digboi oilfields, Lakhimpur district and at Moran Rudrasagar oilfields in Sivasagar district located in Assam Arakan Fold Belt (AAFB), Upper Assam and Assam basins. **Limestone** occurs in Karbi Anglong, North Cachar Hills and Nowgaon districts. Besides, **china clay** occurs in Karbi

Anglong and North Lakhimpur districts; **fireclay** in Dibrugarh, Karbi Anglong, North Cachar Hills & North Lakhimpur districts; **fuller's earth** in Nalbari district; **granite** in Goalpara, Kamrup & Karbi Anglong districts, **iron ore (haematite)** in Kokrajhar district; **iron ore (magnetite)** in Dhubri, Goalpara & Kokrajhar districts; **quartz/silica sand** in Nowgaon district; and **sillimanite** in Karbi Anglong & Nowgaon districts. The reserves / resources of coal and minerals are furnished in (Tables - 1 and 2).

Exploration & Development

GSI carried out exploration for REE and Tungsten in Assam during 2020-21. Details of the activities are furnished in Table-3.

Table – 1: Reserves/Resources of Coal as on 1.4.2021 : Assam

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total	465	57	3	525
Singrimari	-	14	-	14
Makum	432	21	-	453
Dilli-Jeypore	32	22	-	54
Mikir Hills	1	-	3	4

Source: Coal Directory of India 2020-21.

Table – 2 : Reserves/Resources of Minerals as on 1.4.2020 : Assam

Mineral	Unit	Reserves			Remaining resources						Total Resources (A+B)			
		Proved STD111	Probable STD121 STD122	Total (A)	Feasibility STD211	Pre-feasibility STD221 STD222	Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334		Total (B)		
Iron Ore (Haematite)	'000 tonnes	-	-	-	-	-	-	8600	22290	-	-	30890	30890	
Iron Ore (Magnetite)	'000 tonnes	-	-	-	-	-	-	-	15380	-	-	15380	15380	
Limestone	'000 tonnes	23442	-	164687	188130	170039	27593	100319	67000	39859	1278730	-	1683540	1871670
Sillimanite	tonne	-	-	-	-	-	-	850000	6700	3748000	4604700	4604700	4604700	

Figures rounded off

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Table – 3 : Details of Exploration Activities in Assam, 2020-21

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq. km)	No. of boreholes	Meterage		
GSI							
Molybdenum							
Kamrup Metropolitan	Helagog Khaloibari	1:2000	3	-	-	-	Preliminary exploration for molybdenum and associated mineralization in the area between Helagog - Khaloibari, Kamrup Metropolitan district, Assam (G3): Detailed geological mapping of 03 sq. km on 1:2000 scale, geophysical survey of 3 sq. km of magnetic and gravity, 25 Lkm of both resistivity and IP surveys were carried out during the course of the work. Molybdenite-bearing pegmatite veins were well exposed in the Helagog and Khaloibari quarry sections. In Helagog quarry, at least four molybdenite bearing pegmatite veins were noticed which occurred either as dikes (veins) or as segregations or as pods. The length of the veins ranges from 3 m to 21 m with width ranging from 0.15 m to 12 m in anastomosing pattern. In Khaloibari quarry, in addition to the previously reported two molybdenite-bearing pegmatite veins, six molybdenite bearing pegmatite veins were recorded distributed over the length of 38 m to 40 m with wide spacing. The length of the pegmatite veins range from 5m to 15 m with thickness from 0.2 m to 0.7 m with with a few veins occurring as segregations with random orientations. Chemical analysis showed value of tungsten (W) ranging from 85.264 to 169.301 ppm from samples collected from pyrite-chalcopyrite bearing pegmatite veins in Helagog quarry and anomalous concentration of fluoride (F) from 104 to 1,200 ppm.
Gold							
Lakhimpur & Dhemaji	Subansiri basin	1:12500	100	-	-	-	Reconnaissance survey for placer gold in Subansiri basin, Lakhimpur and Dhemaji districts, Assam aided with large-scale mapping of 100 sq. km on 1: 12500 scale for the detailed study of gold grains/nuggets in consort with other heavy minerals and possible source area. Four definite mineralised blocks were identified that had terraces (T ₁ and T ₄) and pebbly horizon of Kimin Formation (Upper Siwalik) that was reported by auriferous. Block-I comprised a total area of 3.4 sq km. It was boulder-pebble horizon of T ₄

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Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq. km)	No. of boreholes	Meterage		
							and was the major auriferous zone. It had an average thickness of 4.7m and an average of 13 gold flakes/cu.m were recovered from this horizon. Block-II was 2.1 sq km in area with average thickness of 0.62m of mineralised pebble horizon. Gold flakes of 3 grains/cu.m were recovered. Block-III had an area of 5.5 sq km with average thickness of 0.56 m of pebble horizon. Average gold flakes of 3 grains/cu.m were recovered. Block-IV also occupied the channel bars and point bar of River Subansiri . Average gold flakes of 4 grains/cu. m were recovered. The size of the biggest flake recorded was about 1.9 mm in length. Gold flake in heavy mineral concentrations collected from a 8m–12 m thick Pebble,Cobbles, Boulders Horizon of Corramore Formation (T4 terrace) at right bank of River Dirpai, Dirpai Adigaon. Gold nuggets of ~1.5mm, 0.1mm and ~0.4mm from PTS sample were also reported.
REE							
Assam	Panbari	1:12500	-	11	-	10	Reconnaissance survey for REE in Panbari–Geleki area, Karbi Anglong district, Assam (G4): Large-scale mapping (in 1:12500 scale) was carried out with an objective to delineate prospective zones enriched with REE and resource estimation. The granites of the study area showed both porphyritic and medium grained nature. Both these granites were highly weathered and had intermittent regolith development (up to 10 m.) having distinct A, B and C horizons. The highly leached B horizon thickness varied from 0.2 to 0.5 m and least weathered C horizons extended up to 4 meters in thickness. The preliminary geochemical classification of granitoids suggested that they A-type within plate granites with meta-aluminous nature. The REE concentration (10 BRS samples) from granite samples ranged from 300–500 ppm. The presence of REE phases like zircon, monazite, xenotime, apatite grain in the granites (up to 1%) suggests that the study area has potential REE mineralisation.
Karbi Anglong	Geleki						

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Production

Petroleum (crude), Natural gas (ut.), Coal and Limestone were the principal minerals produced in Assam in 2020-21. The value of minor minerals'

production was estimated at ₹. 31 crore for the year 2020-21. There were 3 reporting mines in 2020-21 in Assam in case of MCDR minerals (Table - 4)

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

		2018-19			2019-20			2020-21 (P)		
Mineral	Unit	No. of mines	Quantity	Value ^{\$}	No. of mines	Quantity	Value ^{\$}	No. of mines	Quantity	Value ^{\$}
All Minerals		3		845538	3		814755	3		782482
Coal	'000t	-	784	-	-	517	-	-	36	-
Natural Gas (ut.)	m cu m	-	3289	-	-	3141	-	-	2995	-
Petroleum (crude)	'000t	-	4309	-	-	4093	-	-	3902	-
Limestone	'000t	3	1652	531733	3	1552	500950	3	1552	468677
Sulphur [#]	t	-	7100	-	-	5955	-	-	6447	-
Minor Minerals [@]		-	-	313805	-	-	313805	-	-	313805

Note : The number of mines excludes Fuel and Minor minerals.

\$ Excludes the value of Fuel minerals.

Recovered as by-product from oil refinery.

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

Mineral-based Industry

The present status of each mineral-based industry is not readily available. However, as per the

available information, the principal mineral-based industries in the Organised Sector in the State are furnished in Table - 5.

Table – 5 : Principal Mineral-based Industries

Industry/plant	Capacity ('000 tpy)
Asbestos Products	
Assam Roofing Ltd, Bonda, Distt. Kamrup.	58
Cement	
Barak Valley Cements Ltd, Jhoom basti, Badarpurghat, Distt. Karimganj.	330
Calcom Cement (Dalmia Subsidiary), Distt. Nagaon.	1720
CCI Ltd, Bokajan, Distt. Karbi Anglong.	200
Cement Manufacturing Co. Ltd, Chamata Pathar, P. O. Sonapur, Distt. Kamrup (G).	2000
Purbanchal Cement, Vill. Sarutari, Distt. Kamrup	360
Topcem Cement Gauripur Kamrup	660
Fertilizer	
Assam State Fertilizer & Chemicals Ltd, Chandrapur, Distt. Kamrup (H ₂ SO ₄)	33 (SSP) 16.5

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Table – 5 (contd)

Industry/plant	Capacity ('000 tpy)
Brahmaputra Valley Fertilizers Corpn. Ltd, (Urea)	510
Namrup (Namrup II & III), Distt. Dibrugarh. Progressive Fertichem Pvt. Ltd, Topatoli, Kamrup.	45 (SSP)
Iron & Steel	
Shri Ganapati Ispat Pvt Ltd, Tinsukia.	NA
Petroleum Refinery	
Indian Oil Corporation, Bongaigaon.	2350
Indian Oil Corporation, Moonmati, Guwahati.	1000
Indian Oil Corporation, Digboi.	650
NRL, Numaligarh, Golaghat.	3000

Note: Data, as not readily available for fertilizer and cement industries on respective websites, was taken from Indian Fertilizer Scenario, FAI Statistics, and Survey of Cement Industry & Directory, respectively. As per Rule-45 of MCDR, 2017, a total of 36 companies are registered with IBM as given in <https://ibm.gov.in/writereaddata/files/05102020114426ASSAMALL.pdf>