Indian Minerals Yearbook 2020

(Part- I)

59th Edition

STATE REVIEWS (Telangana)

(ADVANCE RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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TELANGANA

The write up for this State is being presented for the first time in the Yearbook. The State is carved out of Andhra Pradesh and efforts have been made to give a clear picture about the areas/districts falling under the state; however, there are chances of intermixing of data between Andhra Pradesh and Telangana, it will be sorted out in next edition.

Telangana is the 29th State of India, formed on the 2nd of June 2014 with ten districts, namely; Hyderabad, Adilabad, Khammam, Karimnagar, Mahbubnagar, Medak, Nalgonda, Nizamabad, Rangareddy and Warangal. Telangana is surrounded by Maharashtra and Chhattisgarh in the North, Karnataka in the West and Andhra Pradesh in the South and East directions.

Mineral Resources

Telangana is the leading producer of barytes, dolomite, feldspar, laterite, limestone, Quartz and Sand (others). It accounts for 47% kyanite, 29% corundum, 10% fuller's earth and 9% limestone resources of the country. Telangana is endowed with the internationally known black, pink, blue and multicoloured varieties of granites.

Important minerals occurring in Telangana are: **barytes** in Khammam, district; **china clay** in Adilabad, Mahabubnagar, Nalgonda, Rangareddi, and Warangal districts; **coal** in Adilabad, Karimnagar, Khammam and Warangal districts; **corundum** in Khammam district; **dolomite** in Khammam, and Warangal districts; **felspar** in Hyderabad, Khammam, Mahabubnagar, Medak, and Rangareddy districts; **fireclay** in Adilabad, and Nalgonda districts; **garnet** in Khammam district; **granite** in Karimnagar, Khammam, Mahabubnagar, Medak, Nalgonda, Rangareddy, and Warangal districts; **iron ore (hematite)** in Khammam district; **iron ore (magnetite)** in Adilabad, and Warangal districts; **limestone** in Adilabad, Hyderabad, Karimnagar, Mahabub-nagar, Nalgonda, Rangareddy, districts; **manganese ore** in Adilabad district; **mica** in Khammam districts; **quartz/ silica sand** in Hyderabad, Khammam, Mahabubnagar, Medak, Nalgonda, Rangareddy and Warangal districts; and **talc/soapstone/steatite** in Khammam district.

Other minerals that occur in the State are **chromite, copper, graphite and kyanite** in Khammam district; **fuller's earth** in Medak and Rangareddy districts; and **marble** in Khammam district (Tables - 1 and 2).

Exploration & Development

The details of exploration activities conducted by GSI for Iron Ore, Chromite and other minerals during 2019-20 are furnished in Table - 3.

Production

Production of minerals like Coal, Manganese ore, Limestone etc. were reported from Telangana.

The value of minor minerals' production was estimated at ₹ 14377 crore for the year 2019-20.

The number of reporting mines was 36 in 2019-20 in case of MCDR minerals. (Table-4).

Mineral-based Industry

The present status of each mineral-based industry is not readily available. However, the important mineral - based industries in the organised sector in the State are given in Table - 5.

Table – 2: Reserves/Resources of Coal as on 1.4.2020 : Telangana

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total/Godavari Valley	10840.88	8521.40	2862.84	22225.12

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

Table –1: Reserves/Resources of Minerals as on 01.04.2015: Telangana

Mineral	Unit	Reserves				Remaining Resources								Total resources (A+B)
		Proved	Probable		Total (A)	Feasibility	Pre-feasibility		Measured	Indicated	Inferred	Reconnaissance	Total	
		STD 111	STD121	STD122		STD211	STD221	STD222	STD331	STD332	STD333	STD334	(B)	
Barytes#	tonne	1324582	-	403420	1728002	112320	45400	130061	-	12940	711239	-	1011960	2739962
ChinaClay#	'000 tonnes	623	322	-	945	2902	1059	655	-	-	10602	132	15350	16295
Chromite	'000 tonnes	-	-	-	-	-	-	-	-	15	171	-	186	186
Copper														
Ore	'000 tonnes	-	-	-	-	-	666	-	-	-	-	-	666	666
Metal	'000 tonnes	-	-	-	-	-	9.12	-	-	-	-	-	9.12	9.12
Corundum	tonne	-	-	-	-	5824	-	9282	-	-	62007	-	77113	77113
Dolomite#	'000 tonnes	42072	-	651	42723	2869	1594	1944	-	132511	6380	-	145298	188021
Feldspar#	tonne	8244089	526905	1231579	10002573	3163212	543605	1938177	134417	3890572	3657219	57940	13385142	23387715
FireClay#	'000 tonnes	762	-	-	762	667	746	-	-	758	8514	-	10684	11446
Fuller's Earth##	tonne	-	-	-	-	-	-	-	-	-	25523983	-	25523983	25523983
Garnet	tonne	15097	-	-	15097	47090	42033	-	-	-	1855976	-	1945099	1960196
Granite (Dimension Stone)##	'000 cum	-	-	-	-	-	-	-	-	-	45494	-	45494	45494
Graphite	tonne	-	-	-	-	-	-	-	-	123636	95818	-	219455	219455
Iron ore (Haematite)	'000 tonnes	509	-	-	509	973	483	-	-	-	23977	27240	52673	53181
Iron ore (Magnetite)	'000 tonnes	-	-	-	-	-	-	-	-	-	71500	14	71514	71514
Kyanite	tonne	-	-	-	-	-	-	-	-	-	48350000	-	48350000	48350000
Laterite#	'000 tonnes	36471	8213	2426	47110	6439	828	2536	-	-	6483	305	16591	63701
Limestone	'000 tonnes	625569	195	400766	1026529	254912	28110	92020	113416	921577	11710694	3038478	16159208	17185736
Manganese ore	'000 tonnes	156	3	196	355	2	-	46	-	886	203	76	1214	1568
Marble##	'000 tonnes	-	-	-	-	-	-	-	-	-	3	-	3	3
Mica#	kilograms	-	-	-	-	-	-	584885	-	-	-	-	584885	584885
Quartz & Silica Sand#	'000 tonnes	18541	1367	6916	26824	10334	2414	8365	159	3107	28642	230	53250	80074
Shale#	'000 tonnes	13852	-	-	13852	-	-	-	-	-	-	-	-	13852
Talc -Steatite - Soapstone#	'000 tonnes	-	-	-	-	-	-	-	-	-	20	-	20	20

Figures rounded off.
 # Declared as Minor Minerals vide Gazette Notification dated 10.02.2015
Minor Minerals before Gazette Notification dated 10.02.2015.

Table –3 : Details of Exploration Activities in Telangana, 2019-20

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI							
Iron Ore							
Bhadradri-Kothagudem	Gottugudem-Kondipalle block	1:12500	100	-	-	-	Reconnaissance survey (G-4) was carried out for Iron Ore (BMQ) exploration in the Gottugudem-Kondipalle block, in parts of Bhadradri- Kothagudem District. The item was carried out in Telangana, East Godavari District, Andhra Pradesh and Sukma District of Chhattisgarh. LSM has been covered in 100 sq km area on 1:12,500 scale. Quartz mica schist, fuchsite quartzite, ferruginous quartzite, Banded Magnetite Quartzite (BMQ), garnetiferous calc granulite and garnetiferous amphibolite occur as enclaves of older supracrustal of Sukma Group within the granite gneiss of Sukma Group. A total of 18 BMQ bands were identified in the block area, out of which 3 BMQ bands were mapped at Gottugudem, Kondipalle and Marrayagudem hillocks. BMQ is associated with quartzite and quartz grunerite schist. The analytical results received for BMQ samples show Fe2O3 values varying from 34 to 53% with an average of 44%.
Chromite and PGE							
Bhadradri Kothagudem and Khammam	Himmamnagar-Vinobhanagar blocks of the Chimalpahad mafic-ultramafic complex	1:2000	2.6	-	-	-	Preliminary exploration(G3) was carried out for Chromite and PGE mineralisation, in Himmamnagar-Vinobhanagar block of the Chimalpahad mafic-ultramafic complex, in parts of Khammam and Bhadradri Kothagudem districts. The item involved DM and Geophysical Surveys (Gravity and Magnetic) in 2.6 sq. km area on 1:2000 scale. Chromite mineralisation is associated with ultramafic rocks of Chimalpahad complex. Ultramafics are chromiferous with phaneric chromite grains. These occur as lenses and plugs within the pyroxenite and layered anorthosite. There are 2-3 small bodies of ultramafic outcrops mapped in the block area. In situ chromite

(contd)

Table – 3 (contd)

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							mineralisation associated with ultramafic rocks is very scanty, however, in few locations in situ outcrops provide clue on the nature of chromite mineralisation. Detailed geophysical gravity and radiometric surveys were conducted in 100 m x 100 m grid interval. Residual gravity values range from 0.2 to 2 m Gal and eight major high gravity anomaly zones were demarcated. High anomaly zones reflected over chromiferous pyroxenite and anorthosite with float ore in northern, western and central parts of the block and are in circular and curvilinear pattern. Analytical results of bedrock samples show maximum value of Cr2O3 as 54.82%. In 25 soil samples, the maximum Cr value recorded is 1598 ppm.
REE							
Jogulamba Gadwal	Dharur-Dornala Block	-	-	-	-	-	Reconnaissance survey (G4) was carried out for search of Gold in parts of Gadwal Schist Belt (GSB) and possible tungsten, REE and rare metal (RM) mineralisation inassociated pegmatite and PGC-II in Dharur-Dornala Block, Jogulamba Gadwal District.The investigated block comprises metapelite, amphibolite schist, meta-basalt, talc-tremolite schist with thin intercalations of cherty bands/meta-rhyolite of GSB surrounded by granitoids of PGC-II which is represented by hornblende biotite granite and alkali feldspar granite both of which are traversed by younger intrusive of pegmatite, quartz reef and dolerite dykes. Quartz carbonate veins have altered the meta-basalt and have disseminated specks of arsenopyrite, pyrite etc. The analytical results received so far for gold and REE, in general are not encouraging.
Gold, REE, Tin and Tungsten							
Jogulamba Gadwal and Wanaparthy	Atkur area	-	-	-	-	-	Reconnaissance survey (G4) was carried out for the search of Gold and possible REE, tin and tungsten mineralisation in Atkur area in Gadwal schist belt and associated

(contd)

Table – 3 (contd)

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							pegmatite was taken up in Jogulamba Gadwal and Wanaparthy districts. The investigated area is represented by the variants of meta-basalt (massive, pillowed and schistose), meta-andesite/rhyolite and tuffaceous rocks belonging to Gadwal Group surrounded by rocks belonging to PGC-II. The meta-basalt in the area is traversed by the network of quartz vein, quartz-K-feldspar vein and quartz-carbonate-k-feldspar veins Surface manifestation of mineralisation is observed in the form of sulphide mineralisation such as pyrite, pyrrhotite, chalcopyrite, bornite, stains of malachite, and alteration zones within metabasalt due to fluid activity. The analyses of gold value for 78 bedrock samples out of 200 submitted samples are received and none of the samples yielded encouraging value. However, 2 stream sediment samples out of 10 samples collected from the first and second order streams which drains out from the schist belt yielded 15.02 ppm and 2.66 ppm gold value. There are number of pegmatite veins which intrude into granodiorite and migmatitic gneiss and were sampled for REE, tin, tungsten analysis.
Daimond							
Wanaparthy and Nagarkurnool	Thoodukurthy block	-	-	-	-	-	Reconnaissance survey(G4)was carried out for primary source rocks of Diamond in Thoodukurthy block, inparts of Wanaparthy and Nagarkurnool districts. The heavy mineral concentrates (HMCs) were scanned under stereo zoom binocular microscope for suspected heavy minerals like garnet, ilmenite and pyroxene on the basis of shape, texture, lustre and colour for kimberlitic indicator minerals (KIM's). The mineral chemistry of the suspected KIM's from EPMA analysis indicates that the garnet

(contd)

Table – 3 (contd)

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							grains were low in Cr_2O_3 content, ilmenite grains showed low MgO content and falling in non-kimberlite fields. So, the suspected heavies were nonkimberlitic origin as per the EPMA result received.
Diamond							
Mahabubnagar, Jogulamba Gadwal and Wanaparthy	Atmakur block north of River Krishna	-	-	-	-	-	Reconnaissance survey for (G4)was carried out primary source rocks of Diamond in Atmakur block, north of River Krishna, in parts of Mahabubnagar, Jogulamba Gadwal and Wanaparthy districts. The heavy mineral concentrates (HMCs) were scanned under stereo-binocular microscope for identifying Kimberlite Indicator Minerals (KIM's). Suspected KIM's were analysed with Electro Probe Micro Analyser (EPMA) and the analytical result for garnet, ilmenite (low MgO content), pyroxenes indicated that the mineral grains were of crustal origin, not from upper mantle.
Basemetal and Gold							
Nalgonda	Keshamnenipalle-Thungathurthy block in Peddavuru Schist Belt	1:12500	125	-	-	-	Reconnaissance survey was carried out for Basemetal and Gold mineralisation at Keshamnenipalle-Thungathurthy block in Peddavuru Schist Belt, Nalgonda district, Telangana (G4): LSM on 1:12,500 scale for 125 sq km area was done along with geophysical mapping and geochemical sampling. The geophysical survey includes magnetic, SP, IP and resistivity study of 45 L km. Mineralisation in the area was found in the form of disseminated specs of pyrite, chalcopyrite, malachite, covellite, bornite and rare galena within meta-basalt, meta-rhyolite and mafic rich granite. These sulphides are mainly observed along very thin quartz-epidote/quartz-carbonate veinlets intruded within meta-basalt and mafic rich granite along the foliation plane. The geochemical results received so far shows maximum 0.13% Cu value.

(contd)

Table – 3 (concld)

Agency/ Mineral/ District	Location Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
Directorate of Mines & Geology / Telangana State Mineral Development Corporation Ltd. Telangana Limestone							
Suryapet,	Mellacheruvu village & Mandal (Mellacheruvu cluster-1)	1:12,500	57.77	6	314.00	417	G4 stage exploration led to estimation of about 367.72 million tonnes of cement grade limestone resources with an average CaO 48.01%. During reconnaissance survey, potential area of 41.45 sq.km of cement grade limestone has been identified within cluster for further G3/G2 stage exploration.
Suryapet	Mattampally village & Mandal (Mattampally cluster-2)	1:12,500	14.65	4	200.00	226	G4 stage exploration led to estimation of about 59.50 million tonnes of cement grade limestone resources with an average CaO 46.97%. During reconnaissance survey, potential area of 8.38 sq.km of cement grade limestone has been identified within cluster for further G3/G2 stage exploration.
Suryapet	Raghunath-apalem village, Mattampally Mandal (Mattampally cluster-3)	1:12,500	46.58	4	200.00	327	G4 stage exploration led to estimation of about 158.21 million tonnes of cement grade limestone resources with an average CaO 47.55%. During reconnaissance survey, potential area of 31.73 sq.km of cement grade limestone has been identified within cluster for further G3/G2 stage exploration.
Nalgonda	Wazigudem. Irkigudem village, Dhameracherla Mandal (Cluster-4)	1:12,500	18.12	4	143.00	169	-
Suryapet	Ramapuram village, Mellacheruvu Mandal (Ramapuram Cluster-5)	1:12,500	55.87	2	100.00	111	G4 stage exploration led to estimation of about 45.58 million tonnes of cement grade limestone resources with an average CaO 46.87%. During reconnaissance survey, potential area of 12.19 sq.km of cement grade limestone has been identified within cluster for further G3/G2 stage exploration.
Suryapet	Dondapadu village, Mellacheruvu Mandal (Dondapadu Cluster-6)	1:12,500	46.82	4	197.00	241	G4 stage exploration led to estimation of about 45.20 million tonnes of cement grade limestone resources with an average CaO 44.89%. Further, a G3/G2 level exploration work will be taken up in the delineated cement grade limestone block.

Table – 4: Mineral Production in Telangana, 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$	No. of mines	Qty	Value$	No. of mines	Qty	Value$
All Minerals		**36**		**113287672**	**36**		**184264230**	**36**		**148977791**
Coal	'000t	-	62010	-	-	65160	-	-	65703	-
Iron Ore %	'000t	-	6	4514	-	2	1290	-	-	-
Manganese Ore	t	5	17373	80232	6	10735	59666	5	7770	50570
Limestone	'000t	31	27367	5464824	30	30895	6078898	31	26161	5159281
Minor Minerals		-	-	107738102	-		-178124376	-		- 143767940

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

$ Excluding the value of Fuel minerals.

% Associated mines.

Table – 5 : Principal Mineral-based Industries

Industry/plant	Capacity ('000 tpy)
Aluminium Foil	
Hindalco, Kollur, Medak	4
Asbestos Products	
Bhagyanagar Wood Plast Ltd, Nandikandi, Distt Medak	60
Hyderabad Industries Ltd, Sanathnagar, Distt Rangareddy	160
Hyderabad Industries Ltd, Thimmapur	230
J.J. Spun Pipe Industries, Arsapalli, Distt Nizamabad	4.5
Visaka Industries Ltd, Medak	36
Bleaching Clay	
Ashapura Clay Tech. Ltd, Dharur, Distt Rangareddy	20 (Fuller's earth granules) 15 (Bentonite granules)
Cement	
Anjani Portland Cements Ltd (Subs. of Chettinad Cement), Anjanipuram, Distt Nalgonda	1200
CCI Ltd, Tandur, Distt Rangareddy	1000
Bheema Cement Nalgonda	900
Greygold Cement Nalgonda	90
Deccan Cements Ltd, Bhavanipuram, Distt Nalgonda	2300
India Cement Ltd, Malkapur Distt Rangareddy	2400
India Cement (Raasi Cements), Vishnupuram Distt Nalgonda	3500
Keerthi Industries Ltd, Mellacheruvu, Distt Nalgonda	590
Kesoram Cement, Basantnagar, Distt Karimnagar	6000
Mancherial Cement Co. (P) Ltd, Mancherial, Distt Adilabad	330

(contd)

Table-5 (Contd.)

Industry/plant	Capacity ('000 tpy)
My Home Cement Industries Ltd, Mellacheruruvu, Distt Nalgonda	3300
NCL Industries Ltd, Simhapuri, DisttSuryapet	2000
Orient Cement, Devapur, Distt Adilabad	3000
Penna Cement Industries Ltd, Tandur, Distt Rangareddy	2000
Penna Cement Industries Ltd, Ganeshpahad, Distt Nalgonda	1200
Rain Commodities Ltd (Rain Cements), Ramapuram, Distt Nalgonda	4000
Sagar Cements Ltd, Mattampally, Distt Nalgonda	2650
Sri Lalita Cement, Mattampally, Distt Nalgonda	1000
Zuari Cements Ltd (Sri Vishnu Cements Works), Dondapadu, Sitapuram, Distt Nalgonda	1200
Ceramic/Sanitaryware	
Hindustan Sanitaryware & Industries Ltd, Bibinagar, Distt Nalgonda	1.8
Montana International Ltd, Faralwadi, Distt Medak	3.6
Restile Ceramics Ltd, Malkapur. Distt Medak	1.4 (mill. sq m)
Fertilizer	
Chemtech Fertilizers Ltd, Kazipalli, Medak	33 (SSP)
Sponge Iron	
Ashirwad Steels & Ind. Ltd, Veliminedu, Distt Nalgonda	60
Anand Metallics & Power Pvt. Ltd, Kodi Cherla, Distt Mahabubnagar	24
Binjusaria Sponge & Power Pvt. Ltd, Farooq Nagar, Distt Mahabubnagar	30

(contd)

Table - 5 (contd)

Industry/plant	Capacity ('000 tpy)
Lakshmi Gayatri Iron & Steel, Kethepally Distt Nalgonda	60
NMDC (Sponge Iron Division), Paloncha, Khammam.	60
Reactive Metals of India Ltd, Appajipally Distt Mahabubnagar.	36.5
Sunder Steels Ltd, S.D. Road, Secunderabad.	36
Ferro-alloys	
Nav Bharat Ferro Ventures Ltd, Paloncha, Distt Khammam.	125
Shree Raghvendra Ferro alloys Pvt Ltd, Nalgonda.	15
VBC Ferro Alloys Ltd, Rudraram, Distt Medak.	48 (silico-manganese) 32.4 (ferro manganese)
Refractory	
MPR Refractories Ltd, Medak.	9.5
Raasi Refractories, Narketapally, Distt Nalgonda.	35

(contd)

Table - 5 (concld)

Note: *Data, souled from FAI Statistics and Survey of Cement Industry & Directory.*