

STATE REVIEWS



Indian Minerals Yearbook 2022

(Part- I)

61st Edition

**STATE REVIEWS
(Andhra Pradesh)**

(ADVANCE RELEASE)

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

Indira Bhavan, Civil Lines,
NAGPUR – 440 001

PHONE/FAX NO. (0712) 2565471
PBX : (0712) 2562649, 2560544, 2560648
E-MAIL : cme@ibm.gov.in
Website: www.ibm.gov.in

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STATE REVIEWS

Table -1: Reserves/Resources of Minerals as on 01.04.2020: Andhra Pradesh

Mineral	Unit	Reserves					Remaining Resources					Total resources (A+B)
		Proved STD 111	Probable STD121	Total (A)	Feasibility STD211	Pre-feasibility STD221	Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334	Total (B)	
Apatite	Tonne	27715	-	1680	29395	-	-	-	200163	-	200163	229558
Asbestos	Tonne	-	-	-	684839	39126	16553	-	55936	-	797995	797995
Bauxite	000' Tonnes	-	-	-	-	-	-	188971	138120	288176	-	615267
Chromite	000' Tonnes	-	-	-	-	-	-	-	-	#	-	#
Copper												
Ore	000' Tonnes	-	-	-	686	-	105	-	5791	1000	-	7582
Metal	000' Tonnes	-	-	-	6.88	-	1.05	-	97.45	8.32	-	113.7
Diamond	Carat	-	-	-	-	-	-	200483	1524317	98155	-	1822955
Garnet	Tonne	-	-	-	1196087	237025	1359988	18	8800000	5674011	-	17267129
Gold												
Ore (Primary)	Tonne	3221400	-	36700	3258100	2485133	1857500	1548115	55000	6236150	-	12472898
Metal (Primary)	Tonne	5.24	-	0.06	5.3	11.87	3.99	4.92	0.17	19.84	-	41.87
Graphite	Tonne	-	-	-	-	-	-	1135	0	1122	1136018	1138275
Iron Ore (Haematite)	000' Tonnes	32893	-	11851	44744	42461	68382	66330	377	5863	144374	23085
Iron Ore (Magnetite)	000' Tonnes	-	-	-	-	114210	-	-	13800	1266666	68527	9180
Kyanite	Tonne	-	-	-	-	-	-	399	-	-	32003829	-
Lead-Zinc Ore												
Ore	000' Tonnes	-	-	-	-	-	-	-	1000	4159	17530	-
Lead metal	000' Tonnes	-	-	-	-	-	-	-	28.7	119.53	688.65	-
Zinc metal	000' Tonnes	-	-	-	-	-	-	-	12.4	43.57	7.19	-
Limestone	000' Tonnes	2815170	2133	439387	3256690	1302360	404217	1164592	115264	2129536	18066740	3399422
Magnesite	000' Tonnes	-	-	-	-	-	-	-	-	-	80	-
Manganese Ore	000' Tonnes	6848	1006	234	8088	1000	718	1990	465	10730	6838	15
Pyrite	000' Tonnes	-	-	-	-	-	-	-	-	-	880	-
Sillimanite	Tonne	1451556	0	218469	1670025	-	11070	462830	-	7430300	1491539	-

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Table – 2: Reserves/Resources of Coal as on 1.4.2023: Andhra Pradesh

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total/Godavari Valley	1025	2369	778	4172

*Source: Coal Directory of India, 2022-23.***Table – 3: Details of Exploration Activities in Andhra Pradesh, 2021-22**

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		

GSI**Manganese**

Vizianagaram	Gurla-Madhupada area	-	-	-	-	79	G4 investigation for Manganese and molybdenum was carried out in Gurla-Madhupada area. The proposed Gurla-Madhupada area occurs in the central part of well-known Vizianagaram- Srikakulam-Visakhapatnam Manganese (Mn) Belt of Eastern Ghat Mobile Belt. The proposed investigation area geographically is located in central migmatite zone (CMZ) and eastern Khondalite zones (EKZ) in lithozonation map (after Ramakrishnan et al., 1998) of Eastern ghat mobile belt. Geologically, different lithology of Khondalite suite, Charnockite suite and Migmatite suite are exposed with later intrusions of pegmatite veins, quartz veins and quaternary flood plain sediments. Geologically, most of the area is occupied by rocks of Migmatite suite, migmatite gneiss outcrops predominantly in western part of the area and small garnet biotite gneiss exposure are omnipresent in the area indicating it to be majority of country rock in the area. Outcrops of pyroxene granulite (charnockite suite) of various dimension are observed as enclaves in migmatite gneiss in the western part of the study area. Khondalite suite rocks mainly comprises of garnet quartzofeldspathic gneiss ± manganese ± graphite ± sillimanite and calc-granulite. In the area major hills of garnet quartzofeldspathic gneiss ± manganese ± graphite ± sillimanite trending NNW-SSE are localized in the eastern part and the outcrops of calc granulite are discontinuous NW-SE trending band. Garnet bearing granite occurs as small intrusive body in the northeastern part of the study area
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Table – 3 (contd)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
Srikakulam	Batuvu- Kondadi area	1:12,500	120.00	-	-	235	reconnaissance survey for manganese mineralisation have been carried out in between Batuvu and Kondadadi areas on a scale of 1: 12,500 in parts of Toposheet No. 65N/11 Srikakulam and Vizianagaram districts. The main objectives were to delineate potential zones of manganese mineralisation and to study the control of mineralisation. During the course of mapping an area of 120 sq. km on 1:12,500 scale. Besides 100 of BRS samples, 95 of PTS samples, 10 of PCS samples, 20 of PS samples and 10 of ore microscopy samples have been collected. In the study area, rocks belonging to Khondalite and Migmatite Suites of EGMB are exposed. The Khondalite Suite is the oldest litho unit and comprises quartzite unit followed by quartzo-feldspathic gneiss, garnet-sillimanite gneiss and Calc-granulite of Achaean to Paleoproterozoic age. The Migmatite suite comprises of granite gneiss of Achaean to Paleoproterozoic age which is overlaid by manganese bearing conglomerate at places near Mandiravalasa. Manganese mineralisation observed at north-eastern part of the study area near Gadabalasa area. Series of abandoned Mn mine pit at varied dimensions identified wherein manganese occurs along with quartzite and garnet-sillimanite-gneiss. The strike of the mineralisation zone occurs parallel to sub-parallel to S1 foliation plane that trends in N330° dipping 50°-75° due NE. The interpreted strike length of the ore body in Gadabalasa is 1.2 km with width forming 2-5m. The observed overburden thickness is 2-4m. Manganese occurrence in the abandoned pit is observed in the north-western part of the block near Mandiravalasa area where the ore body has dimension of 2 to 5 m width and 1.5 km strike length associated with quartzo-feldspathic gneiss and quartzite. The trend of the ore body is N330° dipping 60-75° due NE that is bordered by quartzite in NE and granite gneiss in NW. Low to medium grade manganese occurrence in the form of syngenetic type associated with quartzite is noticed near Batuvu area in abandoned pits. Manganese occurs along with S1 foliation of quartzite having interpreted dimension of 2-5m width and 500m of strike length. The identified zone having strike direction of N320° having

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Table – 3 (contd)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							The E-W extension fractures/ faults developed, are intruded by quartz veins and dolerite dyke. Near Reddimalluvandlapalle area several such E-W trending parallel quartz veins and altered dolerite dyke were noted. Most of the quartz veins were barren and unstained. Among them, one ~10m wide ferruginised vuggy quartz vein with pockets of oxidised sulphide minerals and little malachite staining extending for approximately 1km was recognised. Analysis gives 84.7-1089 ppm As, 105-188 ppb Au, 902-12167 ppm Cu. Pulikonda syenite associated with the shear zone is targeted for REE mineralisation. It is a 100m-400m wide and ~2km long body, medium-coarse grained hypidiomorphic granular, dominantly composed of K-feldspar perthite with clusters of radiating chlorites (altered mafic mineral) and minor quartz. The Pulikonda syenite is miaskitic in nature and hence is non-fertile and not enriched in REE. Specks of REE-phases like xenotime, allanite, zircon were observed during petrographic and SEM studies with a very low ~200 ppm REE value.
Diamond Anantapur	Kanaganapalle- Dharmavaram area	1:50,000	790	-	-	159	During field work, detailed stream sediment sampling together with ground geological traverses were conducted on 1:50,000 scale. Around 790 sq km was covered under reconnaissance survey and 159 stream sediment samples were collected from best available trap sites. The study of stream sediment sample revealed that the present area contains the heavy minerals like ilmenite, spinel, garnet, diopside, epidote, amphibole, zircon, apatite, tourmaline and sulphides. Suspected Kimberlite indicator minerals were separated under stereo-zoom microscope and EPMA studies to confirm their mineral chemistry to delineate the Kimberlitic affinity. The ilmenites recovered from south of Kanaganapalle (SS2, SS48), Konapuram (SS44) and near Garadampalle (SS23) village are turned out to be magnesian ilmenites which is prime indicator mineral of Kimberlite Clan of Rocks. These micro ilmenites contain high MgO (7.43-8.68 wt%), high Cr ₂ O ₃ (1-3 wt%) and low MnO (<0.5 wt%).

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Table – 3 (contd)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							sediment and rarely in soil. Monazite, allanite, xenotime and zircon are the minerals that contribute to the REE enrichment in the stream sediment. Catchment areas of two streams have been identified as potential area of REE enrichment.
Copper and associated mineral							
Nellore	Masayapeta block	-	-	-	1500	-	The G2 stage copper exploration item was taken up in Masayapeta block in Nellore District, Andhra Pradesh. A total of 1500 m (\pm 20%) of drilling was planned with spacing of 100 m or closer in Masayapeta Block. Geophysical survey in 20 L km has been completed which has brought out four moderates to high Chargeability ($>$ 8mV) are corroborating with high to moderate resistivity. Total of 226m drilling was completed in FS 2021-22. Occurrences of sulphides (chalcopyrite, covellite, digenite and pyrite) are observed in intercalated quartzite-schistose rock, quartzite and quartz vein lithounits at various levels in the depth range between ~69 m to ~170 m. With completion of the total drilling target and chemical analysis of core samples the anomalous zone of copper mineralisation can be elucidated in detail with more accurate estimate of resource.
Graphite and associated elements							
East Godavari	Burugubanda Block	-	-	7	1171.50	-	A total 1171.50 meter of drilling has been achieved in seven boreholes (AEB-1, AEB-2, AEB-4, AEB-5, AEB-6, AEB-1A & AEB-7). The AEB-1, AEB-2, AEB-5, AEB-4, AEB-6 & AEB-7 has been drilled at second level of intersection while AEB-1A has been drilled at first level of intersection. The Drilling at AEB-7 started on date 27.03.2022 and a total drilling of 94.50 m has been achieved by the end of March 2022. In G2 investigation, the first borehole AEB-1 intersected graphite mineralised zone from 168.00m to 178.00 with total 10m of apparent thickness with visual estimation of 7-10% FC. The In borehole AEB-5, the graphite zone intersected from 132.00m to 137.30m with visual estimation of 7-10% FC. In borehole AEB-2, the graphite zone

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Mineral-based Industry

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

based industries in the Organised Sector in the State are provided in Table-5.

Table – 5 : Principal Mineral-based Industries

Industry/plant	Capacity ('000 tpy)
Asbestos/Cement sheets	
Hyderabad Industries Ltd, Ibrahimpatnam, Distt. Krishna	3000
Ramco Industries, Ibrahimpatnam, Distt. Krishna	NA
Cement	
ACC Ltd, (formerly, Encore cement), Vishakhapatnam (G)	300
Andhra Cements Ltd, (Visaka Cement Works), Durga Nagar, Distt. Visakhapatnam (G)	540
Andhra Cements Ltd, Durga Cement Works, Dachepalli, Distt. Guntur	2310
Anjani Portland Cement Ltd, Chintalapalem, Mellacheruvu	1925
Bharthi Cement Corp. Pvt. Ltd, Nallingayapalli, Distt. Cuddapha	5000
Bhavya Cement, Thangeda, Distt. Guntur	1400
BMM Cement Ltd, Gudipadu, Yediki	950
Dalmia Cement (Bharat) Ltd, Cuddapha	4060 2600 (Clincker)
Deccan Cement Ltd, Ravipahad, Nareducherla	1800
Deccan Cement Ltd, Ravipahad, Palakeedu Nalgonda	1800
Greygold Cement Ltd, Hyderabad	91
Himadri Cement Ltd, Vedadri, Jaggyyapet	247.5
India Cements Ltd, Chilamkur, Distt. Cuddapha	1460
India Cements Ltd, Malkapur, Tandur	2900
India Cements Ltd, Vishnupuram Work, Wadapally, Mariyalaguda	3500
India Cements Ltd, Yeraguntla, Distt. Cuddapha	1000 540(Clincker)
My home Industries Pvt. Ltd, Mellacheruvu, Nalgonda	3200
UltraTech Cements Ltd, Jaypee Balaji Cement, Budawada, Distt. Krishna	5000
JSW Cement Ltd, Nandyal, Distt. Kurnool	4800
JSW Cement Ltd, Bilakalagudur, Gadivemula	4800
KCP Ltd, Macherla, Distt. Guntur	825
KCP Ltd, Muktyala, Distt. Krishna	1860
KCP Ltd, Muktyala, Jaggayyapeta Unit II	3520
Kakatiya Cement Sugar and Industries Ltd, Dondapadu, Melacheruvu	297

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Table - 5 (contd)

Industry/plant	Capacity ('000 tpy)
My Home Cement Industries Ltd, Mulakapalli, Distt. Visakhapatnam (G).	2000
NCL Industries Ltd, Kondapalli, Distt. Krishna (G).	990
Orient Cement Ltd, Devapur, Kasipet.	5000
Panyam Cements & Mineral Industries Ltd, Cement Nagar, Distt. Kurnool.	1000
Parashakti Cement, Jettipalem, Distt. Guntur.,	1260
Penna Cement Industries Ltd, Talaricheruvu,, Tadipatri, Distt. Anantapur.	2200
Penna Cement Industries Ltd, Boyareddypalli, Distt. Anantapur.	2000
Penna Cement Industries Ltd, Ganeshpahad Damarcherla	1200
Prism Cement Ltd, Kotapadu, Kolimigundla.	4800
Rain Commodities Ltd, (Rain Cements), Boincheruvupalli, Peapully, Distt. Kurnool	2770
Rain Cements, Ltd, Ramapuram, Mellacheruvu	1500
Ramco Cement Ltd, (formerly, Madras Cements), Jayantipuram, K.S. Rajanagar, Distt. Krishna.	3650
Ramco Cement Ltd, Vizag Grinding Unit, Distt. Visakhapatnam.	950
Shree Jayajothi (Subs. of Myhome Cement Ind.) Yanakandala, Distt. Kurnool.	3200
Shri Chakra Cements Ltd, Alamada, Distt. Vizianagaram (G).	260
Shri Chakra Cements Ltd, Narsimhapuri, Distt. Guntur.	310
Sagar Cements Bayyavaram, Distt. Visakhapatnam (G)	200
Sagar Cements, Mattampally	2350
Sagar Cement Ltd, BMM Cement Anantapur,	1000
UltraTech Cements Ltd, (APCW), Tadipatri, Distt. Anantapur.	9000
Zuari Cement, Krishnanagar, Yerranguntala, Distt. Cuddapha.	3800
Zuari Cement, Ltd, Sitapuram Dondapadu Mellacheruvu	1200
Chemical	
Andhra Sugars Ltd, Saggonda, Distt. West Godavari.	400 TPD (caustic soda) 99 (H ₂ SO ₄)
Shree Rayalseema Alkalies & Allied Chem. Ltd, Gondiparla, Distt. Kurnool.	156.95 (Total) 69.5 (caustic soda) 49.8 (Cl) 24.7 (HCl) 23.1 (KOH)
Shree Rayalseema High Strength Hypo Ltd, Gondiparla, Distt. Kurnool.	14.85 (bleaching powder) 49.5 (H ₂ SO ₄) 15 (Oleum)

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