Indian Minerals Yearbook 2021

(Part- I)

60th Edition

STATE REVIEWS (Maharashtra)

(ADVANCE RELEASE)

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES

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MAHARASHTRA

Mineral Resources

Maharashtra is the sole producer of fluorite (graded) and the principal producer of bauxite, kyanite, manganese ore, quartzite and sand (others). The principal mineral-bearing belts in Maharashtra are Vidarbha area in the east and Konkan area in the west. Important mineral occurrences are: **bauxite** in Kolhapur, Raigad, Ratnagiri, Satara, Sindhudurg & Thane districts; **china clay** in Amravati, Bhandara, Chandrapur, Nagpur, Sindhudurg & Thane districts; **chromite** in Bhandara, Chandrapur, Nagpur & Sindhudurg districts; **coal** in Nagpur, Chandrapur & Yavatmal districts; **dolomite** in Chandrapur, Nagpur & Yavatmal districts; **fireclay** in Amravati, Chandrapur, Nagpur & Ratnagiri districts; **fluorite** & **Shale** in Chandrapur district; **iron ore (haematite)** in Chandrapur, Gadchiroli & Sindhudurg districts; **iron ore (magnetite)** in Gondia district; **kyanite** in Bhandara & Nagpur districts; **laterite** in Kolhapur district; **limestone** in Ahmednagar, Chandrapur, Dhule, Gadchiroli, Nagpur, Nanded, Pune, Sangli & Yavatmal districts; **manganese ore** in Bhandara, Nagpur & Ratnagiri districts; **corundum & pyrophyllite** in Bhandara district; **quartz & silica sand** in Bhandara, Chandrapur, Gadchiroli, Gondia, Kolhapur, Nagpur, Ratnagiri & Sindhudurg districts; **quartzite** in Gondia & Nagpur districts; and **sillimanite** in Chandrapur district.

Other minerals that occur in the State are: **barytes** in Chandrapur & Gadchiroli districts; **copper** in Bhandara, Chandrapur, Gadchiroli & Nagpur districts; **felspar** in Sindhudurg district; **gold** in Bhandara & Nagpur districts; **granite** in Bhandara, Chandrapur, Dhule, Gadchiroli, Nagpur, Nanded, Nashik, Sindhudurg & Thane districts; **graphite & mica** in Sindhudurg district; **lead-zinc & tungsten** in Nagpur district; **marble** in Bhandara & Nagpur districts; **ochre** in Chandrapur & Nagpur districts; **silver** & **vanadium** in Bhandara district; **steatite** in Bhandara, Ratnagiri & Sindhudurg districts; and **titanium minerals** in Gondia & Ratnagiri districts (Table-1). As per the AMD of the Department of Atomic Energy India, Maharashtra state accounted for 5.50 million tonnes of ilmenite resources and 0.01 million tonnes of rutile resources. The coal reserves and resources along with the various coalfields located in the State are shown in Table - 2.

Exploration & Development

The details of exploration activities conducted by GSI and other agencies (DGM) during 2020-21 are furnished in Table - 3

Production

Maharashtra was the sole producer of Flourite and Kyanite. Apart from Coal, Bauxite, Manganese Ore, Sillimanite and Limestone are the principal minerals produced in Maharashtra State. The value of minor mineral's production is estimated as Rs. 6282 crores for the year 2020-21. There were 71 reporting mines in 2020-21 in case of MCDR of minerals.

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 1.4.2021 : Maharashtra

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total	**7770**	**3320**	**1847**	**12936**
Wardha Valley	4713	1785	1441	7940
Kamptee	2046	938	107	3091
Umrer Makardhokra	308	–	161	469
Nand Bander	691	596	118	1405
Bokhara	10	–	20	30

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

Table –1: Reserves/Resources of Minerals as on 1.4.2020: Maharashtra

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						
Bauxite	000 tonnes	18833	3573	16065	38472	15794	1981	21023	38931	32875	83354	-	193958	232430
Chromite	000 tonnes	5	-	-	5	5	-	-	43	67	418	-	533	538
Copper														
Ore	000 tonnes	-	-	-	-	-	-	-	-	5831	11774	150	17755	17755
Metal	000 tonnes	-	-	-	-	-	-	-	-	58.36	99.18	0.54	158.08	158.08
Fluorite	tonne	222282	163860	0	386142	-	-	-	-	-	100000	-	100000	486142
Gold														
Ore (Primary)	tonne	-	-	-	-	-	-	-	-	-	1627000	-	1627000	1627000
Metal (Primary)	tonne	-	-	-	-	-	-	-	-	-	3.64	-	3.64	3.64
Graphite	tonne	-	-	-	-	-	-	-	-	-	1160000	-	1160000	1160000
Iron ore (Haematite)	000 tonne	9464	2124	3653	15241	1672	6632	9191	81116	95545	59673	32474	286304	301544
Iron ore (Magnetite)	000 tonne	481	65	32	578	329	24	267	-	-	590	-	1210	1788
Kyanite	tonne	210075	0	122314	332389	69621	4317	1210436	-	45000	1734241	-	3063615	3396004
Lead-zinc														
Ore	000 tonnes	-	-	-	-	-	-	-	1967	6305	1000	-	9272	9272
Zinc metal	000 tonnes	-	-	-	-	-	-	-	133.56	428.11	28.00	-	589.67	589.67
Limestone	000 tonne	528636	137773	34940	701349	765567	235543	126780	69286	681879	1220928	7060	3107044	3808392
Manganese ore	000 tonne	16537	835	361	17733	1891	15354	16304	-	5055	2585	113	41303	59036
Rare Earth Elements	tonne	-	-	-	-	-	-	-	-	-	2090	-	2090	2090

(contd)

Table - 1(concld)

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						
Sillimanite	tonne	174474	3655	3619	181748	15000	-	-	15000	64	516	-	30580	212328
Silver														
Ore	tonne	-	-	-	-	-	-	-	-	-	235000	-	235000	235000
Metal	tonne	-	-	-	-	-	-	-	-	-	0.23	-	0.23	0.23
Titanium	tonne	219623	64860	19068	303551	24172	-	-	1172214	846000	1938400	-	3980786	4284337
Tungsten														
Ore	tonne	-	-	-	-	-	-	-	4275000	5461250	386000	-	10122250	10122250
Contained WO_3	tonne	-	-	-	-	-	-	-	11287.8	7117.92	185	-	18590.72	18590.72
Vanadium														
Ore	tonne	-	-	-	-	276530	-	108100	-	-	-	-	384630	384630
Contained V_2O_5	tonne	-	-	-	-	1106.12	-	432.4	-	-	-	-	1538.52	1538.52

Figures rounded off

Table –3 : Details of Exploration Activities in Maharashtra, 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							
Bauxite							
Sidhudurg	Kunkeshwar	1:12500	100.0	-	-	168	Reconnaissance survey (G4) work carried out includes large scale mapping (LSM) of lateritic terrain of Kunkeshwar block on 1:12500 scale with collection of 118 nos. of bed rock samples (BRS) and 50 nos. of pit samples (PTS). The LSM area exposes the Kaladgi sediments, basalts of Deccan Trap and laterite.Laterite is present in the form of cappings and most of which lie over the Deccan lavas. Kaladgi sediments comprise sandstone, quartz arenite, quartzite and shale/ slate.Analytical result of BRS and PTS show Al_2O_3 content in the BRS range from 9.59% to 57.73% and in PTS, it is 18.58%-57.96%. Based on the Al_2O_3 content of BRS, lateritic terrain of LSM area has been classified into bauxite (Al_2O_3> 40%), aluminous laterite (Al_2O_3 30-40 %) and laterite (Al_2O_3 <30 %). The analytical results, statistical analysis of results and ore petrographic study indicate that Kunkeshwar block appears to be potential for bauxite occurrences. About 2 sq km and 65 sq km cumulative areas have been delineated as potential for bauxite and aluminous laterite, respectively. In addition, seven zones were also demarcated as anomalous zones which include three zones for Al_2O_3 (585 m^2 cumulative area), two zones each for gallium (190 m^2 cumulative area) and for TiO_2 (199 m^2 cumulative area). Surface indications of bauxite in the area are manifested in form of pisolitic/oolitic, massive, nodular, concretionary grains of gibbsite within aluminous/clayey laterite. XRD and ore microscopic studies confirmed that gibbsite is the dominant ore mineral of bauxite present in the area. Ga values range from 26 ppm to 90 ppm in the BRS whereas, Ga content in the PTS range from 45 ppm to 72 ppm.
Base Metals							
Gondia	Palasgaon-Murdoli	-	-	-	-	-	Reconnaissance survey (G4) was carried out for basemetal mineralisation in this area. Geologically, the area falls within

(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		
							the Bastar craton which is known to host the numerous sulphide occurrences. The area has suffered polyphase deformation. A fault (lineament) with N20°E-S20°W orientation is emplaced with hydrothermal quartz veins. The resulting quartz reef is full of brittle fractures. A prominent N20°E-S20°W shear zone was documented at approximately 2km East of Palasgaon. The study area is characterised by various litho-assemblages which includes mica and sericite, meta-basics of Amgaon Group, granites and basic dykes of Nandgaon Group. The younger lithounit in this area are the quartz veins. Surface indications of mineralisation could not be observed within the quartz veins except some ferruginisation of quartz veins. The chemical results also do not show any encouraging values of Cu within the quartz veins. Geological studies reveal that the NE-SW trending quartz reef is emplaced along a basement fracture in the host Dongargarh Granite. Though minor amounts of fine sulphide disseminations are noticed, preliminary data pertaining to geochemical studies indicate that most of the samples from the Palasgaon Murdoli quartz vein showed Cu value from 20 to 350 ppm, Pb from 20 to 520 ppm and Zn from 20 to 460 ppm indicating low incidence of sporadic basemetal mineralisation. None of the samples showed promising values of Cu mineralisation.
Gondia	Shirpur Motegaon area	1:12500	100	-	-	-	Reconnaissance survey (G4) was carried out for copper and associated mineralization around this area. The work component mainly involves 100 km^2 large scale mapping on (1:12500 scale), systematic bed rock sampling, soil sampling, and pitting and trenching; along with petrographic and minerographic studies. Shirpur Motegaon area falls on the northern most extension of the Thanewasna shear zone. Three major quartz veins have been

(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		
							mapped in the LSM block i.e. the NNW-SSE trending Motegaon quartz vein, the NE-SW trending Shirpur quartz vein and the N-S trending Aregaon quartz vein.
Nagpur Bhandara & Chandrapur	Amgaon Motegaon area	1:12500	100	-	-	188	Reconnaissance survey (G4) for base metal mineralization was carried out in Amgaon block area falling in parts of Bhandara, Nagpur and Chandrapur districts. Large-scale geological mapping (1:12500 scale) of 100 sq. km was carried out along with the collection of geochemical and petrological samples, and other laboratory studies to ascertain the mineralisation potentiality. The investigation area is a part of western Bastar Craton (BC) of Central India and geologically exposes the rocks such as enclaves of Banded Magnetite Grunerite Quartzite (BMGQ) belong to the Sukma Group; granite gneiss of Bengal Group; quartz muscovite schist and meta-acid volcanics/tuffs of Sakoli Group; intrusives such as pegmatite and quartz reef. The sampling was done with collection of bed rock samples (n=60), channels sample (n=50), pit and trench samples (n=50), and soil samples (n=28) along with petrological and ore samples. The analytical results of bed rock samples of Amgaon quartz reef (n=38) gave values of copper from 20 to 270ppm (avg. =123ppm); lead values from 60 to 2900ppm (avg. =583ppm), zinc values from 10 to 1800ppm (avg.=273ppm) and silver values from >1 to 3ppm. The gold values in BRS are ranging from >50 to 110ppb. The analytical results of BRS samples from Chikhli quartz reef (n=10) and quartz vein near Nakshi (n=4) do not show any significant value of base metal mineralisation. Two samples of banded magnetite grunerite quartzite (n=7) show 1ppm silver. The chemical analysis of channel samples (n=50) from Amgaon quartz reef shows copper values vary from 40 to 500ppm (avg. =131ppm); lead from 0.01% to

(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		
							0.26% (avg. =0.12%), zinc from 10 to 2000ppm (avg. =421ppm), and silver from>1 to 4ppm. The soil samples (n=28) gave the copper value ranging from 10 to 320ppm (avg. =129ppm); lead from 40 to 520ppm (avg. =258ppm), zinc from 40 to 1000ppm (avg.=232ppm), and silver from >1 to 3ppm. The gold values in soil samples are ranging from >50 to 155ppb. The pitting and trenching sample (n=40) analytical results show the copper value ranging from 20 to 110ppm (avg. =53ppm); lead from 30 to 750ppm (avg. =205ppm), zinc from 70 to 360ppm (avg. =123ppm), silver from >1 to 1ppm and gold values >50ppb.
Chromium							
Gondia	Shirpur Motegaon area	1:12500	100	-	-	155	Reconnaissance Survey (G4) was carried out for Nickel, Chromium & PGE mineralisation in this area. An area of 100 sq km was mapped on 1:12500 scale. The mapped area forms the northern continuation of the Western Dharwar Craton wherein the TTG gneiss forms the country rock. Banded Iron Formation, talc tremolite schist and amphibolite (Older Supracrustals) occur as enclaves within the TTG gneiss. Granitoid, metagabbro, gabbro and dolerite are the intrusives. The western part of the area is extensively lateritized. Bed rock sampling was done mostly in the target lithologies i.e. talc tremolite schist, gabbro, metagabbro and dolerite and laterite adjacent to these lithologies. A total of 100 bed rock samples (BRS) and 55 groove/ channel samples (CS) were collected. In the mafic intrusives, the values of Ni range from 15 ppm to 1012 ppm while that of Cr is between 05 ppm and 3750 ppm. The analytical data of the BRS suggests the talc tremolite schist and associated laterite as the most promising rock types for Ni and Cr mineralisation. The BRS collected from talc tremolite schist yielded nickel values ranging from 294 ppm to 2073 ppm and chromium values between 849 ppm and 7066 ppm. (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		
							The laterite adjacent to the talc tremolite schist show the value of Cr in range from 514 ppm to 39684 ppm and the Ni values in between 103 ppm and 933 ppm. On the basis of the encouraging values of Cr and Ni in BRS, groove/channel sampling was carried out in these lithologies. The analytical data of groove/ channel samples of talc tremolite schist show Ni values ranging from 146 ppm to 3272 ppm and Cr values between 423 ppm and 18731 ppm. The analytical data of groove samples from laterites adjacent to talc tremolite schist to shows encouraging values of Ni (63 ppm to 1646 ppm) and Cr (ranging from 637 ppm to 24179 ppm). The ore microscopic studies and EPMA studies of talc tremolite schist shows the presence chrome spinel and nickel sulphide. The encouraging analytical values of Cr and Ni in BRS from talc tremolite schist is attributed to the presence of these minerals. On the basis of the field studies and encouraging analytical results supported by EPMA studies, an area of 1.35 sq km (2 km x 0.67 km) is delineated NE of Sonurli as potential area for Cr and Ni mineralisation.
REE-RM							
Bhandara	Pipra-Mahegaon Dongarla area	-	50	52	500	255	Preliminary exploration (G3) was carried out in this area for Rare Earth Elements and Rare Metal mineralisation in this area. Large scale mapping (LSM) over 50 sq km area, followed by collection of bed rock sample (BRS) and stream sediment samples, pitting for bulk samples and auger drilling of 500 m was carried out. The Pipra – Mehegaon block covers the southern and southwestern part of the Sausar Mobile Belt and composed of basement Tirodi biotite gneiss (TBG) and meta-sedimentary rocks of Sausar Group. Basement Tirodi biotite gneiss (TBG), calc silicates of Lohangi Formation, quartz mica schist (QMS) of Mansar Formation and quartzite of Chorbaoli Formation of (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		
							Sausar Group are the major lithological units mapped in the area. The gneisses and meta-sedimentary rocks have been intruded by two phases of pegmatite and quartz veins. A few pegmatite veins have been mapped to the north and northwest of Sakri village. REE bearing mineral phases like zircon, monazite, xenotime and allanite have been reported in these pegmatites in accessory amounts.
REE-RM							
Nagpur	Chorbaoli- Murda area	1:12500	-	-	-	185	Reconnaissance survey (G4) was carried out for tungsten and associated mineralisation in this area. Large scale mapping in 1:12500 scale revealed that the TBG is the basement rock to the Sausar Group and is exposed mostly in the central and northern parts of the investigation block. The TBG is overlain by the calc- silicate rock and marble of Lohangi Formation, which overlies the mica schist of Mansar Formation and quartzite/ quartz mica schist of Chorbaoli Formation. Calc silicate and marble are intruded by a number of granites and pegmatites of variable dimensions. The pegmatites are coarse grained and tourmaline bearing. The contact zones between carbonate rocks of Lohangi Formation and intrusive granite/ pegmatite were studied in detail for identification of possible skarn zones. Two skarn zones are noticed in the investigation area: viz (1) Skarn zone– I (north of Chorbaoli village- 21°29'13.9", 79°19'15.2). The skarn rock occurs as low lying outcrops and is well exposed from the western side of National highway 7 to the north of Chorbaoli village. Chemical analytical results of bedrock samples collected from skarn and other lithounits indicate most of the tungsten values are falling below 100 ppm with a maximum 545 ppm in one BRS sample collected from a skarn rock developed North of Maharajpur village. Similarly, the analytical results of 50 nos. of stream sediment samples (panned concentrate) indicated four values are falling (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		above 1000 ppm and maximum value is >1% (11308 ppm). Though the panned concentrates of few stream sediment samples analyses higher value of tungsten upto 11308 ppm, the chemical analytical results of bedrock samples reveal that most of the samples analysed less than 100 ppm W indicating very low incidence of primary tungsten mineralisation in Chorbaoli Murda block.
REE-RM (*Reconnaissance Survey include North Goa district)							
Sindhudurg	Banda-Tambuli area	1:12500	110	-	-	110	Reconnaissance Survey (G4) was carried out for Nickel, Chromium and PGE mineralisation in Banda-Tambuli, Sindhudurg District, Maharashtra and Mopa, North Goa District, Goa. An area of 110 sq km was mapped on 1:12,500 scale. The mapped area comprises TTG gneiss belonging to Peninsular Gneissic Complex, dolomite, BMQ, quartzite, metabasic (hornblende schist and amphibolite) of Chitradurga Group and ultramafic (orthopyroxenite) and gabbro/ gabbro-norite as intrusives. About half of the area has laterite cover. A total of 110 bed rock samples (BRS) have been collected. Twelve out of sixty-eight BRS from serpentinite, orthopyroxenite and gabbro/gabbro-norite /norite show Ni values in between 1025 and1542 ppm and twenty-one BRS show Cr values in between 1062 and 9333 ppm. Based on analytical results of BRS, areas have been chosen for channel cum chip sampling. Fifty channel cum chip samples have been collected. The analytical data of nineteen out of fifty channel cum chip samples from gabbro show Ni values ranging from 1014 to 1557 ppm and Cr values ranging from 3008 to 3857 ppm. Geochemically gabbro bodies of potential areas are Mg rich. Four PCS from gabbro show MgO values from 20.04 to 23.60 wt %. In ore microscopic study, chromite, magnetite, ilmenite and pyrite are seen as ore phases. They occur as fine to medium-sized irregular grains associated with olivine and orthopyroxene of mafic- ultramafic rocks. On the basis of overlay studies (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		
							of analytical results on geological map of LSM block and petrography, two potential areas i.e. one towards north of Degve having area of 4 sq km (4 km x 1 km) and another towards east of Tambuli having area of 1 sq km (2.5 km x 0.4 km) have been delineated.
MECL							
Tungsten							
Nagpur	Kuhi-Khobna-Agargaon	-	-	-	-	-	A G4 stage exploration for tungsten mineralisation was carried out with an objective to prove the occurrence of ore body in the intervening area in the Kuhi-Khobna-Agargaon gap area block and to establish the consistency and reliability of the grade zone over a promising strike length and up to 50 m verticle depth. Exploration involved mapping of 57.0 sq. km. on 1:12,500 scale along with collected 449 samples for chemical analysis of different elements and 52 samples for petrographic/ mineragraphic/etc studies. Besides, a total of 5 borholes were drilled to a cumulative of of 945.0 m.
Directorate of Geology and Mining, Maharashtra							
Limestone							
Yavatmal	Kundra Krushnapur block, Wani Tahsil	1:25,000	10.00	3	157.00	135	A G2 level exploration work has been proposed to further investigate the extent of limestone beds in the area.
	Kolgaon-Wegaon block Zari-Jamni Tahsil	1:25000	7.00	3	111.00	90	The exploration work was taken up to identify and prove occurrences of limestone deposit in the area. Further, a G3 level exploration work will be taken up after obtaining permission from forest department.

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

(Value in ₹ '000)

Mineral	Unit	2018-19			2019-2020			2020-21 (P)		
		No. of mines	Quantity	Value	No. of mines	Quantity	Value	No. of mines	Quantity	Value
All Minerals		**72**		**59045818**	**73**		**82465290**	**71**		**74737545**
Coal	'000t	-	49818	-	-	54746	-	-	47435	-
Bauxite	t	14	1424865	736127	15	595562	401196	12	471068	335740
Chromite *	t	1	-	-	-	-	-	-	-	-
Iron Ore	'000t	12	660	836022	13	1131	1340244	11	1249	1680086
Manganese Ore	t	23	761985	7999939	20	720518	6096443	26	644484	6523574
Fluorite(graded)	t	1	1079	8117	1	1315	8844	1	1052	7897
Kyanite	t	4	4889	15757	4	3098	11848	3	1145	3423
Sillimanite	t	1	13404	49477	2	13221	37903	1	11110	26611
Limestone	'000t	16	14991	3459779	18	14614	3475512	17	13939	3341414
Sulphur #	t	-	46967	-	-	55659	-	-	41375	-
Minor Minerals		-	-	45940600	-	-	71093300	-	-	62818800

Note : *The number of mines excludes Fuel and Minor minerals.*
$ Excludes the value Fuel minerals.
** Only labour reported.*
 # Recovered as by-product from oil refinery.

Table – 5 : Principal Mineral-based Industries

Industry/plant	Capacity ('000 tpy)
Abrasives	
Grindwell Norton Ltd, Mora, Uraon, Raigad	NA
Aluminium products	
Hindalco, Recycling plant, Taloja	50
Hindalco, Mouda, Distt. Nagpur	30 (rolling mill) 14 (conductor rod)
Asbestos Products	
Everest Building Products Ltd, Mulund	NA
Hyderabad Industries Ltd, Musarane	60.0
Newkem Products Corp, Mumbai	9.9
Swastik Industries, Pune	NA
Cement	
ACC Ltd, Ghugus, Distt. Chandrapur	3800
Ambuja Cement Ltd, (Maratha Cement Works), Upparwahi, Chandrapur	4750
India Cement, Vaijnath, Parli, Distt Beed (G)	1100
JSW Cement, Dolvi, Distt. Raigad	1000 (slag cement)
Manikgarh Cement, (I) Korpana, Distt. Chandrapur	2000

(contd)

Table - 5 (contd)

Industry/plant	Capacity ('000 tpy)
Manikgarh Cement, (II) Korpana, Distt. Chandrapur	4000
Murli Industries Ltd, Naranda, Distt. Chandrapur.	3000
Orient Cement, Jalgaon (G)	2000
Birla Corpn. Ltd, Butibori, Distt. Nagpur (G)	500
UltraTech Cement, Hotgi, Distt. Solapur (G)	4000
UltraTech Cement Ltd, Awarpur, Distt. Chandrapur	6000 4500 (Clinker)
UltraTech Cement Ltd, Ratnagiri Works (G), Distt. Ratnagiri	480
UltraTech Cement Ltd, Nagpur	2000
Zuari Cement, Solapur	1200
Ceramics	
H & R Johnson (India) Ltd, Pen	154.8
Joglekar Refractory & Ceramics Pvt. Ltd, Rabale, Distt. Thane.	364.8
Jyoti Ceramic Industries Pvt. Ltd, Satpur	0.16 (Ref. coating) 1.0 (Ceramic Product)
NITCO Tiles Ltd, Raigad	66 lakh (sq. m)
Chemicals	
Borax Morarji Ltd, Ambarnath	25 (borax) 8 (boric acid)

(contd)

Table - 5 (contd)

Industry/plant	Capacity ('000 tpy)
Century Rayon, Shahad, Distt. Thane	25 (rayon yarn) 20 (caustic soda)
Foseco India Ltd, Sanswadi	15 (foundry chemicals)
Gargi Huttenes Albertus Pvt.Ltd, Kukshet,Navi Mumbai	12 (Foundary Chemical)
National Peroxide Ltd, Kalyan, Distt Thane.	1.4 (sodium per borate)
Star Earth Minerals Pvt. Ltd, Tanjola, Panvel	0.6 (zirconium basic carbonet)
Sudarshan Chemical Ind. Ltd, Roha, Distt Raigad	5.2 (pigments)
Tecil Chemical & Hydro Power Ltd, Mumbai.	30 (calcium carbide)
Zirconium Chemicals Pvt. Ltd, Taloja, Distt. Raigad	0.3 (zirconium salt)
Copper Wire Rods	
HCL, Copper project, Taloja	60
Electrode	
GEE Ltd, Thane.	4.02 (Mill. m)
Weldfast Electrode Pvt. Ltd, Nagpur	15.9
Weldstrong Electrode Pvt. Ltd,	0.90
Butibori, Higna Nagpur	0.15 (Welding flux)
Electrolytic Manganese Dioxide	
MOIL, Dongri Buzurg, Distt. Bhandara	1
Fertilizers	
Balaji Fertilisers Pvt. Ltd, Nanded	20 (SSP)
Basant Agro Tech (India) Ltd, Barshi Takli, Akola	120 (SSP)
Basant Agro Tech (India) Ltd, Jalgaon.	132 (SSP)
BEC Fertilizer (Unit of Bhilai Engg. Corpn. Ltd,), Gunjakheda, Wardha	66 (SSP)
Bharat Agri Fert & Realty Ltd, Kharivali, Thane	132 (SSP)
Coromandel International Ltd, (Formerly, Liberty Phosphate Ltd,), Pali, Raigad	66 (SSP)
Deepak Fertilizers & Petrochemical Corporation Ltd, Taloja	230 (ANP)
Rama Krishi Rasayan (A division of Rama Phosphates Ltd), Loni Kalbhor, Pune	132 (SSP)
Shiva Global Agro Industries Ltd, (Formerly, Shiva Fertilizers Ltd), Nanded	120 (SSP)
Shri Bhavani Mishra Fertilizers Pvt. Ltd, Vazirabad, Nanded	30 (SSP)
Shree Pushkar Chems & Fertiliser Ltd, Lote Porshuram, Khed, Ratnagri	100 (SSP)
Zuari Fertilizers and Chemicals Ltd, Mahad, Distt. Raigad	216 (SSP)

(contd)

Table - 5 (conctd.)

Industry/plant	Capacity ('000 tpy)
RCF, Trombay	330 (Urea) 690 (Complex)
RCF, Thal, Distt. Raigad	2000 (Urea)
Pesticides	
Hindustan Insecticides Ltd, Rasaini, Distt. Raigad	13.2
Paint	
Jespco, Irechwara, Miraj	8 (Zircon Paint)
Glass	
Ace Glass Containers Ltd, Pimpri, Distt. Nashik	NA
Empire Industries Ltd, (Vitrum Glass), Vikroli, Mumbai	37.5
Hindustan National Glass & Industries Ltd, Nashik	320 TPD
Iron & Steel	
JSW Ispat Steel Ltd, Dolvi, Raigad	5400 (Sinter) 1600 (Sponge iron) 5040 (Crude/Liquid steel) 3500 (pig iron)
Lloyds Steel Ltd, Wardha	600 (HRC) 350 (CRC) 250 (GPC)
Indian Seamless Steel & Alloys Ltd, Jejuri, Distt. Pune	450 (seamless tubes) 350 (alloy & carbon steel)
Sunflag Iron & Steel Co. Ltd, Warrthy, Mohadi	262 (sponge iron) 250 (Pig iron) 250 (sinter) 505 (Finished steel)
Uttam Galva Metallics Ltd, Bhugaon,Wardha	886.95 (Sinter) 525 (pig iron)
Lime	
Hetendra Lime Products, Rajur, Wani	5.5
Swastic Lime Factory, Rajur, Wani	5.5
Swastic Mineral & Lime Industries, Rajur,Wani	5.5
Pellet	
Amba River Coke Ltd, Dolvi, Pen	4000
Pig Iron	
Ispat Metallics India Ltd, Dolvi, Raigad.	2000
Lint Export Pvt. Ltd, Chincholi, Mohol	0.25
Tata Metaliks Ltd, (Usha Ispat Ltd, Redi), Distt Sindhudurg.	300
Sona Alloys Pvt. Ltd, Satara.	314
Usha Ispat Ltd, Redi.	300
Uttam Galva Metallics Ltd, Bhugaon, Wardha	225 389.95 (Sinter)
Gopani Iron Ore Ltd, Chandrapur.	144 75 (Semi-Finished Steel)

(contd)

Table - 5 (contd)

Industry/plant	Capacity ('000 tpy)
Lloyds Metals & Engineers, Ghugus, Chandrapur.	300
JSW Steel Salav Ltd, Welspun Max Steel Ltd, (formerly Vikram Ispat), Distt. Raigad	900
Ferroalloys	
Chandrapur Ferro Alloys Plant (SAIL), (formerly Maharashtra Elektrosmelt Ltd,), Chandrapur.	100
Minex Metallurgical Co. Ltd, Nimji, Kalmeshwar	0.250 (Fe-Ti)
Natural Sugar & Allied Industries Ltd,	16.5 (Si-Mn)
Sai Nagar, Ranjani, Distt. Osmanabad	16.5 (H. C.Si-Mn)
SRC Chemical Pvt. Ltd, Borieandi, Daund, Pune	6.0
Welspun Maxsteel Ltd, Salav, Raigad.	90
Refractory	
ACE Refractories, Nagpur.	60
NECO Ceramics	NA

(contd)

Table - 5 (concld)

Industry/plant	Capacity ('000 tpy)
Ceraflux India Pvt. Ltd,	2.7 (Ref. Die releasing Agent)
Gokul Shirgaon, Kholapur	2.7 (Ref. Coating)
Calderys India Refractories Limited Nagpur Refractory Works, Ruikhairi Butibori, Nagpur	58 (castable)
Joglekar Refractories Pvt. Ltd,	4.8 (Ramming Mass)
Rabale, Navi Mumbai	0.54 (Chrome Ore +60) 0.15 (Chrome Ore -60) 0.15 (DBM Magnetite)
Petroleum Refinery	
BPCL, Mumbai.	12000
HPCL, Mumbai.	7500

(G) : *Grinding units.*

Note: *Data, for fertilizer and cement industries besides their respective websites, have been taken from Indian Fertilizer Scenario, FAI Statistics and Survey of Cement Industry & Directory, respectively.*