Indian Minerals Yearbook 2017

(Part- I)

56th Edition

STATE REVIEWS (Chhattisgarh)

(FINAL 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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CHHATTISGARH

Mineral Resources

Chhattisgarh is the sole producer of tin concentrates and moulding sand. It is one of the leading producers of coal, dolomite, bauxite and iron ore. The State accounts for about 36% tin ore, 20% iron ore (hematite), 18% coal, 11% dolomite and 4% each diamond & marble resources of the country. Important mineral occurrences in the State are **bauxite** in Bastar, Bilaspur, Dantewada, Jashpur, Kanker, Kawardha (Kabirdham), Korba, Raigarh & Sarguja districts; **china clay** in Durg & Rajnandgaon districts; **coal** in Korea, Korba, Raigarh & Sarguja districts; **dolomite** in Bastar, Bilaspur, Durg, Janjgir-Champa, Raigarh & Raipur districts; and **iron ore (hematite)** in Bastar district, Bailadila deposit in Dantewada district, Chhote Dongar deposit in Kanker district, Rowghat, Chargaon, Metabodeli & Hahaladdi deposits in Rajnandgaon district, Boria Tibbu deposits in Dalli-Rajhara area, Durg district. Bailadila-Rowghat hill ranges in the State are considered to be one of the biggest iron ore fields in India. **Limestone** occurs in Bastar, Bilaspur, Durg, Janjgir-Champa, Kawardha (Kabirdham), Raigarh, Raipur & Rajnandgaon districts; **quartzite** in Durg, Raipur, Rajnandgaon & Raigarh districts; and **talc/soapstone/steatite** in Durg & Kanker districts.

Other minerals found in the State are **corundum** in Dantewada district; **diamond** and other gemstones in Raipur, Mahasamund & Dhamtari districts; **fire clay** in Bilaspur, Raigarh & Rajnandgaon districts; **fluorite** in Rajnandgaon district; **garnet** & **marble** in Bastar district; **emerald** & **gold** in Raipur district; **granite** in Bastar, Kanker & Raipur districts; **quartz/silica sand** in Durg, Jashpur, Raigarh, Raipur & Rajnandgaon districts; and **tin** in Bastar & Dantewada districts Table - 1. The reserves/ resources of coal are furnished in Table - 2.

Exploration & Development

The details of exploration activities conducted by GSI, NMDC and State DGM during 2016-17 are furnished in Table - 3.

Production

The important minerals produced in the Chhattisgarh state in 2016-17 were coal, bauxite iron ore, tin (conc.), limestone and moulding sand**.**

The value of minor minerals' production was estimated at ` 634 crore for the year 2016-17. There were 104 reporting mines reporting in 2016-17 in case of MCDR minerals. Details are furnished in Table – 4.

Table – 2 : Reserves/Resources of Coal as on 1.4.2017 : Chhattisgarh

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total	**19997.11**	**34462.15**	**2201.90**	**56661.16**
Sohagpur	94.30	10.08	-	104.38
Sonhat	263.15	2401.15	1.89	2666.19
Jhilimili	228.20	38.90	-	267.10
Chirimiri	320.33	10.83	31.00	362.16
Bisrampur	1236.20	605.38	5.15	1846.73
Bisrampur (East)	-	164.82	-	164.82
Lakhanpur	455.88	3.35	-	459.23
Panchbahini	-	11.00	-	11.00
Hasdeo-Arand	2032.28	3273.42	223.12	5528.82
Sendurgarh	152.89	126.32	-	279.21
Korba	5877.26	5783.70	168.02	11828.98
Mand-Raigarh	9286.19	19206.92	1563.04	30056.15
Tatapani-Ramkola	50.43	2826.28	209.68	3086.39

Source: *Coal Directory of India, 2016-17.*

Table – 1 : Reserves/Resources of Minerals as on 1.4.2015: Chhattisgarh

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	12537	218	2313	15068	15341	4570	46389	37264	12892	23483	18747	158687	173755
China Clay#	'000 tonnes	107	-	22	130	1272	765	1412	-	-	11422	-	14871	15001
Corundum#	tonne	-	-	-	-	100	310	188	-	-	288	-	885	885
Diamond	carat	-	-	-	-	-	-	-	-	-	1304000	-	1304000	1304000
Dolomite#	'000 tonnes	34465	48130	11623	94218	29294	80865	24512	150795	24412	511610	1950	823439	917657
Fireclay#	'000 tonnes	315	23	94	433	68	27	17	7180	3400	10435	-	21126	21558
Fluorite	tonne	-	-	-	-	65889	153132	9288	185485	5573	126088	-	545455	545455
Garnet	tonne	-	-	-	-	-	-	-	-	-	28800	-	28800	28800
Gold														
Ore (primary)	tonne	-	-	-	-	-	-	-	-	600000	4241033	-	4841033	4841033
Metal (primary)	tonne	-	-	-	-	-	-	-	-	1.8	3.71	-	5.51	5.51
Graphite	tonne	6111	-	-	6111	1230	-	-	-	-	-	-	1230	7341
Granite## (Dim. stone)	'000 cu m	-	-	-	-	-	-	-	-	-	50057	-	50057	50057
Iron ore (Hematite)	'000 tonnes	1067636	78071	241730	1387437	255074	61735	47394	921139	613433	801086	770827	3470687	4858124
Iron ore (Magnetite)	'000 tonnes	8087	-	3096	11183	-	-	42	-	-	-	-	42	11225
Limestone	'000 tonnes	1025180	7128	145576	1177885	1071824	751825	427410	1332250	485933	5558135	-	9627377	10805262
Marble##	'000 tonnes	-	-	-	-	-	-	-	-	-	83000	-	83000	83000
Ochre	tonne	-	-	-	-	-	142	-	-	-	-	-	142	142
Quartzite#	'000 tonnes	605	1524	1567	3696	575	7035	1856	-	-	15404	-	24870	28566
Quartz-silica sand#	'000 tonnes	501	479	800	1780	389	282	789	56	26	642	7672	9856	11636
Talc/soapstone steatite#	'000 tonnes	22	-	8	30	-	-	-	-	70	8	-	78	108
Tin														
Ore	tonne	2067	897	1455	4419	1508	2017	72	168457	559914	29063288	-	29795255	29799674
Metal	tonne	44.56	94.02	15.62	154.20	917.02	342.02	16.85	813.29	209.43	13172.34	-	15470.95	15625.15

Figures rounded off.
 # Declared as minor mineral vide Gazette notification dated 10.02.2015.

Table – 3: Details of Exploration Activities in Chhattisgarh, 2016-17

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI							
Coal							
Raigarh (Mahanadi Valley Coalfield)	Jobro West block, Mand- Raigarh Coalfield	-	-	12	2433.35	-	G2 stage exploration was carried out for coal in Jobro West Block. Barakar Formation is the main repository of the regional coal seams and it represents a sequence of medium to coarse grained sandstone, heterolith, siltstone, grey shale, mudstone, carbonaceous shale and regional as well as local coal seams. Middle Barakar contains major regional coal seams of economic importance in the basin. Eight regional Barakar coal seams (Seam II, III, IV, V, VI+VII, VIII, IX & X in ascending order) and a few local coal seams within Raniganj Formation have been intersected between the depths of 15.39 and 692.74 m. Thickness of individual coal seam varies from 0.57 to 16.88 m. Strike wise 2.5 km and dip wise 2 km extension of all major coal seams have been traced over the area.
	Tendumuri block, Mand- Raigarh Coalfield	-	-	7	3495.10	-	G2 stage exploration was carried out for coal located in the north-central part of the Mand-Raigarh Coalfield, is covered by the Barakar Formation. The middle part of the entire Barakar sequence contains major regional coal seams of economic importance in the basin. Altogether, twelve regional Barakar coal seams (I to X,XII & XIII in ascending order) were intersected between the depth of 17.75 and 626.34 m. Thickness of individual coal seam varies from 0.50 m (Seam X) to 13.36 m (Seam IV). Strike wise 3 km and dip wise 3 km extension of all major coal seams have been traced over the area. A total of 1674.26 m geophysical logging and 3 sq km large scale mapping (RF 1:10000) has also been carried out.

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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		
Coal							
Surguja Tatapani-Ramkola	Sendur block, Tatapani-Ramkola Coalfield	-	-	-	3408.10	-	G2 Stage Regional exploration was carried out for coal in this block. Four regional Barakar coal seams (Seam-I to III & Seam-XIII in ascending order) with thickness varying from less than a meter to 19.68 m (cumulative) have been intersected between the depths of 256.60 and 644.74 m. Seam-III occurs in two splits i.e. Seam III Top and Seam III Bottom. It is the most important seam amongst all regional Barakar coal seams in terms of thickness and regional presistency.
Bauxite							
Jashpur	Pakhritola, north block	1:2000	-	77	1155.8	4	G2 level general exploration for bauxite ore was carried out in this block was drilled with an approximate depth of 15 m of each boreholes. Maximum thickness of 4.25 m ore zone (bauxite/aluminous laterite/ laterite with pockets of bauxite) is intersected. Bauxite is grey to purplish grey and occurs as discontinuous pockets, boulders and lenses within the laterite and aluminous laterite. Mainly two varieties of bauxite are present – massive and pisolitic. Aluminium laterite is pinkish grey. Al_2O_3 values of surface samples of bauxite yielded encouraging results with Al_2O_3 ranging from 50.82 to 57.70%. General thickness of ore zone intersected is between 0.5 m and 1.5 m XRD results of four bauxite samples revealed that gibbsite is the dominant mineral phase along with minor boehmite, anatase and haematite.
Jashpur	Pakhritola south block	1:2000	0.15	84	1237.8	-	G2 stage general exploration for bauxite ore was carried out to assess bauxite ore in south Pakhritola. Detailed mapping was carried out. The drilled boreholes intersected soil, laterite, bauxite, aluminous laterite and lithomarge. Bauxite zone occurs in the form of thin to moderately

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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		
							thick, flat lenticular bodies with a maximum overburden thickness of 7.0 m. The ore zones (bauxite/ aluminous laterite/ laterite with pockets of bauxite) intersected are 1 to 2.0m thick, maximum being 5.1 to 5.5m. The boreholes in the eastern side of the block are more potential. PCS analysis of six samples revealed that the ores are mainly composed of Al_2O_3 (56.21 to 50.58 wt.%), SiO_2 (2.02 to 1.26 wt.%), Fe_2O_3 (6.53 to 3.82 wt.%), and TiO_2 (8.18-10.6 wt.%) with LOI ranging from 24.7 to 22.63 wt.%. XRD study reveals gibbsite as the major mineral phase along with minor content of bohemite, anatase, haematite, quartz and kaolinite. The calculated bulk density of bauxite in this area is 1.912 tonne/cu.m.
Jashpur	Dantalgawa, block	-	2.00	-	-	-	G2 stage general exploration for bauxite ore was carried out in this block. The detailed map of Dantalgawa block shows laterite, laterite with pockets of bauxite, aluminous laterite with pockets of bauxite, pisolitic bauxite and massive bauxite. Aluminous laterite float ore has been seen mostly in the eastern and centre part of the block. Exposures of massive and pisolitic bauxite are sporadic. Thickness of bauxite varies between 0.5 and 2.0 m. Petrochemical samples, XRD samples and water samples were collected for analysis.
	Datunpani, block	1:4000	2.00	-	-	-	G2 stage general exploration for bauxite ore was carried out in this block. Pockets of bauxite are also exposed on the surface mostly in the western part of the area in scarp section. Aluminous laterite (float ore) of two varieties have been observed; one with small pockets of bauxite and the second one which is devoid of bauxite. Bauxite is cement grey, hard, compact, massive to pisolitic with pisolite size vary from few mm to 3 cm in diameter. Pisolitic bauxite occours as sand regular patches of

(Contd.)

Table - 3 (Contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							elongated & circular shape, found south of Datunpani block. Occurrences of massive bauxite have been reported at a few locations. Massive bauxite is mainly composed of gibbisite, boehmite and anatase. Pisolitic bauxite and aluminious laterite contain goethite and hematite apart from gibbisite, boehmite and anatase as confirmed from XRD results.
Jashpur	Rajpur, block	1:4000	2.00	-	2160	-	A G2 stage general investigation was taken up for bauxite ore by drilling and detailed mapping. Extensive lateritisation of the Deccan traps has resulted in the development of irregular, isolated patches of Cenozoic laterite/aluminous laterite with pockets of bauxite. They occur as caps over the plateaus and isolated hills. Laterite is mostly reddish to reddish brown, pisolitic and porous. In the western part of the area, below escarpment laterite contains pockets of bauxite. Pockets of bauxite are also exposed on the surface mostly in the western part of the area. Bauxite is cement grey, hard, compact, massive to pisolitic. Aluminous laterite (float ore) of two varieties had been observed; one with small pockets of bauxite and the other which is devoid of any bauxite. Pisolitic bauxite is found as patches at west of Rajpur block. Massive bauxite occurs as small patches of 100 m length, 10 m width & 2 m thickness in the north of Rajpur block on the outskirts of Kadampat village. In the southern part of the block, another outcrop of about 60 m length and 30 m width is exposed. Average thickness of bauxite is about 3 m. Even smaller patches of massive bauxite of comparatively smaller thickness can be noticed near the eastern boundary of the block.
	Ghardega, Kurkuria block	1:5000	4.5	26	335.35	-	G3 stage preliminary exploration for bauxite ore was carried out in this block, by detailed mapping, to demarcate occurrences of bauxite ore

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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		
							and associated aluminous laterite. The bauxite zone occurs in the form of pockets and lenses within the laterite and aluminous laterite. The bauxite is massive, hard, compact, pisolitic in nature (with pisolite size varies from 1 mm to 1cm) and shows shades of light grey and pink colour. Pisolitic bauxite was observed at the elevated south-central part of the study area. Aluminous laterite (float ore) had been observed south of Kurkuria village. The ore is generally restricted in two horizons. The thickness of the bauxite zone varies from 0.15 to 5.00 m. Bauxite horizons occur as irregular and discontinuous lenses, lensoids or tabular bodies within laterite. Discontinuous massive bauxite ore is observed having 500 m length, 5 m width & 2-3 m thickness, in the north western scarp section at 1km west of Kurkuria village. Thickness of bauxite varies between 0.5 m and 3.0 m in this scarp section. Drilling was carried out on 200 m X 400 m grid interval.
Tungsten							
Jashpur	Chiknipani, Mayurnacha area	1:12500	101	-	-	-	G4 stage reconnaissance survey for tungsten and associated mineralisation was taken up in this area by LSM. Scheelite is the source of tungsten which occurs as discriminated inclusions in quartz-tourmaline vein. The chemical analysis results of trace elements, PGE and REE for the BRS and PTS samples are still awaited. The analytical results for Au of 50 BRS has been received which is less than 0.025 ppm.
Diamond							
Mahasamund Balodabazar & Jangir-Champa	Junadih, (Bamhani)	-	700	-	-	-	G4 stage search for kimberlite clan rocks was taken up in this area. One new ultramafic body was identified in the eastern parts of Junadih (Bamhani) in contact with leuco granite. SEM-EDX study of suspected indicator grains was carried out and the grains were identified as Cr-spinels to Mg-rich chromites, ilmenites, magnetites and garnets. EPMA study reveals the presence of serpentinised olvine,

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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		
							amphibole, chrome spinels, magnetite and carbonate in thin section. Most of the spinels probed were chromites and Mg-rich chromites. The MgO content range from 4.87 to 15.24% and Cr_2O_3 from 47.4 to 56.83% in these spinels.
Mahasamund	-	-	1400	-	-	-	G4 stage search for kimberlite clan rocks was taken up by reconnaissance mapping and ground check were carried out in the target blocks on priority basis. Petrological samples were collected and the rocks were identified as suspected lamproite, pyroxenite, gabbro, dolerite and meta dolerite. A total of 35 PCS samples were collected for petrochemical studies. The whole rock and trace element analytical data of samples indicate the rocks belong to mafic and ultramafic clan. A total of 400 stream sediment samples were collected for heavy mineral separation and these were studied under binocular microscope. Selected grains were mounted for further studies under SEM-EDX and EPMA. During FS 2016-17, 310 grains and one thin section of suspected lamproite dyke were analysed under SEM-EDX which include 110 grains of garnets, 21 grains of spinels, magnesio Chromite (MgO 13.96% Cr_2O_3 57.48%) including one grain with KCR affinity, 159 grains of ilmenite and 20 grains of pyroxene. The mineral phases of suspected lamproite dyke comprise of carbonate, Ti rich phlogopite, diopside, Sr-rich apatite; REE-rich phosphates (monazite), chalcopyrite, pyrite, Mn ilmenite, ulvospinel and show affinity towards KCR. In view of the reported incidence of high Mg chromite in west of Nawadih village, further work was carried out in the upstream side and yielded one grain of magnesio Chromite (MgO 13.96% Cr_2O_3 57.48%) having KCR affinity and geophysical survey by magnetic method to locate concealed Kimberlite Clan Rocks.

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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		
Limestone							
Kabirdham	Birutola, Nawapara-Sohagpur block	1:4000	2.7	-	-	-	G2 stage general exploration was taken up in this area by detailed mapping. A few exposures of stromatolitic limestone have been observed in the periphery of the area and also intersected in most of the boreholes at an average depth of 10 to 25 m. Besides, core samples, PCS, BRS and XRD samples were also collected.
Rajnandgaon	Jagmadwa-Hanaibandh-Mardkathera block	1:4000	2.8	64	2000	1146	G2 stage general exploration was carried out in this area by detailed mapping, drilling & sampling. Boreholes were drilled with 30 m average depth each and 4 boreholes with each 50 m average depth. Out of the 64 boreholes, 40 boreholes are economically significant. The thickness of limestone varies 18 to 24.2 m with less shale partings. Resources will be estimated after receipt of analytical data.
Gluconite							
Mahasamund	Saraipalli, Bhalukona and Arjunda area.	-	-	-	-	50	G4 stage reconnaissance survey for glauconite and associated mineralisation was carried out around Saraipalli, Bhalukona and Arjunda area. Glauconite mineralisation of various sizes and shapes is observed in sandstone and shale of Bhalukona Formation. Glauconite content increases from top to bottom and at the bottom part sandstone appears green due to the higher concentration of glauconite. A total three bands of glauconite bearing sandstone horizons were mapped in Arjunda, Limgaon and Darrabhata areas. Fifty representative BRS samples were collected from the different glauconite sandstone and shale horizons for chemical anlysis, petrographic and petrochemical studies. As per analytical results of three bedrock samples, the K_2O content is found to be high in shale (5.48%) as compared to sandstone (0.95 & 1.58%).

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Table - 3 (Concld.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
MECL							
Iron Ore							
Balod	Jharandalli Mechanized Mine (phase V)	-	-	18	1443.4	951	Exploratory drilling for mine suport have been carried out by MECL for SAIL.
	Rajhara Mechanised Mine,Dalli-Rahhara, ML No. 2148	-	-	5	1360.00	506	Exploratory drilling for mine support have been carried out by MECL for SAIL.
	Dalli Mechanised Mine (Phase V), Dalli-Rahhara	-	-	27	2678.50	1697	Exploratory drilling for mine support have been carried out by MECL for SAIL.

Table –4 : Mineral Production in Chhattisgarh, 2014-15 to 2016-17 (Excluding Atomic Minerals)

(Value in `'000)

Mineral	Unit	2014-15			2015-16			2016-17 (P)		
		No. of mines	Quantity	Value	No. of mines	Quantity	Value	No. of mines	Quantity	Value$
All Minerals		**216**		**238719078**	**161**		**214903492**	**161**		**76045547**
Coal	'000t	61	134764	139855400	57	130605	147436800	57	143849	-
Bauxite	t	13	1560784	1164426	11	1991455	1314345	13	1954233	1336544
Iron Ore	'000t	14	29388	85391078	15	26718	52780037	15	31068	60462471
Tin Conc.	kg	6	24685	18528	6	13541	9231	6	12120	7443
Dolomite#	t	43	2437702	825904	-	-	-	-	-	-
Graphite (r.o.m.)	t	1	-	-	1	-	-	-	-	-
Limestone	'000t	63	23588	5095514	68	27667	7013331	66	31919	7889042
Quartz#	t	5	4705	2113	-	-	-	-	-	-
Quartzite#	t	7	19696	20813	-	-	-	-	-	-
Moulding Sand	t	3	6383	1671	3	26042	6117	4	27686	6416
Minor Minerals@		-	-	6343631	-	-	6343631	-	-	6343631

Note : *The number of mines excludes minor minerals.$ Excluding Fuel minerals.*
@ Figures for earlier years have been repeated as estimates, wherever necessary, because of non-receipt of data.
 # Declared as minor mineral vide Gazette notification dated 10.02.2015.

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 furnished in Table - 5.

Table – 5 : Principal Mineral-based Industries in Chhattisgarh

Industry/plant	Capacity ('000 tpy)
Aluminium	
Bharat Aluminium Co. Ltd (Unit I & II), Korba.	200[#] (Alumina) 570 (Aluminium)
([#]Plants remained non-operational during the year).	
Cement	
ACC Ltd, Jamul, Distt. Durg.	2400
Ambuja Cements Ltd, Bhatapara, Distt. Raipur.	3500
Bhilai Jaypee Cement Ltd, Bhilai, Distt. Durg (G).	2200
CCI Ltd , Akaltara, Distt. Janjgir- Champa	400
CCI Ltd, Mandhar, Distt. Raipur.	380
Century Cement, Baikunth, Distt. Raipur.	2100
J. K. Laxmi, Durg.	2.7
Lafarge India Pvt. Ltd, Arasmeta, Distt. Janjgir-Champa.	1.8
Lafarge India Pvt. Ltd, Sonadih, Distt. Raipur.	550
Shree Cement, Baloda Bazar, Distt. Raipur	2600
UltraTech Cement Ltd, Hirmi, Distt. Raipur.	2.75
UltraTech Cement Ltd, Rawan, Distt. Raipur.	2500
Fertilizer	
BEC Fertilizers, Sirgitti, Distt. Bilaspur.	135 (SSP)
Dharamsi Morarji Chemical Co. Ltd, Kumhari, Distt. Durg.	183 (SSP & H_2SO_4)
Khaitan Chemicals & Fertilizers Ltd, Distt. Rajnandgaon.	66 (SSP) 49.5 (H_2SO_4)
Iron & Steel	
Bhilai Steel Plant, Bhilai.	8350 (Sinters) 4700 (Pig iron) 3925 (crude/liquid steel)

(Contd.)

Table - 5 (Contd.)

Industry/plant	Capacity ('000 tpy)
Jindal Steel & Power Ltd, Raigarh.	2300 (Sinters) 1370 (Sponge iron) 4000 (Crude/liquid steel)
Jayaswal NECO Industries Ltd, Siltara, Distt. Raipur.	750 (Pig iron) 250 (Sponge iron) 1200 (Sinter) 400 (Steel) 792 (Pellets)
Sarda Energy & Minerals Ltd, (formerly Raipur Alloys & Steel Ltd), IGC, Siltara, Distt. Raipur.	600 (Pellets) 210 (Sponge iron) 240 (Finished steel)
Shri Bajrang Power & Ispat Ltd, Borjhara, Distt. Raipur.	210 (Sponge iron) 130 (Steel) 1200 (pellets)
Sponge Iron	
A.P.I. Ispat & Power Tech. Pvt. Ltd, Siltara Billets, Raipur	105 30 (Refractory bricks)
Alliance Integrated Metallics Ltd, Bemta, Distt. Raipur.	500
Anjani Steel Ltd, Ujalpur, Distt. Raigarh.	102
Arti Sponge & Power Ltd, Siltara, Distt. Raipur.	45
Ambika Ispat (I) Pvt Ltd, Tarainal, Distt. Raigarh.	30
Baldev Alloys Pvt. Ltd, Siltara, Raipur.	30
Bhagavati Power & Steel Pvt Ltd, Siltara, Distt. Raipur.	60
B.S. Sponge Pvt Ltd, Taraimal, Raigarh.	30
Crest Steel & Power Pvt. Ltd, IGC Borai, Distt. Durg.	115
Devi Iron & Power Pvt Ltd, Tandira, Distt. Raipur.	30
Drolia Electro Steel Pvt Ltd, Siltara, Raipur.	66
Euro Pratik Ispat Pvt Ltd, Charoda, Distt. Raipur.	30
Gravity Treksim Pvt Ltd, Siltara, Distt. Raipur.	30
Godavari Power & Ispat Ltd, Siltara, Distt. Raipur.	495 2100 (pellets)
Gopal Sponge & Power Pvt Ltd, Siltara, Distt. Raipur.	30
Gitanjali Ispat & Power Pvt Ltd, Sirgititi, Distt. Bilaspur.	30

(Contd.)

Table - 5 (Contd.)

Industry/plant	Capacity ('000 tpy)
Mangal Sponge & Steel Pvt Ltd, Bilha, Bilaspur.	30
GR Sponge & Power Ltd, Siltara, Distt. Raipur.	37
Shree Hare Krishna Sponge Iron Ltd, Siltara, Distt. Raipur.	210
Jai Shree Balaji Steel Pvt Ltd (HEG Ltd), Borai, Distt. Durg.	120 (Sponge iron)
Hi-Tech Power & Steel Ltd, Parsada, Distt. Raipur.	30
Ind Synergy Ltd, Kotmar, Distt. Raigarh.	300
Indian Ispat & Power, Siltara, Distt. Raipur.	30
Kalindi Ispat Pvt. Ltd, Belpan, Distt. Bilaspur.	60
Khetan Sponge & Infrastructure Pvt. Ltd, Sarora, Distt. Raipur.	30
Maa Kali Alloys (Ind.) Pvt Ltd, Pali, Distt. Raigarh.	30
Mangal Sponge & Steel Pvt Ltd, Bilha, Bilaspur.	30
Mangala Ispat Pvt Ltd, Natvarpur, Distt. Raigarh.	30
Millennium High-Tech Industries Ltd, Parsada, Distt. Raipur.	30
MSP Steel & Power Ltd, Raigarh.	192 900 (pellets)
Monnet Ispat & Energy Ltd, Hasaud, Raipur.	300
Monnet Ispat & Energy Ltd, Naharpalli, Raigarh.	500
NR Sponge Pvt. Ltd, Raipur.	60
Nalwa Steel & Power Ltd, Taraimal, Raigarh.	198
Nakoda Ispat Ltd, Siltara, Raipur.	66
Navdurga Fuse Pvt Ltd, Raigarh.	60
Nova Iron & Steel Ltd, Dagori, Bilaspur.	150
Nutan Ispat & Power Ltd, Jaroda, Raipur.	30
PD Industries Pvt Ltd, Siltara, Raipur.	30
Prakash Industries Ltd, Hathenewra, Janjgir-Champa.	450
Raigarh Ispat & Power Ltd, Delari, Distt. Raigarh.	30

(Contd.)

Table - 5 (Contd.)

Industry/plant	Capacity ('000 tpy)
Rameswaram Steel & Power Ltd, Gharghoda, Distt. Raigarh.	30
Salasar Sponge & Power Pvt Ltd, Gerwani, . Distt. Raigarh	30
Shakambri Steel & Power Pvt Ltd, Raigarh.	30
Shakun Sponge Iron Pvt Ltd, Shirgitti, Distt. Bilaspur.	30
Shivalaya Ispat & Power Pvt Ltd, Guma, Distt. Raipur.	30
Shivshakti Steel Pvt. Ltd, Chakradharpur, Distt. Raigarh.	100
Shri Sita Ispat & Power Pvt. Ltd, Borjhara, Distt. Raipur.	30
Shree Radhe Industries Ltd, Silpahari, Bilaspur.	60
Shree Shyam Sponge & Power Ltd, Bachera, Distt. Raipur.	30
Sidhi Vinayak Sponge Iron Pvt Ltd, Raigarh.	30
S.K. Sarawagi & Co. Pvt Ltd, Siltara, Distt. Raipur.	60
SKS Ispat & Power Ltd, Siltara, Distt. Raipur.	270
Singhal Enterprises Pvt Ltd, Taraimal, Distt. Raigarh	156
Sree Nakoda Ispat Ltd, Siltara, Distt. Raipur.	66
Sunil Ispat & Power Ltd, IGC Siltara, Distt. Raipur.	115
Sunil Sponge Iron Ltd, Chiraipani, Distt. Raigarh.	105
Topworth Steel Pvt Ltd, Rasmada, Distt. Durg.	60
Trimula Sponge Iron Pvt Ltd, Siltara, Raipur.	30
Vandana Global Ltd, Siltara, Distt.Raipur.	231
Vasvani Industries Ltd, Siltara, Distt. Raipur.	30
Vidhyan Minerals India Pvt. Ltd, Bilaspur.	30
Ferro Alloys	
Alok Ferro Alloys Ltd, Urla, Raipur.	18
Deepak Ferro Alloys Ltd, Urla, Distt. Raipur.	5
Indsil Energy & Electro Chemical Ltd, Urla, Distt. Raipur.	19.2

(Contd.)

Table - 5 (Contd.)

Industry/plant	Capacity ('000 tpy)
Hira Ferro alloys Ltd, Urla, Distt. Raipur.	61.5
Jindal Steel & Power Ltd, Kharsia, Distt. Raigarh.	36
Sarda Energy & Minerals Ltd, (merged Chhattisgarh Electricity Co. Ltd) Siltara, Distt. Raipur.	45 MVA
Monnet Ispat Ltd, Hasaud, Raipur.	80
Nav-chrome Ltd, Urla, Distt. Raipur.	50
Standard Chrome Ltd, Barmuda, Distt. Raigarh.	15
Tirumala Balaji Alloys Pvt Ltd, Raigarh.	21

(Contd.)

Table - 5 (Concld.)

Industry/plant	Capacity ('000 tpy)
Refractory	
SAIL Refractory Unit (formerly Bharat Refractories Ltd), Bhilai, Distt. Durg.	60
Vishva Vishal Engineering Ltd, Bhilai, Distt. Durg.	8.2
Silicon Carbide Crucible	
M.P. Carbon (Pvt) Ltd, Raipur.	NA

***(G)**; Grinding Unit*

***Note:** Data, not readily available for fertilizer and cement industries on respective websites, is taken from Indian Fertilizer Scenario, 2015/FAI Statistics, 2015-16 and Survey of Cement Industry & Directory, 2016 respectively.*