

STATE REVIEWS



# Indian Minerals Yearbook 2015 (Part- I)

**54<sup>th</sup> Edition**

**STATE REVIEWS  
(Madhya Pradesh)**

**(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](mailto:cme@ibm.gov.in)  
Website: [www.ibm.gov.in](http://www.ibm.gov.in)

**July, 2017**

## MADHYA PRADESH

### Mineral Resources

Madhya Pradesh is the only diamond producing State in the country and is the leading producer of copper conc., diaspore, pyrophyllite, manganese ore, limestone and clay (others). The State hosts the country's 90% diamond, 63% diaspore, 52% laterite, 56% pyrophyllite, 41% molybdenum, 28% dolomite, 19% copper ore, 18% rock phosphate, 17% fireclay and 11% manganese ore resources.

Important mineral occurrences in the State are: **bauxite** in Balaghat, Guna, Jabalpur, Katni, Mandla, Rewa, Satna, Shahdol, Shivpuri, Sidhi & Vidisha districts; **calcite** in Barwani, Jhabua, Khandwa & Khargone districts; **china clay** in Betul, Chhatarpur, Chhindwara, Gwalior, Hoshangabad, Jabalpur, Khargone, Narsinghpur, Raisen, Satna, Shahdol & Sidhi districts; **copper** in Balaghat, Betul & Jabalpur districts; **coal** in Betul, Shahdol & Sidhi districts; **diamond** in Panna district; **diaspore & pyrophyllite** in Chhatarpur, Shivpuri & Tikamgarh districts; **dolomite** in Balaghat, Chhindwara, Damoh, Dewas, Harda, Hoshangabad, Jabalpur, Jhabua, Katni, Mandla, Narsinghpur, Sagar and Seoni districts; **fireclay** in Betul, Chhindwara, Jabalpur, Katni, Narsinghpur, Panna, Sagar, Shahdol & Sidhi districts; **iron ore (haematite)** in Betul, Gwalior, Jabalpur & Katni districts; **limestone** in Balaghat, Chhindwara, Damoh, Dhar, Hoshangabad, Jabalpur, Jhabua, Khargone, Katni, Mandasaur, Morena, Narsinghpur, Neemuch, Rewa, Sagar, Satna, Sehore, Shahdol & Sidhi districts; **manganese ore** in Balaghat and Jhabua districts;

**ochre** in Dhar, Gwalior, Jabalpur, Katni, Mandla, Rewa, Satna, Shahdol & Umaria districts; **pyrophyllite** in Chhatarpur, Sagar, Shivpuri & Tikamgarh districts; **quartz/silica sand** in Balaghat, Dewas, Dhar, Jabalpur, Khandwa, Khargone, Morena, Rewa & Shahdol districts; **talc/steatite/soapstone** in Dhar, Jabalpur, Jhabua, Katni, Narsinghpur & Sagar districts and **vermiculite** in Jhabua district.

Other minerals that occur in the State are: **barytes** in Dewas, Dhar, Shivpuri, Sidhi & Tikamgarh districts; **calcareous shales** (used in slate pencil) in Mandasaur district; **felspar** in Jabalpur & Shahdol districts; **fuller's earth** in Mandla district; **gold** in Jabalpur and Sidhi districts; **granite** in Betul, Chhatarpur, Chhindwara, Datia, Jhabua, Panna, Seoni & Shivpuri districts; **graphite** in Betul & Sidhi districts; **gypsum** in Shahdol district; **lead-zinc** in Betul district; **molybdenum** in Balaghat district; **potash** in Panna district; **quartzite** in Sehore district; **rock phosphate** in Chhatarpur, Jhabua & Sagar districts and **sillimanite** in Sidhi district (Table-1). The reserves/resources of coal along with various coalfields in Madhya Pradesh are given in Table - 2.

### Exploration & Development

The details of exploration activities conducted by various agencies for coal and other minerals during 2014-15 are furnished in Table - 3.

During 2014-15, National Oil Companies (NOC) continued their operations for exploration of oil and gas in the State.

**Table – 1: Reserves/Resources of Minerals as on 1.4.2010/1.4.2013\* : Madhya Pradesh**

Mineral	Unit	Reserves				Remaining Resources				Total Resources (A+B)			
		Proved STD111	Probable STD121	Total (A) STD211	Pre-feasibility STD221	Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334		Total (B)		
												STD122	STD222
Barytes#	tonne	-	-	-	18500	4472	-	35000	233940	-	291912	291912	
Bauxite*	000 tonnes	11735	1037	2923	15695	9451	10296	56153	50796	-	142125	157820	
Calcite#	tonne	-	-	-	215327	82577	194333	20250	180226	400791	97476	1190980	
China clay#	000 tonnes	-	-	-	942	61	-	415	11741	-	13160	13160	
Copper*													
Ore	000 tonnes	9000	-	119631	128631	42466	-	35120	1510	79389	-	159035	287666
Metal	000 tonnes	93.6	-	1629.98	1723.58	411.90	-	460.10	11.33	867.50	-	1754.96	3478.54
Diamond*	carat	984875	-	-	984875	-	-	-	104118	27645359	-	27749477	28734352
Diaspore#	tonne	719609	562818	174476	1456903	51764	386086	349488	248335	132794	46068	2295946	3752849
Dolomite**	000 tonnes	27459	16124	24326	67909	21809	88044	72858	18314	288407	114799	2185347	2253256
Felspar#	tonne	-	-	-	-	-	-	-	-	339851	-	339851	339851
Fireclay#	000 tonnes	2167	2026	269	4462	829	3747	2823	101081	100	11582	120314	
Fuller's earth	tonne	-	-	-	-	-	-	-	-	117200	-	117200	117200
Gold*													
Ore													
(primary)	tonne	-	-	-	-	-	-	-	5841000	1947000	-	7788000	7788000
Metal													
(primary)	tonne	-	-	-	-	-	-	-	6.18	2.22	-	8.4	8.4
Granite													
(Dim. stone)	000 cu m	-	160	-	-	-	-	-	-	1885924	108000	1993924	1994084
Graphite*	tonne	-	-	-	-	-	-	-	-	1006660	-	1006660	1006660
Gypsum#	000 tonnes	-	-	-	-	-	-	-	-	69	-	69	69
Iron ore*													
(Haematite)	000 tonnes	31177	3471	12051	46700	18218	1685	14982	20367	6108	10	206662	253362
Laterite*	000 tonnes	348	223	899	1470	160	27	509	-	522	129778	289905	291376

(Contd.)

## STATE REVIEWS

Table – 1 (Concid.)

Mineral	Unit	Reserves				Remaining Resources				Total Resources				
		Proved STD111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334	Total (B)	Total (A+B)
			STD121	STD122			STD221	STD222						
Lead-zinc*														
Ore	000 tonnes	-	-	-	129	117	-	1510	4006	5930	3150	14841	14841	
Lead metal	000 tonnes	-	-	-	-	-	-	26.12	5.13	5.04	-	36.29	36.29	
Zinc metal	000 tonnes	-	-	-	5.2	4.71	-	114.76	41.93	186.02	101.12	453.74	453.74	
Limestone	000 tonnes	460445	1166513	24865	287634	204089	88311	514783	560472	3971168	264247	5890703	7542526	
Manganese														
ore*	000 tonnes	22347	6949	1289	4556	1887	5667	-	4370	5062	-	21542	52127	
Molybdenum*														
Ore	tonne	-	-	-	-	-	-	-	-	8000000	-	8000000	8000000	
Contained														
MoS <sub>2</sub>	tonne	-	-	-	-	-	-	-	-	5020	-	5020	5020	
Ochre#	tonne	486269	128178	41027	253245	1549706	1094108	267721	2141616	3732142	749250	9787788	10443262	
Potash	Million tonnes	-	-	-	-	-	-	-	1206	-	-	1206	1206	
Pyrophyllite#	tonne	6779943	5239637	2622217	585596	3451594	2062603	2407790	3753640	4418648	248405	16928276	31570073	
Quartzite#	000 tonnes	-	-	-	-	-	-	-	-	832	-	832	832	
Quartz/														
silica sand#	000 tonnes	144	11	14	51	-	86	47	316	2191	-	2691	2860	
Phosphorite/Rock														
phosphate*	tonne	12706556	1763187	9780699	3471683	13700000	5990814	-	2730000	6728623	50625	32671745	56922186	
Sillimanite	tonne	-	-	-	-	-	-	-	-	-	101600	101600	101600	
Silver*														
Ore	tonne	-	-	-	-	-	-	-	2096000	1120000	-	3216000	3216000	
Metal	tonne	-	-	-	-	-	-	-	150.61	9.25	-	159.86	159.86	
Talc/steatite/														
soapstone#	000 tonnes	-	-	-	4	375	954	-	1679	6107	-	9119	9119	
Vermiculite	tonne	-	-	-	197	-	66	-	-	66	-	329	329	

Figures rounded off.

\* Reserves/Resources as on 1.4.2013.

# Declared as minor mineral vide Gazette notification dated 10.2.2015.

Note: The proved and indicated balance recoverable reserves of coal bed methane (CBM) in the State as on 01.04.2015 were 32.13 billion cu m.

## STATE REVIEWS

**Table – 2 : Reserves/Resources of Coal as on 1.4.2015 : Madhya Pradesh**

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
<b>Total</b>	<b>10411.43</b>	<b>12783.81</b>	<b>3340.55</b>	<b>26535.79</b>
Johilla	185.08	104.09	32.83	322.00
Umaria	177.70	3.59	–	181.29
Pench-Kanhan	1465.78	878.66	692.13	3036.57
Pathakhera	290.80	88.13	68.00	446.93
Gurgunda	–	84.92	53.39	138.31
Mohpani	7.83	–	–	7.83
Sohagpur	1751.56	5528.36	319.42	7599.34
Singrauli	6532.68	6096.06	2174.78	14803.52

*Source: Coal Directory of India, 2014-15.***Table – 3 : Details of Exploration Activities in Madhya Pradesh, 2014 - 15**

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
<b>GSI</b>							
<b>Basemetal</b>							
Chhindwara	Belkheri Block	-	-	-	-	-	G4 stage exploration for base metals was taken up to assess the mineral potential of the host rock. The host-rock occurring as lenses comprising garnetiferous quartz-sericite-chlorite-biotite rock and pink silicified rhyolite were exposed about 150 m WNW of Belkheri village. Study in this area during FS 2006-07, has established two E-W trending 1000 ppm zinc anomaly zones extending over a length of 400 m and 200 m, respectively, with a width of 50 m. Besides, one E-W trending 500 ppm Pb anomalous zone with a dimension of 250 m × 40 m was also established. Based on this, the area was taken up for G3 stage investigation during FS 2014-15. Detailed geological mapping was carried out in Belkheri area to delineate the host rock for base metal mineralisation. However, drilling could not be taken up for want of forest clearance. The sulphide mineralisation is represented by disseminations of sphalerite, pyrite, galena and minor chalcopyrite on freshly broken surface at many places. The analytical results of soil and bed rock samples are awaited and detailed assessment of the host rock will be done after receipt of the complete analysis. The investigation has been completed.
<b>Coal</b>							
Son Valley Coalfield (East)	Sarai (west) Sector, Singrauli Coalfield	1:10000	5	5	1745.45	-	In Regional exploration for coal, a total of 1745.45 m of drilling has been achieved in five boreholes (completed: SSW-7, SSW-9 & SSW-10; in-progress:

(Contd.)

## STATE REVIEWS

Table - 3 (Contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							SSW-11 & 12). Large Scale Mapping (RF: 1:10000) over an area of 5 sq km in the studied block has been completed. The major part of the area is covered with rocks of Raniganj Formation. Rocks of Barren Measures are exposed in eastern part, whereas rocks of Pali Formation occupy a small area in central and north-western part. Raniganj, Barren Measures and Barakar formations have been intersected in the boreholes. Three regional Raniganj coal seams/zones (seam nos. R-I to R-III in ascending order) have been intersected in the depth range from 5.58 m to 134.02 m. The individual thickness of Raniganj coal seam varies from 0.68 m (Seam R-II, SSW- 12) to 4.22 m (Seam R-I, SSW-11). However, borehole wise cumulative thickness of all Raniganj coal seams including the local ones varies from 7.17 m (SSW-11) to 8.82 m (SSW-12). Down-dip extension of Raniganj seams for about 800 m has been established during the period. Seven regional Barakar coal seams/zones (Seam I to VII in ascending order) have been intersected in the depth range from 431.13 m (SSW-11) to 620.35 m (SSW-10). The thickness of individual coal seams varies from 0.88 m (Seam IV, SSW-10) to 3.22 m (Seam II, SSW-10). The maximum cumulative thickness of regional Barakar coal seams has been recorded to be 8.15 m (SSW- 10). Investigation is underway.
Chhindwara (Pench- valley Coalfield)	Dhorakuhi Sector, Pench Valley Coalfield	1:10000	6	3	759.85	-	Regional exploration for coal was continued under G-3 stage. In programme of exploration for coal, total 6 sq km area was geologically mapped on 1:10000 scale. The Large Scale Mapping (LSM) revealed that the area is covered with Deccan Trap of Khampa and Amarwada formations of Amarkantak Group. A total of 759.85 m was drilled in three boreholes, namely, PDK-1, 2A & 3. The first borehole PDK-1 progressed from 0.00 to 351.30 m depth. The contacts between Deccan Trap & Motur Formation, Motur & Barakar formations are demarcated at 163.45 m & 305.40 m depths, respectively. A total of 3.65 m coal (cumulative thickness) has been intersected within the depth range from 327.02 m to 348.03 m and borehole abandoned due to drilling difficulties at 351.30 m within coal zone. The second borehole PDK-2 commenced on 26/11/

(Contd.)

## STATE REVIEWS

Table - 3 (Contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							2014 and progressed up to the depth of 363.50 m. This borehole was also abandoned at the depth of 363.50 m in Motur Formation on 09/03/2015. The borehole was redrilled at adjacent location as PDK-2A and progressed up to 157.10 m in Deccan Trap. Borehole no. PDK-3 commenced on 12.03.2015 and progressed up to depth of 54.95 m in Deccan Trap. Investigation is underway.
Chhindwara (Pench- valley Coalfield)	Bhurkumdhana Sector, Pench Valley Coalfield	1:12500	-	2	445.5	-	Exploration for coal was continued in the current FS under the phase of time extension (Spillover Items). The Large Scale Mapping on (1:12500 scale) has revealed that the area is covered by flows of Deccan Trap. The trap is underlain by Gondwana sequence of Motur and Barakar formations, respectively. A total of 445.50 m (including re-drilling) has been drilled in two boreholes namely PBK- 4A & 5. Borehole PBK-4A was re-drilled as at the adjacent location of PBK-4 which was abandoned at a depth of 299.50 m within Motur Formation. The contact between Motur & Barakar formation marked at 403.25 m depth. In this borehole, Barakar coal seams were intersected between the depths of 424.78 and 485.41 m. The cumulative thickness of coal is 12.85 m and individual seam thickness varies from 0.55 to 3.95 m. The borehole closed at the depth of 498.50 m within Barakar Formation on 07.09.2014. The borehole PBK- 5 commenced on 06/06/2013 and drilled up to a depth of 484.50 m and abandoned in Motur Formation on 20/05/2014. The coal exploration operation in this sector has been closed with the completion of the borehole PBK-4A.
Son Valley Coalfield (West)	Bihar block, Sohagpur Coalfield	1:10000	5	9	2583.55	-	In regional exploration for coal, a total of 2583.55 m was drilled in nine boreholes SBR-10 to SBR-18 and 5 sq km area was geologically mapped on 1:10000 scale. Both surface and subsurface data revealed that most part of the block area is covered with light violet to pinkish grey coloured calcareous sandstone of Lameta Formation. The thickness of the Barren Measures intersected in boreholes ranges from 50.40 m to 87.75 m. The contact with underlying Barakar Formation is marked at the base of thick variegated mudstone/shale horizon. Barakar Formation is characterised by

(Contd.)

## STATE REVIEWS

Table - 3 (Contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							dominantly arkosic sandstone. Four regional Barakar coal seams (I to IV in ascending order) and four local seams (L1, L2, L3 & Local) were intersected between the depths 122.90 m and 321.20 m. Seam III is considered as the marker seam. The thickness of the coal seams varies from 0.50 m to 5.18 m. Continuity of all the coal seams intersected in the present block has already been established through exploration in the adjacent Pachri and Devanitola blocks to the north. The coal seams have been traced over 6 km in strike and over 2 km in dip direction within the block. Talchir Formation was intersected in two boreholes and it comprised of fine to very fine grained khaki colored feldspathic sandstone with bioturbations at top. The sandstone as well as mudstone of Talchir Formation frequently characterised by the presence of striated and faceted pebbles, cobbles and boulders of basement metamorphics. Investigation is underway.
Son Valley Coalfield (West)	Malka block, Sohagpur Coalfield	1:10000	1	5	2305.3	-	A major part of the block exposes rocks of Raniganj Formation while the southern portion of it exposes basic intrusive. The maximum thickness of Raniganj strata intersected in the boreholes is 121.85 m. Surface and subsurface data acquired through investigation during the period reveal that strike of beds is NNW-SSE with 2°- 3° dip towards ENE. A total of 2305.30 m (including re-drilling) has been drilled in five boreholes namely, SMLK-2 (part), 3 (part), 5, 6 & 7 and 1 sq km area was geologically mapped on 1:10,000 scale. Raniganj and Barakar Formations are the main coal bearing sequence in the Malka block. Though the Barakar Formation is the main storehouse of coal, Raniganj Formation also contains two to five coal zones. Four regional Barakar coal seams namely, I, III, IV and V (in ascending order) and three local seams (L1, L2 & L3) have been intersected within a depth range from 371.46 to 642.50 m with cumulative coal thickness ranging from 0.5 m to 7.78 m. Seam III is the thickest seam. Quality wise Barakar seams are mostly of superior grade. Raniganj coal seams are interbanded in nature and quality-wise are of power grade. It has been intersected between the depth range of

(Contd.)

## STATE REVIEWS

Table - 3 (Contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							14.90 m and 108.80 m. The continuity of the coal seam has been established along dip and strike directions for about 4 km and 1 km, respectively. The investigation was concluded in February 2015.
Son Valley Coalfield (West)	Harri block, Sohagpur Coalfield	1:10000	4	3	1132.25	-	A major part of the block exposes rocks of Raniganj Formation, while the southern portion of it exposes basic intrusive. The maximum thickness of Raniganj strata intersected in the boreholes is 145.45 m. Surface and subsurface data acquired through investigation during the period reveal that strike of beds is NNW-SSE with 2°-3° dip towards ENE. A total of 1132.25 m has been drilled in three boreholes namely, SHR-1, 2 & 3 through the deployment of three drill rigs and 4 sq km area was geologically mapped on 1:10,000 scale. Raniganj and Barakar Formations are the main coal bearing sequence in the Malka block. Though the Barakar Formation is the main storehouse of coal, Raniganj Formation also contains two to five coal zones. Three regional Barakar coal seams namely, III, IV and V (in ascending order) and one local seam (L1), have been intersected within a depth range from 362.92 m to 438.00 m with cumulative coal thickness ranging from 1.53 m to 5.75 m. Seam III is the thickest seam. Quality wise Barakar seams are mostly of superior grade. Raniganj coal seams are interbanded in nature and quality-wise are of power grade. It has been intersected between the depth range of 17.45 m and 92.10 m. The continuity of the coal seam has been established along dip and strike directions for about 5 km and 1 km, respectively. Investigation is underway.
<b>Glauconite</b>							
Sidhi	Vindhyan Supergroup of rocks	-	-	-	-	12	G4 stage investigation for glauconitic shale/ sandstone was taken up in Vindhyan Supergroup of rocks. Geologically, the area belongs to Kheinjua Formation of Semri Group of Vindhyan Supergroup which is underlain by rocks of Mahakoshal Group. The area exposes different litho-units namely conglomerate/ gritty sandstone, dolomite with brecciated chert and thin bands of ferruginous shale, green shale, sandstone, khakhi shale, intercalated glauconitic shale and sandstone, fawn limestone with intercalated glauconitic shale, glauconitic sandstone and

(Contd.)

## STATE REVIEWS

Table - 3 (Concl.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							Rohtashgarh limestone. Based on field observations, three types of association of glauconite beds have been recorded as (i) Association with Fawn Limestone where dark bluish-green needle shaped glauconitic shale is occurring as intercalated sequence with limestone. (ii) Association with intercalated shale and sandstone where glauconite is occurring as thin laminations in bedded form and (iii) Association with intraformational conglomerate where subangular to subrounded clasts of glauconitic shale and sandstone are embedded with siliceous matrix. The analytical results of the samples indicate that glauconitic shale associated with Fawn limestone is the potential host of glauconite. Analytical results of 12 samples give K <sub>2</sub> O content between 3.85% -11.52%. More analyses are awaited.
<b>Gold</b>							
Betul	Amla, along Bel Nadi, Jambara, Sonatalai and surrounding areas	-	-	-	-	-	G4 stage investigation was carried out. BRS and stream sediment samples were collected in 200 × 200 grid for analysis. The area is part of Betul Gneissic Complex and represents variants of Archaean-Proterozoic Amla gneisses, mafic and ultramafic bodies including pyroxenite, gabbro and amphibolites, pillowed basalt and metarhyolites. These rocks are intruded by younger dolerite dykes, granitoids and associated aplites, quartzofeldspathic veins and quartz veins. Opaque minerals occur in significant proportions in quartz biotite gneiss (metarhyolite) in the study area. Chalcopyrite occurs in close association with covellite and the covellite appears to be an alteration product of chalcopyrite. Pyrite is the dominant sulphide mineral phase and occurs as euhedral grains, as fracture fillings and in disseminated pattern. The investigation is completed.
<b>MOIL</b>							
<b>Manganese Ore</b>							
Balaghat	Tirodi and Bharweli mines	-	-	45	8475	-	MOIL carried out 8,475 m exploratory drilling involving 45 boreholes in nine mines (two mines Tirodi & Bharweli situated in Balaghat distt and seven mines in other state). The reported reserves / resources of manganese ore as on 01.04.2015 were in Bharweli (23.72 million tonnes), Tirodi (0.99 million tonnes), Ukwa (10.09 million tonnes), and Sitapatore/Sukli (0.36 million tonnes).
<b>M.P State Mining Corporation Ltd</b>							
<b>Rock Phosphate</b>							
Jhabua	N/v Kachaldhara	-	-	07	282	121	No additional reserves were established.

## STATE REVIEWS

**Production**

The value of mineral production (excludes atomic mineral and value for February and March in respect of 31 minerals declared as minor mineral vide Gazette notification dated 10.02.2015) in Madhya Pradesh at ₹ 14,562 crore in 2014-15 marginally decreased as compared to the previous year. Madhya Pradesh contributed about 5% to the total value of mineral production and ranked 8<sup>th</sup> in the country. Coal accounted for 77 % of the total value of mineral production in the State, while limestone and manganese ore accounted for 4% each. The State was the sole producer of diamond and also the leading producer of pyrophyllite with a share of 78%, copper ore 69%, copper concentrates 53%, diaspore 39%, manganese ore 38% etc. out of the total output of the respective minerals during the year under review.

During the year 2014-15, the production of iron ore increased by 92%, coal 16%, manganese ore

11%, bauxite 4% and limestone 3% as compared to the previous year. However, decline in production was observed in case of diamond 5%, copper conc. 28% and phosphorite 41% as compared to that in the previous year (Table-4).

The value of production of minor minerals was estimated at ₹ 1,653 crore for the year 2014-15.

The number of reporting mines in Madhya Pradesh were 375 in 2014-15 as against 411 in the previous year.

**Mineral-based Industry**

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

**Table – 4 : Mineral Production in Madhya Pradesh, 2012-13 to 2014-15  
(Excluding Atomic Minerals)**

Mineral	Unit	2012-13			2013-14			2014-15 (P)		
		No. of mines	Quantity	Value	No. of mines	Quantity	Value	No. of mines	Quantity	Value
<b>All Minerals</b>		<b>421</b>	<b>113990301</b>		<b>411</b>	<b>146183988</b>		<b>375</b>	<b>145619029</b>	
Coal	'000t	71	75900	93737900	71	75600	111792700	70	87600	111478200
Bauxite	t	28	913106	581525	24	775508	458732	21	807697	474183
Copper Ore	t	-	2254288	-	-	2376183	-	-	2458132	-
Copper Conc.	t	1	67640	2983988	1	79909	3355313	1	57489	2637081
Iron Ore	'000t	14	1225	887392	15	2090	1246385	14	4019	2163491
Manganese Ore	t	46	714730	4850053	45	796496	5157453	41	883784	5158694
Phosphorite/ rock phosphate	t	3	248352	226616	3	131465	145137	3	77565	65991
Calcite <sup>#</sup>	t	1	-	-	1	226	96	1	22	6
Clay (others) <sup>#</sup>	t	-	436329	44447	1	437150	56800	-	365273	50420
Diamond	crt	2	31988	366471	2	37517	614087	2	35724	613504
Diaspore* <sup>#</sup>	t	-	7268	10954	-	6479	13570	-	4717	9652
Dolomite <sup>#</sup>	t	65	655858	119765	57	595594	133021	49	542637	127068
Fireclay <sup>#</sup>	t	8	71226	12671	12	74441	16203	8	22642	3593
Kaolin <sup>#</sup>	t	2	11790	1114	2	13000	1044	2	10200	1377
Laterite <sup>#</sup>	t	18	614207	181855	14	606056	141520	14	589835	135172
Limestone	'000t	126	35536	5017896	125	37832	6330551	114	38972	6041252
Ochre <sup>#</sup>	t	12	55445	13552	11	69246	13068	9	70422	17329
Pyrophyllite <sup>#</sup>	t	19	207768	143904	19	166896	166418	18	115655	107321
Quartz <sup>#</sup>	t	2	340	31	1	-	-	1	3450	985
Sand (others) <sup>#</sup>	t	-	-	-	2	109843	9666	2	16037	1540
Shale <sup>#</sup>	t	2	519521	5514	4	453825	5319	4	384008	5301
Talc/soapstone/ steatite <sup>#</sup>	t	1	140	56	1	1887	969	1	1828	933
Minor Minerals <sup>@</sup>		-	-	4804597	-	-	16525936	-	-	16525936

*Note : The number of mines excludes minor minerals.*

*\* Associated with pyrophyllite.*

*@ 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.*

## STATE REVIEWS

**Table – 5 : Principal Mineral-based Industries  
in Madhya Pradesh**

Industry/plant	Capacity (‘000 tpy)
<b>Aluminium/Alumina</b>	
Hindalco Industries Ltd, Mahan Aluminium, Bargwan, Distt. Singrauli.	360 (Aluminium)
<b>Asbestos Products</b>	
Everest Building Products Ltd, Kymore.	NA
Kalani Industries Pvt. Ltd, Pitampur, Dhar.	NA
Ramco Industries Ltd, Maksi, Distt. Shajapur.	66
<b>Cement</b>	
ACC Ltd, Kymore, Distt. Katni.	2200
Birla Corpn. Ltd (Satna Cement Works & Birla Vikas Cement), Satna.	2200
CCI Ltd, Nayagaon, Distt. Neemuch.	400
Heidelberg Cement (I) Ltd, Narsingarh, Distt. Damoh.	1030
Jaiprakash Power Ventures, Singrauli (G).	2000
Jaypee Rewa Cement Plant, Distt. Rewa.	3000
Jaypee Bela Cement Plant, Distt. Rewa.	2600
Jaypee Cement, Sidhee.	2300
KJS Cement, Rajnagar, Distt. Satna.	960
Maihar Cement, Maihar, Distt. Satna.	4200
Prism Cement Ltd (Unit I & II), Satna.	5600
Reliance Cement Pvt Ltd, Maihar, Distt. Satna.	3000
Ultratech Cement, Vikram Cement Plant, Khor, Distt. Neemuch.	3000
<b>Ceramic</b>	
Roca Bathroom Products Ltd, Dewas.	34
Govind Tiles Pvt Ltd, Garra, Distt. Balaghat.	758 million nos.
<b>Fertilizer</b>	
Agro Phos. (India) Ltd, Dewas.	45 (SSP)
Arihant Ferts. & Chems. India Ltd, Kanawati, Neemuch.	66 (SSP)
Basant Agro Tech (India) Ltd, Jawad, Neemuch.	45 (SSP)

(Contd.)

Table-5 (Concltd.)

Industry/plant	Capacity (‘000 tpy)
Coromandel International Ltd (Formerly Liberty Urvarak Ltd), Nirmani Khargone.	100 (SSP)
Indra Industries Ltd. (Formerly Swastik Ferts & Chems Ltd), Indore, Dhar.	66 (SSP)
KMN Chemicals & Fertilizers Ltd, Diwanganj, Raisen.	60 (SSP)
Khaitan Chemical & Fertilizers Ltd, Nimrani, Distt. Khargone.	400 (SSP) 115.5 (H <sub>2</sub> SO <sub>4</sub> )
NFL, Vijapur (Unit I & II), Distt. Guna.	2066.1 (Urea)
Krishna Phoschem Ltd, Meghnagar, Jhabua.	120 (SSP)
Madhya Bharat Agro Products Ltd, Rajoa, Sagar.	60 (SSP)
Madhya Bharat Phosphate Pvt. Ltd (Unit I), Diwanganj, Sanchi, Raisen.	132 (SSP)
Madhya Bharat Phosphate Pvt. Ltd (Unit II), Meghnagar, Jhabua.	165 (SSP)
Mexican Agro Chemical Ltd (Formerly Asha Phosphates Ltd), Jaggakhedi, Mandasaur	60 (SSP)
Mukteswar Fertilizers Ltd, Narayankhedi, Ujjain.	60 (SSP)
Rama Phosphates Ltd, Indore.	165 (SSP)
Suman Phosphates and Chemicals Ltd, Indore.	330 (SSP)
Varun Fertilizers Pvt. Ltd, Dewas.	100 (SSP)
<b>Ferro-alloys</b>	
Crescent Alloys Pvt. Ltd, Seoni.	4.5
Jalan Ispat Castings Ltd, Meghnagar, Distt. Jhabua.	12
MOIL Ferro Manganese Plant, Bharveli, Distt. Balaghat.	10
<b>Petroleum Refinery</b>	
Bharat Oman Refineries Ltd, Bina, Distt. Sagar.	6000
<b>Refractory</b>	
ACC Refractories, Katni.	65
Premier Refractories India Pvt. Ltd, Katni.	12.9

*G; Grinding Unit*

**Note:** Data, not readily available for fertilizer and cement industries on respective websites, hence it has been taken from Indian Fertilizer Scenario, 2015/FAI Statistics, 2014-15 and Survey of Cement Industry & Directory, 2015, respectively.