Indian Minerals Yearbook 2017

(Part- I)

56th Edition

STATE REVIEWS (Andhra 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
Website: www.ibm.gov.in

March, 2018

ANDHRA PRADESH

Mineral Resources

Andhra Pradesh is the sole producer of apatite. The State is the leading producer of barytes, ball clay, dolomite, garnet (abrasive), laterite, limestone, quartz, quartzite, silica sand and vermiculite. It accounts for 92% barytes, 40% calcite, 41% mica, 31% each kyanite & garnet, 19% titanium minerals, 16% bauxite, 15% dolomite, 13% sillimanite, 12% each vermiculite & limestone resources of the country. Andhra Pradesh is endowed with the internationally known black, pink, blue and multicoloured varieties of granites. Krishna-Godavari basin areas in this State have emerged as new promising areas for hydrocarbons, especially natural gas.

Important minerals occurring in Andhra Pradesh are: **apatite** in Visakhapatnam district; **asbestos** in Cuddapah district; **ball clay** in West Godavari district; **barytes** in Anantapur, Cuddapah, Krishna, Kurnool, Nellore and Prakasam districts; **calcite** in Anantapur, Cuddapah, Kurnool and Visakhapatnam districts; **china clay** in Anantapur, Chittoor, Cuddapah, East Godavari, West Godavari, Guntur, Kurnool, Nellore and Visakhapatnam districts; **coal** in Godavari Valley Coalfield; **corundum** in Anantapur districts; **dolomite** in Anantapur and Kurnool districts; **felspar** in Anantapur, Cuddapah, West Godavari, Nellore and Vizianagaram districts; **fireclay** in Chittoor, Cuddapah, East Godavari, West Godavari, Kurnool and Srikakulam districts; **garnet** in East Godavari, Nellore and Srikakulam districts; **granite** in Anantapur, Chittoor, Cuddapah, Guntur, Krishna, Nellore, Prakasam, Srikakulam and Vizianagaram districts; **iron ore (hematite)** in Anantapur, Cuddapah, Guntur, Krishna, Kurnool and Nellore districts; **iron ore (magnetite)** in Prakasam districts; **lead-zinc** in Cuddapah, Guntur and Prakasam districts; **limestone** in Anantapur, Cuddapah, East Godavari, West Godavari, Guntur, Krishna, Kurnool, Nellore, Srikakulam, Visakhapatnam and Vizianagaram districts; **manganese ore** in Srikakulam and Vizianagaram districts; **mica** in Nellore and Visakhapatnam district; **ochre** in Anantapur and Cuddapah, West Godavari, Guntur, Kurnool and Visakhapatnam districts; **pyrophyllite** in Anantapur, Chittoor and Cuddapah district; **quartz/silica sand** in Anantapur, Chittoor, Cuddapah, West Godavari, Guntur, Krishna, Kurnool, Nellore, Prakasam, Srikakulam, Visakhapatnam and Vizianagaram districts; **quartzite** in Kurnool, Srikakulam, Visakhapatnam and Vizianagaram districts; **talc/soapstone/ steatite** in Anantapur, Chittoor, Cuddapah and Kurnool districts and **vermiculite** in Nellore and Visakhapatnam districts. **Petroleum & natural gas** deposits of importance are located in the onshore and offshore areas of Krishna-Godavari basin of the State.

Other minerals that occur in the State are **bauxite** in East Godavari and Visakhapatnam districts; **chromite** in Krishna district; **copper** in Guntur, Kurnool and Prakasam districts; **diamond** in Anantapur, Krishna and Kurnool districts; **gold** in Anantapur, Chittoor and Kurnool districts; **graphite** in East Godavari, West Godavari, Srikakulam, Visakhapatnam and Vizianagaram districts; **gypsum** in Guntur, Nellore and Prakasam districts; **kyanite** in Nellore and Prakasam districts; **magnesite** in Cuddapah district; **pyrite** in Kurnool district; **sillimanite** in West Godavari and Srikakulam district; **silver** in Guntur district; **titanium minerals** in East Godavari, Krishna, Nellore, Srikakulam and Visakhapatnam districts; and **tungsten** in East Godavari district (Tables-1 & 2).

Exploration & Development

The details of exploration activities conducted by various agencies for coal and other minerals during 2016-17 are furnished in Table - 3.

During 2016-17, National Oil Companies (NOC) continued their operations for exploration of oil and gas in the State.

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

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						
Apatite	tonnes	27715	-	1680	29395	-	-	-	-	-	200163	-	200163	229558
Asbestos	tonnes	20016	-	4617	24633	684984	40408	18355	-	1541	67392	-	812679	837312
Ball clay#	tonnes	6700417	202950	1049025	7952392	5622514	2842702	10275648	-	2279330	28044529	-	49064723	57017115
Barytes#	tonnes	48990002	49358	372296	49411656	186544	94489	988514	104322	389630	28165637	105721	30034857	79446513
Bauxite	'000 tonnes	-	-	-	-	-	-	-	188971	138120	288176	-	615267	615267
Calcite#	tonnes	16522	8098	119526	144146	8538	-	105470	8562700	5200	282204	-	8964112	9108258
China clay#	'000 tonnes	2494	953	1889	5337	1508	989	2071	511	688	51427	362	57556	62893
Chromite	'000 tonnes	-	-	-	-	-	-	-	-	-	0.4		0.4	0.4
Copper														
Ore	'000 tonnes	-	-	-	-	686	-	105	-	5791	1000	-	7582	7582
Metal	'000 tonnes	-	-	-	-	6.88	-	1.05	-	97.45	8.32	-	114	114
Corundum#	tonnes	200	-	-	200	-	7	-	-	-	-	-	7	207
Diamond	carat	-	-	-	-	-	-	-	200483	1524317	98155	-	1822955	1822955
Dolomite#	'000 tonnes	86134	11371	17539	115045	176476.97	31908	38324	22373	77	910217	4301	1183677	1298722
Felspar#	tonnes	2295253	150795	556263	3002311	4427537	50911	2379650	361444	1819937	1571271	442950	11053700	14056011
Fireclay#	'000 tonnes	1252	40	642	1934	771	1400	1574	56	417	10211	132	14562	16496
Garnet	tonnes	1183898	4500	568750	1757148	12189	232525	791238	18	8800000	5674011	-	15509981	17267129

(Contd.)

Table - 1 (contd.)

Mineral	Unit	Reserves				Remaining Resources								Total resources (A+B)
		Proved STD 111	Probable STD121	Probable STD122	Total (A)	Feasibility STD211	Pre-feasibility STD221	Pre-feasibility STD222	Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334	Total (B)	
Gold														
Ore (primary)	tonnes	-	3902725	-	3902725	655133	-	889515	291000	55000	6980031	-	8870679	12773404
Metal (primary)	tonnes	-	8.49	-	8.49	2.45	-	3.57	1.08	0.17	23.78	-	31.05	39.54
Granite[##]														
(Dim. stone)	'000 cu m	-	-	-	-	-	-	-	-	-	2360396	-	2360396	2360396
Graphite	tonnes	-	-	-	-	-	1195	1135	-	1122	697575	-	701027	701027
Gypsum[#]	'000 tonnes	-	-	-	-	-	-	-	-	-	404	-	404	404
Iron ore														
(hematite)	'000 tonnes	17664	273	11832	29768	40595	49589	68425	377	4666	147628	13	311294	341062
Iron ore														
(magnetite)	'000 tonnes	-	-	-	-	43105	-	-	13800	1266666	68527	-	1392098	1392098
Kyanite	tonnes	-	-	-	-	-	-	399	-	-	32003829	-	32004228	32004228
Laterite[#]	'000 tonnes	13574	680	1710	15964	23238	5107	2244	24	1107	889.	32608	48572	
Lead-zinc														
Ore	'000 tonnes	-	-	-	-	-	-	-	1000	4159	17530	-	22689	22689
Lead metal	'000 tonnes	-	-	-	-	-	-	-	28.70	119.53	688.65	-	836.88	836.88
Zinc metal	'000 tonnes	-	-	-	-	-	-	-	12.40	43.57	7.19	-	63.16	63.16
Limestone	'000 tonnes	1003483	19713	385133	1408329	269901	53722	706890	82112	268002	18666131	3466741	23513499	24921828
Magnesite	'000 tonnes	-	-	-	-	-	-	-	-	-	80	-	80	80
Manganese														
ore	'000 tonnes	2235	637	2086	4958	675	387	773	188	3220	6987	457	12687	17645
Mica[#]	kg	61942537	18293548	-	80236085	18960000	-	-	93830994	12894000	51668132	-	177353126	257589211

(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						
Ochre#	tonnes	5284990	-	64602	5349592	1404229.67	430231	1087353	347681	-	3596595	2121	6868210	12217802
Pyrite	'000 tonnes	-	-	-	-	-	-	-	-	-	880	-	880	880
Pyrophyllite#	tonnes	39376	-	9441	48817	366494	75201	311209	-	108831	737855	-	1599590	1648407
Quartz-silica sand#	'000 tonnes	94483	3429	13687	111599	32690	4039	17329	7081	6691	45661	11599	125090	236690
Quartzite#	'000 tonnes	16001	-	1389	17390	2103	8357	6418	-	3975	24797	1256	46905	64295
Sillimanite	tonnes	2045	-	37	2082	15	11278	12	267	7430300	1346988	-	8788861	8790943
Silver*														
Ore	tonnes	-	-	-	-	-	-	-	-	-	16950000	-	16950000	16950000
Metal	tonnes	-	-	-	-	-	-	-	-	-	128.13	-	128.13	128.13
Shale#	'000 tonnes	1120	162	272	1554	199	-	563	-	-	1142	90	1994	3548
Slate#	'000 tonnes	109	667	-	776	-	-	1075	-	-	1511	-	2586	3362
Talc/soapstone/ steatite#	'000 tonnes	1875	482	1001	3358	197	725	1804	184	369	3611	248	7137	10495
Tungsten*														
Ore	tonnes	-	-	-	-	-	-	-	3640000	4700800	5952500	509000	14802300	14802300
Contained WO_3	tonnes	-	-	-	-	-	-	-	5096	6574.64	8273.65	318.28	20262.57	20262.57
Vermiculite	tonnes	60892	19413	30566	110871	2040	917	5850	58396	5127	88865	-	161195	272066

Figures rounded off

 # Declared as Minor Mineral vide Gazette Notification dated 10.02.2015.

Minor Mineral before Gazette Notification dated 10.02.2015.

***Note**: The proved and indicated balance recoverable reserves of crude oil and natural gas as on 1.4.2016 in the State are 13.19 million tonnes and 48.44 billion cu m, respectively.*

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

(In million tonnes)

Coalfield	Proved	Indicated	Inferred	Total
Total/Godavari Valley	-	1149.05	431.65	1580.70

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

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

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
GSI							
Base Metal (Copper)							
Kadapa	Around Zangam -arajupalle.	1:12500	158.0 & 430.0	-	-	-	G4 stage reconnaissance survey has been carried out by large-scale mapping for basemetal mineralisation on 1:12500 scale. Besides, 430 sq km of reconnaissance survey was completed. The bands do not have potential for sulphide mineralisation as per the analytical report.
Kurnool	Around Chetlam -allapuram Nayakallu area	1.2000	2.0	4	570	-	G3 stage preliminary exploration, has been carried out by detailed mapping in three different blocks to establish the presence of the base metal and other associated mineralisation; to demarcate the size and shape; to determine the grade of the ore bodies and to assess the resource. The borehole spacing was maintained 100-200 m for three boreholes in Nayakallu East block and one borehole drilled in Nayakallu old working block. All four boreholes were planned to intersect the mineralised zone at 60 m vertical depth. The SEM and EPMA studies reveal gold, molybdenite, bismathinite, chalcopyrite, pyrite, thorite, allanite minerals in borehole core section. The values of 131 BRS range from 10 -16500 ppm Cu, 25– 40 ppb Au, 5 – 301 ppm Nb and 0.5 – 333 ppm Ta. Total 87 nos of APKN-1 borehole core samples show 10 – 2600 ppm Cu, 25- 600 ppb Au, 5-31 ppm Nb, 0.2-25 ppm Ta; in first borehole core samples show 10-336 ppm Cu, <25 ppb Au, 5–13 ppm Nb, 0.2–2.34 ppm Ta; in second borehole core samples have 10-100 ppm Cu, <25 ppb Au, 5-18

(Contd.)

Table – 3 (contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							ppm Nb, 0.2-19 ppm Ta; in fourth borehole core samples show 10-725 ppm Cu, <25 ppb Au, 5-91 ppm Nb, 0.2-78 ppm Ta; in PTS the values range from 10-275 ppm Cu, <25 ppb Au, 0.2–124 ppm Nb, 0.09-54 ppm Ta and in SS it ranges from 10-7700 ppm Cu, 25-38 ppb Au, 5-52 ppm Nb, 5.8 -110Ta respectively.
Chittor	Gutamidapalle block	1:2000	1.7	6	964	52	G3 stage preliminary exploration for Gold and associated minerals was carried out in Gutamidapalle block over an area of 1.7 sq km. A total of 27 soil and 25 bed rock samples along with 108.4 cu m of trenching and 116 PTS was carried out from both the blocks. Drilling of 964 m was carried out in the two blocks by drilling of six boreholes in Gutamidapalle block and two boreholes in Gutamidapalle North block. Though the boreholes intersected sulphidic silicified zones in meta basalt and meta acid volcanic rocks of the Velligallu schist belt, the chemical analysis of the core samples indicated low incidence of gold mineralisation ranging from 27 to 520 ppb except in one borehole which has analysed average value of 0.930g/t x 2.7 m at a borehole depth of 96.40 m to 99.10 m. EPMA studies indicated that the pyrite, pyrrhotite are the major sulphide phases with arsenopyrite and lollingite. Lollingite contains occurrences of gold and silver occurring as 'invisible gold'.
Limestone							
Guntur	Tadutla block	1:5000	3	21	1100.0		G2 stage general exploration was carried out for assessment of cement grade limestone resources. Drilling was carried out in a grid pattern of maintaining spacing of 350-450 m. Eight boreholes intersected greyish white to dark grey coloured massive limestone with quartz veins while the remaining 13 boreholes intersected variegated brown coloured shaly limestone. The chemical analysis result suggests that the dark grey to greyish white massive limestone variety is cement grade and the rest is more siliceous disqualifying them from

(Contd.)

Table – 3 (contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							categories as cement grade limestone. Some of the samples have CaO more than 48% and SiO_2> 15%. Thickness of cement grade limestone band encountered in boreholes varies from 2 to 28 m. The reserves of cement grade limestone are estimated at 29.14 million tonnes considering CaO value < 42% and SiO_2 >17%.
Kurnool	CAK block	1:5000	4.5	23	1128.20	-	G2 stage general exploration for assessment of cement grade limestone resources has been carried out by detailed mapping, pitting, trenching & drilling. All boreholes have intersected limestone (both flagy & massive limestone) at varying depths. As per chemical analysis results received so far, the limestone is of cement grade with thickness varying from 2 m to 28.50 m respectively. Rest of the limestone including flaggy have higher silica content and are of 15 m not suitable for cement industry. Reserves for Chintalayapalle block are estimated up to 33.14 million tonnes. Reserves/Resources for remaining two blocks will be estimated after receipt of chemical analysis data.
Tungsten and Graphite							
East Godavari	Rampachodavarm Taluk	1:2000	2.60	10	1521.10	-	G3 stage preliminary exploration for tungsten and Graphite mineralisation was carried out by detailed mapping & drilling. Boreholes were completed with pitting and trenching & collection of PTS, BRS, core samples, PS, ORM, and EPMA samples. In Chinnagalikonda area, two old working for graphite have been identified during the FS (field season) :2015-16. The old workings have an average length of about 20-30 m and width up to 3-5 m. Graphite mainly occurs in the form of thin stringers, veins, pockets/lenses in graphitic schist/gneiss and khondalite (garnet-sillimanite gneiss) which are the host rock for graphite mineralisation. The graphite is fine grained, amorphous and flaky in nature and the latter having the directional orientation following the foliation trend. It contains quartz, kaolinised felspar garnet and graphite (in volume 10 to 35% VE). Out of 10 boreholes drilled, seven boreholes have intersected the mineralisation at 60 m vertical depth and one borehole intersected at 120

Table – 3 (contd.)

Agency/ Mineral/ District	Location	Mapping		Drilling		Sampling (No.)	Remarks Reserves/Resources estimated
		Scale	Area (sq km)	No. of boreholes	Meterage		
							m vertical depth. Drilling established the graphite bearing zone up to a strike length of 470 m with average width of 2.50 m and approximate fixed carbon content of about 10% in the Eastern Block. Core samples as well as the bedrock samples yielded a range of values from 0.07 to 35.83% of fixed carbon. The exploration was dropped because of forest issue.
Diamond							
Anathapur	Wajrakarur Kimberlite field (WKF)	-	1.0	8	804.5	-	G3 level of preliminary exploration was taken up to assess diamond potential of Tummatapalle kimberlite (P-13) and Penna Ahobilam Kimberlite (P-16), Wajrakarur Kimberlite field (WKF). Total 300 tonnes of bulk sample was collected from the Kimberlite body and this bulk sample was processed, which yielded two numbers of diamonds 4643 (1.2 carat) and 4644 (0.035 carat) while carrying out ground survey at a P-16 new Kimberlite body was located at 470 m west. During further exploration and detailed sampling KIMs were identified and weathered Kimberlite rock with distinct texture was identified in the pits. Detailed geophysical survey was carried over the area and based on the anomaly pattern and resistivity signatures, the inferred dimensions of the concealed Kimberlite pipe is estimated to be around 220 x 170 m, emplaced along an east-west trending fault/fracture/shear zone. In addition, a small concealed pipe (or may be an off-shoot) in the northern part having a dimension of 70 x 50 m, trending in E-W direction has been found. Two vertical boreholes were drilled. Total 100 tonnes of bulk sample was collected from P-17, and processed which yielded eight number of diamonds 4645 (0.095ct), 4646 (0.040ct), 4647 (0.095ct), 4648 (0.010ct), 4649 (0.345ct), 4650 (1.805ct), 4651(0.10ct) and 4652 (0.15ct) thus establishing the diamondiferous nature of the new body. In pipe 16, 3 numbers of bore holes were completed. Detailed mapping has been completed in 1.0 sq km area covering both P-16 and P-17 pipes. The locations of the boreholes and bulk sample pits and trenches have been marked over the detailed maps for kimberlite pipes P-13, P-16 and P-17.

(Contd.)

Production

Andhra Pradesh was bifurcated into two states on 02.06.2014 and a new state 'Telengana' was formed. The data is analysed by considering the districts of the newly formed state for previous years.

Many important minerals are produced in Andhra Pradesh. The principal minerals produced in the state were Natural Gas (ut.), Manganese Ore, Garnet (abrasive), Limestone, Sillimanite, Vermiculite etc.

The value of minor minerals' production was estimated at ` 9,353 crore for the year 2016-17.

The number of reporting mines in the state was 123 in 2016-17 in case of MCDR minerals (Table-4).

Table-4: Mineral Production in Andhra Pradesh, 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		**428**		**105573172**	**136**		**101514077**	**123**		**102481258**
Natural Gas (ut.)	m c m	-	541	-	-	619	5119209	-	868	-
Petroleum (crude)	'000t	-	254	-	-	295	5361853	-	276	-
Gold	kg	1	-	-	1	-	-	1	-	-
Iron Ore	'000t	29	916	504259	27	493	283258	19	489	249379
Manganese Ore	t	27	253746	516842	23	186632	328949	23	232488	770941
Apatite	t	1	930	2065	1	110	387	1	-	-
Ball Clay#	t	9	148774	77414	-	-	-	-	-	-
Barytes#	t	18	886929	2639622	-	-	-	-	-	-
Calcite#	t	1	4100	1702	-	-	-	-	-	-
Clay (others)#	t	5	50920	7264	-	-	-	-	-	-
Dolomite#	t	33	698273	162891	-	-	-	-	-	-
Felspar#	t	7	100930	28500	-	-	-	-	-	-
Fireclay#	t	9	27286	6788	-	-	-	-	-	-
Garnet (abrasive)	t	2	68275	645124	2	55583	471079	2	51243	534082
Kaolin#	t	6	45857	8487	-	-	-	-	-	-
Sillimanite	t	-	33801	250026	-	42409	340841	-	37109	322265
Laterite#	t	13	1760358	400194	-	-	-	-	-	-
Limestone	'000t	73	34676	6145183	76	32579	6556564	72	35251	7077680
Mica (crude)#	t	25	636	21892	-	-	-	-	-	-
Mica (waste & Scrap)*#	t	-	7644	-	-	-	-	-	-	-
Ochre#	t	11	155723	23188	-	-	-	-	-	-
Pyrophyllite#	t	2	1603	1122	-	-	-	-	-	-
Quartz#	t	49	508179	110151	-	-	-	-	-	-
Quartzite#	t	17	456494	220509	-	-	-	-	-	-
Silica Sand#	t	54	1242041	223500	-	-	-	-	-	-
Sand (others)#	t	1	7197	1089	-	-	-	-	-	-
Shale	t	4	102331	13422	-	-	-	-	-	-
Talc/Soapstone/ Steatite	t	25	57752	30679	-	-	-	-	-	-
Vermiculite	t	6	15491	6246	6	21890	7986	5	4725	1898
Minor Minerals@		-	-	93525013	-	-	93525013	-	-	93525013

Note : *The number of mines excludes petroleum (crude), natural gas (utilised) and minor minerals. (see also N.B. under tables-1 and 3 on pre pages)*

$ *Excludes the value of Petroleum (crude) & Natural Gas* (ut.), $$ *Excluding Fuel minerals,* ******* *Includes mine waste obtained while dressing of crude mica.*

@ *Figures for earlier years have been repeated as estimates, wherever necessary because of non-receipt of data.*

 # Declared as Minor Minerals 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 provided in Table-5.

Table – 5 : Principal Mineral-based Industries in Andhra Pradesh

Industry/plant	Capacity ('000 tpy)
Abrasives	
Grindwell Norton Ltd, Renigunta, Distt. Chittoor.	5
Asbestos Products	
Hyderabad Industries Ltd, Ibrahimpatnam, Distt. Krishna.	45
Ramco Industries, Ibrahimpatnam, Distt. Krishna.	225
Cement	
ACC Ltd (formerly Encore cement), Vishakhapatnam (G).	300
Andhra Cements Ltd (Visaka Cement Works), Durga Nagar, Distt. Visakhapatnam (G).	620
Andhra Cements Ltd, Durga Cement Works, Dachepalli, Distt. Guntur.	2000
Bharthi Cement Corp. Pvt. Ltd, Nallingayapalli, Distt. kadapa.	5000
Bhavya Cement, Thangeda, Distt. Guntur.	1400
Dalmia Cement (Bharat) Ltd, kadapa.	2500
India Cements Ltd, Chilamkur, Distt. kadapa.	1460
India Cements Ltd, Yeraguntla, Distt. kadapa.	730
Jaypee Balaji Cement, Budawada, Distt. Krishna.	5000
JSW Cement Ltd, Nandyal, Distt. Kurnool.	4800
KCP Ltd, Macherla, Distt. Guntur.	830
KCP Ltd, Muktyala, Distt. Krishna.	1520
My Home Cement Industries Ltd, Mulakapalli, Distt. Visakhapatnam (G).	2000
NCL Industries Ltd, Kondapalli, Distt. Krishna (G).	990
Panyam Cements & Mineral Industries Ltd, Cement Nagar, Distt. Kurnool.	1000
Parashakti Cement, Jettipalem, Distt. Guntur.	1700
Penna Cement Industries Ltd, Talaricheruvu, Tadipatri, Distt. Anantapur.	1800
Penna Cement Industries Ltd, Boyareddypalli, Distt. Anantapur.	2000
Rain Commodities Ltd (Rain Cements), Boincheruvupalli, Distt. Kurnool.	2160
Ramco Cement Ltd (formerly Madras Cements), Jayantipuram, K.S. Rajanagar, Distt. Krishna.	3650
Ramco Cement Ltd, Vizag Grinding Unit, Distt. Visakhapatnam.	950
Sree Jayajothi (Subs. of Myhome Cement Ind.) Yanakandala, Distt. Kurnool.	3200
Sri Chakra Cements Ltd, Alamada, Distt. Vizianagaram (G).	260
Sri Chakra Cements Ltd, Karampudi, Distt. Guntur.	310
Toshali Cement Ltd, Bayyavaram, Distt. Visakhapatnam (G).	200
Ultra-Tech Cements Ltd (APCW), Tadipatri, Distt. Anantapur.	6500
Zuari Cement, Krishnanagar, Yerranguntala, Distt. kadapa.	3800
Chemical	
A.P. Carbides Ltd, Kurnool.	23 (calcium carbide)
Andhra Sugars Ltd, Saggonda, Distt. West Godavari.	132 (caustic soda) 99 (H_2SO_4)
Shree Rayalseema Alkalies & Allied Chem. Ltd, Gondiparla, Distt. Kurnool.	69.5 (caustic soda) 49.8 (Cl) 24.7 (HCl) 23.1 (KOH)
Shree Rayalseema High Strength Hypo Ltd, Gondiparla, Distt. Kurnool.	9 (bleaching powder) 45 (H_2SO_4) 15 (Oleum)
Ceramic	
RAK Ceramics India Pvt Ltd, Samalkot, Distt. East Godavari.	30000 (Vitrified tiles sq m/day) 1500 (sanitary ware pc/day)
Sentini Ceramica Pvt Ltd, Kanukollu, Distt. Krishna (JV with H R Johnson (I) Ltd).	75

Table - 5 (Contd.)

Industry/plant	Capacity ('000 tpy)
Spartek Ceramics India Ltd, Narsingapuram, Distt. Chittoor.	NA
Kajaria Ceramics Ltd, Vijaywada.	2.3 (mill. sq m)
Fertilizer	
Agri Green Fertilizers & Chemicals Pvt Ltd, Cuddapah.	30 (SSP)
Bhaskar Fertiliser (P) Ltd, Anantpur	45 (SSP)
Coromandel International Ltd, Visakhapatnam.	1300 (NP/ NPKs)
Coromandel International Ltd, Kakinada, Distt. East Godavari.	1925 (DAP)
GDS Chemicals & Fert Pvt Ltd., Anakapalli, Visakhapatnam	36 (SSP)
K. P. R. Fertilizers Ltd Biccavolu, E. Godavari	90 (SSP)
Krishna Industrial Corpn. Ltd, Nidadavole, Distt. West Godavari.	45 (SSP) 33.5 (H_2SO_4)
Nagarjuna Fertilizers & Chemicals Ltd, Kakinada, Distt. East Godavari. (Unit I & II)	1520 (Urea)
NG Fertilizers & Chemicals Pvt. Ltd, Kodurupadu, Distt. Krishna	200 (SSP)
Prathyusha Chems and Fertilisers Ltd, Parwada, Visakhapatnam	100 (SSP)
Subhodaya Chemicals Ltd, Gauripatnam, Distt. West Godavari.	42.9 (SSP)
The Andhra Sugars Ltd, Tanuku, Kovvur, Distt. West Godavari.	66 (SSP) 45 (H_2SO_4)
Pesticides	
Jayalakshmi Fertilizers, Tanuku, Distt. West Godavari.	2.4
Glass	
Triveni Glass Ltd, Kondagudem, Distt. West Godavari.	10 (mill. sq m)
Iron & Steel	
Visakhapatnam Steel Plant, Visakhapatnam.	8856 (sinter) 3400 (pig iron) 2910 (crude/liquid steel)
Pig Iron	
Lanco Industries Ltd, Rachaguneri, Distt. Chittoor.	275
Rishrtriya Ispat Nigam Ltd, Vishakhapatanam, Andhra Pradesh.	6500

(Contd.)

Table - 5 (Concld.)

Industry/plant	Capacity ('000 tpy)
Sathavahana Ispat Ltd, Haresamudram, Distt. Anantapur.	210
Pellets	
Essar Steel Ltd, Visakhapatnam.	8000
Sponge Iron	
GSAL (India) Ltd, Sriramapuram, Dist. Vizianagaram.	220
Sree Rayalseema Green Steloy Ltd, Gooty, Distt. Anantapur.	36
Sri Venkateshwara Sponge & Power Pvt Ltd, Merlapaka, Distt. Chittoor.	90
Maa Mahamaya Industries Pvt Ltd, Relligaurammapeta, Distt. Vizianagaram.	NA
Ferro-alloys	
Andhra Ferro Alloys Ltd, Kothavalasa, Distt. Vizianagaram.	20
Deccan Ferro alloys (P) Ltd, Pendurthi, Visakhapatnam.	13
FACOR Alloys Ltd, Shreeramnagar, Distt. Vizianagaram.	72
Jindal Stainless (Hisar) Ltd, Kothavalasa, Distt. Vizianagaram.	40
Metkore Alloys & Ind. Ltd (GMR Ferro alloys & Ind. Ltd) Ravivalasa, Distt. Srikakulam.	25
Shree Sarda Alloys Ltd, Ravivalasa, Distt. Srikakulam.	6
Refractory	
Carborandum Universal Ltd, Visakhapatnam.	3.6
RHI Clasil Ltd, Venkatapuram, Visakhapatnam.	50
Vesuviusindia Ltd, Visakhapatnam.	24
Lead-zinc	
HZL, Zinc Smelter, Visakhapatnam.	56 (Zn)*
Petroleum Refinery	
HPCL, Vizag.	8300
ONGC, Tatipaka, Distt. East Godavari	66

** Operation has been discontinued.*

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