

# Indian Minerals Yearbook 2012

(Part-I)

51<sup>st</sup> Edition

STATE REVIEWS (Tamil Nadu)

(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

May, 2014

# **TAMIL NADU**

#### **Mineral Resources**

Tamil Nadu is the leading holder of country's resources of vermiculite, magnetite, dunite, rutile, garnet, molybdenum and ilmenite. The State accounts for the country's 81% lignite, 75% vermiculite, 69% dunite, 59% garnet, 52% molybdenum and 30% titanium minerals resources.

Important minerals that are found to occur in the State are bauxite in Dindigul, Namakkal, Nilgiris & Salem districts; dunite/pyroxenite in Salem district; felspar in Coimbatore, Dindigul, Erode, Kanchipuram, Karur, Namakkal, Salem & Tiruchirapalli districts; fireclay in Cuddalore, Kanchipuram, Perambalur, Pudukottai, Sivaganga, Thiruvallur, Tiruchirapalli, Vellore & Villupuram districts; garnet in Ramanathapuram, Tiruchirapalli, Tiruvarur, Kanyakumari, Thanjavur & Tirunelveli districts; granite in Dharmapuri, Erode, Kanchipuram, Madurai, Salem, Thiruvannamalai, Tiruchirapalli, Tirunelveli, Vellore & Villupuram districts; graphite in Madurai, Ramnathapuram, Shivganga & Vellore districts; and gypsum in Coimbatore, Perambalur, Ramnathapuram, Tiruchirapalli, Tirunelveli, Thoothukudi & Virudhunagar districts. Similarly, occurrences of minerals, such as, lignite deposits are located in Cuddalore Ariyalur, Thanjavur, Thiruvarur, Nagapattinam & Ramanathapuram districts; limestone in Coimbatore, Cuddalore, Dindigul, Kanchipuram, Karur, Madurai, Nagapattinam, Namakkal, Perambalur, Ramnathapuram, Salem, Thiruvallur, Tiruchirapalli, Tirunelveli, Vellore, Villupuram & Virudhunagar districts; magnesite in Coimbatore, Dharmapuri, Karur, Namakkal, Nilgiri, Salem, Tiruchirapalli,

Tirunelveli & Vellore districts; quartz/silica sand in Chennai, Coimbatore, Cuddalore, Dharmapuri, Dindigul, Erode, Kanchipuram, Karur, Madurai, Namakkal, Periyar, Perambalur, Salem, Thiruvallur, Thiruvarur, Nagapattinam, Tiruchirapalli, Villupuram, Virudhunagar & Vellore districts; talc/steatite/soapstone in Coimbatore, Salem, Tiruchirapalli & Vellore districts; titanium minerals in Kanyakumari, Nagapattinam, Ramanathapuram, Thiruvallur, Tirunelveli & Thoothukudi districts; vermiculite in Dharmapuri, Tiruchirapalli & Vellore districts; and zircon in Kanyakumari district have been established.

Other minerals that occur in the State are apatite in Dharmapuri & Vellore districts; barytes in Erode, Madurai, Perambalur, Tirunelveli & Vellore districts; bentonite in Chengai-Anna district; calcite in Salem district; china clay in Cuddalore, Dharampuri, Kanchipuram, Nilgiris, Sivaganga, Thiruvallur, Tiruvannamalai, Tiruchirapalli & Villupuram districts; chromite in Coimbatore & Salem districts; copper, lead-zinc and silver in Villupuram district; corundum and gold in Dharmapuri district; dolomite in Salem & Tirunelveli districts: emerald in Coimbatore district; iron ore (magnetite) in Dharmapuri, Erode, Nilgiris, Salem, Thiruvannamalai, Tiruchirapalli & Villupuram districts; kyanite in Kanyakumari & Tirunelveli districts; molybdenum in Dharmapuri, Dindigul & Vellore districts; pyrite in Vellore district; sillimanite in Kanyakumari, Karur & Tirunelveli districts; tungsten in Madurai & Dindigul districts; and wollastonite in Dharmapuri & Tirunelveli districts (Table-1). Districtwise reserves/resources of lignite are provided in Table-2.

**Petroleum and natural gas** deposits are located in Cauvery basin area.

(Contd.)

Table - 1: Reserves/Resources of Minerals as on 1.4.2010: Tamil Nadu

			Reserves	ves					Remaining	Remaining resources				Total
Mineral	Unit	Proved	Prob	Probable	Total	Feasibility	Pre-fe	Pre-feasibility	Measured	Indicated	Inferred	Reconnaissance	Ţ	resources
		31D 111	STD121	STD122	(A)	S1D211	STD221	STD222	S1D331	S1D332	S1D333	S1D334	(g)	(A+B)
Apatite	tonne	1	,		1	1	ı	1		'	240000	1	240000	240000
Barytes	tonne	1	1	1	1	1	1	1	1	500	221919	1	222419	222419
Bauxite	'000 tonnes	708	1	1	708	1	1141	3564	096	10084	8363	1	24112	24820
Bentonite	tonne	1	•	1	1	1	1	•	1	3725333	5818519	•	9543852	9543852
Calcite	tonne	1	•	1	1	•	1	•	1	•	116632	'	116632	116632
China clay	'000 tonnes	1	•	1	•	1	1	•	1	327	56570	1	26897	26897
Chromite	'000 tonnes	1	1	ı	1	1	1	•	7	1	276	1	282	282
Copper Ore	'000 tonnes	1		i	1	1	1	1	200	590	1	1	790	790
Corundum	tonne	'									4000	ı	4000	4000
Dolomite	'000 tonnes	1	1	1	1	1		1	2010	135	1	1	2145	2145
Dunite	'000 tonnes	7466	1	1450	8916	1	1	102190	1	•	5773	'	107963	116879
Felspar	tonne	613184	6450	31302	650936	2328227	70156	416162	18870	69822	5447875	•	8351111	9002047
Fireclay	'000 tonnes	322	3269	423	4014	4833	171	1611	1561	•	102069	'	110244	114258
Garnet	tonne	334469	334469 1511397 10595388	10595388	12441254	1	1	92051	15000	1408995	19871019	ı	21387065	33828319
Gold														
Ore (primary)tonne	/)tonne	'	•	•	•	1	1	1	•	•	90029	•	00029	00029
Metal(primary) tonne	/) tonne	1	•	1	•	•	1	1	•	•	1.00	1	1.00	1.00
Granite (Dim. stone) '000 cu m	;) '000 cu m	1	1448	238	1686	ı	45690	8234	7	1	503818	,	557749	559435
Graphite	tonne	2807113	1	810450	3617563	1	39486	2486	65330	647500	3866390	1	4621193	8238756
Gypsum	'000 tonnes	ı	1	64	64	313	469	6584	25	249	19540	10	27191	27255
Iron ore (Magnetite)	'000 tonnes	1	ı	1	1	ı		ı	1	169388	110728	226921	507037	507037
Kyanite	tonne	'	1	1	ı	1	1	1	1	167000	81359	1	248359	248359

Table -1(Concld.)

			Reserves	res					Remainin	Remaining resources				E
Mineral	Unit	Proved	Prob	Probable	Total	Feasibility	Pre-fe	Pre-feasibility	Measured	Indicated	Inferred	Reconnaissance	ince Total	resources
		31D 111	STD121	STD122	(A)	31D211	STD221	STD222	31 D331	31D332	310333	41CCJ18		(A+B)
Lead-zinc														
Ore	'000 tonnes	1	1	1	1	1	,	1	200	590	•	1	790	790
Lead metal	'000 tonnes	1	•	•	•	•	1	ı	2.26	5.48	•	•	7.74	7.74
Zinc metal	'000 tonnes	1	1	1	'	,	ı	•	11.76	24.76	•	1	36.52	36.52
Limestone	'000 tonnes	199243	115705	55165	370112	19229	55984	42014	69951	32169	460412	•	621619	1049871
Magnesite	'000 tonnes	12462	2968	7474	25904	266	27	474	17	737	12355	•	14608	40511
Molybdenum														
Ore	tonne	•	•	•	•	•	1500000	ı	36000	569304	7692728	167800	9965832	9965832
Contained MoS <sub>2</sub>	tonne	,	'	•	1	•	1050	1	83.00	287.00	4430.53	50.34	5900.87	5900.87
Pyrite	'000 tonnes	1	•	•	1	•	•	1	•	•	24	•	24	24
Quartz-														
silica sand	'000 Tonnes	60063	6	93	60166	29644	4892	7523	3387	95837	27150	•	168432	228598
Sillimanite	tonne	331800	1	561766	893566	1	4000	13525323	1	1	3529577	1	17058900	17952466
Silver														
Ore	tonne	1	1	•	1	•	1	1	•	330000	460000	•	790000	790000
Metal	tonne	1	1	1	1	1	1	1	1	15.87	26.68	•	42.55	42.55
Talc-steatite/	'000 tonnes	1	1	333	333	194	210	1400	1	•	524	1	2328	2661
soapstone Titanium minerals*	erals*													
	tonne	1181486	1	2367410	3548896	ı	1	1	76454	19687147	93466694	- 1	- 113230295 116779191	16779191
Tungsten														
Ore	tonne	1	1	ı	1	•	•	1	1	1	1	250000	250000	250000
Contained $WO_3$	tonne	1	1	ı	1	ı	,	1	'	1	ı	50	50	50
Vermiculite	tonne	1526417	1	1	1526417	•	•	1	1	•	343051	1	343051	1869468
Wollastonite	tonne	1	1	1	1	1	1	ı	1	1	3533	1	3533	3533
Zircon*	tonne	53318	ı	175443	228761	1	1	1	1	1	ı	1	1	228761

Figures rounded off. The proved and indicated balance recoverable reserves of crude oil and natural gas in the State as on 1.4.2012 are 8.86 million tonnes and 39.30 billion cu m, respectively. \* Resources as per Department of Atomic Energy are provided in the respective Mineral Reviews.

Table - 2: Reserves/Resources of Lignite as on 1.4.2012: Tamil Nadu

(In million tonnes)

District	Proved	Indicated	Inferred	Total
Total	3735.23	22900.05	7242.85	33878.13
Cuddalore	2831.00	2530.74	1199.78	6561.52
Ariyalur	904.23	302.50	481.07	1687.80
Thanjavur	-	2290.71	72.66	2363.37
Thanjavur & Thiruvarur	-	17248.06	3123.46	20371.52
Thanjavur & Nagapattinam	-	359.21	534.19	893.40
Thiruvarur & Nagapattinam	-	-	574.05	574.05
Ramanathapuram	-	168.83	272.43	441.26
Ramnad	-	-	964.97	964.97
Ramnad & Sivaganga	-	-	20.24	20.24

Source: Coal Directory of India, 2011-12.

#### **Exploration & Development**

The details of exploration activities conducted by various agencies for lignite and other minerals during 2011-12 are furnished in Tables - 3.

In 2011-12, ONGC conducted geophysical survey, drilling for exploration of petroleum & natural gas and discovered two new prospects for oil & gas namely, Periyakudi - 1(PDAA) and North Kovilkalappal-3(NKKAA) in District Tiruvarur. ONGC drilled a total of 8 exploratory wells and acquired a total of 1109.70 GLK/LK of 2D and 242.87 sq. km of 3D seismic data.

#### **Production**

The value of mineral production in Tamil Nadu at ₹5636 crore in 2011-12 increased 21% as compared to that in the previous year. The State contributed about 2% to the total value of mineral production in the country. The principal minerals produced in the state were lignite, petroleum (crude), natural gas (utilised), garnet (abrasive), graphite (r.o.m.), limestone, magnesite marl and lime kankar which together accounted for about 98% of the total value of the minerals produced in

the State in 2011-12. The State was the leading producer of lime kankar (almost entire output), garnet (abrasive) (96%), dunite (90%), magnesite (67%) and lignite (58%). It was also the second largest producer of graphite (r.o.m.) (39%), vermiculite (16%) and marl (associate mineral with limestone) (5%) in country.

During the year under review, there was increase in the production of felspar 90%, quartz 66%, dunite 63%, bauxite 51%, fireclay 17%, graphite (r.o.m.) 16%, natural Gas (ut.) 15%, lignite, petroleum (crude) and limestone 6% each as compared to previous year. A sharp decline in production of ball clay 78%, limeshell 76%, marl 66%, silica sand 49%, vermiculite 30% and limekankar 19% was also observed in the State during the year 2011-12 (Table - 4).

The production value of minor minerals was estimated at ₹ 125 crore for the year 2011-12.

The number of reporting mines was 278 in 2011-12 as against 192 in the previous year.

The index of mineral production in Tamil Nadu (base 2004-05 = 100) was 117.32 in 2011-12 as compared to 109.32 in the previous year.

Table -3: Details of Exploration Activities in Tamil Nadu, 2011-12

Mineral/ District  Scale Area No. of Metreage  (sq km) boreholes  Reserves/Resources estimated  Prospecting stage exploration lignite (G-3), initiated in FS 20 under promotional scheme delineate lignite bearing areas assess the resource potentiality area was completed in March, Two regionally persistent 1 seams viz. Seam I of max thickness of 12 m and Seam maximum thickness of 3.80 m intersected between 350.50 m 443.50 m depths. The seams Lignite A grade. Investige established the lignite poten	Agency/	Location	Mappii	ng	Dril	ling	Sampling	Remarks
Lignite Bogalur	Mineral/					Metreage	Jumpung	
-do- Uttarako	Lignite Ramanatha-	East Ramnad	-	-	-	-	-	Prospecting stage exploration for lignite (G-3), initiated in FS 2008-09 under promotional scheme to delineate lignite bearing areas and to assess the resource potentiality of the area was completed in March, 2012. Two regionally persistent lignite seams viz. Seam I of maximum thickness of 12 m and Seam II of maximum thickness of 3.80 m were intersected between 350.50 m and 443.50 m depths. The seams are of Lignite A grade. Investigation established the lignite potentiality over an area of around 50 sq km in this sector.
Sub-basin tion for lignite (G-3) comm on 20.02.2012. Work has been up to (a) delineate lignite-be	-do-	samangai	-	-	-	-	-	Prospecting stage regional exploration for lignite (G-3) commenced on 20.02.2012. Work has been taken up to (a) delineate lignite-bearing areas and (b) to assess the resource potentiality of the area.
Central block (harar-	•	Central block (harar-						Prospecting stage (G-3) investigation was taken up during FS 2010-12 for molybdenum in this area. The area falls within Alkaline-Carbonatite Province (ACP). Epidote-homblende gneiss and quartzo-felspathic gneiss are the major rock types exposed in the ACP. Molybdenum mineralisation confined to a regional shallow to moderate easterly dipping shear zone trending NNE-SSW, extending from Velampatti in the south to Nochchipatti in the north in District Dharmapuri and Krishnagiri. The results of drilling along the shear zone in this Block, has brought to light the fact that the zones of quartz veins occur one below the other in a ladder type fashion as subhorizontal to gentle easterly dipping lensoidal and sigmoidal bodies within the shear zone. The boreholes drilled indicated molybdenum mineralisation ranging from 105 ppm to 307 ppm. The lead (Pb) values ranges from 1% to 2.5%. The work has been completed.
								(Cont

(Contd.)

Table - 3 (Contd.)

Agency/	Location	Ma	pping	Dril	lling	Sampling	Remarks
Mineral/ District	Eccution	Scale	Area (sq km)	No. of boreholes	Metreage	Sumpring	Reserves/Resources estimated
GSI							
PGE Coimbatore	Solavanur, Karappadi & Mallanayakan- palayam block	-	-	10	-	42	Reconnaissance (G-4) stag investigation initiated during F 2009-10, is being continue during FS 2010-12. One borehol (BH-4) has been drilled in F 00
							segment of Solavanur block u to a depth of 87.95 m. Three

meta-pyroxenite bands have been delineated along the borehole with a cumulative thickness of 36.25 m. Two boreholes have been drilled in Karappadi block. In the first borehole three meta-pyroxenite bands have been delineated along the borehole with a cumulative thickness of 10.55 m. Samples have been processed and sent for PGE analysis. Partial results have been received with Pt value ranging from 5 ppb to 255 ppb and Pd value ranging from 10 ppb to 730 ppb. The other borehole BH- 5 has been drilled along KPT-3D trench profile up to a depth of 75.10 m. Seven meta-pyroxenite bands with a cumulative thickness of 18.5 m have been delineated. Seven boreholes (BH-1 to 7) have been drilled in Mallanayakanpalaiyam block to intersect the metapyroxenite+chromitite band. Several metapyrox-enite bands have been intersected; the samples collected along the metapyroxenite bands are being processed and sent for PGE and trace analyses. EPMA and ore petrographic studies have been carried out on selected section, which has given moderate to high PGE values, high temperature sulphides have been identified along with few suspected PGE grains.

(Contd.)

Table - 3 (Contd.)

Agency/	Location	Ma	pping	Dril	lling	Sampling	Remarks
Mineral/ District	Bocation	Scale	Area (sq km)	No. of boreholes	Metreage	Sumpring	Reserves/Resources estimated
GSI PGE Coimbatore	Mettupalaiyam						Reconnaissance (G-4) stage investigation for PGE has been initiated during FS 2010-12 to map all the ultramafic bodies in Attikadavu, Velliyankadu, Tolampalaiyam. Melbavi, Karamadai, Mettupalaiyam, Pugalur, Vadavalli area, within MUB and to carry out comprehensive preliminary study of the ultramafic (UM) bodies to assess its PGE potentials. The major litho-units are hornblende θC biotite gneiss, charnockite, meta-gabbro. Metapyroxenite, amphibolite, ferruginous quartzite, magnetite quartzite, K-feldspar rich pegmatoidal granite, and dolerite dyke and quartz veins. The contact between Hornblende biotite gneiss and Pegmotoidal granite is sheared which is very well exposed to the south of Togarnalai hill. The shear zones are ductile to semi brittle-ductile in nature and predominantly showing dextral shear sense. A total of ten meta pyroxenite bands/bodies are demarcated. The first body is exposed from Devangapuram to north of Vadavalli and extending over a strike length of 2 km. The second metapyroxenite band exposed at Village Melbavi having almost NE-SW strike direction with 1 km. Strike length is located for the first time. The work has been completed.
-do-	Tasampalaiyam,		-	-			Reconnaissance stage (3-4) investigation for Platinum Group of Element (PGE) initiated during FS 2009-10 by scout drilling is being continued in FS 2010-12 in Block of Sittampundi layered mafic-ultramafic complex. The Sittampundi Layered Complex exposes hornblende anorthosite gneiss with bands and lenses metapyroxenite/chromi-ferous metapyroxenite, chromitite and garnet pyroxene granulite within the tonalite-granodiorite gneisses. The Sittampundi Complex is divided

Table - 3 (Concld.)

Agency/	Location	Ma	pping	Dril	lling	Sampling	Remarks
Mineral/ District	Document	Scale	Area (sq km)	No. of boreholes	Metreage	Sumpring	Reserves/Resources estimated
PGE Coimbatore (Contd.)	Tasampalaiyam			13			into three main blocks viz, Karungalpatti, Chettiyampalaiyam and Tasampa-laiyam (from east to west) for the purpose of exploration. During FS 2010-12, scout drilling was carried out in T3 (eight scout boreholes) and T4 sectors (five boreholes) of Tasampalaiyam block as well as Karungalpatti block and closed spaced trenching in T4 sector of Tasampalaiyam block to intersect the PGE mineralised bands at 30 m vertical depth and also to delineate the strike continuity of the mineralised zone. Analytical results of boreholes BH-1, BH-3, BH/4, BH/6 and BH/7 drilled in T1 and T2 sectors of Tasampalaiyam block show high values of PGE in core samples. Based on the analytical results the following significant zones were delineated. BH 1: 4.5 ppm PGE over 1.63 m width BH 3: 3.10 ppm PGE over 1.90 m and 80 ppm over 1.50 m width BH 4: 4.93 ppm PGE over 1.25 m width BH 6: 2.30 ppm PGE over 1.20 m width. BH 7: 1.1ppm PGE over 3.88 m and 2.10 ppm PGE over 3.88 m and 2.10 ppm PGE over 3.10 m width. The analytical results of boreholes drilled in T3 and T4 sectors are awaited. The work has been completed. A new prospecting stage investigation work has been taken up in the eastern part of Tasampalaiyam block (T1 and T2) sector to prove the depth persistence of PGE mineralisation during FS 2012-13.
MECL Lignite (Neyveli Lignite field)	Sikkal	-	-	27	11640	400	Potential resources of lignite have been established. Promo- tional drilling on behalf of Ministry of Coal was carried out.

Table – 4: Mineral Production in Tamil Nadu, 2009-10 to 2011-12 (Excluding Atomic Minerals)

(Value in ₹'000)

			2009-1	0		2010-11			2011-12	(P)
Mineral	Unit	No. of mines	Qty	Value	No. of mines	Qty	Value	No. of mines		Value
All Minerals		175		45157727	192		46756551	278		56360994
Lignite	'000t	3	22338	30262900	3	23144	28755300	3	24590	36964800
Natural Gas (utilised.)	тст	-	1178	4408601	-	1119	7162719	-	1285	8225285
Petroleum (crude)	'000t	-	239	4312461	-	233	4254156	-	247	4509771
Bauxite	t	1	3342	852	3	45898	8789	2	69092	17305
Ball Clay	t	1	22585	5059	1	20001	16461	1	4485	4498
Dunite	t	-	34296	10451	-	21745	6519	-	35377	24873
Felspar	t	-	451	117	1	14555	3768	1	27594	9551
Fireclay	t	3	23260	4431	4	52620	9948	12	61641	11716
Garnet (abrasive)	t	63	1444781	678913	62	1954289	1025423	65	1742434	1006851
Graphite (r.o.m.)	t	2	51719	25676	2	50079	24991	2	58305	28703
Sillimanite*	t	-	67	763	-	150	1593	-	-	-
Limestone	'000t	83	20619	3717570	90	20566	3765907	137	21736	3963613
Lime Kankar	t	1	334287	58500	1	383202	84688	2	310388	62492
Limeshell	t	-	-	-	1	365	274	1	86	86
Magnesite	t	4	235446	349195	5	165601	276628	6	147207	237760
Marl**	t	-	1623568	136226	-	660686	83242	-	223580	21938
Quartz	t	8	6952	7898	11	8674	18045	38	14423	14653
Silica Sand	t	4	10476	5688	6	8886	5466	7	4502	6517
Talc/soapstone steatite	t	1	1000	200	1	1295	259	-	-	-
Sulphur#	t	-	41346	-	-	-	-	-	-	-
Vermiculite	t	1	1602	3558	1	2153	4818	1	1507	3025
Minor Minerals@		-	-	1168668	-	-	1247557	-	-	1247557

Note: The number of mines excludes petroleum (utilised), natural gas and minor minerals.

<sup>\*</sup> Associated with kyanite.

<sup>\*\*</sup> Associated with limestone.

<sup>#</sup> Recovered as by-product from oil refinery.

<sup>@</sup> Figures for earlier years have been repeated as estimates because of non-receipt of data.

Table - 5 (Contd.)

Industry/plant

Capacity ('000 tpy)

# **Mineral-based Industry**

The important large and medium-scale mineral-based industries in organised sector in the State are given in Table -5.

State are given in Table -5.		-	
Table – 5 : Principal Mineral-bas	sed Industries	Madras Cements, R.S. Raja Nagar, Dist. Virudhunagar.	750
in Tamil Nadu		Madras Cements, Alathiyur.	3120
Industry/plant	Capacity ('000 tpy)	Tamil Nadu Cements, Alangulam, Dist. Virudhunagar.	400
Abrasives Carborandum Universal Ltd, Chennai.	NA	Tamil Nadu Cements, Ariyalur, Dist. Ariyalur.	500
Cutfast Abrasives Tools Pvt. Ltd, Chennai.	NA	Ceramics Carborandum Universal Ltd, Hosur.	NA
Aluminium MALCO, Mettur Dam (Non-operational).	85 (alumina) 40 (aluminium)	Parryware Glamourooms Pvt. Ltd, Ra Dist. Vellore.	anipet 15
<b>Asbestos Products</b> Hyderabad Industries Ltd, Kannigaiper.	100.0	Murugappa Morgan Thermal Ceramics Ltd, Ranipet, Dist. Vellore.	5.44
Ramco Industries Ltd, Arakkonam, Dist. Kancheepuram.	NA	Neycer India Ltd, Vadalur, Dist. Cudda	9.0
Tamil Nadu Asbestos, Alangulam, Dist. Virudhunagar.	28.5	Spartek Ltd, Chennai.  Copper Smelter	NA
Cement ACC Ltd, Madukkarai, Dist. Coimbatore.	960	Sterlite Industries (I) Ltd, Thoothukudi.	400 (Cu anode) 205(Cu cathode) 90 (wire rods)
Chettinad Cement Corpn. Ltd, Karur, Dist. Dindigul.	600	Fertilizer CPFL, Muthugoundanpadur	1050 (H <sub>2</sub> SO <sub>4</sub> ) 60 (SSP)
Chettinad Cement Corpn. Ltd, Karikalli Dist. Tiruchirapalli.	1200	Dist. Coimbatore.	30 (H <sub>2</sub> SO <sub>4</sub> ) 3 (oleum)
Dalmia Cements, Dalmiapuram, Dist. Trichirapalli	4000	Coramandal Fertilizer Ltd, Ranipet Dist. Vellore.	132 (SP) 33 (H <sub>2</sub> SO <sub>4</sub> )
Grasim South, Reddipalayam.	1030	Coramandal Fertilizer Ltd, Ennore, Dist. Thiruvallur.	330 (NPK) 492 (phospho-gypsum)
The India Cements Ltd, Sankarnagar, Dist. Tirunelveli.	2050	EID-Parry (I) Ltd, Ranipet Dist. Vellore.	132.00 (super) 33.00 (H <sub>2</sub> SO <sub>4</sub> )
The India Cements Ltd, Sankari, Dist. Salem (G)	700	KICL, Ennore	82.00 (SSP) 41.00 (SAP)
The India Cements Ltd, Dalavoi, Ariyalur.	2160	Madras Fertilizer Ltd, Manali, Dist. Thiruvallur.	486.7 (urea)
Ultra-Tech Cement Ltd Reddipalayam, Dist. Ariyalur.	1400	Southern Petrochemical Industries Corpn. Ltd, Thoothukudi.	840 (NPK) 512 (urea) 606 (DAP)
Ultra-Tech Cement Works, ARCW, Arakkonam (G).	1200	Chemicals Tanfac Industries Ltd, Cuddalore.	2.56 (AlF <sub>3</sub> ) 17 (HF) 17 (AlF <sub>3</sub> )
	(Contd.)		(Contd.)

Table -5 (Contd.)

Table -5 (Concld.)

,		rubic 3 (Concid.)	
Industry/plant	Capacity ('000 tpy)	Industry/plant	Capacity ('000 tpy)
Tuticorin Alkali Chemicals &	115 (soda ash)	Shri Natraj Ceramic & Chemical Industries Ltd, Dalmiapuram,	42
Fertilizers Ltd, Thoottukudi	115 (NH <sub>4</sub> Cl)	Dist. Tiruchirapalli.	
Synthetic Rutile DCW Ltd, Sahupuram,		VRW Refractories, Vanagaram.	21.6
Dist. Thoothukudi.	48	DBM & Calcined Magnesite Badrinath Refractories, Salem.	0.9 (DBM)
TiO <sub>2</sub> Pigment  VVTi Pigments (P) Ltd,  (formerly, Kilburn Chemicals)  Dist. Thoothukudi.	13	Burn Standard Co. Ltd, Salem.	2 (calcined)  18 (calcined magnesite) 54 (DBM) 48 (refractory)
<b>Foundry</b> Raja Foundry, Singanallur, Dist. Coimbatore.	NA	Carborandum Universal Ltd, Ranipe Dist. Vellore.	et, NA
CPC Premier (P) Ltd, Coimbatore.	NA	Carborandum Universal Ltd, Pallikkaranai.	NA
Hinduja Foundries Ltd, Ennore.	NA	Dalmia Magnasita Comm. Chattish	avadi 125 (DBM)
Krishna Engineering Co. Pvt Ltd, Tiruchirapalli.	NA	Dalmia Magnesite Corpn., Chettich Dist. Salem.	avadi 125 (DBM)
The KCP Ltd, Thiruvottiyur, Chennai.	NA	Khaitan Hostambe Spinels, Salem.	30 (DBM) 10 (Mg-Cr clinker)
Iron & Steel Salem Steel Plant (SAIL), Salem.	320	Ramkrishna Magnesite Mines, Saler	n. 3 (calcined)
	(saleable steel)	Salem Refractories, Salem.	18 (DBM)
Southern Iron & Steel Co. Ltd, Salem. 30	180 (pig iron) 00 (saleable steel)	Tamil Nadu Magnesite Ltd, Kurumbapatty, Dist. Salem.	19.5(calcined magnesite) 30(DBM)
Sponge Iron Adhunik Metalics Ltd, Eguvarpalayam, Dist. Thiruvallur.	60	Tata Refractories Ltd, Salem.	25 (DBM) 2 (Calcined)
Dist. Tilliuvaliui.		Tamil Nadu Products, Salem.	3 (Calcined)
Arshara Industries Ltd, Equvarpalayam, Dist. Thiruvallur.	60	Pon Kumar Magnesite Ltd, Salem	26.5 (DBM)
Kaushik Steel Industries Ltd, Pappen Kuppa Dist. Thiruvallur.	m 60	Khetan Hostambe Spinels Ltd, Salem.	30 (DBM) 10 (Cr magnesite)
Agni Steels Pvt Ltd, Olappalayam Road, Ingur, Dist. Erode	30	Silicon Carbide Carborandum Universal Ltd.	
Refractory ABREF Pvt. Ltd, Gummudipoondi, Dist. Thiruvallur.	1.3	Tiruvottiyur  Petroleum Refinery	NA
		CPCL, Manali, Dist. Thiruvallur.	10500
Sharda Ceramics Pvt. Ltd, Ambattur, Chennai.	9.9	CPCL, Narimanam.	1000
	(Contd.)	(G): Grinding unit.	

(Contd.) (G): Grinding unit.