

GOVERNMENT CENTRAL MUSEUM,
MADRAS.

CATALOGUE

OF

MINERALS, ORES, AND ROCKS;

WITH

NOTE ON METEORITES, OF WHICH THE FALL
IN SOUTHERN INDIA HAS BEEN RECORDED.

57

MADRAS:

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TWO WERE FOUND IN SOUTHERN INDIA HAS BEEN

E R R A T A .

Page 9, No. 102.	Jaggeyaper is in the Kistna District.
" 18, "	288. Virudapat is in the Tinnevely District.
" 28, "	76. Pentapad is in the Godévari District.
" 33, "	220, 234. Koilkunda is in the Kurnool District.
" 35, "	272. Atár is in the Salem District.
" 41, "	435. Chetpat is in the North Arcot District.
" 42, "	do. do.
" 43, "	463. do. do.
" 70, "	283. Sríharikót is in the Nellore District.
" 77, "	450. North Canara belongs to the Bombay Presidency.
" 78, "	465. do. do.
" 83, "	608. Thuvarangoorichi is in the Trichinopoly District.
" 83, "	609. Virudapat is in the Tinnevely District.

PREFACE.

THE present catalogue was prepared by Mr. Bosworth Smith when Mineralogist to the Madras Government, and the collections of minerals and rocks in the Madras Museum were, at the same time, re-arranged by him. It is divided into nine sections, viz. :—

- I. Miscellaneous collection of minerals used as gems.
- II. Minerals of Southern India.
- III. Economic minerals used in the manufacture of glass, pottery, earthenware, &c.
- IV. Ores and products of Southern India.
- V. Miscellaneous collection of ornamenta' rocks.
- VI. Rocks of Southern India.
- VII. Minerals of Southern India.
- VIII. Serpentine, and lithographic stones of Southern India.
- IX. Meteorites, of which the fall in Southern India is recorded.

EDGAR THURSTON,
Superintendent.

CENTRAL MUSEUM,
April 1890.

I.—MINERALS USED AS GEMS.

No.	Name of specimen.	Locality.	Remarks.
ORNAMENTAL STONES.			
1	Rock crystal	New York.	
2	Do. do.	Switzerland.	
3	Do. do.	Kányam, Coimbatore District	Polished specimen.
4	Amethyst	Coimbatore.	
5	Do.	Oberstein.	
6	Do. with Chalcedony	Do.	
7	Do.	Hungary.	
8	Do.	Oberstein.	
9	Crocidolite	South Africa	Polished specimen.
10	Smoky Quartz	Saint Gothard.	
11	Do. do.	Do.	
12	Rose do.	Bavaria.	
13	Agate	Oberstein	Polished specimen.
14	Chalcedony	Iceland.	
15	Plasma	Baden.	
16	Prase	Saxony.	
17	Semi Opal	Hungary.	
18	Opal	Silesia.	
19	Milk Opal	Do.	
20	Fire do.	Mexico.	
21	Royal do.	Hungary.	
22	Prase do.	Silesia.	
23	Cat's eye	Bavaria.	
24	Chalcedony	North India	Polished specimen.
25	Carnelian	Balkatore.	

MINERALS USED AS GEMS—continued.

No.	Name of specimen.	Locality.	Remarks.
ORNAMENTAL STONES—continued.			
26	Chrysoprase ..	Silesia.	
27	Mummy Agate ..	Pyramids.	
28	Ribbon Jasper ..	Harz.	
29	Do. ..	Syria ..	Polished specimen.
30	Jasper ..	Baden.	
31	Striped Jasper ..	Germany.	
32	Fortification Agate ..	North India ..	
33	Agate ..	Oberstein ..	Polished specimen.
34	Do. ..	Buenos Ayres ..	
35	Heliotrope ..	North India.	
36	Do. ..	Do.	
37	Fossil Wood ..		
38	Agate ..		
39	Onyx ..		
40	Chalcedony ..		
41	Jasper ..		
42	Moss Agate ..		
43	Carnelian ..		
44	Spinel ..	Sweden.	
45	Do. ..	Ceylon.	
46	Sapphire ..	The Urals.	
47	Fluorspar ..	Friberg.	
48	Augite (diopside) ..	Tyrol.	
49	Olivine ..	Bohemia.	
50	Schiller-spar ..	Harz.	
51	Rhodonite ..	Cornwall.	
			} Cut specimens.

52	Iron-garnet	..	..	..	..	Norway	..	..	..	Cut specimen.
53	Pyrope	..	..	..	..	Bohemia.	..	..	..
54	Iron-garnet	..	..	..	..	Tyrol.	..	..	..
55	Do.	..	..	..	..	Kángyam, Coimbatore District.	..	..	..
56	Cinnamon stone	..	..	..	..	Piedmont.	..	..	..
57	Do.	..	..	..	..	Do.	..	..	..
58	Idocrase	..	..	..	..	Norway.	..	..	..
59	Do.	..	..	..	..	Vesuvius.	..	..	..
60	Hyacinth	..	..	..	..	Ceylon.	..	..	..
61	Avanturine Felspar (sun-stone)	..	..	..	..	Norway.	..	..	..
62	Adularia (moon-stone)	..	..	..	..	Ceylon	..	..	..	Cut specimen.
63	Do.	do.	..	..	..	Switzerland	..	..	..
64	Do.	do.	..	..	..	Do.	..	..	..
65	Microcline (amazon-stone)	..	..	..	..	Do.	..	..	..
66	Do.	do.	..	..	..	The Urals.	..	..	..
67	Labradorite	..	..	..	..	Do.	..	..	..
68	Do.	..	..	..	..	Labrador.	..	..	..
69	Do.	..	..	..	..	Do.	..	..	..
70	Epidote	..	..	..	..	Tyrol.	..	..	..
71	Lapis lazuli	..	..	..	..	North India.	..	..	..
72	Tourmaline (schorl)	..	..	..	..	Elba.	..	..	..
73	Do.	do.	..	..	..	Mysore state.	..	..	..
74	Do. (red and green)	..	..	..	..	Elba.	..	..	..
75	Kyanite	..	..	..	..	Italy.	..	..	..
76	Topaz	..	..	..	..	Brazil	..	..	..
77	Do.	..	..	..	..	Ceylon.	..	..	..
78	Sphene	..	..	..	..	Switzerland.	..	..	..
79	Natrolite	..	..	..	..	Bohemia.	..	..	..
80	Pinite (pagodite)	..	..	..	..	China	..	..	..	Carved.
81	Serpentine	..	..	..	..	Silesia.	..	..	..
82	Statuary limestone	..	..	..	..	Carrara.	..	..	..
83	Granular do.	..	..	..	..	Harz	..	..	..	Polished specimen

MINERALS USED AS GEMS—*continued.*

No.	Name of specimen.	Locality.	Remarks.
<i>ORNAMENTAL STONES—continued.</i>			
84	Calcite	Saxony.	
85	Aragonite	Steiermach.	
86	Malachite	The Urals.	
87	Anhydrite	Neckar.	
88	Gypsum	Khuringil.	
89	Turquoise	Persia.	
90	Porphyritic Felsite	Saxony.	
91	Verde-antique	Corsica.	
92	Malachite	Burra Burra mines, South Australia.	

II.—MINERALS OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	Remarks.
GANJAM DISTRICT.			
1	Agate ..	Ganjam District ..	Rolled pebbles.
2	Do. ..	Do. ..	Cut specimen.
3	Steatite ..	Do. ..	..
VIZAGAPATAM DISTRICT.			
4	Graphite ..	Vizagapatam District ..	With schorl in granite.
5	Do. ..	Vizanagram, Vizagapatam District.	Impure and earthy.
6	Do. ..	Vizagapatam District ..	Powder.
7	Do. ..	Bimlipatam, Vizagapatam District ..	Do.
8	Do. ..	Vizagapatam District ..	With fibrous structure.
9	Do. ..	Bimlipatam, Vizagapatam District.	..
10	Do. ..	Golconda Hills, do. ..	Impure and gritty.
11	Flint ..	Vizagapatam, do. ..	In chalk.
12	Do. ..	Do. ..	Do.
13	Muscovite (Potash mica) ..	Bimlipatam, do. ..	Portion of a crystal.
14	Biotite (black mica) ..	Do. ..	..
GODAVARI DISTRICT.			
15	Corundum ..	Hills near Rajahmundry, Godavari District.	Blue specimen.
16	Chalcedony ..	do. ..	With east of spathic iron ore.
17	Chalcedony and Agate ..	Ganapavaram, do. ..	With cavities.
18	Brown Jasper ..	Rajahmundry, do. ..	..
19	Jasper Hornstone ..	Do. do. ..	..

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
GODÁVARI DISTRICT—continued.			
20	Limonite (brown Haematite)	Hill at Rajahmundry, Godávári Dist.	
21	Do.	Do.	
22	Do.	Do.	Mammillary.
23	Do.	Do.	Do.
24	Do.	Do.	Mammillary, botryoidal, and stalactitic.
25	Coal shale	Kota, Godávári District	Stalactitic.
KISTNA DISTRICT. *			
26	Quartz	Narsaraopet, Kistna District.	Large pyramidal crystal.
27	Amethyst	Kistna District	Showing oscillatory crystallization.
28	Do.	Do.	Cut specimen, bluish white.
29	Agate	Masulipatam, Kistna District	Cut specimen, yellowish fortification.
30	Do.	Do.	Cut specimen, white fortification.
31	Do.	Do.	Do.
32	Do.	Do.	Do.
33	Do.	Do.	Do.
34	Do.	Do.	Do.
35	Do.	Do.	Do.
36	Do.	Do.	Do.
37	Do.	Do.	Do.
38	Do.	Do.	Do.
39	Carnelian	Do.	Cut specimen (greenish).
40	Hornstone	Do.	Cut specimen.
41	Jasper	Do.	Brecciated.
42	Do.	Do.	Red.
43	Do.	Do.	Yellow.
44	Haematite	Guntúr, Do.	Cut specimen with strings of chalcedony. Siliceous.

45	Magnetite (pseudomorph after pyrite).	Do.	do.	..	Broken cubes.
46	Do.	Do.	do.	..	Large cubes.
47	Do.	Do.	do.	..	Small cubes.
48	Malachite with grey copper ore	Do.	do.	..	
49	Iron-garnet	Do.	do.	..	Dodecahedra.
50	Muscovite (Potash mica).			..	Nearly transparent.
51	Calcite	A garden at Guntur, do.	do.	..	With crystals of magnetite.
52	Do.	Do.	do.	..	Granular, pale olive color, containing pyrite.
53	Do.	Masulipatam, do.	do.	..	Do.
54	Do.	Do.	do.	..	Do.
55	Do.	Gurajalu, do.	do.	..	Do.
56	Do.	Do.	do.	..	Do.
57	Siderite	Masulipatam, do.	do.	..	Do.

NELLORE DISTRICT.

58	Staurolite	Nellore District.		..	Stained with malachite.
59	Chalcite	Nellore copper mines, Nellore Dist.	do.	..	
60	Yellow Quartz	Nellore, do.	do.	..	
61	Iron-garnet	Do.	do.	..	In garnet rock.
62	Do.	Do.	do.	..	
63	Muscovite (Potash mica)			..	
64	Tourmaline (schorl)	Nellore copper mines, do.	do.	..	In granite.
65	Kyanite	Saidapuram, do.	do.	..	Slightly rolled.
66	Calcite	Nellore, do.	do.	..	
67	Malachite	Nellore copper mines, do.	do.	..	On chalcocite.
68	Do.	Do.	do.	..	Do.
69	Malachite and Azurite	Do.	do.	..	Do.
70	Azurite	Do.	do.	..	
71	Native copper	Garimanapenta, Kaval Taluk, do.	do.	..	A thin superficial blue crust.

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
KURNOOL DISTRICT.			
72	Diamond	Bangnapalle mines, Kurnool District.	One crystal octahedron; small crystal combination of regular dodecahedron and cube, one cleavage.
73	.....	Kurnool District.	
74	Hæmatite (micaceous iron ore) ..	Hills in the. Rámallakót Taluk, between Kurnool and Gooty.	
75	Do. do. ..	Do. do.	
76	Pyrolucite	Kurnool District	Dendritic markings on the lithographic stone of Kurnool (a magnesium limestone).
77	Jasper	Do.	
78	Do.	Do.	
79	Malachite and Azurite	Do.	Superficial layer.
80	Barite (heavy spar)	Kurnool, Kurnool District.	
81	Steatite (soapstone)	Do. do.	Used as lithographic stone, and as a building material.
82	Potstone (impure serpentine)	A chalk pit between Adoni and Kurnool.	Used as lithographic stone.
82	Serpentine	Zorapore, Kurnool District	Containing calcite.

BELLARY DISTRICT.

84	Gold sand	..	..	..	..	Konahalli?, Bellary District	..	Washed from a nullah near the village.
85	Quartz	..	..	..	..	Green hills near Nemakallu, Bellary District.	..	Probably a quartzite colored by chlorite.
86	Amethyst	..	..	..	..	Bellary District	..	A crystal with a dark circular core.
87	Amethystine Quartz	..	..	..	..	Sandur range of hills near Bellary, Bellary District.	..	
88	Striped Jasper	..	..	..	..	Bellary, Bellary District	..	From the Dharwar series.
89	Do.	..	..	..	..	Do.	..	Cut specimen.
90	Do.	..	..	..	..	Do.	..	Do.
91	Do.	..	..	..	..	Do.	..	Do.
92	Hæmatite	..	..	..	..	Rámandrug and neighbouring hills.	..	Very impure.
93	Do.	..	..	..	..	Do.	..	Do.
94	Do. (clay iron stone)	..	..	..	..	Bellary District.	..	
95	Limonite	..	..	..	..	Rámandrug and neighbouring hills.	..	Mammillary.
96	Do.	..	..	..	..	Do.	..	Fibrous.
97	Do.	..	..	..	..	Do.	..	Mammillary.
98	Göthite	..	..	..	..	Do.	..	Botryoidal.
99	Epidote	..	..	..	..	Bellary District.	..	
100	Do.	..	..	..	..	Do.	..	
101	Kyanite	..	..	..	..	Do.	..	
102	Calcite (granular limestone)	..	..	..	..	Jaggayapat	..	A bluish grey color used for building, sculpture, and lithography.
103	Do.	..	..	..	..	Bellary District.	..	Fibrous.
104	Do.	..	..	..	..	Do.	..	Recent, with impressions of leaves.
105	Travertine	..	..	..	..	Do.	..	Impure, light green.
106	Dolomite	..	..	..	..	Do.	..	White.
107	Do.	..	..	..	..	Do.	..	Green veins through hornblende rock.
108	Malachite	..	..	..	..	Do.	..	
109	Do.	..	..	..	..	Do.	..	
110	Barite	..	..	..	..	Do.	..	

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
BELLARY DISTRICT—continued.			
111	Talc	Bellary, Bellary District	Talcosc schist.
112	Balmorite	Ráyácheru, Anantapur District.	
113	Serpentine	Bellary, Bellary District.	
114	Steatite	Do.	
ANANTAPUR DISTRICT.			
115	Diamond (model)	Waji Karur, Anantapur District	Found near the Waji Karur mines.
116	Quartz	Singanamallai Tank, do.	
117	Epidote	Waji Karur, do.	
118	Calcite	Do.	
CUDDAPAH DISTRICT.			
119	Pyrite	Nullamallai Hills, Cuddapah District	From the black limestone.
120	Do.	Pushpagiri, do.	
121	Galena	Jangamrázupalli, do.	
122	Do.	From the bank of the Pennair-Chennur, near Cuddapah.	From the old native mines.
123	Do.	North of Cuddapah District.	
124	Magnetite	Cuddapah District	Octahedron in quartzite.
125	Hæmatite	Kanamalapalli, near Cuddapah	Very siliceous.
126	Rock crystal	Chennur, Cuddapah.	

127	Quartz	..	..	..	..	Kadiri Taluk, Cuddapah District	From big reefs running east and west, five miles north of Talapoola.
128	Do.	..	..	..	..	Sidharatam, do.	Cat's eye. The vendor stated that cat's eye is to be obtained from the Nallamalla range of hills beyond Cuddapah, and that information regarding them may be had at the village of Nullakonda Sai by asking there regarding Pashanum Kulloo of the Up-paravadoo peripertinná cari, and that such stones are said to be carried from thence to the village of Kálipet on this side of Naidupet near Nellore, and near Goome-rakonda beyond Venkatagiri, and there worked up.
129	Do.	..	..	..	..	Nullamalla Hills, do.	
130	Chert	..	..	..	..	Jangamrázupalli, do.	See page 161 of Mem. Geol. Survey of India, Vol. VIII, Part I.
131	Do.	..	..	..	..	Vempalli, do.	do.
132	Chalcedony	..	..	..	..	Kottapalle, do.	Enclosing calc-spar, which has in places been dissolved away; empty casts of the rhombs of calcite.
133	Jasper	..	..	..	..	Cuddapah District	Cut specimen.
134	Striped Jasper	..	..	..	..	Diamond mines, Cuddapah District.	From the Dharwar series.
135	Do.	..	..	..	..	Do.	Do.
136	Epidote	..	..	..	..	Kottapalle, do.	
137	Do.	..	..	..	..	Vempalli, Cuddapah District.	
138	Schist	..	..	..	..	Tállapáda, do.	
139	Calcite	..	..	..	..	Kottapalle, do.	

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
CUDDAPAH DISTRICT—continued.			
140	Calcite	Cuddapah District	Violet.
141	Do. (kunkur)	Banks of the Pápaghni, Cuddapah District.	Cementing grains of quartz.
142	Do.	Cuddapah, Cuddapah District.	
143	Barite (heavy spar)	Sikhavatam, do.	
144	Talc	Cuddapah District.	
145	Serpentine (calcareous)	Do.	
MADRAS AND CHINGLEPUT DISTRICTS.			
146	Hæmatite (clay iron ore)	Vandalúr, Chingleput District.	
147	Tabasheer	Sold in Madras	Calced.
148	Do.	Do.	
149	Selenite (gypsum)	Red Hills	From a bed of grey marl.
NORTH ARCOT DISTRICT.			
150	Hæmatite	North Arcot District	A very ferruginous quartzite.
151	Hornblende	Palmanér, North Arcot District	Hornblende-rock.
152	Steatite (soapstone)	North Arcot District.	
SOUTH ARCOT DISTRICT.			
153	Gold	South Arcot District	Washed by natives.
154	Graphite	Cuddalore, South Arcot District	A thin streak of the mineral in quartz.

155	Hæmatite	Do.	do.	..	With bronzite.
156	Do.	Do.	do.	..	A ferruginous laterite.
157	Selenite (gypsum)	Do.	do.	..	
SALEM DISTRICT.								
158	Chromite	Chalk Hills near Salem, Salem District.			} From the veins of magnetite. Exhibiting polarity. In octahedra. Whitish. Rounded. Angular. Showing roughly the crystalline form (hexagonal pyramid).
159	Do.	..	..	..	Do.	do.	
160	Do.	..	..	..	Do.	do.	
161	Magnetite	..	..	..	Periyūr, Salem District		
162	Do.	..	..	..	Salem District		
163	Corundum	..	..	..	Do.		
164	Do.	..	..	..	Do.		
165	Do.	..	..	..	Do.		
166	Do.	..	..	..	Do.		
167	Do.	..	..	..	Do.		
168	Do.	..	..	..	Sólasirámáni, Salem District.		
169	Do.	..	..	..	Kavandampatti,	do.	
170	Do.	..	..	..	Do.	do.	
171	Do.	..	..	..	Do.	do.	
172	Do.	..	..	..	Do.	do.	
173	Do.	..	..	..	Do.	do.	
174	Do.	..	..	..	Do.	do.	
175	Do.	..	..	..	Yelagiri Hills,	do.	Easily cleaved.
176	Do.	..	..	..	Sólasirámáni,	do.	In decomposing gneiss (kaolin).
177	Opal	..	..	..	Yelagiri Hills,	do.	
178	Do.	..	..	..	Do.	do.	
179	Beryl	..	..	..	Salem District?	..	Said to be found near Salem, but more probably from Coimbatore District.

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
SALEM DISTRICT—continued.			
180	Iron-garnet	Salem District	Massive.
181	Do.	Do.	Do.
182	Biotite (black mica)	Kandikuppam, Salem District.	
183	Albite	Idappadi, 30 miles west of Salem.	
184	Do.	Do. do.	
185	Indianite (anorthite)	Near old gold working, Burgur ..	Shows microcline structure under microscope.
186	Epidote	Burgur.	
187	Calcite	Sankaridrug, Salem District.	
188	Do.	Do. do.	
189	Do.	Do. do.	
190	Do. (kunkur)	Tirupatūr, do.	
191	Magnesite	Chalk Hills, Salem District.	
192	Balmorite (fibrous serpentine)	Salem District.	
193	Do. do.	Do.	
194	Matrolite	Do.	
195	Talc	Pakkenadu.	
196	Steatite (soapstone)	Idappadi.	
197	Do. do.	Do.	Imbedding recent land shells (Helix).

COIMBATORE DISTRICTS

198	Magnetite	Coimbatore District	Very pure.
199	Do.	Do.	Exhibiting polarity: See top left-hand corner of specimen.
200	Corundum	Banks of the Cauvery, Coimbatore District.	Slightly rolled.
201	Do.	Gopichettipalaiyan,	do.	..	A hexagonal crystal, and a cut specimen. } Close to a beryl mine;
202	Hornstone	..	..	..	..	Karur,	do.	..
203	Beryl (aquamarine)	..	..	..	..	Kangyan,	do.	..
204	Orthoclase (polash felspar)	..	..	..	..	Do.	do.	..
205	Albite	..	..	..	..	Do.	do.	..
206	Calcite	Mettpalaiyan,	do.	..	Found near a warm spring.
207	Travertine	..	..	..	..	Konamallai-Bolampatti valley	..	..
208	Stearite (soapstone)	..	..	..	..	Mettpalaiyan, do.	..	..
209	Chlorite	..	..	..	..	Coimbatore District.	..	..

SOUTH CANARA DISTRICT.

210	Gold (sand)	Mangalore, South Canara District	Magnetite iron sand.
211	Heliotrope	Bekal, do.	

MALABAR DISTRICT.

212	Magnetite	Near Beypore, Malabar District	Containing large crystals of quartz.
213	Do.	Do.	do.	..	Exhibiting roughly the crystalline form (octahedron).
214	Do.	Do.	do.	..	Massive.
215	Garnet	..	..	..	..	Malabar District.	..	..
216	Do.	..	..	..	..	Do.	..	..
217	Do.	..	..	..	..	Varakkal, Malabar District	..	..
218	Ligneous shale	..	..	..	..	Beypore river, Calicut, do.	..	..

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
NILGIRI DISTRICT.			
219	Gold	Wynaad, Nilgiri District	Hamlin's reef.
220	Do.	do.	Do.
221	Do.	do.	Wright's level.
222	Do.	do.	Buttons of gold washed out by Kurumbars from reef on Bolingbroke estate.
223	Chalcopyrite	do.	From Rose dell reef.
224	Do.	Ilithorai, do.	From Ilithorai reef near Kótágiri.
225	Do.	Sígar Ghát, do.	Stained on the surface with azurite.
226	Pyrite	Pundalúr, South-East Nilgiri District.	
227	Galena	Ilithorai, Nilgiri District	} From the Ilithorai reef near Kótágiri.
228	Do.	do.	
229	Magnetite	Dodabetta, do.	} Impure.
230	Do.	Near Ootacamund, do.	
231	Do.	The lake, Ootacamund, do.	} Stalactitic.
232	Limonite	Near Ootacamund, do.	
233	Do.	South Downs, Nilgiris, do.	} Pisa form.
234	Do.	Nanjánád valley, do.	
235	Do.	Near Ootacamund, do.	} Stalactitic.
236	Do.	do.	
237	Do.	Nilgiris, do.	} Pisa form.
238	Hæmacite (laterite)	Do.	
239	Limonite (do.)	North of Ootacamund, do.	
240	Quartz	Do.	
241	Do.	Nanjánád valley, do.	
		Kótágiri Road, Coonoor, do.	

242 | Series of impure Kaolins, near Ootacamund, Nilgiri District—					
(1) Whitch.	(3) Pinkish white.	(5) Light red.	|	(7) Yellowish.	
(2) Yellowish white.	(4) Light yellow.	(6) Yellow.	|	(8) Red.	
243 | Ligneous clay*	Very small proportion of organic matter.
244 | Do.	Do.
245 | Peat	Do.
TRICHINOPOLY DISTRICT.					
246 | Rock crystal	In calcite.
247 | Epidote (with Prehnite)	With chlorite in calcite.
248 | Tourmaline (schorl)
249 | Do.
250 | } Coccolite (granular augite)
251 }
252 | Microcline
253 | Oligoclase
254 | Albite
255 | Do.
256 | Do.
257 | Prehnite
258 | Do.
259 | Do.
260 | } Calcite
261 }
262 | Do.
263 | Do.
264 | Do.
265 | Gypsum
266 | Talc
267 | Balmorite (fibrous Serpentine)
268 | Do.

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
TANJORE DISTRICT.			
269	Sulphur ..	Tirumularasal, coast of Tanjore District.	Found in sandy ground, when excavating a canal.
270	Graphite ..	Tirupuvanam, Tanjore District.	
271	Rock crystal ..	Vallam, do.	Vallam stones.
272	Do. ..	Do. do.	Do.
273	Smoky Quartz ..	Tanjore District ..	Portion of a large crystal.
274	Do. ..	Vallam, Tanjore District.	
275	Amethyst ..	Do. do.	Probably a Coimbatore stone.
MADURA DISTRICT.			
276	Graphite ..	Madura District.	
277	Do. ..	Do.	
278	Pyrite ..	Palni Hills, Madura District.	
279	Corundum ..	Madura District.	
280	Quartz (on Opal) ..	Do. ..	The lining of a drusey cavity.
281	Rose Quartz ..	Do. ..	One cut specimen.
282	Do. ..	Do. ..	
283	Do. ..	Do. ..	
284	Rock crystal ..	Do. ..	
285	Smoky Quartz ..	Do. ..	
286	Vein do. ..	Do. ..	
287	Opal ..	Madura, Madura District.	
288	Sagenitic Quartz ..	Do. do.	Containing small acicular crystals of tourmaline.
		Virudupati, do.	

289	Opal ..	..	..	..	..	Palm hills, do.	..	Wood opal.
290	Do. ..	..	..	..	..	Do. do.	..	A banded variety with chlor-opal.
291	Chalcedony (with Jasper and Agate).	..	..	..	..	Madura District	..	Polished specimen.
292	Do.	..	do.	..	..	Do.	..	Spongy.
293	Do.	..	..	..	..	Do.	..	Running through fissures in a sandy rock.
294	Jaspery Chert	..	..	..	..	Do.	..	Brown.
295	Do.	..	..	..	..	Do.	..	Black.
296	Jasper	..	..	..	..	Do.	..	Broken pebbles.
297	Do.	..	..	..	..	Do.	..	Dark red.
298	Chlor-opal	..	..	..	..	Do.	..	..
299	Cocholong	..	..	..	..	Do.	..	..
300	Magnetite	..	..	..	..	Sholavandán, Madura District	..	Polar.
301	Do.	..	..	..	..	Do.	..	..
302	Do.	..	..	..	..	Do.	..	..
303	Do.	..	..	..	..	Pasumalai, do.	..	Contains hæmatite.
304	Limonite	..	..	..	..	Pudakudi, do.	..	Mammillary.
305	Do.	..	..	..	..	Pasumalai, do.	..	..
306	Do.	..	..	..	..	Palm Hills, do.	..	..
307	Do.	..	..	..	..	Pudakudi, do.	..	..
308	Hornblende	..	..	..	..	Madura District.	..	Containing a large percentage of silica.
309	Do.	..	..	..	..	Do.	..	..
310	Do.	..	..	..	..	Do.	..	..
311	Coccolite	..	..	..	..	Do.	..	..
312	Garnet	..	..	..	..	Do.	..	..
313	Do.	..	..	..	..	Periyakulam, Madura District.	..	In dodecahedra.
314	Do.	..	..	..	..	Madura, do.	..	Massive.
315	Do.	..	..	..	..	Do. do.	..	On prehnite.
316	Epidote	..	..	..	..	Madura District?	..	..
317	Muscovite (potash Mica)	..	..	..	..	Sirumalai, do.	..	..
318	Talc	..	..	..	..	Madura, do.	..	..
319	Talc and Mica	..	..	..	..	Do. do.	..	..
320	Felspar (Orthoclase)	..	..	..	..	Do. do.	..	..

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
MADURA DISTRICT—continued.			
321	Felspar (Orthoclase)	Madura, Madura District.	
322	Felspar (andalusite)	Tirumangalam, Madura District.	
323	Do.	do.	
324	Felspar (microcline)	Madura District.	
325	Do.	Do.	
326	Felspar (albite)	Do.	
327	Do.	Do.	
328	Do.	Do.	
329	Felspar (labradorite)	Kattupattinmalai, ? Madura District.	
330	Do.	do.	
331	Do.	do.	
332	Tourmaline (schorl)	Madura District.	
333	Do.	Do.	
334	Phehnite	Madura, Madura District	Containing epidote.
335	Pyrite	Boundary between Madura and Trinopoly Districts.	On albite.
336	Calcite	Madura District.	
337	Do.	Do.	
338	Do. (kunkur)	Pálmédú, Madura District.	
339	Do.	do.	
340	Trevertine	Madura District ?	
341	Magnesite	Do.	
342	Malachite	Do.	
343	Barite (heavy-spar)	Do.	
344	Gypsum	Do.	
345	Do.	Do.	

346	Selenite	..	..	Do.	..	..	..	Superficial glaze.
347	Steatite (soapstone)	..	..	Pasumalai, Madura District.	..	..	..
348	Do.	..	..	Kosakulam, ? do.	..	..	..
349	Do.	..	..	Madura District.	..	..	..
350	Serpentine	..	..	Do.	..	..	..
TINNEVELLY DISTRICT.									
351	Quartz and Limonite	..	..	Puvandipuram, Tinnevelly District.	..	..	..
352	Calcite	..	..	Do.	..	..	..
353	Do.	..	..	Do.	..	..	..
354	Do.	..	..	Do.	..	..	..
355	Do.	..	..	Do.	..	..	..	Containing mica.
356	Barite (heavy-spar)	..	..	Do.	..	..	..
TRAVANCORE DISTRICT.									
357	Gold sand	..	..	Quilon, Travancore.	..	..	..
358	Do.	..	..	Do.	..	..	..
359	Do.	..	..	Do.	..	..	..
360	Do.	..	..	Do.	..	..	..
361	Corundum	..	..	Travancore	..	..	..	In calcite.
362	Jasper	..	..	Do.	..	..	..	Cut specimen.
363	Tourmaline (schorl)	..	..	Do.	..	..	..
364	Epidote	..	..	Do.	..	..	..
365	Calcite	..	..	Do.	..	..	..	White limestone.
366	Do.	..	..	Do.	..	..	..	Pink do.
367	Bitumen	..	..	Do.	..	..	..
NIZAM'S DOMINIONS.									
368	Rock crystal	..	..	Hyderabad, Nizam's Dominions.	..	..	..
369	Do.	..	..	Deccan Trap, do.	..	..	..	Drusey cavity.
370	Do.	..	..	Hyderabad, do.	..	..	..

No.	Name of specimen.	Locality.	Remarks.
NIZAM'S DOMINIONS—continued.			
371	Rock crystal	Hyderabad, Nizam's Dominions.	
372	Smoky Quartz	Do.	
373	Amethystine Quartz	Chita Rocks, Bolarum, Nizam's Dominions.	
374	Do.	Deccan Trap, Nizam's Dominions	Drusey cavity.
375	Do.	Do.	Do.
376	Do.	Secunderabad,	With a dark violet core.
377	Do.	Do.	
378	Do.	Chita Rocks, Bolarum, Nizam's Dominions.	
379	Chalcedony	Hyderabad, Nizam's Dominions	With green jaspery material.
380	Do.	Do.	Stalactitic.
381	Do.	Golkunda,	Botryoidal and mammillary.
382	Do.	Deccan Trap,	Polished specimen.
383	Do.	Nizam's Dominions.	
384	Carnelian	Golconda,	Cut specimen.
385	Opal	Chikalda tank,	With agate and chalcedony.
386	Do.	Deccan Trap,	With agate, chalcedony, and amethyst.
387	Do.	Secunderabad,	Cementing a breccia of amethyst.
388	Wood Opal	Do.	
389	Agate	Near Secunderabad,	Cut specimen.
390	Chert	Sassanal,	From veins in chlorite schist.
391	Variegated Jasper	Secunderabad,	Polished specimen.
392	Red Jasper	Nizam's Dominions.	
393	Do.	Do.	
394	Heliotrope (bloodstone)	Hyderabad,	do.

395	Clay iron ore	..	..	Do.	do.	In talc schist.
396	Garnet	..	..	My pur, 8 miles from Secunderabad, Nizam's Dominions.	..	
397	Muscovite (potash mica)	..	..	Hyderabad, Nizam's Dominions.	..	
398	Tourmaline (schorl)	..	..	Do.	do.	
399	Calcite	..	..	Deccan Trap,	..	In a drusey cavity surrounded by quartz and chalcadony.
400	Do.	..	..	Secunderabad,	do.	
401	Talc	..	..	Hyderabad,	do.	Pale grass-green color.
402	Zeolite (Thomsonite)	..	..	Deccan Trap,	..	
403	Do.	..	..	Do.	do.	
404	Do. (Natrolite)	..	..	Do.	do.	
405	Do.	..	..	Do.	do.	
406	Do. (Chabasite)	..	..	Do.	do.	
407	Do.	..	..	Do.	do.	
408	Do. (Mesolite)	..	..	Do.	do.	
409	Do. (Stilbite)	..	..	Do.	do.	
410	Do.	..	..	Do.	do.	
411	Do.	..	..	Do.	do.	
412	Do.	..	..	Do.	do.	
413	Do.	..	..	Do.	do.	
414	Do.	..	..	Do.	do.	
415	Do.	..	..	Do.	do.	
416	Do.	..	..	Do.	do.	
MYSORE TERRITORY.						
417	Gold (auriferous quartz)	..	..	Kolar Gold Fields, Mysore Province.	do.	
418	Do.	..	..	Do.	do.	
419	Do.	..	..	Do.	do.	
420	Do.	..	..	Bangalore,	do.	
421	Corundum	..	..	Mysore,	do.	

MINERALS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
MYSORE TERRITORY—continued.			
422	Corundum	Hunsür, Mysore Province.	Very pure.
423	Do.	Kanasamudram, do.	In octahedra.
424	Magnetite	Mysore, do.	
425	Hæmatite (pseudomorph after pyrite).	Chittaldroog, do.	
426	Rock crystal	Whitefield, near Bangalore, do.	Washed out of the kaolin.
427	Do.	Tumkür, do.	
428	Actinolite	Nimpapür, do.	
429	Hornblende	Near Kolar Gold Fields, do.	
430	Garnet	Kempkal, near Manjarabad Ghát, Mysore Province.	
431	Do.	Mysore, do.	
432	Do.	Malur, do.	
433	Do.	Do. do.	
434	Epidote	Seringapatam, do.	
435	Muscovite (potash mica)	Mysore, do.	
436	Gypsum	Bangalore, ? do.	.. .. .
437	Do.	Do. do.	Probably from the bazaar.
438	Calcite	Mysore, do.	Do.
439	Talc	Do. do.	Covered with chalcodony.
440	Mica (biotite)	Do. do.	Green.
441	Steatite (soapstone)	Hunsür, do.	
442	Do.	Near Kolar, do.	

III.—ORES AND PRODUCTS OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	District.
GANJAM DISTRICT.			
1	Hæmatite	Boad ..	} Ganjam District.
2	Limonite	Chegutti ..	
3	Do.	....
4	Do.	....
5	Iron smelted and forged	Boad ..	
6	Do.	Ganjam ..	
7	Steel bar	....
8	Do.	....
VIZAGAPATAM DISTRICT.			
9	Magnetite	Vizagapatam ..	} Vizagapatam District.
10	Do.	Vizianagrum	
11	Do.	Do.	
12	Hæmatite	Vizagapatam District	
13	Do.	Do.	
14	Do.	Bonangi ..	
15	Do.	Do.	
16	Do.	Do.	
17	Do.	Sâlîr Taluk ..	
18	Do.	Do.	
19	Do.	Muthum ..	
20	Do.	Bonangi ..	
21	Do.	Do.	
22	Do.	Vizagapatam ..	

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.	
VIZAGAPATAM DISTRICT—continued.				
23	"Bloom" of Iron	Sátúr Taluk	Vizagapatam District.	
24	Do.	Sarvasiddhi Taluk		
25	Do.	Vizagapatam District		
26	Do.	Sátúr Taluk		
27	Do.	Bonangi		
28	Do.	Vizagapatam District		
29	Do.	Do.		
30	Do.	Parvalipur Taluk		
31	Iron smelted and hammered	Vizagapatam		
32	Do.	Parvalipur Taluk		
33	Do.	Bonangi		
34	Do.	Sátúr Taluk		
35	Do.	Bonangi		
36	Do.	Sátúr Taluk		
37	Iron slag	Vizagapatam		
38	Do.	Sátúr Taluk		
39	Manganese ore	Bimlipatam		
40	Do.	Do.		
41	Do.	Do.		
42	Magnetite	Do.		
GODÁVARI DISTRICT.				
43	Pyrite	Pangadi		}]
44	Magnetite	Do.		

45	Hæmatite	Rajamundry	} Godávári District.
46	Do.	..	..	..	..	Do.	..	..	..
47	Do.	..	..	..	..	Do.	..	..	..
48	Limonite	..	..	..	..	Do.	..	..	..
49	Do.	..	..	..	..	Do.	..	..	..
50	Do.	..	..	..	..	Do.	..	..	..
51	"Bloom" of Iron	..	..	..	..	Do.	..	..	..
52	Do.	..	..	..	..	Do.	..	..	..
53	Iron bar	..	..	..	..	Do.	..	..	..
KISTNA DISTRICT.										
54	Hæmatite	Masulipatam	} Kistna District.
55	Do.	..	..	..	..	Do.	..	..	..
56	Do.	..	..	..	..	Do.	..	..	..
57	Do.	..	..	..	..	Tiruvúr ..	..	..	..
58	Do.	..	..	..	..	Do.	..	..	..
59	Do.	..	..	..	..	Between Surepalli and Somavaram.	..	..	..
60	Do.	..	..	..	..	Mailavaram ..	..	..	..
61	Limonite	..	..	..	..	Masulipatam ..	..	..	..
62	Do.	..	..	..	..	Between Rámanakapet and Chit- tapore.	..	..	..
63	Do.	..	..	..	..	Rámanakapet ..	..	..	..
64	Do.	..	..	..	..	Kistna District ..	..	..	..
65	Do.	..	..	..	..	Janardhanapuram ..	..	..	..
66	Do.	..	..	..	..	Chinalapád hills ..	..	..	..
67	Iron bar	..	..	..	..	Tiruvúr ..	..	..	..
68	Do.	..	..	..	..	Do.	..	..	..
69	"Bloom" of Iron	..	..	..	..	Masulipatam ..	..	..	..
70	Do.	..	..	..	..	Do.	..	..	..
71	Do.	..	..	..	..	Kistna District ..	..	..	..

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
<i>KISTNA DISTRICT—continued.</i>			
72	"Bloom" of Iron	Rámanakapet	..
73	Do.	Jagayapet	..
74	Iron bar	Masulipatam	..
75	Do.	Pentapad	..
76	Göthite after pyrite	Guntúr	..
77	Do.	Gurajalu	..
78	Do.	Guntúr	..
79	Iron sand	Kistna District	..
80	Magnetite	Do.	..
81	Do.	Guntúr	..
82	Hematite	Do.	..
83	Do.	Tunurkota	..
84	Do.	Do.	..
85	Do.	Kistna District	..
86	Limonite	Guntúr	..
87	Do.	Do.	..
88	Do.	Do.	..
89	Do.	Do	..
90	Do.	Guttikonda	..
91	Do.	Kistna District	..
92	Do.	Guntúr	..
93	Do.	Dáhepalle	..
94	"Bloom" of Iron	Kistna District	..
95	Iron smelted from above	Do.	..
96	"Bloom" of Iron	Guttikonda	..
97	Iron smelted from above	Do.	..

Kistna District.

98	Do.	..	Do.	..	..	..
99	"Bloom" of Iron	..	Tumrukota	..	..	..
100	Iron smelted from above	..	Do.	..	..	..
101	Do.	..	Do.	..	..	..
102	"Bloom" of Iron	..	Gutlikonda	..	..	..
103	Do.	..	Do.	..	..	..
104	Iron smelted from above	..	Do.	..	..	..
105	Do.	..	Do.	..	..	..
106	Iron bar	..	Rentachintala	..	..	..
NELLORE DISTRICT.						
107	Iron sand	..	Nellore	..	..	..
108	Do.	..	Chundi Division	..	..	..
109	Do.	..	Nellore	..	..	..
110	Do.	..	Chundi Division	..	..	..
111	Hæmatite	..	Ongole	..	..	..
112	Do.	..	Do.	..	..	..
113	Do.	..	Do.	..	..	..
114	Do.	..	Nellore	..	..	..
115	Limonite	..	Ongole	..	..	..
116	Do.	..	Do.	..	..	..
117	Do.	..	Do.	..	..	..
118	Iron smelted and forged	..	Venkatagiri Division	..	..	..
119	Do.	..	Udayagiri Division	..	..	..
120	Do.	..	Nellore District	..	..	..
121	Do.	..	Chundi Division	..	..	..
KURNOOL DISTRICT.						
122	Galena	..	Kurnool	..	..	..
123	Do.	..	Do.	..	..	..
124	Do.	..	Do.	..	..	..

Nellore District.

Kurnool District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.	
KURNOOL DISTRICT—continued.				
125	Galena	Kurnool	Kurnool District.	
126	Do.	Do.		
127	Do.	Do.		
128	Do.	Do.		
129	Magnetite	Do.		
130	Do.	Dhoni Taluk		
131	Iron "bloom"	Kurnool		
132	Bar iron	Do.		
BELLARY DISTRICT.				
133	Iron sand	Bellary District		Bellary District.
134	Do.	Do.		
135	Do.	Bacheapalli		
136	Do.	Bellary District		
137	Do.	Do.		
138	Do.	Do.		
139	Do.	Do.		
140	Do.	Do.		
141	Do.	Dharmapuri		
142	Do.	Pujarihalli		
143	Do.	Bellary District		
144	Do.	Do.		
145	Do.	Do.		
146	Do.	Do.		
147	Do.	Do.		

148	Do.	Yerragundla	..	..	..	..	..
149	Hæmatite	Sunkalamakonda	..	..	..	..	..
150	Do.	Minohéri	..	..	..	..	..
151	Do.	Sindigéri	..	..	..	..	..
152	Do.	Shanavasapuram	..	..	..	..	..
153	Do.	Copper mountain, near Bellary	..	..	..	..	..
154	Do.	Ayynamadugu	..	..	..	..	..
155	Do.	Holalagundi	..	..	..	..	..
156	Do.	Copper mountain near Bellary	..	..	..	..	..
157	Do.	Do.	..	..	..	..	..
158	Do.	Sandúr hill	..	..	..	..	..
159	Do.	Sandúr valley	..	..	..	..	..
160	Do.	Copper mountain near Bellary	..	..	..	..	..
161	Do.	Sandúr	..	..	..	..	..
162	Limouite	Bellary	..	..	..	..	..
163	Do.	Sandúr	..	..	..	..	..
164	Do.	Kalahalli	..	..	..	..	..
165	Do.	Huvinahadgali Taluk	..	..	..	..	..
166	Do.	Harpanahalli	..	..	..	..	..
167	Iron ore roasted	Kádligi Taluk	..	..	..	..	..
168	Do.	Bellary	..	..	..	..	..
169	Do.	Do.	..	..	..	..	..
170	Do.	Bellary District	..	..	..	..	..
171	Do.	Sandúr	..	..	..	..	..
172	Do.	Do.	..	..	..	..	..
173	Do.	Appianahalli	..	..	..	..	..
174	Do.	Sandúr	..	..	..	..	..
175	Do.	Komasawmi hill, near Bellary	..	..	..	..	..
176	Do.	Do.	..	..	..	..	..
177	Do.	Chilakanahatti	..	..	..	..	..
178	Do.	Kamalapur	..	..	..	..	..
179	Do.	Bellary District	..	..	..	..	..

Bellary District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
BELLARY DISTRICT—continued.			
180	Iron ore roasted	Near Sandúr	Bellary District.
181	Do.	Bellary District	
182	Do.	Betadamallaпанagudda	
183	Do.	Jumbunathanahalli	
184	Do.	Kallahalli	
185	Do	Kamalápur	
186	Do.	Do.	
187	Do.	Tyágadahalli	
188	Iron smelted and forged	Kallahalli	
189	Do.	Do.	
190	"Bloom" of Iron	Do.	
191	Do.	Bellary District	
192	Do.	Kamalápur	
193	Iron bar from above	Do.	
194	Do.	Do.	
195	Iron slag from above	Do.	
196	"Bloom" of Iron	Bellary	
197	Do.	Tyágadahalli	
198	Iron smelted and forged	Kamalápur	
199	Do.	Bellary District	
200	Iron bar	Sandúr	
201	Iron smelted and forged	Bellary	
202	Do.	Kúdligi	
203	Do.	Do.	
204	Do.	Bellary District	
205	Wootz	Do.	

CUDDAPAH DISTRICT.

206	Pyrite	..	..	..	Cuddapah District	..	..
207	Göthite—pseudomorph after pyrite	..	..	..	Do.	..	..
208	Magnetite	..	..	..	Erraguntlakota	..	..
209	Iron sand	..	..	..	Cuddapah District	..	..
210	Do.	..	..	..	Gurramkonda	..	..
211	Do.	..	..	..	Do.	..	..
212	Do.	..	..	..	Cuddapah District	..	..
213	Magnetite	..	..	..	Do.	..	..
214	Do.	..	..	..	Do.	..	..
215	Hæmatite	..	..	..	Kamalapalli ..	..	..
216	Do.	..	..	..	Cuddapah District	..	..
217	Do.	..	..	..	Do.	..	..
218	Do.	..	..	..	Do.	..	..
219	Do.	..	..	..	Pendhmarr hills	..	..
220	Do.	..	..	..	Koilkuntla	..	..
221	Do.	..	..	..	Cuddapah District	..	..
222	Do.	..	..	..	Do.	..	..
223	Do.	..	..	..	Dasarpalli ..	..	..
224	Do.	..	..	..	Do.	..	..
225	Do.	..	..	..	Bandikanama ..	..	..
226	Do.	..	..	..	Cuddapah District	..	..
227	Do.	..	..	..	Arayakanama	..	..
228	Do.	..	..	..	Cuddapah District	..	..
229	Do.	..	..	..	Palkonda ..	..	..
230	Limonite	..	..	..	Lunkamalla ..	..	..
231	Do.	..	..	..	Do.	..	..
232	Do.	..	..	..	Cuddapah District	..	..
233	Do.	..	..	..	Krishnamakonda	..	..
234	Do.	..	..	..	Koilkuntla ..	..	..
235	" Bloom " of Iron	..	..	..	Erraguntlakota	..	..

Cuddapah District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
CUDDAPAH DISTRICT—continued.			
236	"Bloom" of Iron	Badvél	} Cuddapah District.
237	Iron smelted from above	Do.	
238	"Bloom" of Iron	Erraguntlakota	
239	Iron smelted from above	Do.	
240	Do.	Badvél	
NORTH ARCOT DISTRICT.			
241	Iron sand	Satighur	} Cuddapah District.
242	Do.	Vellore	
243	Do.	Nalagarree	
244	Do.	Kangundi Division	
245	Do.	Nayanooroo	
246	Do.	Nimmanapalli	
247	Do.	Seroomayaloor	
248	Do.	Vellore	
249	Do.	Saeramboor hills	
250	Do.	Pedagoondlapalli	
251	Do.	Vingaribadipalle	
252	Do.	Maddúru	
253	Do.	Seroomayaloor	
254	Do.	Chengunam	
255	Do.	Ramala	
256	Do.	Aggichénpalli	
257	Do.	Tiruvengalanádharijupuram	
258	Do.	Asanampattu	

259	Do.	..	..	..	Ramala	..	..
260	Do.	..	..	..	Gorivimakulapalli	..	..
261	Do.	..	..	..	Krishnapuram	..	..
262	Decomposing rocks with Magnetite.				Agraharam	..	..
263	Do.	..	do.	..	Aggichénupalli	..	..
264	Do.	..	do.	..	Táimákulapalli	..	..
265	Do.	..	do.	..	Chavutegunta	..	..
266	Do.	..	do.	..	Mohendeavady	..	..
267	Do.	..	do.	..	Chentalagunta	..	..
268	Do.	..	do.	..	Vellore	..	..
269	Do.	..	do.	..	Do.	..	..
270	Do.	..	do.	..	Árni	..	..
271	Do.	..	do.	..	Do.	..	..
272	Do.	..	do.	..	Atúr	..	..
273	Do.	..	do.	..	Near Fort of Árni	..	..
274	Do.	..	do.	..	Nairpet	..	..
275	Do.	..	do.	..	Vellore	..	..
276	Do.	..	do.	..	Mohendeavady	..	..
277	Do.	..	do.	..	Vellore	..	..
278	Do.	..	do.	..	Do.	..	..
279	Do.	..	do.	..	Hill Fort at Vellore	..	..
280	Do.	..	do.	..	Vellore	..	..
281	Do.	..	do.	..	Seromayaloor	..	..
282	Hæmatite	..	..	..	Sadasambadu	..	..
283	Do.	..	..	..	Kálahasti	..	..
284	Limonite	..	..	..	Boundary between Venkatagiri and Kálahasti.	..	..
285	Do.	..	..	..	Do.	do.	..
286	Do.	..	..	..	Sirasambadu	..	..
287	Do.	..	..	..	Do.	..	..
288	"Bloom" of Iron				Gorivimakulapalle	..	..
289	Do.	..	..	..	Naliki	..	..

North Arcot District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
NORTH ARCOT DISTRICT—continued.			
290	"Bloom" of Iron	Satghur	..
291	Do.	Sirasambédu	..
292	Do.	Thoongundram	..
293	Do.	Kottakóta	..
294	Do.	Kristnapuram	..
295	Do.	North Arcot District	..
296	Do.	Do.	do.
297	Do.	Nayanooroo	..
298	Do.	Maddúru	..
299	Do.	Tiruvengalanádharaájupuram	..
300	Do.	Ajcekthedy	..
301	Do.	Nimmanapalli	..
302	Do.	Tsákakakuppam	..
303	Do.	Seroomayaloor	..
304	Do.	Do.	Do.
305	Do.	Seeramboor hills	..
306	Do.	Arni	..
307	Do.	Chengunam	..
308	Do.	Aggichénupalli	..
309	Do.	Arni	..
310	Iron smelted and forged	Seeramboor hills	..
311	Do.	Chentlagunta	..
312	Do.	Tátmakulapalli	..
313	Do.	Chentlagunta	..
314	Do.	Arni	..
315	Do.	Do.	..

316	Do.	Do.	Do.	Do.	Do.
317	Do.	Sadasumbadin	..	..	..
318	Do.	Athinapalli, Chandragiri Taluk	..	..	..
319	Do.	Asanampattu, Vellore Taluk	..	..	..
320	Do.	Vannantangal do.	..	..	..
321	Do.	Jakidona, Chandragiri Taluk	..	..	..
322	Do.	Amasavarpalli do.	..	..	..
323	Do.	Nachchukur do.	..	..	..
324	Do.	Mangalapalli do.	..	..	..
325	Do.	Maddinayanipalli do.	..	..	..
326	Do.	Vonnembutt, Vellore Taluk	..	..	..
327	Do.	Voppalapalli, Chandragiri Taluk.	..	..	..
328	Do.	Pallippattu, Vellore Taluk	..	..	..
329	Do.	Munglupattu, Chandragiri Taluk	..	..	..
330	Do.	Canachinnapalli, Chandragiri Taluk.	..	..	..
331	Do.	Pakkam, Vellore Taluk	..	..	..
332	Do.	Chinnasanamaredipalli, Chandragiri Taluk.	..	..	..
333	Do.	North Arcot District	..	..	..
334	Do.	Chinnapayagaripalli, Chandragiri Taluk.	..	..	..
335	Do.	Ichaner, Chittoor Taluk	..	..	..
336	Do.	Alankuppam, Vellore Taluk	..	..	..
337	Do.	Gopalpalli, Chandragiri Taluk	..	..	..
338	Do.	Devarasikuppam	..	..	..
339	Do.	Kalampatin	..	..	..
340	Do.	Bootheevankul, Chandragiri Taluk.	..	..	..
341	Do.	Thumbaspalliemkuppam, Chittoor Taluk.	..	..	..
342	Do.	Surankuppam	..	..	..

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
<i>NORTH ARCOT DISTRICT—continued.</i>			
343	Iron sand	Thettpalli, Chandragiri Taluk	..
344	Do.	Nangul	..
345	Do.	Malayapattu	..
346	Do.	Mélmayal	..
347	Do.	Pákkam, Satghur Taluk	..
348	Do.	Gundalapali	..
349	Do.	Nelímánpadu	..
350	Do.	Karakkúr	..
351	Do.	Modikuppam	..
352	Do.	Kottapalli	..
353	Do.	Kattarikuppam, Vellore Taluk	..
354	Do.	Rangampéttai, Satghur Taluk	..
355	Do.	Senkunam, Polúr Taluk	..
356	Do.	Sottukkinni, do.	..
357	Do.	Modaiyúr, do.	..
358	Do.	Timmayyagaripalli	..
359	Do.	Mahadanapuram, Tirutani Division.	..
360	Do.	Gungenarayenkuppam, Trivellum Taluk.	..
361	Do.	Chenji	..
362	Do.	Venkatrayakuppam, Tirutani Division.	..
363	Do.	Amudala, Tirutani Division	..
364	Do.	Pallelakuppam	..

365	Do.	..	..	Kánkuppam ..	..	..
366	Magnetite in decomposing rocks	..	..	Modaiyur, Polár Taluk	..	..
367	Do.	..	..	Do.	..	..
368	Do.	..	..	North Arcot District	..	..
369	Do.	..	..	Pottarai, Polár Taluk	..	..
370	Do.	..	..	Marakolakkuppam, Trivellum Taluk	..	..
371	Do.	..	..	Ramalingapuram, Tirutani Division.	..	..
372	Do.	..	..	Pádagám, Polár Taluk	..	..
373	Do.	..	..	Senkunam, do.	..	..
374	" Bloom " of Iron	..	..	North Arcot District ..	..	..
375	Do.	..	..	Do.	..	..
376	Do.	..	..	Bootheevankul, Chandragiri Taluk.	..	..
377	Do.	..	..	Thottupalli, do.	..	..
378	Do.	..	..	Gollapalli, do.	..	..
379	Do.	..	..	Mangalapalli, do.	..	..
380	Do.	..	..	Voppaulapalli, do.	..	..
381	Do.	..	..	Amasayarupalli, do.	..	..
382	Do.	..	..	Asanampattu, Vellore Taluk	..	..
383	Do.	..	..	Alankuppam, do.	..	..
384	Do.	..	..	Amedayala, Tirutani Division	..	..
385	Do.	..	..	Kommapollium, do.	..	..
386	Do.	..	..	Kattarikuppam, Vellore Taluk	..	..
387	Do.	..	..	North Arcot District	..	..
388	Do.	..	..	Pallippattu, Vellore Taluk	..	..
389	Do.	..	..	Tirumalarájupéta, do.	..	..
390	Do.	..	..	Rangarájukhandiga, Tirutani Division.	..	..
391	Do.	..	..	Ramalingapuram, Tirutani Division.	..	..
392	Do.	..	..	Maathevapuram, do.	..	..
393	Do.	..	..	Venkatarayakuppam, do.	..	..
394	Do.	..	..	Kondum, do.	..	..

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
NORTH ARCOT DISTRICT—continued.			
395	"Bloom" of Iron	Vanathurgapuram, Tirutani Division.	
396	Do.	Pakkam, Vellore Taluk	
397	Do.	Rámala, Gudiyatam Taluk	
398	Do.	Vaniyamabádi, Vellore Taluk	
399	Do.	Kottapalli, Gudiyatam Taluk	
400	Do.	Kallappádi, do.	
401	Do.	Senkunam, Polúr Taluk	
402	Do.	Chintakanama, Gudiyatam Taluk	
403	Do.	North Arcot District	
404	Do.	Pakkam	
405	Do.	Valadomipollhum	
406	Do.	Erikkanjéri, Tirutani Division	
407	Do.	Pottirai, Polúr Taluk	
408	Do.	Jakkidona, Chandragiri Taluk	
409	Do.	Modaiyúr, Polúr Taluk	
410	Do.	Sottukkinni, do.	
411	Do.	Rangampetai, Gudiyatam Taluk	
412	Do.	Krishnapalli, do.	
413	Do.	Athinapalli, Chandragiri Taluk	
414	Do.	Módikuppam, Gudiyatam Taluk	
415	Do.	Nachucoroo Chandragiri Taluk	
416	Do.	Gundalapalli, Gudiyatam Taluk	
417	Do.	Kapachunapalli, Chandragiri Taluk.	North Arcot Distr.

418	Do.	..	..	Mungipattukottapalli, Chandragiri Taluk.
419	Do.	..	..	Padagam, Polur Taluk
420	Do.	..	..	Nellimaniadu, Gudiyatam Taluk
421	Do.	..	..	Maddinayanipalli, Chandragiri Taluk.
422	Do.	..	..	North Arcot District
423	Do.	..	..	Kalamattu, Gudiyatam Taluk
424	Do.	..	..	Malayapattu, do.
425	Iron smelted and forged	..	..	Devarasikuppam, do.
426	Do.	..	..	North Arcot District
427	Do.	..	..	Do.
428	Do.	..	..	Kankuppam
429	Do.	..	..	Chenji
430	Do.	..	..	Melmayal
431	Do.	..	..	North Arcot District
432	Do.	..	..	Surankuppam, Gudiyatam Taluk
433	Do.	..	..	Nagala, do.

SOUTH ARCOT DISTRICT.

434	Magnetite	..	..	Puthukkadai
435	Iron sand	..	..	Chetpat Taluk
436	Do.	..	..	Do.
437	Do.	..	..	Do.
438	Do.	..	..	Brought from Salem to be used at Porto Novo.
439	Do.	..	..	.....
440	Do.	..	..	Tiruvanmalai
441	Decomposing rocks with magnetite	..	..	Do.
442	Do.	..	..	Do.

South Arcot District.

No.	Name of specimen.	Locality.	District.
SOUTH ARCOT DISTRICT—continued.			
443	Decomposing rocks with Magnetite..	Tiruvanamalai ..	..
444	Do.	Kallakurchi ..	..
445	Hæmatite ..	Arinattam ..	..
446	Do. ..	Do. ..	..
447	Do. ..	Do. ..	..
448	Do. ..	Near Cuddalore ..	..
449	Do. ..	Tiruvádi ..	..
450	Do. ..	Do. ..	..
451	Limonite ..	Senkurchi ..	..
452	Roasted iron ore ..	.....	..
453	Do. ..	Tiruvádi ..	..
454	Do. ..	Elavánásár ..	..
455	Kunker used as a flux ..	Porto Novo ..	..
456	Charcoal used as a fuel ..	Do. ..	..
457	Do. do. ..	Do. ..	..
458	Burnt brick glazed with iron slag ..	Do. ..	..
459	"Bloom" of Iron ..	Tiruvádi ..	..
460	Iron smelted and forged ..	Porto Novo ..	..
461	Do. ..	From Salem, and smelted at Porto Novo.	..
462	Do. ..	Do. do.	..
463	Particles of steel ..	Chetpat ..	..
464	Iron smelted and forged ..	Tiruvanamalai ..	..
465	.....	Elavánásár ..	..
466	.....	.....	..

South Arcot District.

467	.....	.....	.....				
468	"Bloom" of Iron	..	..	Tiruvánamalai	..	..	..	..	..	..
469	Do.	..	..	Kallakurchi	..	..	..	..	..	..
470	Do.	..	..	Tiruvánamalai Taluk	..	..	..	..	..	..
471	Do.	..	..	Do.	..	..	..	..	..	..
472	Do.	..	..	Do.	..	..	..	..	..	..
473	Do.	..	..	Do.	..	..	..	..	..	..
474	Iron smelted and forged	..	..	Tiruvádi	..	..	..	..	..	..
475	Grey pig Iron	..	..	Porto Novo	..	..	..	..	..	..

} South Arcot District.

CHINGLEPUT DISTRICT.

476	Iron sand	..	..	Chingleput	..	..	..	..	..	..
477	Magnetite	..	..	Vembakkam	..	..	..	..	..	..
478	Do.	..	..	Pallávaram	..	..	..	..	..	..
479	Do.	..	..	Do.	..	..	..	..	..	..
480	Do.	..	..	Chingleput	..	..	..	..	..	..
481	Do.	..	..	Do.	..	..	..	..	..	..
482	Do.	..	..	Do.	..	..	..	..	..	..
483	Do.	..	..	Do.	..	..	..	..	..	..
484	Do.	..	..	South of Pallávaram hill	..	..	..	..	..	..
485	Do.	..	..	Chingleput	..	..	..	..	..	..
486	Do.	..	..	Do.	..	..	..	..	..	..
487	Decomposing rocks with Magnetite.	..	..	Near Pallávaram	..	..	..	..	..	..
488	Hæmatite	..	..	Near Rajah's Choultry	..	..	..	..	..	..
489	Limonite	..	..	Kávéripák	..	..	..	..	..	..
490	Limonite from altering Magnetite and Pyrite.	..	..	Near Pallávaram	..	..	..	..	..	..
491	Supposed slag, but probably a brick clinker.	..	..	Chingleput	..	..	..	..	..	..
492	Do.	do.	do.	Do.	..	..	..	..	..	..
493	"Bloom" of Iron	..	..	Near Covelong	..	..	..	..	..	..

} Chingleput District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
CHINGLEPUT DISTRICT—continued.			
494	Iron smelted and forged	Near Covelong	Chingleput District.
495	Do.	Do.	
496	Do.	Do.	
SALEM DISTRICT.			
497	Iron sand	Pungavadi	
498	Do.	Kadavani	
499	Do.	Ettikuppam	
500	Do.	Korati	
501	Do.	Tolur	
502	Do.	Mangalapuram	
503	Do.	Nagiampatti	
504	Do.	Hosur	
505	Do.	Vengiyampatti	
506	Do.	Salem District	
507	Do.	Sandarapati	
508	Do.	Mathuruttu	
509	Do.	Matlur	
510	Do.	Atur	
511	Do.	Shendamangalam	
512	Do.	Nayinmalai mine, near Salem	
513	Do.	Madakkallu	
514	Do.	Near Nankul	
515	Do.	Madakkallu	
516	Do.	Arekundempatti	
517	Do.	Madakkallu	

518	Do.	..	..	..	Kanjamalai ..	..	..	..	..
519	Do.	..	..	..	Naynamalai ..	..	..	..	..
520	Do.	..	..	..	Do.	..	..	..	..
521	Magnetite in octahedron	..	..	..	Atúr ..	..	..	..	..
522	Do.	..	..	..	Kanjamalai ..	..	..	..	..
523	Do.	..	..	..	Salem District	..	..	..	..
524	Do.	..	..	..	Salem ..	..	..	..	..
525	Do.	..	..	..	Do.	..	..	..	..
526	Do.	..	..	..	Naynamalai ..	..	..	..	..
527	Do.	..	..	..	Pungavadi ..	..	..	..	..
528	Hæmatite ..	..	..	..	Near Salem ..	..	..	..	..
529	"Bloom" of Iron	..	..	..	Tenkarakottai	..	..	..	..
530	Do.	..	..	..	Mambadi ..	..	..	..	..
531	Do.	..	..	..	Palayam ..	..	..	..	..
532	Do.	..	..	..	Poyapatti ..	..	..	..	..
533	Do.	..	..	..	Ettipatti ..	..	..	..	..
534	Do.	..	..	..	Elavambadi ..	..	..	..	..
535	Do.	..	..	..	Denkenikotta ..	..	..	..	..
536	Do.	..	..	..	Nadupatti ..	..	..	..	..
537	Do.	..	..	..	Padakupum ..	..	..	..	..
538	Do.	..	..	..	Kottúr ..	..	..	..	..
539	Do.	..	..	..	Modugalhalli	..	..	..	..
540	Do.	..	..	..	Alangayam ..	..	..	..	..
541	Do.	..	..	..	Perambattu ..	..	..	..	..
542	Do.	..	..	..	Do.	..	..	..	..
543	Do.	..	..	..	Salem District	..	..	..	..
544	Do.	..	..	..	Hosúr Taluk ..	..	..	..	..
545	Do.	..	..	..	Venkataaikempalli	..	..	..	..
546	Do.	..	..	..	Do.	..	..	..	..
547	Do.	..	..	..	Alangayam ..	..	..	..	..
548	Do.	..	..	..	Sandarappatti	..	..	..	..
549	Do.	..	..	..	Atúr ..	..	..	..	..

Salem District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
SALEM DISTRICT—continued.			
550	"Bloom" of Iron	Mathuruttu	..
551	Do.	Koneriputti	..
552	Do.	Arananatham	..
553	Do.	Thammamputti	..
554	Do.	Pungevadi	..
555	Do.	Sankerdrug	..
556	Do.	Elattur	..
557	Do.	Gengavalli	..
558	Do.	Salem District	..
559	Do.	Nagiampatti	..
560	Do.	Thammamputti	..
561	Do.	Atur	..
562	Iron slag	Salem District	..
563	Do.	Do.	..
564	Do.	Do.	..
565	.....	.....	..
566	Iron smelted and forged	Tolur	..
567	Do.	Hostur Taluk	..
568	Do.	Sendamangalam	..
569	Do.	Salem	..
570	Do.	Perunkurichi	..
571	Steel from Iron	Atur	..
572	Steel from Wootz	Salem	..
573	Cast steel	Do.	..
574	Wootz steel	Do.	..
575	Steel	Rasipur	..
			} Salem District.

576	Do.	..	..	..	..	Salem	..	..	..
577	Do.	..	..	..	..	Rasipur	..	..	..
578	Iron ore, "bloom"	..	..	..	..	..	..	..	..
579	Forged bar and pick	..	..	..	..	..	..	..	..
580	"Bloom" of iron	..	..	..	..	..	..	..	..
581	Metallic Iron	..	..	..	..	Rasipur	..	..	..
582	Nodules of smelted Iron	..	..	..	..	Salem	..	..	..
583	Iron smelted and hammered	..	..	..	..	Do.	..	..	..
584	Chrome iron ore	..	..	..	..	Chalk hills	..	..	..
585	Do.	..	..	..	..	Do.	..	..	..
586	Do.	..	..	..	..	Do.	..	..	..
587	Do.	..	..	..	..	Do.	..	..	..
588	Do.	..	..	..	..	Do.	..	..	..
589	Do.	..	..	..	..	Do.	..	..	..
MALABAR DISTRICT.									
590	Iron sand	..	..	..	..	Temalpuram Taluk	..	..	..
591	Do.	..	..	..	..	Do.	..	..	..
592	Do.	..	..	..	..	Chengára	..	..	..
593	Do.	..	..	..	..	Kurumbranád	..	..	..
594	Do.	..	..	..	..	Malabar	..	..	..
595	Do.	..	..	..	..	Shornád	..	..	..
596	Magnetite	..	..	..	..	Raniamparappoo	..	..	..
597	Do.	..	..	..	..	Beypore (blast furnace)	..	..	..
598	Do.	..	..	..	..	Near Beypore	..	..	..
599	Do.	..	..	..	..	Do.	..	..	..
600	Do.	..	..	..	..	Do.	..	..	..
601	Do.	..	..	..	..	Do.	..	..	..
602	Do.	..	..	..	..	Do.	..	..	..
603	Do.	..	..	..	..	Do.	..	..	..
604	Do.	..	..	..	..	Do.	..	..	..
605	Do.	..	..	..	..	Nilambur	..	..	..

Malabar District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
MALABAR DISTRICT—continued.			
606	Magnetite	Varakkal	..
607	Do.	Near Beypore	..
608	Do.	Do.	..
609	Limonite	Tellicherry	..
610	Do.	Do.	..
611	Do.	Near Beypore..	..
612	Charcoal	Beypore	..
613	Do.	Do.	..
614	Series of five specimens illustrating changes through a Kaolin to a lateritic Iron ore	..	..
615	Do.	Near Beypore	..
616	Do.	Do.	..
617	Do.	Do.	..
618	Do.	Do.	..
619	Roasted Iron ore	Do.	..
620	Iron charcoal	Do.	..
621	White Murnaad charcoal	Do.	..
622	Shells used as a flux..	Do.	..
623	Iron slag	Beypore	..
624	Clay used for common brick	Do.	..
625	Red common brick	Do.	..
626	Fire brick	Do.	..
627	Five brick from interior furnace	Do.	..
628	Puddling furnace slag	Do.	..
629	Refinery slag	Do.	..
			} Malabar District.

630	Hammer slag	..	..	Do.	..	..	..	..	..
631	Reduced iron taken from a furnace above the zone of fusion.	..	..	Do.	..	..	..	..	..
632	Roll scale	..	..	Do.	..	..	..	..	..
633	Pig iron	..	..	Do.	..	..	..	..	..
634	Do.	..	..	Do.	..	..	..	..	..
635	Mottled do.	..	..	Do.	..	..	..	..	..
636	Refinery iron	..	..	Do.	..	..	..	..	..
637	Pig iron	..	..	Do.	..	..	..	..	..
638	Fuddled iron previous to being hammered.	..	..	Do.	..	..	..	..	..
639	Hammered puddled "bloom"	..	..	Do.	..	..	..	..	..
640	Rolled puddled bar	..	..	Do.	..	..	..	..	..
641	Bar iron	..	..	Do.	..	..	..	..	..
642	Finished iron	..	..	Do.	..	..	..	..	..
643	Do.	..	..	Do.	..	..	..	..	..
644	Boiler plate	..	..	Do.	..	..	..	..	..
645	Twisted iron	..	..	Do.	..	..	..	..	..
NIGIRI DISTRICT.									
646	Magnetite	..	..	Nigiris	..	..	..	..	..
647	Do.	..	..	Scotland valley	..	..	..	..	..
648	Do.	..	..	The lake, Octacamund	..	..	..	..	..
649	Do.	..	..	Rambolt's hill	..	..	..	..	..
650	Do.	..	..	Nigiris	..	..	..	..	..
651	Do.	..	..	In beds in quartz	..	..	..	..	..
652	Do.	..	..	Nigiris	..	..	..	..	..
653	Do.	..	..	Do.	..	..	..	..	..
654	Limonite	..	..	Do.	..	..	..	..	..
655	Do.	..	..	Scotland valley	..	..	..	..	..
656	Do.	..	..	Do.	..	..	..	..	..
657	Do.	..	..	Do.	..	..	..	..	..

Nigiri District.

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
NILGIRI DISTRICT—continued.			
658	Limonite	Scotland valley	Nilgiri District.
659	Do.	From yellow clay, Kōtagiri	
660	Do.	Dodabetta	
661	Do.	Ootacamund	
662	Do.	Nilgiris	
663	Iron bar	Do.	
664	Do.	Do.	
TRICHINOPOLY DISTRICT.			
665	Iron sand (ore)	Koppampatti	Trichinopoly District.
666	Iron ore with graphite	Do.	
667	"Bloom" of Iron	Do.	
668	Wootz	Do.	
669	"Bloom" of Iron	Do.	
MADURA DISTRICT.			
670	Magnetite	Madura	Madura District.
671	Magnetite with pyrite	Do.	
672	Do.	Do.	
673	Do.	Do.	
674	Limonite	Do.	
675	"Bloom" of Iron	Sivaganga	
TINNEVELLY DISTRICT.			
676	Iron sand	Sankaranainarkoil	Tinnevely District.
677	Do.	Bramadesam	

678	Do.	Nangunéri	Tinnevelly District.
679	Magnetite	..	..	Tinnevelly	..	..
680	"Bloom" of Iron	..	..	Bramadesam	..	..
681	Do.	..	..	Tenkási	..	..
682	Do.	..	..	Srivilliputtur	..	..
683	Do.	..	..	Sankaranainárkoil	..	..
684	Do.	..	..	Tinnevelly	..	..
685	Do.	..	..	Nangunéri	..	..
686	Do.	..	..	Sankaranainárkoil	..	..
687	Do.	..	..	Tenkási	..	..
688	Iron smelted and hammered	..	..	Tinnevelly	..	..
TRAVANCORE.							
689	Iron sand	Arambooly lines	Travancore.
690	Magnetite	..	..	Trevandrum	..	..
691	Do.	..	..	Thoncul, near Ajengo	..	..
692	Iron ore with graphite	..	..	Near Quilon	..	..
693	Limonite	..	..	Quilon	..	..
694	"Bloom" of Iron	..	..	Moortepully	..	..
695	Do.	..	..	Near Quilon	..	..
696	Do.	..	..	Arambooly lines	..	..
697	Do.	..	..	Trevandrum	..	..
698	Do.	..	..	Trevandrum	..	..
699	Wootz	..	..	.....	..	..
700	Graphite	..	..	Trevandrum	..	..
MYSORE TERRITORY.							
701	Iron sand	Chittaldroog	Mysore Province.
702	Do.	..	..	Mysore	..	..
703	Do.	..	..	Do.	..	..

ORES AND PRODUCTS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	District.
MYSORE TERRITORY—continued.			
704	Magnetite	Between Mysore and Chetnahalli	
705	Do.	Near Mysore	
706	Do.	Mysore	
707	Do.	Nimpapur	
708	Do.	.....
709	Do.	Nagar Division	
710	Do.	Between Mysore and Chetnahalli	
711	Ferruginous Quartz	Malpankonda, south of Kolar Gold Field.	
712	Hæmatite	Bababuden hills	
713	Do.	Do.	
714	Do.	Do.	
715	Do.	Do.	
716	Do.	Mysore	
717	Do.	Chittaldroog	
718	Limonite	Sorab Taluk	
719	Do.	Manjarabad ghât	
720	Do.	Mysore	
721	Do.	Bababuden hills	
722	Do.	Mysore	
723	Do.	Do.	
724	Clay used as crucible	Vitpalli?	
725	Iron used as crucible	Do.	
726	Iron ore smelted and hammered	Mysore	
727	Iron bar	Chittaldroog	
728	Do.	Do.	

Mysore Province.

729	Wootz	..	..	..	Mysore	..	..	..
730	Do.	..	..	..	Do.	..	..	..
731	Do.	..	..	..	Chitaldroog	..	..	..
732	Do.	..	..	..	Do.	..	..	..
NIZAM'S DOMINIONS.								
733	Magnetite	..	..	..	Hyderabad	..	..	..
734	Do.	..	..	..	Warangal	..	..	..
735	Do.	..	..	..	Secunderabad	..	..	..
736	Do.	..	..	..	Indri Taluk	..	..	..
737	Do.	..	..	..	Tarigiri, Gangawati, near Hyderabad.	..	..	..
738	Do.	..	..	..	Do.	do.	..	..
739	Hæmatite	..	..	..	Warangal	..	..	..
740	Do.	..	..	..	Hyderabad	..	..	..
741	Limonite	..	..	..	Do.	..	..	..
742	Do.	..	..	..	Do.	..	..	..
743	"Bloom" of Iron	..	..	..	Kurnool, Hyderabad	..	..	..
744	Do.	..	..	..	Do.	..	..	..
745	Do.	..	..	..	Do.	..	..	..
746	Do.	..	..	..	Do.	..	..	..
747	Do.	..	..	..	Do.	..	..	..
748	Iron smelted and hammered	..	..	..	Do.	..	..	..
749	Do.	..	..	..	Do.	..	..	..
750	Do.	..	..	..	Do.	..	..	..
751	Do.	..	..	..	Do.	..	..	..
752	Wootz	..	..	..	Do.	..	..	..

Nizam's Dominions.

IV.—MISCELLANEOUS COLLECTION OF ORNAMENTAL ROCKS, &c.

No.	Name of specimen.	Locality.	Remarks.
1	A yellow marble	From Siena.	
2	Campan vert	" the Pyrenees.	
3	Do. Melange	do.	
4	Do. Griotte	do.	
5	A marble	" France.	
6	Variegated cherry red marble	" Italy.	
7	Bize rose	" the Pyrenees.	
8	Medoux Jaune	do.	
9	Brèche Africain	do.	
10	Lumachella pont. Vieux	do.	
11	Lumachella Menigon	do.	
12	Black marble	" England	
13	Do. crystalline marble	....	A very fine crystalline. Polished; very hard, and susceptible of a very high polish.
14	Blue crystalline marble	....	Polished.
15	....	....
16	....	....
17	Fossiliferous Limestone	From Trichinopoly District	Compact; granular; full of cretaceous fossils. The well-known Trichinopoly marble.
18	....	....
19	....	....
20	A marble	From France	Beautifully streaked with dark-grey spots. With crystals of limestone.
21	French slab of white and grey and blackish marble.	do.	
22	A marble	do.	Streaked with dark-grey spots.
23	A deep ash grey marble	do.	With a very high polish.
24	Do.	do.	Do.

25	Aspin coquille	the Pyrenees.	..
26	St. Anne Français	do.	..
27	St. Anne Granite	do.	..
28	Solitaire	do.	..
29	Amaranthe Cachemire	do.	..
30	Shell marble	Ootatoor .. ..	..
31	A slab of Trichinopoly marble	near Pondicherry .. ..	..
32	Shell limestone marble	Trivakarri, near Wardoova village, South Arcot District.	..
33	Shell marble	Nellore? .. ..	..
34	A slab of white crystalline marble.. ..	Boordecausdin, France .. ..	..
35	Do. do.	Do. .. ..	..
36	Slab of pure white Carrara marble.. ..	Carrara .. ..	..
37	Small specimen of marble	the Palmad .. ..	..
38	Do.	do. .. ..	..
39	Do.	do. .. ..	..
40	Brown and grey magnesian Limestone.	Cape Comorin .. ..	..
41	Striped black and white marble .. ..	.....	..
42	Black crystalline marble .. ..	.....	..
43	.....	.....	..
44	Blue wavy crystalline marble .. ..	.....	..
45	Alabaster slab	Rangoon.	..
46	Small specimen of marble	in the Dyda.	..
47	Coarsely laminated Limestone .. ..	.....	..
48	Small specimen of marble	Pondigul.	..

It is not a granite, but a true limestone.

A polished slab. Apparently magnesian, and consisting of shell breccia: used for paving and ornament.

Said to come from Nellore, but is probably Trichinopoly marble. Used as an ornamental marble.

Do.

Like the Siena marble.

Coated with red and grey conglomerate

Polished and unpolished.

Of a brownish color; compact, and known as oil stone of Lorraine.

MISCELLANEOUS COLLECTION OF ORNAMENTAL ROCKS, &c.—continued.

No.	Name of specimen.	Locality.	Remarks.
49	Dark black compact Limestone called "nulla ray."	In the bed of a nullah near Cuddapah.	Suited for ornamental and building purposes.
50	Black marble	Near Pondigul	A very hard specimen; slabs of 2 feet x 1 are procurable. It is disfigured by faintly reddish point, but it is suited for building purposes.
51	A marble	Dâchépalle	Used for ornamental and building purposes.
52	Do.	Dâchépalle	Is white, finely crystalline, with a faintly blue tint, and well deserving attention as an ornamental and building material. It is procured behind the village of Dâchépalle, where there is a very extensive bed.
53	Oil stone	Lorraine.	
54	Do.	Belgium.	
55	Pondigul slate	Kinedi.	
56	Granite composed of red Felspar and grey Quartz.	.....	Chlorite and a few minute portions of black mica.
57	Slab of Syenite	South of Pallâveram	Polished; is used for ornamental building purposes.
58	Syenite rock	Pallâveram	Composed of yellowish felspar, grey quartz, and abundance of black mica.
59	Green stone	.....	Polished.
60	Italian alabaster	.....
61	.....	.....
62	Porphyry	.....

63	Do.	.. ..	Seringapatam	.. ..	.. ..	Polished; with a base of red felspar embedding whitish crystals of the same mineral and crystals of hornblende.
64	Do.	.. ..	.....	.....	.....	Polished; with a base of compact felspar embedding whitish crystals of the same mineral and crystals of hornblende.
65	Do.	.. ..	.....	.....	.....	Polished; with a base of red felspar embedding oblong crystals of hornblende and crystals of green felspar.
66	Do.	.. ..	.....	.....	.....	.....
67	Do.	.. ..	.....	.....	.....	.....
68	Do.	.. ..	Pondicherry.	.....	.....	Polished.
69	Silicified wood	.. ..	Hyderabad.	.....	.....	.....
70	Graute	.. ..	Cuddapah District.	.....	.....	.....
71	Jasper	.. ..	Hyderabad.	.....	.....	.....
72	Do.	.. ..	Do.	.....	.....	.....
73	Striped Jasper	.. ..	Do.	.....	.....	.....
74	Do.	.. ..	Do.	.....	.....	.....
75	Do.	.. ..	Do.	.....	.....	.....
76	Do.	.. ..	Do.	.....	.....	.....
77	Do.	.. ..	Do.	.....	.....	.....
78	Do.	.. ..	Do.	.....	.....	.....
79	Fortification Agate	.. ..	Hyderabad.	.....	.....	.....
80	Chalcedony	.. ..	Do.	.....	.....	.....
81	Agate pebble	.. ..	Masulipatam.	.....	.....	.....
82	Quartz crystals	.. ..	Hyderabad.	.....	.....	.....
83	Serpentine	.. ..	.....	.....	.....	.....
84	Magnesian Limestone	.. ..	Kurnool	.....	.....	Serpentine lithographic stone.
85	Do.	.. ..	.....	.....	.....	Lithographic stone.
86	Lithographic limestone with pyrite.	.. ..	Gorlagoosha, Nandyal.	.....	.....	.....
87	Limestone with pyrite	.. ..	Cuddapah District.	.....	.....	.....
88	Wood opal	.. ..	Madura.	.....	.....	.....

MISCELLANEOUS COLLECTION OF ORNAMENTAL ROCKS, &c.--continued.

No.	Name of specimen.	Locality.	Remarks.
89	Wood opal	Madura.	
90	Do.	Do.	
91	Do.	Do.	
92	Chalcedony and Quartz	Masulipatam.	
93	Chalcedony	Hyderabad.	
94	Do.	Do.	
95	Quartz and Chalcedony	Do.	
96	Chalcedony	Do.	
97	Carnelian and Quartz	Do.	
98	Alabaster	Burmah.	
99	Limestone	Bezváda	With spangles of graphite.
100	Kaolin slate .. ..	.....	With concentric markings in iron oxide.

V.—THE ROCKS OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	Remarks.
GANJAM DISTRICT.			
1	Laterite	Near Chatrapur, Ganjam District	
2	Sandstone	Chatrapur, do.	Ferruginous; possibly a decomposed gneiss.
3	Quartz rock	Ganjam, do.	
4	Quartz-felspathic Gneiss	Poobakhanda Taluk, do.	
5	Grit	Navagam, near Chatrapur, Ganjam District.	Ferruginous; possibly a decomposed gneiss.
6	Quartzo-hornblendic Gneiss?	Chatrapur, Ganjam District.	
7	Granite	Ganjam District	Typical.
8	Do.	Do.	
9	Do.	Do.	With schori.
10	Quartz	Ranikyani, near Russellkondah, Ganjam District.	Do.
11	Do.	Do.	Do.
12	Vein Quartz	Chatrapur, do.	
13	Do.	Sotrusollo, do.	
14	Dolerite	Patrapuram, Chikati Taluk, Ganjam District.	
15	Do.	Ganjam District.	
16	Stearite rock	Chatrapur, Ganjam District	Approaching common serpentine.

No.	Name of specimen.	Locality.	Remarks.
GODAVARI DISTRICT.			
17	Sandstone ..	Rajahmundry, Godávári District ..	Coarse, gritty, weathered.
18	Do. ..	Vémagiri hills, do. ..	Ferruginous, gritty clayey.
19	Do. ..	Rajahmundry, do. ..	Ferruginous, weathered.
20	Do. ..	Vémagiri, do. ..	Clayey, ferruginous, possibly laterite.
21	Do. ..	Dowleswaram quarryhill, do. ..	Ferruginous.
22	Do. ..	Do. do. ..	Do.
23	Conglomerate ..	Do. do. ..	A quartzite conglomerate.
24	Sandstone ..	Rajahmundry, do. ..	Fine grained.
25	Do. ..	Do. do. ..	This specimen contains some visible gold
26	Quartzite ..	Do. do. ..	(should be enquired after).
27	Clayey Limestone ..	Do. do. ..	Compact, fine grained, very slightly crystallized.
28	Do. ..	Do. do. ..	Compact and slightly crystallized.
29	Do. ..	Do. do. ..	With recent shells.
30	Do. ..	Do. do. ..	Fibrous.
31	Carbonate of Lime ..	Godávári District ..	Possibly metamorphic and decomposed, and
32	Clay stone ..	Vémagiri hills, Godávári District ..	therefore a clay slate.
33	Shelly Limestone ..	Dévarapalli, near Pangadi, Godávári District.	With recent shells.
34	Carbonate of Lime ..	Rajahmundry, Godávári District ..	Fibrous variety, very like aragonite, clayey.
35	Calc spar ..	Do. do. ..	Carbonate of lime.
36	Do. ..	Pangadi, do. ..	With garnets.
37	Quartzose Gneiss ..	Rajahmundry, do. ..	
38	Red ochre ..	Godávári District.	

39	Gneiss	..	..	..	Do.	..	..	Quartzose with plumbago.
40	Do.	..	..	..	Rajahmundry, Godávári District	..	..	Micaceous, hornblende.
41	Micaceous Gneiss	..	..	..	Hills north of Rajahmundry, do.	..	..	Largely made up of silvery mica.
42	Schistose Gneiss	..	..	..	Rajahmundry, do.	..	..	With biotite, mica.
43	Gneiss	..	..	..	Godávári District	..	..	Garnetiferous and quartzose.
44	Granite	..	..	..	Rajahmundry, Godávári District	..	..	Pegmatite.
45	Do.	..	..	..	Ippáru, Godávári District	..	..	Binary, quartz and felspar.
46	Do.	..	..	..	Rajahmundry, do.	..	..	With silvery mica, peculiarly arranged.
47	Vein rock	..	..	..	Do.	..	..	Schorl and quartz.
48	Granite	..	..	..	Nárvád, do.	..	..	Quartz, mica, and felspar.
49	Pegmatite Granite	..	..	..	Upper Godávári, do.	..	..	Aplite.
KISTNA DISTRICT.								
50	Slate	..	..	..	Yadadri hill, near Jaggayapet, Kistna District.	..	..	Contorted bedding.
51	Contorted slate	..	..	..	Do.	..	..
52	Slate	..	..	..	Do.	..	..
53	Do.	..	..	..	Do.	..	..
54	Clay slate	..	..	..	Gangulagunta, Palnád, do.	..	..
55	Slate	..	..	..	Yadadri hill, near Jaggayapet, do.	..	..
56	Do.	..	..	..	Do.	..	..
57	Do.	..	..	..	Govindapuram, Palnád, do.	..	..	Calcareous and talcose.
58	Do.	..	..	..	Jaggayapet Taluk, do.	..	..	Almost "roofing slats."
59	Do.	..	..	..	Yadadri hill, near Jaggayapet, Kistna District.	..	..
60	Clay slate	..	..	..	Guntúr, Kistna District	..	..	Possibly a slate from the metamorphic rocks.
61	Laterite	..	..	..	Kistna District	..	..	Very ferruginous.
62	Do.	..	..	..	Masulipatam, Kistna District.	..	..
63	Sandy claystone	..	..	..	Kistna District	..	..
64	Sandstone	..	..	..	Mallavaram, Kistna District	..	..	Weathered.

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
KISTNA DISTRICT—continued.			
65	Quartzite sandstone	Palnád, Kistna District	Showing "slickersides."
66	Do.	do.	Cleaved.
67	Do.	do.	
68	Conglomerate	Masulipatam, do.	And slate laminae.
69	Gritty sandstone	Jaggayapet, do.	Contorted bedding.
70	Quartzite	Yadadri hills, near Jaggayapet, Kistna District.	
71	Quartzite grit	Palnád, Kistna District	Ferruginous.
72	Do.	do.	With magnetite.
73	Do. conglomerate	do.	With pebbles of quartzite.
74	Quartzose rock	Near Bezváda, do.	With epidote.
75	Quartzite	Chimalapad, do.	
76	Kunkur	Vinukondu, do.	Nodular limestone.
77	Do.	Masulipatam, do.	
78	Limestone	Vellatúr, Mailavaram, do.	Earthy.
79	Do.	Gottimuktaka, Palnád, do.	With a chalcedonic seam.
80	Do.	Vellumpalle, Palnád, do.	White, very fine grained.
81	Do.	Tungondah, Palnád, do.	Reddish, fine grained.
82	Shaly Limestone	Endroye, Guntúr, do.	With laminae of silvery mica.
83	Limestone	Masulipatam, do.	Sub-crystalline.
84	Calc spar	Do. do.	In chalcedonic geode.
85	Crystalline Limestone	Do. do.	
86	Limestone	Do. do.	
87	Crystalline Limestone	Vinukondu hill, do.	Fine grained; sub-crystalline.
88	Calc spar	Guntúr, do.	

89	Crystalline Limestone	..	Narasaopet,	do.	Black, compact, very fine grained.
90	Limestone	..	Gottimukkala, Palnád,	do.	Buff, fine grained.
91	Do.	..	Dáhepalli,	do.	
92	Crystalline Limestone	..	Iccooroo hill,	do.	
93	Göthite, pseudomorphic after pyrite.	..	Gurajala,	do.	
94	Talcose Schist	..	Dhoolipand calava,	do.	With talc and not mica.
95	Do. do.	..	Vinukondu Taluk,	do.	
96	Hornblende Schist	..	Do.	do.	
97	Quartz-hornblende Gneiss	..	Masulipatam,	do.	With laminae of hornblende hill.
98	Banded quartz-hornblende Gneiss	..	Bogoria hill,	do.	Quartz-felspathic.
99	Gneiss	..	Bezváda hill,	do.	Ferruginous with garnets.
100	Do.	..	Do.	do.	Schistose; a very beautiful variety, with (?) garnets.
101	Do.	..	Do.	do.	
102	Do.	..	Masulipatam,	do.	Schistoseous.
103	Do.	..	Do.	do.	Garnetiferous.
104	Do.	..	Bezváda hill,	do.	Quartz-felspathic with garnets.
105	Schistose Gneiss	..	Narasaopet,	do.	Micaceous.
106	Gneiss	..	Vinukondu Taluk,	do.	Micaceous; schistose.
107	Granitoid Gneiss	..	Iccooroo hill,	do.	Like syenite.
108	Quartz-felspathic Gneiss	..	Narasaopet,	do.	Perhaps vein granite.
109	Gneiss	..	Guntúr,	do.	Quartz-felspathic, with laminae of mica.
110	Quartzose Gneiss	..	Nullapád in Guntúr,	do.	With laminae of silvery mica.
111	Granite	..	Guntúr,	do.	Binary, with much felspar.
112	Do.	..	Narasaopet,	do.	Felspathic, with black mica.
113	Vein Quartz	..	Bysakapoor Taluk,	do.	Coated with biotite.
114	Garnets	..	Cunderpalle,	do.	Diorite.
115	Trap	..	Gangulagunta, Palnád,	do.	Fine grained.
116	Dolerite	..	Bugalakonda,	do.	A trap with olivine.
117	Do.	..	Mangalagiri,	do.	
118	Dolerite?	..		do.	

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
NELLORE DISTRICT.			
119	Sandstone	Darsi division, Nellore District	Micaceous.
120	Do.	Nellore, do.	Micaceous (talcose).
121	Quartzite sandstone	Udayagiri, do.	With strings of specular iron ore.
122	Quartz rock	Venkatagiri, do.	Approaching quartzose gneiss.
123	Quartzite	Nellore District	Fine grained; probably from a travelled block.
124	Do.	Do.	
125	Do.	Do.	
126	Do.	Do.	
127	Quartzose Schist	Do.	With laminae of silvery mica. Granular; approaching quartzose gneiss with rock
128	Do.	Do.	With mica.
129	Do.	Do.	Do.
130	Talcose Schist	Rāpūr, Nellore District.	
131	Do.	Do.	
132	Chlorite Schist	Nellore District	Chlorite and mica.
133	Do.	Ravoor Taluk, Nellore District.	
134	Quartzose Gneiss	Do.	
135	Staurolite rock	Nellore, do.	With laminae of specular iron ore.
KURNOOL DISTRICT.			
136	Clay slate	Kurnool District.	
137	Sandstone	Kurnool, Kurnool District.	
138	Quartzite	Do. do.	
139	Clay shale	Do. do.	

140	Do.	Do.	Do.	Do.	Do.	Do.	Do.
141	Quartzite	..	..	..	Do.	Do.	Do.
142	Conglomeratic Quartzite	..	..	..	Probably Kurnool District	..	..
143	Jasper Quartzite	..	..	..	Kurnool District	..	..
144	Pudding stone	..	..	..	Do.	..	..
145	Black Limestone	..	..	..	Do.	..	..
146	Calc spar	..	..	..	Kurnool, Kurnool District	..	..
147	Kunkur	..	..	..	Kurnool District.	..	..
148	Limestone	..	..	..	Kurnool, Kurnool District.	..	..
149	Do.	..	..	..	Zorapere, near Kurnool, do.	..	..
150	Talc schist and Quartz	..	..	..	Kurnool District.	..	..
151	Micaceous Gneiss	..	..	..	Do.	..	..
152	Gneiss ..	..	..	..	Do.	..	..
153	Banded Gneiss	..	..	..	Kurnool, Kurnool District.	..	..
154	Quartzo-hornblendic Gneiss and porphyritic.	..	..	..	Kurnool District.	..	..
155	Hornblende Schist	..	..	..	Ramalakota Taluk, Kurnool District.	..	..
156	Vein Granite	..	..	..	Kurnool District.	..	..
157	Porphyritic Syenite	..	..	..	Do.	..	..
158	Vein Quartz	..	..	..	Do.	..	..
159	Do.	..	..	..	Do.	..	..
160	Serpentine	..	..	..	Kurnool, Kurnool District.	..	..
161	Do.	..	..	..	Kurnool District.	..	..
162	Compact Limestone	..	..	..	Kurnool, Kurnool District	..	..
163	? Clay slate	..	..	..	BELLARY AND ANANTAPUR DISTRICTS.	..	..
164	? Do.	..	..	..	Anantapur and Bellary Districts.	..	..
165	Do.	..	..	..	Bellary District.	..	..
					Bellary, Bellary District.	..	..

Much weathered, and thus looking like a sandstone. The rocks whence diamonds are obtained. Syn. "diamond sandstone." Probably from the Dharwar series. Conglomerate.

On jasperiferous quartzite.

Slightly serpentinous; altered by contact with trap.

Banded.

With garnets.

With micaceous iron ore.

Assuming a crystalline appearance of pyrites.

ROCKS OF SOUTHERN INDIA—continued.

No.	Names of specimen.	Locality.	Remarks.
BELLARY AND ANANTAPUR DISTRICTS—continued.			
166	Sandstone	Bellary, Bellary District.	
167	Quartzite	Near Bellary, Bellary District.	
168	Do.	Between Bellary and Kurnool	Ferruginous.
169	Jasper	Bellary District	Quartzite, Dharwar series.
170	Shaly clay	Yadaki, Anantapur District.	Impure limonite.
171	Clay slate	Bellary, Bellary District.	
172	Quartzite	Ramanadrug, do.	Ferruginous; weathered.
173	Jasper	Humpi, do.	Quartzite.
174	Quartzite	South of Bellary, do.	
175	Conglomerate Quartzite	Ráyalcheru, Anantapur District	Showing pebbles of finer quartzite and coarse jasper in a matrix of gritty sand.
176	Jasper	Bellary District	Quartzite, with calcareous laminae.
177	Quartzite Chlorite	Nemakallu, Ráyadrug, Anantapur District.	Of a fine green color, with laminae.
178	Jasper	Humpi Taluk, do.	Quartzite, Dharwar series.
179	Quartz rock	Hills south-west of Bellary	With tourmaline.
180	? Quartz rock	Bodi Bunda, west of Bellary	With garnets.
181	Quartz rock	Bellary, Bellary District.	
182	Jaspersy Chert	Bellary District.	
183	Sandstone	Do.	
184	Kunkur	Humpi.	
185	Do.	Do.	
186	Limestone	Yadaki, Bellary District	Brecciated.
187	Crystalline Limestone	South of Siddeswarrah Pagoda, Bellary District.	

188	Calc spar	..	..	..	Bellary District.	..	With serpentine.
189	Limestone	..	..	..	Ráyaleheru, Anantapur District	..	Do.
190	Do.	..	..	..	do.	..	
191	Calc spar	..	..	..	Bellary District	..	With quartz.
192	Mica schist	..	..	..	Nemakallu ..	..	Quartzose.
193	Do.	..	..	..	Sunnapuralegutta ..	..	Weathered.
194	Do.	..	..	..	Bellary District ..	..
195	Micaceous and talcose Schist	..	..	..	Nemakallu.	..	Schistose.
196	Chloritic rock	..	..	..	Bellary District ..	..	Quartzo-felspathic, schistose.
197	Gneiss	..	..	..	South of Nemakallu..	..	
198	Granitoid Gneiss	..	..	..	Bellary District.	..	
199	Vein Quartz	..	..	..	Do.	..	Amorphous.
200	Do.	..	..	..	Near Ráyaleheru, Anantapur Dist..	..	Crystallized.
201	Vein Granite through hornblendic Gneiss.	..	..	..	Bellary District.	..	
202	Hornblendic Gneiss	..	..	..	Near Bellary	..	Approaching schist.
203	Quartzo-hornblendic Gneiss	..	..	..	Bellary, Bellary District..	..	
204	Gneiss	..	..	..	Kolagul, north-west of do.	..	Possibly granite; the relations of the rock <i>in situ</i> alone will tell.
205	Granite	..	..	..	Bellary,	..	Quartz.
206	Do.	..	..	..	Do.	..	
207	Do.	..	..	..	Kurugodu ..	..	Binary.
208	Do.	..	..	..	Do. Bellary District ..	..	Do.
209	Aplite	..	..	..	Do.	..	Dolerite.
210	Green stone	..	..	..	Bellary District	..	Diorite.
211	Do.	..	..	..	Kudatini, Bellary District ..	..
212	Serpentine	..	..	..	Ráyaleheru, Anantapur District.	..	Laminated with green mineral serpentine.
213	Serpentinous limestone	..	..	..	Do.	..	Do.
214	Do.	..	..	..	....	..	do.
215	Soapstone	..	..	..	Bellary District.	..	
216	Chert ..	..	..	..	Gooty.	..	

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
CUDDAPAH DISTRICT.			
217	Clay slate	Sankatipalli, Chennūr, Cuddapah District.	Weathered into a clayey shale.
218	Do.	Cuddapah District	Ferruginous; sandy.
215	Ochry clay-stone	Do.	Steatite shale.
230	Shaly potstone	Do.	Coarse and much weathered.
221	Clay slate	Vontimitta, do.	Used for grinding carpenter's tools.
232	Whet slate	Cuddapah, do.	In contact with sandstone.
223	Brownish clay slate	Cuddapah District	
224	Clay slate	Do.	
225	Do.	Near Mundalore, Cuddapah District.	Almost like a clayey shale; no cleavage apparent.
226	Purple slate	Cuddapah, do.	
227	Clay slate	Cuddapah District.	
228	Quartzite	Vontimitta, do.	With string of white quartz.
229	Do.	Dornal Pass, do.	Schistose; micaceous.
230	Do.	Cuddapah District.	
231	Jaspery Quartzite	Do.	Cherty.
232	Quartzite	North of Cuddapah, do.	Ferruginous; weathered.
233	Do.	Palkonda, do.	Stained with malachite and containing crystals of chalcopyrite, with covering of azurite.
234	Do.	Thattimitta, do.	Ferruginous; very fine grained.
235	Do.	Nallamallais, do.	The pebble comes from the Dharwar series.
236	A pebble from quartzite conglomerate.	Cuddapah District	
237	Quartzite conglomerate	Do.	Probably a pebble of this rock from the diamond mines, Chennur.

238	Quartzite	..	..	Cuddapah, Cuddapah District	..	Jaspersy variety.
239	Do.	..	..	Vontimitta, do.	..	Very fine grained; almost approaching a hornstone.
240	Do.	conglomerate and breccia..	..	Cuddapah District	..	Jaspersidous.
241	Chert	..	..	Lunkamalla, Cuddapah District.	..	Lydian stone.
242	Do.	..	..	Cuddapah District	..	With dendritic crystallizations.
243	Limestone	..	..	Pushpagiri, Cuddapah District	..	With iron pyrites.
244	Do.	..	..	do.	..	
245	Do.	..	..	do.	..	
246	Do.	..	..	Proddutur, do.	..	With strings of calc spar.
247	Calc spar	..	..	Cuddapah District.	..	Fibrous.
248	Calcite	..	..	Do.	..	With galena.
249	Siliceous Limestone	..	..	Jangamrázupalli, Cuddapah District.	..	
250	Limestone	..	..	Cuddapah District.	..	
251	Blue compact Limestone	..	..	Do.	..	
252	Limestone	..	..	Do.	..	
253	Mica schist	..	..	Do.	..	
254.	Mica Gneiss	..	..	Do.	..	
255	Gneiss	..	..	Do.	..	
256	Quartz	..	..	Vontimitta, Cuddapah District	..	From a vein.
257	Granite	..	..	Cuddapah District.	..	
258	Pistacite Granite	..	..	Do.	..	Porphyritic; pistacites replacing felspar.
259	Syenite	..	..	Guvvalacheruvu, Cuddapah District.	..	
260	Do.	..	..	Talupula, do.	..	
261	Pistacite rock	..	..	Cuddapah District.	..	Trap.
262	Hornblende rock	..	..	Do.	..	Porphyritic.
263	Diorite	..	..	Guvvalacheruvu, Cuddapah District.	..	Greenstone.
264	Dolerite	..	..	Cuddapah District	..	
MADRAS AND CHINGLEPUT DISTRICTS.						
265	Clay	..	..	Sripurumbudur, Chingleput District.	..	
266	Do.	..	..	do.	..	

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
MADRAS AND CHINGLEPUT DISTRICTS—continued.			
267	Clay	Sriperumbudur, Chingleput District.	Gritty.
268	Do.	do.	Approaching shale.
269	Do.	Red Hills,	Clayey; indurated.
270	Shale	Do.	Micaceous.
271	Do.	Do.	Clayey.
272	Do.	Do.	..
273	Clayey sandstone	Sriperumbudur,	..
274	Shaly sandstone	Do.	..
275	Sandstone	Do.	..
276	Laterite	Kolatur,	..
277	Do.	Red Hills,	..
278	Conglomerate	Do.	Laterite, clayey.
279	Laterite	Adyar, Mount,	..
280	Do.	do.	..
281	Laterite	Gundy,	..
282	Calcareous conglomerate	Sriperumbudur,	..
283	Calcareous	Madras.	..
284	Kunkur	Sritharikot	With recent shells.
		Madras	A peculiarly Indian form of travertine; in this case, a nodular mass of clayey and ferruginous limestone.
285	Silicified wood	Chingleput District	Said to be from Chingleput District.
286	Quartzite	Do.	..
287	Do.	Do.	Finely granular; vitreous.
288	Do.	Do.	Much weathered; almost like a sandstone; ferruginous.

289	Do.	..	..	..	Kambakkam, north-west of Madras, Chingleput District.	
290	Do.	..	..	..	Do.	
291	Do.	..	..	..	Guindy Jail,	
292	Jaspery Quartzite	..	..	..	Red Hills,	Coarse, approaching flint; probably a travelled fragment.
293	Quartzo-felspathic Gneiss	..	..	..	Mahabalipuram,	Binary of felspar and quartz.
294	Do.	..	..	..	Pallavaram,	Porphyritic.
295	Gneiss	..	..	..	Mahabalipuram,	Quartzo-felspathic.
296	Do.	..	..	..	Chingleput District	Of quartz, felspar and mica.
297	Do.	..	..	..	Pallavaram, Chingleput District.	
298	Quartzo-hornblendic Gneiss	..	..	..	Near St. Thomas' Mount, do.	
299	Dioritic	..	..	..	Chingleput District.	
300	Hornblendic trap	..	..	..	Chingleput, Chingleput District.	
301	Basaltic trap	..	..	..	Guindy, do.	
NORTH ARCOT DISTRICT.						
302	Clay slate	..	..	..	Karakambadi, North Arcot District.	
303	Do.	..	..	..	Near Karakambadi, do.	
304	Conglomerate	..	..	..	Between Chittoor and Arcot, North Arcot District.	An altered siliceous conglomerate; syenitic quartzite conglomerate.
305	Sandstone	..	..	..	North Arcot District.	
306	Quartzite	..	..	..	Do.	
307	Quartzose rock	..	..	..	The Droog, North Arcot District.	
308	Quartzite grit	..	..	..	North Arcot District.	
309	Quartzite	..	..	..	Do.	
310	Do.	..	..	..	Do.	
311	Do.	..	..	..	Do.	
312	Talcose Schist	..	..	..	Doorgum Hills, south-east of Kala- hasti, North Arcot District.	

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
NORTH ARCOT DISTRICT—continued.			
313	Chloritic Schist	North Arcot District.	
314	Do.	Doorgum Hill, south-east of Kalahasti, North Arcot District.	
315	Do.	do.	
316	Talcoose Schist	Do.	Weathered.
317	Gneiss	North Arcot District	With strings of trap.
318	Quartzo-felspathic Gneiss	Kuppam, North Arcot District.	Hornblentic.
319	Gneiss	Palmanér, do.	Hornblentic, schistose.
320	Do.	Do.	Hornblentic with strings of quartz.
321	Do.	Sengalnattam, near Sholinghur, North Arcot District.	
322	Do.	Palmanér, North Arcot District.	
323	Do.	Near Vellore, do.	With garnets.
324	Syenitic Gneiss.	Near Sholinghur, do.	
325	Gneiss	Do.	
326	Red vein Quartzite	North Arcot District	Used by saddlers for sharpening their large and small tools.
327	Epidote Granite	Palmanér; North Arcot District.	From vein.
328	Do.	Near Sholinghur, do.	
329	Do.	Do.	
330	Hornblentic rocks	Teroovacaray, near Vellore, do.	Trap.
331	Diorite	Near Sholinghur, do.	Green stone; hornblentic trap.
332	Trap	Do.	With strings of epidote.

333	Porphyritic Basalt	..	..	Káveripak,	do.				
334	Basalt	..	..	Between North and South Arcot	..				Rolled fragment used by the shoe-makers of Madras for sharpening their knives on. It is called by them <i>sankul</i> , which literally means sharpening stone. All the shoe-makers of Madras are said to use the same material.
335	Laterite	..	..	North Arcot District.	..				
336	Clay stone	..	..	Do.	..				
337	Rotten stone	..	..	Do.	..				
338	Sand stone	..	..	Do.	..				
339	Do.	..	..	Vellore, North Arcot District.	..				
340	Do.	..	..	Near Vellore,	do.	..			A fine grained schistose, which might be tried as a ragstone.
341	Do.	..	..	North Arcot District.	..				
342	Greyish chert	..	..	Ballipalle, North Arcot District	..				Too hard and not sufficiently granular for grindstone.
343	Quartzite	..	..	Vellore, North Arcot District	..				Chipped by the old-palæolithic men.
344	White Quartz	..	..	North Arcot District	..				Used by shoe-makers for sharpening awls, &c.
345	Gneiss	..	..	Do.	..	..			Do.
346	Basalt	..	..	Do.	..	..			Used by saddlers for sharpening their awls and knives on.
SOUTH ARCOT DISTRICT.									
347	Clay	..	..	Tiruvendipuram, Cuddalore, South Arcot District.	..				Pottery clay.
348	Do.	..	..	Do.	do.	..			Do.
349	Laterite	..	..	South Arcot District.	..				
350	Shelly Limestone	..	..	Do.	..	..			Cretaceous.
351	Granite	..	..	Do.	..	..			Pegmatite.

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
SALEM DISTRICT.			
352	Kaolin clay	Salem, Salem District	Used as a colour.
353	Kaolin	Salem District	From gneiss.
354	Quartzite	Do.	Water-worn.
355	Ferruginous Quartzite	Do.	
356	Iron ore from beds	Tirukalai, Salem District.	
357	Calcareous deposit	Salem District.	
358	Magnetite	Near Salem, Salem District	Carbonate of magnesia.
359	Do.	Salem District.	
360	Do.	Near Salem, Salem District.	
361	Talcose Schist	Do.	
362	Gneiss	Salem District.	
363	Do.	Salem, Salem District.	
364	Do.	Do.	
365	Do.	Do.	Quartzo-felspathic, with hornblende, weathered.
366	Do.	Do.	Schistose.
367	Do.	Belur, do.	Garnetiferous.
368	Felsite	South of do.	Syenitic.
369	Vein of Epidote	Kandil, near Tirupattur, do.	Porphyritic.
370	Epidote	Kandikuppam, Salem District	
371	Granite	Do.	
372	Do.	Do.	From epidote granite.
373	Epidote Granite	Salem District.	
374	Diorite	Palakod, Salem District.	
375	Do.	Salem District.	
376	Amphibolite	Maharajagadai, Salem District.	
		Salem District	Trap, coarsely crystallized.

377	Basalt	..	..	..	Do.
378	Dolerite	..	..	..	Do.
379	Fibrous Serpentine	..	..	..	Do.
380	Do.	..	..	..	Shevaroy, Salem District.
381	Do.	..	..	..	Salem District.
COIMBATORE DISTRICT.					
382	Laterite	..	..	..	Coimbatore District.
383	Do.	..	..	..	Do.
384	Jaspideous conglomerate	..	..	..	Do.?
385	Corundum	..	..	..	Sholasingam, Coimbatore District.
386	Pharwar Quartzite (?)	..	..	..	Coimbatore District
387	Limestone	..	..	..	9½ miles from Coimbatore, Coimbatore District.
388	Do.	..	..	..	Mudinamallai, do.
389	Foliated Quartzose Schist	..	..	..	Coimbatore District.
390	Quartzose Schist	..	..	..	Do.
391	Hornblende Schist	..	..	..	Do.
392	Do.	..	..	..	Do.
393	Talose Schist	..	..	..	Do.
394	Chloritic Schist	..	..	..	Do.
395	Do.	..	..	..	Do.
396	Schistose Gneiss	..	..	..	Do.
397	Gneiss	..	..	..	Do.
398	Do.	..	..	..	Do.
399	Hornblende Gneiss	..	..	..	Do.
400	Foliated Gneiss	..	..	..	Do.
401	Gneiss	..	..	..	Do.
402	Graphic Granite	..	..	..	Kangyan. Coimbatore District
403	Vein Granite	..	..	..	Coimbatore District.
404	Granite	..	..	..	Do.

From a bed of the mineral.
Ferruginous.

Talose.

With garnets.

Felspathic.
Quartzo-hornblende and felspathic.

Worked specimen.

From the Beryl mines.

Decomposed with garnets.

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
<i>COIMBATORE DISTRICT—continued.</i>			
405	Diorite	Coimbatore District.	Very fine grained.
406	Strings of trap through Gneiss	Bed of Cauvery, Coimbatore District.	
407	Amphibolite	Coimbatore District.	
408	Dolerite	Do.	Fine grained.
409	Crystalline Quartz	Do.	
<i>NILGIRI DISTRICT.</i>			
410	Laterite	Nilgiris, Nilgiri District	Calcareous.
411	Peat	Near Ootacamund, do.	
412	Calc spar	Nilgiris, do.	
413	Talcose Schist	Do. do.	
414	Gneiss	Do. do.	
415	Quartzose Gneiss	Summit of Dodabetta, do.	Weathered; with garnet.
416	Gneiss	Nilgiris, do.	With garnets.
417	Do.	The lake, Ootacamund, do.	With large garnets.
418	Do.	Nilgiris, do.	
419	Do.	Do. do.	
420	Do.	Do. do.	
421	Do.	Do. do.	
422	Garnetiferous Gneiss	Do. do.	Somewhat schistose.
423	Gneiss	Do. do.	
424	Garnetiferous Gneiss	Do. do.	
425	Do.	Do. do.	
426	Hornblende Gneiss	Do. do.	
427	Gneiss	Do. do.	Garnetiferous.

428	Altered Gneiss	..	..	Do.	do.	..	Containing hydrous minerals.
429	Gneiss	..	..	Do.	do.	..	With biotite.
430	Garnetiferous Gneiss	..	..	Do.	do.	..	Syenitic in places.
431	Gneiss	..	..	Do.	do.	..	
432	Do.	..	..	Do.	do.	..	With garnets.
433	Granite	..	..	Do.	do.	..	Aplite.
434	Do.	..	..	Do.	do.	..	
435	Diorite	..	..	Do.	do.	..	
436	Dolerite	..	..	Do.	do.	..	With pyrrhotine.
437	Do.	..	..	Do.	do.	..	
438	Do.	..	..	Do.	do.	..	
439	Do.	..	..	Do.	do.	..	

SOUTH CANARA DISTRICT.

440	Clay	..	..	South Canara District.	..	..	Micaceous and sandy.
441	Do.	..	..	Do.	..	..	Clayey.
442	Laterite	..	..	Do.	..	..
443	Do.	..	..	Do.	..	..
444	Do.	..	..	Do.	..	..
445	Conglomerate	..	..	Do.	..	..	With jasper.
446	Do.	..	..	Do.	..	..
447	Sandstone	..	..	Kudre Mukh, South Canara District.	..	..
448	Jaspery Quartzite	..	..	South Canara District.	..	..
449	Green Quartzite	..	..	Do.	..	..
450	Crystalline Limestone	..	..	North Canara District.	..	..
451	Talcoose Schist	..	..	South Canara District.	..	..
452	Chlorite Schist	..	..	Do.	..	..
453	Do.	..	..	Do.	..	..
454	Hornblende Schist	..	..	Kudre Mukh, South Canara District.	..	..	With laminae of quartz.
455	Mica Schist	..	..	Yelanir ghat, 2,000 ft. above do.	..	..	} With garnets.
456	Do.	..	..	Do.	..	..

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
SOUTH CANARA DISTRICT—continued.			
457	Hornblende Schist ..	South Canara District ..	With garnets.
458	Decomposing Mica Schist with Garnets.	Do. ..	The garnets have the mica mineral bent round them.
459	Schist ..	Do. ..	Decomposed.
460	Gneiss ..	Do. ..	
461	Hornblende Schist ..	Kudre Mukh, South Canara District.	
462	Gneiss ..	South Canara District.	
463	Do. ..	Do. ..	
464	Green Gneiss ?	Near Mangalore.	
465	Gneiss ..	North Canara District.	
466	Do. ..	South Canara District.	
467	Do. ..	Do. ..	
468	Granite ..	Do. ..	
469	Do. ..	Do. ..	
470	Do. ..	Do. ..	
471	Very fine grained Granite ..	Do. ..	
472	Diorite ..	Do. ..	
473	Plagioclase Felspar ..	Do. ..	
TRICHINOPOLY DISTRICT.			
474	Clay stone ..	Ootatoor, Trichinopoly District.	
475	Ferruginous ore ..	Do. do. ..	Filled with selenite ; Ootatoor clays.
476	Kaolin conglomerate ..	Trichinopoly District.	

477	Do.	Do.	..	From the Trichinopoly cretaceous beds with opals, &c.
478	Do.	Do.	..	With mica.
479	Impure Kaolin	Do.	..	} From Trichinopoly cretaceous beds.
480	Sandstone	..	..	Do.	..
481	Brown Chert	..	..	Do.	..
482	Agates	..	..	Do.	..
483-94	Cherts	..	..	Do.	..
495	Calcareous grit	Do.	..	} From Trichinopoly cretaceous beds.
496	Do. conglomerate	..	..	Do.	..
497	Limestone	..	..	Do.	..
498	Calcareous Sandstone	..	..	Do.	..
499	Do.	..	..	Do.	..
500	Dark-colored Limestone	Do.	..	} From Trichinopoly cretaceous beds.
501	Limestone	..	..	Do.	..
502	Gneiss	..	..	Trichinopoly, Trichinopoly District..	..
503	Do.	..	..	do.	..
504	Do.	..	..	do.	..
505	Vain Quartz	do.	..	Quartz-felspathic (shaped specimen). Amethystine.
TANJORE DISTRICT.						
506	Sandstone	Tanjore District.	..	} Earthy. More compact.
507	Laterite	..	..	Vallam, Tanjore District.	..
508	Limestone	..	..	Tanjore District.	..
509	Do.	..	..	do.	..
510	Do.	..	..	do.	..
511	Crystalline Limestone	Vallam, District.	..	} From pebbles in the "grits" of Vallam.
512	Micaceous Schist	..	..	Tanjore District.	..
513	Quartz "Vallum stones"	..	..	Vallam, Tanjore District	..
TINNEVELLY DISTRICT.						
514	Micaceous Schist	Tinnevelly District.	..	} From pebbles in the "grits" of Vallam.
515	Gneiss	..	..	Palamecottah, Tinnevelly District.	..

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
TINNEVELLY DISTRICT—continued.			
516	Quartzo-felspathic	Palamcottah, Tinnevelly District.	Quartzo-felspathic.
517	Gneiss	Do.	Quartzo-felspathic, with garnets.
518	Do.	do.	Do.
519	Do.	Sayerpuram ?	Do.
520	Do.	Palamcottah,	Schistose.
521	Do.	Do.	Micaceous.
522	Syenitic Gneiss	Near Melapalayam, do.	Binary.
523	Granite	Palamcottah, do.	Do.
524	Do.	Do.	Do.
525	Kaolin	Tinnevelly District	Do.
526	Impure Kaolin and Laterite	Do.	
527	Do.	Do.	
528	Do.	Do.	
529	Do.	Do.	
530	Do.	Do.	
531	Do.	Do.	
532	Do.	Do.	
533	Quartz grains	Tinnevelly, Tinnevelly District	Cemented with calcareous deposits.
534	Breccia	Do.	Fine grained.
335	Red sand	Tinnevelly District.	Altered into a light-colored heliotrope.
536	Quartzite	Do.	
537	Fossil shell filled with chalcedony	Do.	Found in laterite.
538	Chalcedony	Tinnevelly, Tinnevelly District	
539	Chalcedony and Quartz	Tinnevelly District	
540	Flint	Do.	Said to be from the Tinnevelly District.

541	Agate	..	..	..	..	Tinnevely, Tinnevely District.	Specimens from the Tinnevely District.
542	Travertine	..	..	..	..	Tinnevely District ..	..
543	Do.	..	..	..	..	Do.	..
544	Do.	..	..	..	..	Do.	..
545	Do.	..	..	..	..	Do.	..
546	Do.	..	..	..	..	Do.	..
547	Calc spar	..	..	..	..	Do.	..
548	Fossil wood	..	..	..	..	Tinnevely, Tinnevely District.	..
549	Dolerite	..	..	..	..	Tinnevely District.	..
MADURA DISTRICT.							
550	Sandstone	..	..	..	..	Madura District ..	Calcareous.
551	Do.	..	..	..	..	Do.	..
552	Friable sandstone	..	..	..	..	Do.	..
553	Quartzite	..	..	..	..	Old Madura, Madura District	With laminae of mica.
554	Do.	..	..	..	..	Madura District ..	With ferruginous laminae.
555	Quartz rock	..	..	..	..	Allagarcoil, Madura District	Well laminated.
556	Flints	..	..	..	..	Madura District.	..
557	Travertine	..	..	..	..	Dindigul, Madura District	With impressions of leaves, &c.
558	Crystalline Limestone	..	..	..	..	Pandalgoody, do.	..
559	Do.	..	..	..	..	Do.	..
560	Do.	..	..	..	..	Do.	..
561	Do.	..	..	..	..	Do.	..
562	Limestone	..	..	..	..	Pasumalai, do.	..
563	Calcareous Limestone	..	..	..	..	Kottampatti, do.	Travertine.
564	Kunkur	..	..	..	..	Palmédu, do.	..
565	Shelly Limestone	..	..	..	..	Madura District.	Granular.
566	Limestone	..	..	..	..	Do.	..
567	Do.	..	..	..	..	Do.	..
568	Hornblende Schist	..	..	..	..	Sirumalai, Madura District.	..
569	Do.	..	..	..	..	Virattupattu, do.	With garnet rock.

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
<i>MADURA DISTRICT—continued.</i>			
570	Quartzose Gneiss	Pasumalai, Madura District.	Felspar and quartz.
571	Gneiss	Anaimalai, do.	With tremolite.
572	Quartzose Gneiss	Madura District.	With laminae of steatite.
573	Do.	Pasumalai, Madura District	Garnetiferous.
574	Gneiss	Viratupathu, do.	
575	Do.	Madura District.	
576	Do.	Old Madura, Madura District	Coarsely laminated.
577	Do.	Viralimalai, do.	With cinnamon, garnet and coccolite.
578	Hornblende Gneiss	Old Madura.	
579	Gneiss	Mélur, do.	Quartzose garnetiferous.
580	Hornblende Gneiss	Madura District.	
581	Gneiss	Do.	With pegmatite.
582	Hornblende Gneiss	Sittampati, Madura District	Porphyritic.
583	Gneiss	Old Madura, do.	Binary; of quartz and felspar.
584	Porphyritoid Gneiss	Madura District	Possibly a porphyritic diorite.
585	Hornblende Gneiss	Do.	Laminated.
586	Gneiss	Sholavandán, Madura District.	
587	Syenitic Gneiss	Madura District.	
588	Gneiss	Do.	Fine grained quartz, mica, and felspar.
589	Garnet rock	Do.	Eklignite.
590	Granite	Pámban, Madura District	Binary, with crystals of hornblende.
591	Do.	Malakkal, do.	
592	Do.	Mélur, do.	
593	Do.	Madura, do.	
594	Do.	Palni hills, do.	With garnet rock.

595	Do.	..	..	..	Madura District	..	..	In which white felspar (albite) largely pre-dominates.
596	Graphic Granite	..	..	..	Madura, Madura District.			
597	Do.	..	..	..	Do.			
598	Do.	..	..	..	Madura District	..	..	Pegmatite, binary.
599	Granite	..	..	..	Madura, Madura District	..	..	Large crystals of red felspar, grey quartz, and white mica.
600	Do.	..	..	..	Old Madura, do.			
601	Epidote Granite	..	..	..	Madura, do.			
602	Syenitic Granite	..	..	..	Viratupathu, do.			Green stone; porphyritic.
603	Granite	..	..	..	Madura District	..	..	Approaching a syenite.
604	Porphyritic Syenite	..	..	..	Do.			
605	Syenite	..	..	..	Madura, Madura District	..	..	Composed of hornblende and quartz with large crystals of felspar.
606	Syenite	..	..	..	Madura District	..	..	Porphyritic.
607	Granite	..	..	..	Mangoolam, Madura District			With a little epidote.
608	Schist rock	..	..	..	Thuvrangoorichi, do.			
609	Actinolite rock	..	..	..	Virudapat, do.			
610	Syenite	..	..	..	Kottampati, do.			Porphyritic.
611	Do.	..	..	..	Do. do.			Do.
612	Diorite	..	..	..	Madura District.			An altering diorite.
613	Trap	..	..	..	Viraimalai, Madura District			
614	Diorite	..	..	..	Palmédu, do.			Amphybolite.
TRAVANCORE.									
615	Marl (calcareous mud)	..	..	..	Cochin	..	..	The product of mud from Cochin, which was taken out by General Cullen, and exposed to the sun.
616	Iron ore	..	..	..	Travancore	..	..	Magnetic.
617	Resinite	..	..	..	Venkuli, Travancore	..	..	Lignite deposit.
618	Sandstone grit?	..	..	..	Cape Comorin do.	..	..	Coarse, in a calcareous matrix.

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
TRAVANCORE—continued.			
619	Sandstone grit?	Cape Comorin, Travancore	.. In a calcareous matrix.
620	Do.?	do.	..
621	Limestone breccia	Between Pálghat and Cochin, do.	..
622	Limestone (kunkur)	Mountain cave above Courtiallum, 3,000 ft.	.. Shelly, in a calcareous matrix.
623	Do.	Travancore.	..
624	Crystalline Limestone	Do.	..
625	Do.	Between Pálghat and Cochin.	..
626	Do.	Travancore	.. Gneissoid.
627	Do.	Probably from the Pálghat Pass.	..
628	Mica Schist	Travancore.	..
629	Gneiss	Cape Comorin, Travancore	.. Quartzo-felspathic, with mica.
630	Do.	Do.	.. Do.
631	Do.	Cardamom hills, do.	.. Quartzo-felspathic.
632	Do.	Cape Comorin, do.	.. Do.
633	Do.	Cardamom hills, do.	.. Garnetiferous.
634	Do.	Do.	..
635	Do.	Do.	..
636	Do.	Do.	..
637	Do.	Do.	..
638	Do.	Do.	.. Garnetiferous.
639	Do.	Do.	.. Hornblende.
640	Do.	Do.	..
641	Do.	South Travancore	.. Quartzo-felspathic with garnets.
642	Do.?	Cardamom hills	.. May be a vein granite.

643	Do.	..	..	..	Between Palghat and Cochin	..	Syenitic.
644	Do.	..	..	..	Do.	..	Nearly all black mica (biotite).
645	Do.	..	..	..	Travancore	..	
646	Granite	..	..	..	Do.	..	
647	Do.	..	..	..	Cardamom hills.	..	
648	Do.	..	..	..	Travancore.	..	
649	Do.	..	..	..	Cardamom hills	..	Binary.
650	Red Granite	..	..	..	Travancore	..	With epidote.
651	Granite	..	..	..	Do.	..	With a string of epidote.
652	Do.	..	..	..	Puttikad.	..	
653	Do.	..	..	..	Travancore	..	
654	Pegmatite Granite	..	..	..	Do.	..	
655	Granite	..	..	..	Between Palghat and Cochin	..	Weathered.
656	Do.	..	..	..	Cardamom hills	..	Do.
657	Diorite ?	..	..	..	Do.	..	With a patch of chlorite.
658	Do.	..	..	..	Do.	..	
659	Do.	..	..	..	Do.	..	
660	Dolerite	..	..	..	Between Palghat and Cochin	..	Quartz, mica, and hornblende.
MYSORE.							
661	Laterite	..	..	..	Bangalore, Mysore Province.	..	
662	Travertine	..	..	..	Cauvery, Bangalore Division, do.	..	
663	Stalactite (travertine)	..	..	..	Harangatta, Tungur Bridge, do.	..	
664	Travertine	..	..	..	Cauvery, Bangalore Division, do.	..	
665	Kunkur	..	..	..	Bangalore, do.	..	
666	Calc spar	..	..	..	Mysore, do.	..	
667	Chert ..	..	..	..	Mysore Province.	..	
668	Do. ..	..	..	..	Do.	..	
669	Quartz rock	..	..	..	Do.	..	With tourmaline.
670	Hornstone (quartz)	..	..	..	Chittaldroog Division, Mysore Pro.	..	
671	Chert ..	..	..	..	do.	..	
672	Do. ..	..	..	..	do.	..	

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
<i>MYSORE—continued.</i>			
673	Quartzite	Mysore, Mysore Province.	
674	Ferruginous Quartzite	Do. do.	
675	Striped Quartzite ..	Bangalore, do. ..	With chlorite.
676	Quartzite	Mysore Province. do. ..	
677	Do.	North of Banavar, do. ..	Gneissic series.
678	Do.	Mysore Province. do. ..	
679	Conorted Quartzite ..	Do. do.	
680	Compact do.	Do. do.	
681	Quartzite	Mysore, do.	
682	Talcose Schist	Chittaldroog, do.	
683	Do.	Mysore Province. do.	
684	Chloritic Schist	3 miles south of Mysore, do.	
685	Talcose Schist	2 miles from Yeshwantpūr, do.	
686	Do.	Devipalya, do. ..	Weathered.
687	Mica Schist	Mysore Province	With garnets. Described in "Notes on some auriferous tracts of Mysore Province, by G. Attwood, Esq., with appendix, by Professor F. G. Bonney, Quarterly Journal of Geological Society, p. 686.
688	Decomposed Schist ..	Do. do.	
689	Do.	Yeshwantpūr. do.	
690	Chloritic Schist	Segar Midan, near Bangalore. do.	
691	Actinolite rock	Kolar District, Mysore Province. do.	
692	Decomposed Schist ..	Mysore Province	Approaching a steatite.
693	Chloritic Schist	Do. do. ..	Paper weight cut form.
694	Gneiss	Goribidnūr, Mysore Province. do.	

695	Do.	..	Mysore Province.	..
696	Quartzo-felspathic Gneiss	..	Do.	..
697	Quartzose Gneiss	..	Goribidnūr, Mysore Province	..
698	Gneiss	..	Mysore Province	..
699	Do.	..	Do.	..
700	Do.	..	Goribidnūr, Mysore Province.	..
701	Quartzose Gneiss	..	Lal Bagh, Bangalore, do.	..
702	Do.	..	Goribidnūr, do.	..
703	Gneiss	..	East side of Lal Bagh, do.	..
704	Schistaceous Gneiss	..	Mysore Province.	..
705	Gneiss	..	Do.	..
706	Do.	..	Do.	..
707	Do.	..	Nagar, Mysore Province	..
708	Do.	..	Mysore Province	..
709	Do.	..	Lal Bagh, Bangalore, Mysore Pro.	..
710	Hornblendic Gneiss	..	Mysore Province.	..
711	Gneiss	..	Near Seringapatam	..
712	Do.	..	Gutapalli, Mysore Province.	..
713	Epidote rock	..	South of Bettarayan Bondu, Kolar Gold Field, Mysore Province.	..
714	Do.	..	Kempambudi, do.	..
715	Albite felspar from grey gneiss	..	Near Bangalore, do.	..
716	Weathered gneiss	..	Bangalore, do.	..
717	Decomposed gneiss (kaolin)	..	Do.	..
718	Do.	..	Yeshwantpūr, do.	..
719	Do.	..	Bangalore, do.	..
720	Do.	..	Yeshwantpūr, do.	..
721	Do.	..	Bangalore, do.	..
722	Granite	..	Mysore Province.	..
723	Do.	..	Seringapatam, do.	..
724	Do.	..	Mysore Province.	..

With tourmaline.

Micaceous.

Mica superabundant.

Micaceous, schistose.

Felspathic.

Hornblendic.

With biotite.

Hornblendic.

Do.

Composed of white quartz and minute portions of black mica.

Water-worn fragments.

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
MYSORE—continued.			
725	Granite	Nagar, Mysore Province.	Binary. "Graphic."
726	Do.	5 miles west of Bangalore, do.	Binary.
727	Do.	North of Lal Bagh, do.	..
728	Do.	Kempakal river, do.	..
729	Do.	Mysore, do.	Pegmatite.
730	Very felsitic Granite	Near Hospettah, do.	..
731	Schistaceous Granite	Nagar, do.	..
732	Granite	Mysore Province ..	..
733	Syenite	Hunsür, do.	Porphyritic.
734	Do.	3 miles south of Goribidnür, Mysore Province.	..
735	Granite	Hessargatta hills, do.	..
736	Porphyritic Felsite	Seringapatam, do.	..
737	Do.	Do. do.	..
738	Felsite	Do. do.	..
739	Do.	Do. do.	..
740	Vein Quartz	Mysore Province.	With pink felspar.
741	Do.	5 miles west of Bangalore, do.	..
742	Do.	Mysore, do.	Crystallized.
743	Do.	1 mile west of Bangalore, do.	..
744	Diorite	Near Bangalore, do.	..
745	Dolerite	Mysore Province.	..
746	Trap	Do.	..
747	Porphyritic Dolerite	Goribidnür, do.	Basaltic.
748	Decomposing trap	Seringapatam, do.	..
749	Fine grained Basalt	Mysore Province.	..
		Do.	..

750	Gypsum	..	..	Bangalore,	Mysore Province.
751	Corundum	..	..	Mysore,	do.
752	Do.	..	..	Hills near Bangalore,	do.
753	Steatite	..	..	South of Mysore,	do.
754	Do.	..	..	Bangalore,	do.
755	Do. (soapstone)	..	..	Do.	do.
NIZAM'S DOMINIONS.					
756	Laterite	..	..	Bidar, Nizam's Dominions.	
757	Kaolin clay	..	..	Nizam's Dominions.	
758	Jaspery clay	..	..	Hyderabad, Nizam's Dominions	Decomposed.
759	Felspathic clay	..	..	Balaghat,	Do. rock.
760	Subarria agglomerate of pisolitic iron.	..	..	Autapuram,	
761	Sandy shaly	..	..	Dantampalle,	Carbonaceous, micaceous.
762	Ferruginous clay	..	..	Nizam's Dominions	Concentric nodular structure.
763	Sandstone	..	..	Do.	
764	Rough sandstone	..	..	Do.	Clayey, and cretaceous.
765	Sandstone	..	..	Gawal range, Nizam's Dominions.	A weathered quartzite.
766	Do.	..	..	Nizam's Dominions	Do.
767	Do.	..	..	Gawal range, Nizam's Dominions	Do.
768	Do.	..	..	Ganpuram, right bank of Godavari, Nizam's Dominions.	Do. clayey.
769	Siliceous rock	..	..	Nirmal Ghat,	Inter-trappean; fossiliferous.
770	Do.	..	..	Gawal range,	Do.
771	Quartzite Breccia	..	..	Sheravala Trigonometrical Station, Khamamet Taluk, Nizam's Domi- nions.	
772	Jasper	..	..	Hyderabad,	Indurated quartzite.
773	Do.	..	..	Golkunda, valley of Berar,	Do.
774	Do. pebble	..	..	Nizam's Dominions	Do.
775	Flint	..	..	Chalmara, Nizam's Dominions	

ROCKS OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
<i>NIZAM'S DOMINIONS—continued.</i>			
776	Chalcedonic Jasper	Golkunda, Nizam's Dominions.	
777	Do.	do.	
778	Agate	Secunderabad,	
779	Jasper	Wún,	
780	Chalcedony	Golkunda, valley of Berar, do.	With exterior chert.
781	Do. and Jasper	Berar, do.	
782	Do.	Secunderabad,	
783	Do. and Agate	Do. do.	
784	Do.	Do. do.	
785	Quartz and Chalcedony	Do. do.	
786	Limestone	Shorapur country, do.	
787	Do.	Secunderabad, do.	
788	Calc spar	Nizam's Dominions.	
789	Do.	Do.	
790	Gypsum	Do.	
791	Talcose Schist	Erandi, right bank of Godavari, Nizam's Dominions.	With dendritic markings.
792	Contorted mica schist	Near Maddiri taluk, do.	
793	Gneiss	Korikonda, east of Suriapeta, Nizam's Dominions.	Micaceous.
794	Do.	Wudagúndram, Godavari, do.	
795	Do.	Lingampalle, do.	
796	Do.	Nizam's Dominions	
797	Do.	Cantonment, Secunderabad, do.	Foliated.

798	Do.	..	..	Nizam's Dominions ..	..	..	With hornblende.
799	Do.	..	..	Do.	..	..	With indistinct foliation.
800	Do.	..	..	Do.	..	..	With garnets.
801	Do.	..	..	Do.	..	..	With labrodite?
802	Do.	..	..	Do.	..	..	Garnetiferous.
803	Do.	..	..	Singareni Coal Field, Nizam's Do- minions.	..	..	With strings of magnetic iron ore.
804	Magnetite from above	..	..	Do.	do.	..	
805	Gneiss	..	..	From European butt, Secunderabad, Nizam's Dominions.	..	..
806	Granite	..	..	Nizam's Dominions	..	..	Weathered.
807	Do.	..	..	Kallakote, Nizam's Dominions.	..	..
808	Red Granite	..	..	Nizam's Dominions.	do.	..	
809	Graphic Granite	..	..	Yedali, Shorapur taluk,	do.	..	
810	Do.	..	..	Do.	do.	..	
811	Granite	..	..	Near Secunderabad,	do.	..	
812	Do.	..	..	Dungam-Kattegudam,	do.	..	
813	Pistacite rock	..	..	Amblanur,	do.	..	
814	Syenite	..	..	Secunderabad,	do.	..	
815	Quartz	..	..	Do.	do.	..	Probably from a vein.
816	Vein Quartz	..	..	Do.	do.	..	
817	Trap	..	..	Hyderabad,	do.	..	With olivine.
818	Deccan trap	..	..	Nizam's Dominions.	do.	..	
819	Contact of porphyritic with granite gneiss.	..	..	South-east of Vizianagram hill, War- dáná Taluk, Nizam's Dominions.	..	..
820	Deccan trap	..	..	Nizam's Dominions.	..	..
821	Dolerite	..	..	Do.	..	..
822	Basaltic trap	..	..	Udgr, Nizam's Dominions	..	..	Very compact, with olivine.
823	Dolerite	..	..	Secunderabad, do.	..	..	Porphyritic. The crystals are plagioclase felspar.
824	Deccan trap with zeolites	..	..	Nizam's Dominions	..	..	Stilbite.
825	Zeolite	..	..	Do.	..	..

ROCKS OF SOUTHERN INDIA—*continued.*

No.	Name of specimen.	Locality.	Remarks.
<i>NIZAM'S DOMINIONS—continued.</i>			
826	Deccan trap	Secunderabad, Nizam's Dominions..	Amygdaloidal with chalcedony and zeolite.
827	Do.	Do.	With green jaspery quartz and chalcedony.
828	Drusy nodule from Deccan trap	Do.	Calcite crystals showing faces $\frac{3}{2}$ R.
829	Chalcedony and quartz with base of striped agate from Deccan trap.	Do.	The trap contains amygdaloids of viridite.

V.—SPECIMENS OF THE QUARTZ OF SOUTHERN INDIA.

No.	Name of specimen.	Locality.	Remarks.
1	Quartz from the Alpha Gold Mining Company.	South Wynaad.	
2	Stones from New Reef	Near Prince of Wales' Reef.	
3	Do.	Do.	
4	Stones from Karambaur Reef	Kaleika.	
5	Quartz with copper pyrites	Sigür Ghât	Chalcopyrites altered at the surface into indigo copper (covellite).
6	"Casing" in which gold is to be seen.	.....
7	Do. do. .. ..	.....
8	Quartz from Alpha Gold Mining Company.	South Wynaad.	
9	Quartz with pyrites	Goobnook.	
10	Do. No. 4 section	Skull Reef.	
11	Do. do.	Bear Reef.	
12	Do. do.	Adaline estate.	
13	.....	Wright's level.	
14	Quartz	Davison's Reef, Elizabeth's estate.	
15	Do.	New Reef, Wither's estate.	
16	Do.	Waterfall Reef.	
17	Do.	Ettakul Reef, Wynaad.	
18	Quartz from Alpha Gold Mining Company.	South Wynaad.	
19	Quartz	Wynaad.	
20	Do.	Rosedell Reef.	
21	Do.	Wither's Reef.	
22	Quartz with pyrites	Cawrn Reef.	

SPECIMENS OF THE QUARTZ OF SOUTHERN INDIA—continued.

No.	Name of specimen.	Locality.	Remarks.
23	Quartz	Reef behind magazine.	
24	Do.	Wynaad.	
25	Do.	South Wynaad.	
26	Do.	Prince of Wales' Reef.	
27	Do.	Cavern Reef.	
28	Do.	.....
29	Do.	Wynaad .. ..	..
30	Rock crystal	Guntur.	..
31	Quartz	Mysore Town.	..
32	Do.	Do.	..
33	Milk Quartz	Bangalore.	..
34	Pure white Quartz	Arcot.	..
35	Quartz	Masulipatam.	..
36	Vein Quartz	Salem District.	..
37	Common Quartz	Arcot.	..
38	Quartz	Near Bangalore.	..
39	Vein Quartz	Yellavenkur Taluk.	..
40	Quartz and Chlorite	North-West Mysore ..	..
41	Quartz	Wynaad.	..
42	Do.	Do.	..
43	Do.	Do.	..
44	Do.	Do.	..

All the specimens show visible gold.

From auriferous reef, Honali Gold Field.

VI.—ECONOMIC MINERALS USED IN THE MANUFACTURE OF GLASS, POTTERY,
EARTHENWARE, &c.

No.	Name of specimen.	Locality.	Remarks.
1	Kaolin or porcelain earth	Bangalore.	
2	White Kaolin	Chicacole.	
3	Kaolin	Bangalore.	
4	Fine white Kaolin	Dindigul hill.	
5	Talcoose Kaolin	Hill near Bimlipatam.	
6	Magnesium Kaolin	Near Vellore.	
7	Kaolin	Near Chittoor.	
8	White Kaolin	Do.	
9	Kaolin	Salem.	
10	Red Kaolin	Hills near Salem.	
11	Pink Kaolin	Nilgiris.	
12	Cream-colored Kaolin	Do.	
13	Kaolin	Cuddapah.	
14	Magnesium Kaolin	Chingteput.	
15	Blue ball clay	Near Cuddalore.	
16	Grey ball clay	Poonamallee.	
17	Clay	Cuddapah.	
18	Tough yellow clay	Chingteput.	
19	Yellow magnesium clay	Red Hills.	
20	Lavender-colored clay	Bellary.	
21	Puce-colored clay	Cuddapah.	
22	Red magnesium clay	Red Hills.	
23	Light red marl	Hills near Salem.	
24	Yellow clay	Do.	

ECONOMIC MINERALS USED IN THE MANUFACTURE OF GLASS, POTTERY, EARTHENWARE, &c.—continued.

No.	Name of specimen.	Locality.	Remarks.
25	Yellow magnesium clay	Poonzmallee.	
26	Dark brown clay	Madura.	
27	Clay	Sriperumbudur.	
28	Tough brown clay	Madras.	
29	Grey clay	Salem.	
30	Dark brown clay	Madras.	
31	.....	Salem.	
32	Black bituminous clay	Rajah's Choultry, Madras.	
33	Black clay	Nilgiris	Containing black oxide of manganese.
34	Black tank clay	Chingleput.	
35	Black clay	Hills near Salem.	
36	Dark red marl	Nuthun hill near Chingleput.	
37	Indurated lithomarge	Near Cuddalore.	
38	Reniform or kidney-shaped clay	Red Hills, Madras	
39	Potstone or lapis ollaris	Cuddapah	Iron stone.
40	Grey soapstone or steatite	Chittoor.	With a pot cut out of potstone.
41	Potstone or lapis ollaris	Cuddapah.	
42	Soapstone	Salem.	
43	Kunkur	Tirupatūr, Salem.	
44	Magnesite	Nungengoodi	
45	Mica	Salem.	A pure carbonate of magnesia.
46	Fibrous gypsum	Ennore, Madras, and Kurnool.	
47	Talc	Vizagapatam.	
48	.....	.....
49	Polishing slate	Ráyalcheru.	
50	Calcareous spar	Ceded Districts.	
51	Grey and yellow marble	Near Cuddapah.	

52	Shells	.. .. .	.. .. .	Madras Beach.
53	Hydrous Magnesium silicate or Meerschau clay.	.. .. .	.. .. .	Nilgiris.
54	Grey and yellow marble	.. .. .	.. .. .	Near Cuddapah.
55	Satin spar	.. .. .	.. .. .	Ráyaleheru. *
56	Flinty slate	.. .. .	.. .. .	Bed of the Kistna below Raichur.
57	Flint	.. .. .	.. .. .	Vizianagrum.
58	White sand	.. .. .	.. .. .	Near Madras.
59	Rock crystal	.. .. .	.. .. .	Vallam, Tanjore.
60	Common Quartz	.. .. .	.. .. .	Near Chingleput hills. *
61	Amethyst	.. .. .	.. .. .	Near Hydgrabad.
62	Mica from Granite vein	.. .. .	.. .. .	Vataturpathu.
63	Sulphate of Baryta or heavy spar	.. .. .	.. .. .	Kurnool.
64	Corundum	.. .. .	.. .. .	Gopichettipáláyam.
65	Cleavelandite	.. .. .	.. .. .	Peddur and Combatores.
66	Crome iron ore	.. .. .	.. .. .	Porto Novo.
67	Galena or Lead glance	.. .. .	.. .. .	Vicinity of Kurnool.
68	Pink and white Felspar	.. .. .	.. .. .	Near Arcot.
69	White felspar	.. .. .	.. .. .	Bimlipatam.
70	Adularia	.. .. .	.. .. .	Hills near Chingleput.
71	Carbonate of Soda (soudunum)	.. .. .	.. .. .	.....
72	Mica	.. .. .	.. .. .	Vizagapatam District.
73	Plumbago	.. .. .	.. .. .	Golconda hills
74	Corundum	.. .. .	.. .. .	Hills north-west of Rajamundry.
75	Magnesite	.. .. .	.. .. .	Salem District.
76	Specimens of Kaolin	.. .. .	.. .. .	Pálgat hills.
77	Felspar	.. .. .	.. .. .	Little Mount
78	Steatite	.. .. .	.. .. .	Gohah in Goomsur
79	Impure Kaolin	.. .. .	.. .. .	Rámándrug
80	Lead ore	.. .. .	.. .. .	Nullamallas
81	Plumbago	.. .. .	.. .. .	Bezráda.

A salt from which glass bangles are made.

Graphite.

From granite.
Rubbed specimen.
Decomposed gneiss. *
Sulphuret of lead.

ECONOMIC MINERALS USED IN THE MANUFACTURE OF GLASS, POTTERY, EARTHENWARE, &c.—continued.

No.	Name of specimen.	Locality.	Remarks.
82	Full mould of "bangle glass"	Bellary District	From which the glass bangles worn by natives are manufactured.
83	Corundum	Do.	
84	Felspar	Madura District.	
85	Mica	Do.	
86	Full mould of "bangle glass"	.....
87	Copper ore	Ghani, near Kurnool	From which the glass bangles worn by natives are manufactured.
88	Rich green carbonate of Copper	Nellore District	Traces in a clay slate.
89	Heavy spar	Kurnool	Containing 75 per cent. of metallic copper.
90	Bangle glass .. ..	.....	As guage of lead ore.
91	Copper ore	Nellore District	Green carbonate and grey copper ore.
92	Felspar	Near Bellary	From granite.
93	Potstone	Chittoor	Worked specimen.
94	Fibrous Gypsum	Ráyalcheru.	
95	Carbonate of Iron	Masulipatam	Siderite.
96	Kunkur	Tirupatúr, Salem District.	
97	Bangle glass	Cuddapah District.	
98	Heavy spar	Near Yádaki	Sulphate of baryta.
99	Do. .. ..	.....	Sulphate of baryta in which the lead ore occurs.
100.	Barite	Cuddapah District	Heavy spar.
101	Potter's clay	Nungengudi	Considered by the natives holy after it is consecrated by the priest in the pagoda, and eaten both by males and females every morning.
102	Steatite rock	West of Bainncheru	Weathered.
103	Corundum	Kódúr.	
104	Do.	Guntúr.	

105	Mica	Hydrabad.	..	..	Ochre.
106	Red ochre	Red Hills ..	..	..	..
107	Gun flints	Madura District.	..	..	..
108	Sulphate of magnesia	Salem .. ..	..	..	Magnesite obtained from the hills known as Chalk Hills.
109	Specimens of Salem balmorite	Salem District ..	..	..	A fibrous serpentine often mistaken for asbestos.
110	Basalt	Run of Kutch.	..	..	Used by saddlers for sharpening their tools.
111	Gypsum	Hyderabad ..	..	..	..
112	Balmorite	Hyderabad ..	..	..	Fibrous serpentine often mistaken for asbestos.

VII.—MISCELLANEOUS COLLECTION OF ROCKS.

No.	Name of specimen.	Locality.	Remarks.
1	Silicified wood	Chingleput.	
2	Fossil woods	..	
3	Do.	..	
4	Black limestone	Cuddapah District.	
5	Pointed sandstone	Godavari valley.	
6	.....	Ganjam.	
7	Quartz and calcite	Hyderabad.	
8	Calc spar	Guntur.	
9	Quartz	Hyderabad.	
10	Coarse conglomerate	Nagery.	
11	Chest and chalcedony	Madura.	
12	Wood opal	Do.	
13	.....	Sagur.	
14	Chloritic schist	Dumbal hills, Darwar	Slickensides on quartz; much contorted; gneissic lines.
15	Sandstone	Cuddapah District	Ripple marks; from gorge at Chintapenta 16 miles from Cuddapah Town, in the Vainpalle road.
16	Do.	Do.	Dendritic markings (pyrolusite).
17	Do.	Vempalli, Cuddapah District	Concentric iron stains and dendritic markings.
18	Red wood opal	Madura.	
19	Marble	Jubbulpore	From marble rocks.
20	Sandstone	Cuddapah	Dendritic markings (pyrolusite).
21	Trichy marble	..	
22	Rounded marbles	Guntur.	

VIII.—MARBLES, SERPENTINE AND LITHOGRAPHIC STONES.

No.	Name of specimen.	Locality.	Remarks.
1	Granular Limestone marble	Tinnevely ..	Polished.
2	Slab of marble	Ambasamudram.	
3	Lithographic stone	Kurnool.	
4	Do.	Do.	
5	Lithographic marble stone	Juggrapetta.	
6	German lithographic marble stone	Europe.	
7	Lithographic stone	Bellary.	
8	Serpentine	Do.	
9	Do.	Do.	
10	Sienitic Granite	Madura.	
11	Shell marble	Pondicheery.	

IX.—METEORITES.¹

“Meteorites may be conveniently arranged in three classes, which pass more or less gradually into each other: the first includes all those which consist mainly of iron, and have, therefore, been called by Maskelyne *aero-siderites* (*aer* air, and *sideros* iron), or more shortly *siderites*; the second is formed by those which are composed chiefly of iron and stone, both in large proportion, and are called *aero-siderolites*, or, shortly, *siderolites*; while those of the third class, being almost wholly of stone, are called *aerolites*. (*aer* air, and *lithos* stone).”

. List of the Meteorites of which the fall in S. India has been recorded.²

Place of fall.	Date of fall.	Weight in grams.
I. SIDERITES OR METEORIC IRONS.		
Nedagolla, Mirangi, Vizagapatam.	Jan. 23, 1870 ..	4,379·7
II. AEROLITES OR METEORIC STONES.		
Gurramkonda, near Punganur ..	Fell in 1814 ..	9·8
Nellore (Yatoor)	Jan. 23, 1852 ..	11,287
Parnallee	Feb. 28, 1857 ..	61,361·0
Gopalpur	May 23, 1865 ..	147·0
Muddur, Mysore	Sept. 21, 1865 ..	407·3
Nammianthal, South Arcot ..	Jan. 27, 1886 ..	1,823·0

A letter from the Rev. H. S. Taylor describes the circumstances of the fall of the Parnallee aerolite in the following words:—“Near the village of Parnallee in this taluk two meteoric stones had fallen. I have been to the ground, and seen the places where they fell; and the exact impression made in the earth where they lay. As no rain has fallen since, I was able to see that there was no mistake about it. The noise made as they came through the air made a deep impression on the minds of the people in that region, and was heard, I find from reports, along the sea-shore up to Teruchooly. They fell about three miles apart from each other. The smaller one weighs about 37 pounds, and

¹ Introduction to the Study of Meteorites. British Museum, 1888.

² The fall of the following meteorites has also been recorded, but I cannot ascertain whether they were siderites or aerolites:—

Udipi, S. Canara, April 1866. 3,306 grms.

Judesegeeri, Kadaba Taluk, Mysore, Feb. 16, 1876. 135·1 grms.

sunk in the earth, when it fell two feet and eight inches. The larger one is from three to four times as large, and sunk in the earth two feet and four inches. It struck the earth flatwise. The smaller one fell about perpendicularly. The larger fell (coming from the north a little to the west) making an angle, with a perpendicular line, of about fifteen degrees. Persons were standing near each place where they fell. Many worshipped them. The villagers gave them up to me, on condition that I should inform you, and save them from trouble made (or rather which they feared some officials might make).

1. This is one of two which fell on Saturday, the 28th of February 1857, at about noon, a little south-east of the village of Parnallee, Latitude North, according to the Government map, $9^{\circ} 14'$, Longitude, $78^{\circ} 21'$ east.

2. The largest one fell a few seconds before the smaller one, and from two to three miles north of it. As was manifest from the hole it made in the ground when it fell, it came from a direction some ten degrees west of north, making an angle of about 15 or 20 degrees with a line perpendicular to the earth's surface. It struck the earth (or at least lay in the bottom of the hole made by it) flatwise, on the side that is most convex. The most round or convex side of the smaller stone also was downward, this being the position they would naturally assume as they passed with great velocity through the resisting atmosphere, an idea which did not occur to me till now. I had before simply noted the fact. The larger stone sank into the earth when it fell, two feet and five inches, in a perpendicular direction. The smaller one two feet and eight inches. The smaller one fell also, about perpendicularly. The smaller does not appear in any respect like a fragment of the larger one. The specific gravity of the smaller one, when it fell was about 3.3, water being the standard of unity. I observed that the specific gravity was increased after exposure to a shower, as that of the smaller one was. I did not try that of the larger. The crack on the convex side of the larger one I did not perceive at all till it had been wet, and then, at first, it was but just perceptible. Afterwards it gradually opened. I suppose, owing to the oxidation of the native iron it contains, perhaps, however to other causes. The stones had not been wet till they came into my hands, April 21st. They, each of them, fell in cultivated fields, one of which had been harvested. The stone in the other was still standing.

3. The noise seems to have been terrific to the natives, causing those near to crouch from fear. It came like two claps of thunder, as they fell one after the other, and continuing for some time, but gradually growing less loud. As they fell through the whole depth of our atmosphere, this would naturally be the case. The noise appears to have been heard at Tuticorin, forty miles distant. At this place, sixteen miles north, it excited considerable interest among those abroad at the time. The noise must have been great, occasioned by their great velocity. Taking their specific gravity into the account, say 3.3, their size being about that of large cannon balls, some allowance also being made for their irregular shape, from the depth they penetrated the soil, which was of about common hardness, those who have observed the power of projectiles in such cases will be able to calculate, approximately, what that velocity was.

4. Of the excitement among the natives, I suppose, I need not speak. I visited the place, because of the rumours that were flying abroad, making it evident to my mind that something peculiar had there transpired. First, I saw the holes from which, in the cultivated fields, they had been freshly taken, no rain having subsequently fallen, and saw at the bottom the *hardly-compressed* and exact impression left by them as they were taken up, and then as I saw the stones, I knew instantly that they were the identical ones which had been taken from those places. As I was more or less known in that region, and there is no gentleman whatever any where near, the rural people, utterly ignorant of the cause, came in great numbers to state the facts, and ask some explanation. Some of them supposed they were gods that had fallen; some that they had been shot from cannon on ships at Tuticorin; and some that a brahmin had brought them from the sea by his muntrums: some rejected all these theories, but no one could tell or feel satisfied as to how these things could be. By simply striking my staff through the air, I could explain to them the noise; and by tying a stone to a string and swinging it I could make them understand the centrifugal and centripetal forces, and how that, from some disturbance in these forces, stones moving about some centre like the moon about the earth might fall. The explanations gave them relief. They put confidence in me, and gave me the stones, at my request, that I might save them from the trouble of any official investigation, and put them into some museum or scientific institution.

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