2311 W 26.8.87
2453 C 22.7.87

No. 2781 W d/ Octr 19. 1887

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CA to Govt.—✓ D 19/10

CA to Govt—

S.W. 25/10 27/10 31/10 4/11

PWCH-8062

Govt. of {1887} Madras.

REVENUE.

28.10

Issued

Recd. 16.10.87 *Encl.*

G.O., 5th September 1887,
Nos. 870, 870A.

No. 2781 W d/ Octr 19. 1887

SEPTEMBER.

Pigments.

Reports regarding the price, &c., of — suitable for house-painting obtainable in the Madras Presidency, ordered to be forwarded to the Government of India.

With orders

[illegible]

2 Copies to Secy

REVENUE DEPARTMENT.

16 JUL 87
P.W. DEPARTMENT

No. 69 R.

OFFICIAL MEMORANDUM.

THE undersigned has the honor to request an the favor of early reply to {~~Memo.~~/Order} No. 1218 dated 25-2-87, requesting information regarding the manufacture of pigments used for painting buildings.

+Cir 1643

(By Order)

H A Stuart

Under Secy: to Govt.

OOTACAMUND,

11th June 1887.

To The P. W. Dept.

Revenue department.

Proceedings of the Madras Government.

Read the following.

Circular No. $\frac{5}{54-1}$G.

FROM

W. R. LAWRENCE, ESQ.,
Under-Secretary to the Government of India,

To The Secretary to the Government of Madras.

Revenue and Agri. Dept.
General.

CALCUTTA, *the 2nd February 1887.*

SIR,

AN enquiry has recently been received on the subject of the manufacture of pigments in India suitable for painting buildings. Some mention is made of the subject in *Punjab Products* by Mr. Baden-Powell, and pigments of a mineral nature are alluded to in Ball's Manual of Indian (economic) Geology.

2. But the information given is meagre and incomplete, and the Government of India will be obliged if, with the permission of His Excy. the Govr. in Council enquiries are instituted through the Agricultural Department of the Madras Presidency or any other agency which may be considered suitable, for the collection of information regarding the several kinds of pigments suitable for house-painting procurable in native bazars and their price.

3. The information is not wanted by any early date, and should it in any case be found to exist in a complete form in any published report, a reference to such report will be sufficient.

I have the honour to be,
SIR,
Your most obedient servant,
W. R. LAWRENCE,
Under-Secretary to the Government of India.

Order thereon, 25th February 1887, No. 1218.

Referred to the Public Works department the director of Revenue Settlement & agriculture, the Superintendent Govt central Museum and the Superintendent School of arts for such remarks as they may have to offer.

(True extract)

Fred Nicholson

Ag Secretary to Government

To.
The P. W. Dept. ✓
" Director of Rev. S & agriculture
" Supt Govt central Museum
" Supt School of arts (through the Educational Dept).

PWC No 4689

R 21.6.87

OLS. 96. VI
21. 17. 6.87

File No. 54.
Serial No. 1.

1887.
GOVERNMENT OF INDIA.
REVENUE AND AGRICULTURAL DEPARTMENT.

GENERAL.

Referred to the
Commissioner, [illegible]
for report.
(By order)
[illegible]

To

ALL LOCAL GOVERNMENTS AND ADMINISTRATIONS.

Circular No. $\frac{5}{54-1}$ *G.*

Dated Calcutta, the 2nd February 1887.

SUBJECT.

Asks for information regarding the manufacture of pigments used for painting buildings.

Government of India Central Printing Office.—No. 450 R. & A.—4-2-87,—451.

No.

P.W.C. No 1643

P. W. Dept.
To be returned with reply.

No. 759 c of 3d March 1887

Referred to the Consulting Architect for report.
(By order)

W. C. Baddeley, Captn. R.E.

Dy. Chief Engr: P.W. Dept.

4 SC

R 1.3.87

JW
2/3/87

List of coloring pigments obtainable in the Madras Presidency suitable for house painting and sold in the Bazaars.

No.	English Name	Tamil Name	Telugu Name	Price				Remarks
				per	Amount			
					Rs	a	p	
1	Red Ochre	Poong Cavee	Erra Cavee	* Viss	..	4	-	Obtained from Tirupapullyur or Cuddalore New Town used with water or oil.
2	Yellow Ochre	Munjal Cavee or Gobee	Paoupoo Cavee	..	..	..	9	Obtained from Vullum, Tanjore District, may be used with water or oil. This is the pigment commonly used in color washing buildings. If burnt it passes into red Ochre and various shades of warm tints can be obtained by mixing these together. It is well adapted for distemper work and does not lose its color when mixed with lime.
3	Beder Earth	Hindustanee Baithur Cuddee	-	..	..	6	-	Obtained in the Nizam's dominions at a Hill near Beder. It is commonly used for whitening soldiers belts and helmets.
4	White Earth, pipe-clay	Soonka kul or Mauve Sookan	Sudha	..	..	..	6	Obtained in the Trivellore Talug. This is used as a priming coat. It is also purified and used for making the distinction marks on the foreheads of Hindus.
5	White	Vellai	Thelupu					Calcined Chank shells. This white is not now obtainable in the bazaar but has to be prepared when required, it is said to have been commonly used by painters before but as white lead is now imported at cheaper rates it is seldom or never used. It is said to make a perfectly white paint.
6	Black	Karuppu	Nalupu					This consists of burnt Cocoanut shells reduced to powder. used in color washing or plastering, mixed with lime, it forms various shades of grey. A small portion mixed with yellow or red tones down those colors
7	Indigo	Nilum	Nila	Viss to	4 7	.. ..	.. ..	Used with oil or water for paints, obtainable in the Cuddapah, Nellore, Bellary and Chinglepat Districts.

Chepak
24 June 1887

Offg. Consulting Architect to Govt.

* Viss = 3 lb. 2 oz.

P. W. D

Consulting Architect's Office,
Chepauk, Madras,
24th June 1886/7

No 456

From J. W. Brassington Esq
~~The~~ Consulting Architect
to the Government of Madras.

To
The Chief Engineer
Public Works Department.

Enclosure.
one list

Sir,

In reply to your Indorsement No 759. C dated 3rd March 1887 on the Proceedings of Government Revenue Deptt No. 1218 dated the 25 February 1887, I have the honor to forward a statement regarding pigments suitable for house painting in the Madras Presidency – procurable at the bazaars.

Items 1. to 4. are natural Earths, 5. to 7 are artificially made.

Pigments of a mineral nature such as manganese, Chromium, Barytes, mica and decomposed earthy iron

Ores

ic Wor
ntending Engineer 4th Circle

Ores are it would appear obtainable in the Madras Presidency but these are not brought into use or sold in the Bazaars. If any further information on the subject is obtained a Supplemental list will be forwarded.

I have the honor to be,

Sir,

Your most obedient Servant

J W Brassington

Offg. Consulting Architect to Govt.

No 759 C. 3.3.87

No. 1788 W d/5th July/87

B

Comd and a Copy of the list forwarded to the Revenue Dept in reply to No 1218, d/ 25th February 1887.

15.6.87

30/6/87

Revenue Dept with enclosures

Consg Archt. w/ copy

6/7

C. 28.6.87. R. 2.7.87. No 1617 7/7

PWC No. 4867

Public Works Department.

From

THE CONSULTING ARCHITECT

TO THE GOVERNMENT OF MADRAS,

To

The Chief Engineer

P.W.D

No. 456

Dated 24 } June 1887
Received 27 }

No. 1788 W d/5th July/87

No. OF ENCLOSURES. One list

Subject.

Reports on the Pigments obtainable in the Madras Presidency suitable for painting buildings.

---

5 June 3.3.87

PROCEEDIN

ENT.

1887.

P. W. DEPARTMENT.

Current No. 5640

From

The Revenue Dept.

ENCLOS.— 2

No. 4101

Dated 14th July 1887

Received 22 July 1887

SUBJECT.

Forwarding to the Consg. Archt for remarks letters from the Supt. School of Arts & the Supt. Govt Central Museum regarding the prices of pigments used for painting buildings.

DISPOSAL.

No. 2453 Dated 22nd July 1887

Forwarded to the Consulting Architect

(Sd) J. O. Hasted Col. R.E.

Secy. to Govt P.W.D

23/7

ntending Engineer 4th Circle

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following papers:-

(1) Letter from the Supdt. Govt. Central Museum, dated 29th April 1887, No. 350, (2) letter from the Supdt. School of Arts, dated 29th April 1887, No. 232, (3) Progs: of the Board of Revenue, (Settlement, Land Records & Agric) dated 21st June 1887, No. 1328 Misc: and (4) Progs: of the Public Works Department, dated 5th July 1887, No. 1788 W, regarding the manufacture of pigments used for painting buildings.

[illegible] 20-7-87

—

Order thereon, 14th July 1887, No. 4101.

As there is a considerable difference between the prices given in the reports of the Superintendent, School of Arts, the Superintendent, Government Central Museum and the Consulting Architect to Government, the papers will be forwarded to the last named officer for remarks on

the

PWC No. ~~5640~~ 6498/87

E.1

this point. He should if necessary, consult Dr. Thurston and Mr. Havell.

(True Extract)

Ag. Secretary to Govt.

20 JUL 87
DEPARTMENT

Rg 22.7.87

En: 2

No. 2453 C of 22nd July 1887
Forwarded to the
Consulting Architect

(Sd.) C. R. [illegible]
Secy to Govt. P.W.D.

To

The Consulting Architect thro' the P.W.D. }
with 2 letters in origl. to be retd. }
Copy to the Supdt. Govt. Central Museum
Supdt. School of arts

OLS 142.VII
M. 20.7.87

P.W.D

Consulting Architect's Office,
Chepauk, Madras,
18th August 1887

No. 706

From
J. W. Brassington Esqr.
The Consulting Architect
to the Government of Madras,

To

The Chief Engineer
Public Works Department.

Sir,

Enclosure.
3 letters (original)

In reply to G. O. No. 4101 dated the 14th July 1887, Revenue Department received with your endorsement No. 2453 C dated the 22nd July 1887, I have the honor to state that the Superintendent School of Arts states that on further enquiries he finds that the country yellow ochre is sold in rough lumps ranging from 5 to 6½ annas per maund (8 vis) which is equal to nearly 9 pies per vis, this is the same as No. 2 in my list. The pigment priced 12 annas per maund is a preparation of this ochre with some other imported ingredients for ready use.

2. I presume that the Superintendent

of

of the Museum also refers to the prepared ochre. I have not had the opportunity of seeing that officer as he is now touring on the west Coast and will probably not return for some time. To avoid further delay, I beg to return the papers received with the Government Order under reply.

I have the honor to be
Sir
Your Most Obedient Servant

J W Brassington

Consulting Architect to
Government.

No 2453 @ 22.7.87

~~No 23 A W A / 26th August /87~~

B

Comd ~~to the~~
Comd. to the
Revenue Dept
Revenue Dept
with reference to
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OLS 123 VIII
M. 22.8.8

29/8

C. 19.8.87. R: 24.8.87.

P.W.C. No 6498

Public Works Department.

(7)

From

THE CONSULTING ARCHITECT
TO THE GOVERNMENT OF MADRAS,

To

The Chief Engineer
P. W. D

No. 706

Dated 18th August 1887

Received 19.8.87

No 2311 W A / 26th August /87

No. OF ENCLOSURES. 3

Subject.

Remarks on the price of pigments obtainable in the bazaars used for painting buildings.

~~DW~~

5TH SEPTEMBER 1887, Nos. 870, 870A, REVENUE.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—also the following G.O., dated 25th February 1887, Mis. No. 1218:—

Read—the following letter from W. R. LAWRENCE, Esq., Under Secretary to the Government of India, Revenue and Agricultural Department—(General), to the Secretary to the Government of Madras, dated Calcutta, 2nd February 1887, No. 5—54-1 G:—

An inquiry has recently been received on the subject of the manufacture of pigments in India suitable for painting buildings. Some mention is made of the subject in *Punjab Products* by Mr. Baden-Powell, and pigments of a mineral nature are alluded to in Ball's Manual of Indian (economic) Geology.

2. But the information given is meagre and incomplete, and the Government of India will be obliged if, with the permission of His Excellency the Governor in Council, inquiries are instituted through the Agricultural Department of the Madras Presidency or any other agency which may be considered suitable, for the collection of information regarding the several kinds of pigments suitable for house-painting procurable in native bazaars and their price.

3. The information is not wanted by any early date, and should it in any case be found to exist in a complete form in any published report, a reference to such report will be sufficient.

Order—dated 25th February 1887, Mis. No. 1218, Revenue.

Referred to the Public Works Department, the Director of Revenue Settlement and Agriculture, the Superintendent, Government Central Museum, and the Superintendent, School of Arts, for such remarks as they may have to offer.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Public Works Department.
,, the Director of Revenue Settlement and Agriculture.
,, the Superintendent, Government Central Museum.
,, the ,, School of Arts (through the Educational Department).

READ—again the following G.O., dated 14th July 1887, Mis. No. 4101, Revenue:—

Read—the following letter from E. THURSTON, Esq., Superintendent, Government Central Museum, to the Secretary to Government, Revenue Department, dated Madras, 29th April 1887, No. 350:—

With reference to G.O., No. 1218, of 25th February 1887, I have the honor to make the following observations on pigments suitable for house-painting.

2. Various kinds of pigments suitable for painting buildings are sold in the Madras bazaars, but only three of these are indigenous to the Presidency, viz., (yellow ochre) gobi, (red ochre) kavi, (red ochre, concreted variety) kooroovi kal.

3. A reddish-brown pigment is also obtained by roasting the yellow ochre.

4. No information is available in a complete form in any published report or work of any kind, but is found scattered in Exhibition catalogues, District Manuals, &c. From these it would appear that several varieties of colored earths exist in various parts of the Presidency which might be utilised for painting buildings, but with the exception of the red and yellow ochres which are the most widely distributed, no use appears to be made of them for this purpose.

5. In the Museum collection are the following samples of pigments from different localities:—

Chingleput	Pale yellow ochre. Purple ,, Roman ,, Warmstone colored ochre. Dark shade of grey ,, Indian red.
Salem	Flesh-colored ochre. Cream ,, ,, Raw sienna.
Nílgiri	Cologne brown. Dark umber. Raw ,,
Cuddapah	Bright yellow ochre.

6. In his account of the geological structure of the Nílgiri hills, Mr. Blanford says (Memorandum, Geological Survey of India, Volume I, 1849, page 237), under the heading of ochreous clays: "The cuttings on the cantonment road between the church and the club-house of Ootacamund, expose a mass of highly ferruginous clay, evidently arising from the decomposition of gneiss *in situ*...... Some of this clay is sufficiently colored to serve as a pigment, but it does not appear that it has ever been tried for this purpose."

7. In the Madras Exhibition of 1857, the following were exhibited:—

Bellary	Red ochre (in abundance in Yadaki taluk). Yellow ochre. (Do.) Grey ochre. "Bob" or red earth (Kúdligi taluk).
Cuddapah	Pale ochre (Pulivendla taluk.) Red ,, (Ráyachóti and Mulla Mala Hills.) Colored ochre (Do.)
Kurnool	Yellow ochre.
Trichinopoly	Red earth. Yellow ochre.

8. In the Manual of the Geology of India by V. Ball, 1881, page 417, it is stated that at "Trivandpuram in Trichinopoly, a yellow ochre is obtained from the cretaceous rocks, after grinding and levigation it yields a good pigment."

Tanjore	Red ochre.

9. In the Manual of the Tanjore District by T. Venkasami Row, 1886, yellow ochre is stated to be quarried in considerable quantities west of Vallam.

Nellore	Yellow ochre (Dugarázpatnam.) Red ,, (Dugarázpatnam, Udiyagiri.) Lavender colored. (Do.)

10. In a letter to the Chief Secretary to Government, dated 1st November 1886, No. 347, Dr. Alexander Hunter included in a list of minerals sent to him from Nellore, a red ochrey micaceous earth and buff or cream-colored ochre.

Chingleput	Red ochre.
Malabar	Red ,,

11. In the Manual of the Madura country, 1868, Mr. J. H. Nelson says (page 28): "Ochres are more rare. Those found are the yellow earthy, and hard, red concreted varieties. They occur in nodular masses in a quartz and iron gravel, with laterite and jasper, at Sivaganga."

12. From the animal kingdom the well-known shell lime is obtained and used in Madras for white-washing houses; the vegetable kingdom contributes indigo, and a black pigment is produced by the burning of empty shells of the cocoanut; a yellow wash is obtained from yellow mixed with lime according to the shade desired; a red wash from red ochre used as above; a blue or grey wash from indigo and lime for internal work, and lime and burnt cocoanut shell for external work; a pink was from lime and red ochre mixed in due proportions; a white wash from lime alone. In some parts the natives also use a whitish kind of earth, Vellai-mannu, for white-washing their houses.

13. With these colors any others can be obtained by their admixture in varying proportions according to the color desired.

14. The current prices in the bazaars of the three ochres are as follows:—

Yellow from Re. 1 to Rs. 1-4-0 per maund.
Red from As. 4 to As. 8 per maund.
Red (hard variety) 9 pies per Madras measure.

Read—the following letter from E. B. HAVELL, Esq., Superintendent, School of Arts, Madras, to the Chief Secretary to Government, dated Madras, 29th April 1887, No. 232:—

In returning endorsement, dated 5th ultimo, referring Government of India Circular No. 5—54-1 G, dated 2nd February 1887, I have the honor to state that nearly all pigments sold in the bazaars in the Madras Presidency are imported. Yellow ochre is a common indigenous pigment. When calcined it is red. It is sold in the bazaars at As. 12 per maund. For blue, indigo is mixed with chunam.

Transferred to the Revenue Department.

(By Order.)

OOTACAMUND,
7th May 1887.

(Signed) H. A. STUART,
Under Secretary.

Read—the following Proceedings of the Board of Revenue (Settlement, Land Records and Agriculture), dated 21st June 1887, Mis. No. 1328:—

THE HON. W. S. WHITESIDE, C.S.

Read—Proceedings of the Madras Government, Revenue Department, dated 25th February 1887, No. 1218.

ABSTRACT.—Referring, for remarks, letter from the Government of India on the subject of the manufacture of pigments in India suitable for painting buildings.

Read—also memorandum from the Under Secretary to Government, Revenue Department, dated 11th June 1887, No. 68-R.

ABSTRACT.—Requesting an early reply to Order, dated 25th February 1887, No. 1218, requesting information regarding the manufacture of pigments used for painting buildings.

Resolution—dated 21st June 1887, Mis. No. 1328.

The Board regret that they have not been able to obtain any fuller information about pigments manufactured in India than what is contained in the Roorkee Treatise

on Civil Engineering, volume I, section I, chapter VII, to which their attention has been drawn by the Acting Principal of the Civil Engineering College.

(True Extract.)

(Signed) P. RAJARATNA MUDALIAR,
Secretary.

To the Secretary to Government, Revenue Department.

Read—also the following G.O., dated 5th July 1887, No. 1788-W., Public Works:—

Read—the following letter from J. W. BRASSINGTON, Esq., Officiating Consulting Architect to Government, dated 24th June 1887, No. 456.

In reply to your endorsement, dated 3rd March 1887, No. 759-C, on the Proceedings of Government, Revenue Department, dated 25th February 1887, No. 1218, I have the honor to forward a statement regarding pigments suitable for house-painting in the Madras Presidency procurable at the bazaars.

2. Items 1 to 4 are natural earths, 5 to 7 are artificially made.

3. Pigments of a mineral nature such as manganese, chromium, barytes, mica and decomposed earthy iron ores are, it would appear, obtainable in the Madras Presidency, but these are not brought into use or sold in the bazaars. If any further information on the subject is obtained, a supplemental list will be forwarded.

ENCLOSURE.

LIST of Coloring pigments obtainable in the Madras Presidency suitable for house-painting and sold in the bazaars.

No.	English name.	Tamil name.	Telugu name.	PRICE.				Remarks.
				Per.	Amount.			
					RS.	A.	P.	
1	Red ochre ..	Poong cavee ..	Erra cavee ..	* Viss.	0	4	0	Obtained from Tirupápuliyár or Cuddalore New Town; used with water or oil.
2	Yellow ochre ..	Munpil cavee or gobee.	Pasupoo cavee.	Do.	0	0	9	Obtained from Vallam, Tanjore District. May be used with water or oil. This is the pigment commonly used in color-washing buildings. If burnt, it passes into red ochre and various shades of warm tints can be obtained by mixing these together. It is well adapted for distemper work and does not lose its color when mixed with lime.
3	Beder earth ..	Hindustanee Baitteur cudee.	..	Do.	0	6	0	Obtained in the Nizam's dominions at a hill near Beder. It is commonly used for whitening soldiers' belts and helmets.
4	White earth, pipe clay.	Soonka kul or Mauve soonkan.	Sudda	Do.	0	0	6	Obtained in the Tiruvallúr taluk. This is used as a primary coat. It is also purified and used for making the distinction marks on the foreheads of Hindus.
5	White	Vellai	Thelupu ..	Do.	..			Calcined chalk shells. This white is not now obtainable in the bazaar, but has to be prepared when required. It is said to have been commonly used by painters before, but as white lead is now imported at cheaper rates, it is seldom or never used. It is said to make a perfectly white paint.
6	Black	Karuppu ..	Nalupu	Do.	..			This consists of burnt cocoanut shells reduced to powder used in color-washing or plastering mixed with lime; it forms various shades of grey. A small portion mixed with yellow or red tones down those colors.
7	Indigo	Nilum	Nila	Do.	4 to 7	0 0	0 0	Used with oil or water for paints obtainable in the Cuddapah, Nellore, Bellary and Chingleput districts.

* Viss = 3 lb. 2 oz.

Order—dated 5th July 1887, No. 1788-W., Public Works.

Communicated; and a copy of the list forwarded to the Revenue Department, in reply to No. 1218, dated 25th February 1887.

(True Extract.)

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Revenue Department, with one enclosure.
" the Consulting Architect to Government.

Order—dated 14th July 1887, Mis. No. 4101, Revenue.

As there is a considerable difference between the prices given in the reports of the Superintendent, School of Arts, the Superintendent, Government Central Museum, and the Consulting Architect to Government, the papers will be forwarded to the last-named officer for remarks on this point. He should, if necessary, consult Dr. Thurston and Mr. Havell.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Consulting Architect, through Public Works Department,
with two letters in original to be returned.
Copy to the Superintendent, Government Central Museum.
" " " School of Arts.

READ—also the following G.O., dated 26th August 1887, No. 2311-W., Public Works:—

Read—the following letter from the Consulting Architect to Government, dated 18th August 1887, No. 706.

In reply to G.O., dated 14th July 1887, No. 4101, Revenue Department, received with your endorsement No. 2453-C, dated 22nd July 1887, I have the honor to state that the Superintendent, School of Arts, states that on further inquiries he finds that the country yellow ochre is sold in rough lumps ranging from 5 to 6½ annas per maund (8 viss), which is equal to nearly 9 pies per viss; this is the same as No. 2 in my list. The pigment, priced 12 annas per maund, is a preparation of this ochre with some other imported ingredients for ready use.

2. I presume that the Superintendent of the Museum also refers to the prepared ochre. I have not had the opportunity of seeing that officer as he is now touring on the West Coast and will probably not return for some time. To avoid further delay, I beg to return the papers received with the Government Order under reply.

Order—dated 26th August 1887, No. 2311-W., Public Works.

Communicated to the Revenue Department, with reference to G.O., dated 14th July 1887, No. 4101, the enclosures of which are herewith returned.

(True Extract.)

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Revenue Department, with two enclosures.
" the Consulting Architect to Government.

Order—dated 5th September 1887, No. 870, Revenue.

Miscellaneous.

Ordered to be forwarded to the Government of India, with reference to their letter, dated 2nd February 1887, No. 5—54-1 G.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Public Works Department.
,, the Commissioner of Revenue Settlement, Land Records and Agriculture.
,, the Superintendent, Government Central Museum.
,, the ,, School of Arts (through Educational Department.)

No. 870-A.

Copy to the Government of India, Revenue and Agricultural Department.

(Signed) J. F. PRICE,
Ag. Secretary to Government.

Exd. W. H. French.

140 Copies.

Order thereon No. 2781 W dt 19-10-87

Recorded

Sf. I.O.H.

Govt. of (1887) Madras.

REVENUE.

Issued

Recd.

Encl.

G.O., 5th September 1887, Nos. 870, 870A.

No. 2781 W dt Octr 19. 1887

SEPTEMBER.

Eng Architect

Pigments.

Reports regarding the price, &c., of — suitable for house-painting obtainable in the Madras Presidency, ordered to be forwarded to the Government of India.

With order

ic Works D
intending Engineer
Circle

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—also the following G.O., dated 25th February 1887, Mis. No. 1218:—

Read—the following letter from W. R. LAWRENCE, Esq., Under Secretary to the Government of India, Revenue and Agricultural Department—(General), to the Secretary to the Government of Madras, dated Calcutta, 2nd February 1887, No. 5—54-1 G:—

An inquiry has recently been received on the subject of the manufacture of pigments in India suitable for painting buildings. Some mention is made of the subject in *Punjab Products* by Mr. Baden-Powell, and pigments of a mineral nature are alluded to in Ball's Manual of Indian (economic) Geology.

2. But the information given is meagre and incomplete, and the Government of India will be obliged if, with the permission of His Excellency the Governor in Council, inquiries are instituted through the Agricultural Department of the Madras Presidency or any other agency which may be considered suitable, for the collection of information regarding the several kinds of pigments suitable for house-painting procurable in native bazaars and their price.

3. The information is not wanted by any early date, and should it in any case be found to exist in a complete form in any published report, a reference to such report will be sufficient.

Order—dated 25th February 1887, Mis. No. 1218, Revenue.

Referred to the Public Works Department, the Director of Revenue Settlement and Agriculture, the Superintendent, Government Central Museum, and the Superintendent, School of Arts, for such remarks as they may have to offer.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Public Works Department.
,, the Director of Revenue Settlement and Agriculture.
,, the Superintendent, Government Central Museum.
,, the ,, School of Arts (through the Educational Department).

Read—again the following G.O., dated 14th July 1887, Mis. No. 4101, Revenue:—

Read—the following letter from E. THURSTON, Esq., Superintendent, Government Central Museum, to the Secretary to Government, Revenue Department, dated Madras, 29th April 1887, No. 350:—

With reference to G.O., No. 1218, of 25th February 1887, I have the honor to make the following observations on pigments suitable for house-painting.

2. Various kinds of pigments suitable for painting buildings are sold in the Madras bazaars, but only three of these are indigenous to the Presidency, viz., (yellow ochre) gobi, (red ochre) kavi, (red ochre, concreted variety) kooroovi kal.

3. A reddish-brown pigment is also obtained by roasting the yellow ochre.

4. No information is available in a complete form in any published report or work of any kind, but is found scattered in Exhibition catalogues, District Manuals, &c. From these it would appear that several varieties of colored earths exist in various parts of the Presidency which might be utilised for painting buildings, but with the exception of the red and yellow ochres which are the most widely distributed, no use appears to be made of them for this purpose.

5. In the Museum collection are the following samples of pigments from different localities:—

Chingleput	Pale yellow ochre. Purple Roman ” Warmstone colored ochre. Dark shade of grey ” Indian red.
Salem	Flesh-colored ochre. Cream ” ” Raw sienna.
Nílgiri	Cologne brown. Dark umber. Raw ”
Cuddapah	Bright yellow ochre.

6. In his account of the geological structure of the Nílgiri hills, Mr. Blanford says (Memorandum, Geological Survey of India, Volume I, 1849, page 237), under the heading of ochreous clays: "The cuttings on the cantonment road between the church and the club-house of Ootacamund, expose a mass of highly ferruginous clay, evidently arising from the decomposition of gneiss *in situ*...... Some of this clay is sufficiently colored to serve as a pigment, but it does not appear that it has ever been tried for this purpose."

7. In the Madras Exhibition of 1857, the following were exhibited:—

Bellary	Red ochre (in abundance in Yadaki taluk). Yellow ochre. Grey ochre. (Do.) "Bob" or red earth (Kúdligi taluk).
Cuddapah	Pale ochre (Pulivendla taluk.) Red ” (Ráyachóti and Mulla Mala Hills.) Colored ochre
Kurnool	Yellow ochre. (Do.)
Trichinopoly	Red earth. Yellow ochre.

8. In the Manual of the Geology of India by V. Ball, 1881, page 417, it is stated that at "Trivandpuram in Trichinopoly, a yellow ochre is obtained from the cretaceous rocks, after grinding and levigation it yields a good pigment."

Tanjore	Red ochre.

9. In the Manual of the Tanjore District by T. Venkasami Row, 1886, yellow ochre is stated to be quarried in considerable quantities west of Vallam.

Nellore	Yellow ochre (Dugarázpatnam.) Red ” (Dugarázpatnam, Udiyagiri.) Lavender colored. (Do.)

10. In a letter to the Chief Secretary to Government, dated 1st November 1886, No. 347, Dr. Alexander Hunter included in a list of minerals sent to him from Nellore, a red ochrey micaceous earth and buff or cream-colored ochre.

Chingleput	Red ochre.
Malabar	Red ”

11. In the Manual of the Madura country, 1868, Mr. J. H. Nelson says (page 28): "Ochres are more rare. Those found are the yellow earthy, and hard, red concreted varieties. They occur in nodular masses in a quartz and iron gravel, with laterite and jasper, at Sivaganga."

---

12. From the animal kingdom the well-known shell lime is obtained and used in Madras for white-washing houses; the vegetable kingdom contributes indigo, and a black pigment is produced by the burning of empty shells of the cocoanut; a yellow wash is obtained from yellow mixed with lime according to the shade desired; a red wash from red ochre used as above; a blue or grey wash from indigo and lime for internal work, and lime and burnt cocoanut shell for external work; a pink was from lime and red ochre mixed in due proportions; a white wash from lime alone. In some parts the natives also use a whitish kind of earth, Vellai-mannu, for white-washing their houses.

13. With these colors any others can be obtained by their admixture in varying proportions according to the color desired.

14. The current prices in the bazaars of the three ochres are as follows:—

Yellow from Re. 1 to Rs. 1-4-0 per maund.
Red from As. 4 to As. 8 per maund.
Red (hard variety) 9 pies per Madras measure.

Read—the following letter from E. B. HAVELL, Esq., Superintendent, School of Arts, Madras, to the Chief Secretary to Government, dated Madras, 29th April 1887, No. 232:—

In returning endorsement, dated 5th ultimo, referring Government of India Circular No. 5—54-1 G, dated 2nd February 1887, I have the honor to state that nearly all pigments sold in the bazaars in the Madras Presidency are imported. Yellow ochre is a common indigenous pigment. When calcined it is red. It is sold in the bazaars at As. 12 per maund. For blue, indigo is mixed with chunam.

Transferred to the Revenue Department.

(By Order.)

OOTACAMUND,
7th May 1887.

(Signed) H. A. STUART,
Under Secretary.

Read—the following Proceedings of the Board of Revenue (Settlement, Land Records and Agriculture), dated 21st June 1887, Mis. No. 1328:—

THE HON. W. S. WHITESIDE, C.S.

Read—Proceedings of the Madras Government, Revenue Department, dated 25th February 1887, No. 1218.

ABSTRACT.—Referring, for remarks, letter from the Government of India on the subject of the manufacture of pigments in India suitable for painting buildings.

Read—also memorandum from the Under Secretary to Government, Revenue Department, dated 11th June 1887, No. 68-R.

ABSTRACT.—Requesting an early reply to Order, dated 25th February 1887, No. 1218, requesting information regarding the manufacture of pigments used for painting buildings.

Resolution—dated 21st June 1887, Mis. No. 1328.

The Board regret that they have not been able to obtain any fuller information about pigments manufactured in India than what is contained in the Roorkee Treatise

on Civil Engineering, volume I, section I, chapter VII, to which their attention has been drawn by the Acting Principal of the Civil Engineering College.

(True Extract.)

(Signed) P. RAJARATNA MUDALIAR,
Secretary.

To the Secretary to Government, Revenue Department.

Read—also the following G.O., dated 5th July 1887, No. 1788-W., Public Works:—

Read—the following letter from J. W. BRASSINGTON, Esq., Officiating Consulting Architect to Government, dated 24th June 1887, No. 456.

In reply to your endorsement, dated 3rd March 1887, No. 759-C, on the Proceedings of Government, Revenue Department, dated 25th February 1887, No. 1218, I have the honor to forward a statement regarding pigments suitable for house-painting in the Madras Presidency procurable at the bazaars.

2. Items 1 to 4 are natural earths, 5 to 7 are artificially made.

3. Pigments of a mineral nature such as manganese, chromium, barytes, mica and decomposed earthy iron ores are, it would appear, obtainable in the Madras Presidency, but these are not brought into use or sold in the bazaars. If any further information on the subject is obtained, a supplemental list will be forwarded.

ENCLOSURE.

LIST of Coloring pigments obtainable in the Madras Presidency suitable for house-painting and sold in the bazaars.

No.	English name.	Tamil name.	Telugu name.	PRICE.				Remarks.
				Per.	Amount.			
					RS.	A.	P.	
1	Red ochre ..	Poong cavee ..	Erra cavee ..	* Viss.	0	4	0	Obtained from Tirupápuliyúr or Cuddalore New Town; used with water or oil.
2	Yellow ochre ..	Munpil cavee or gobee.	Pasupoo cavee.	Do.	0	0	9	Obtained from Vallam, Tanjore District. May be used with water or oil. This is the pigment commonly used in color-washing buildings. If burnt, it passes into red ochre and various shades of warm tints can be obtained by mixing these together. It is well adapted for distemper work and does not lose its color when mixed with lime.
3	Beder earth ..	Hindustanee Baitteur cudee.	..	Do.	0	6	0	Obtained in the Nizam's dominions at a hill near Beder. It is commonly used for whitening soldiers' belts and helmets.
4	White earth, pipe clay.	Soonka kul or Mauve soonkan.	Sudda	Do.	0	0	6	Obtained in the Tiruvallúr taluk. This is used as a primary coat. It is also purified and used for making the distinction marks on the foreheads of Hindus.
5	White	Vellai	Thelupu ..	Do.	..			Calcined chalk shells. This white is not now obtainable in the bazaar, but has to be prepared when required. It is said to have been commonly used by painters before, but as white lead is now imported at cheaper rates, it is seldom or never used. It is said to make a perfectly white paint.
6	Black	Karuppu ..	Nalupu	Do.	..			This consists of burnt cocoanut shells reduced to powder used in color-washing or plastering mixed with lime; it forms various shades of grey. A small portion mixed with yellow or red tones down those colors.
7	Indigo	Nilum	Nila	Do.	4 to 7	0 0	0 0	Used with oil or water for paints obtainable in the Cuddapah, Nellore, Bellary and Chingleput districts.

* Viss = 3 lb. 2 oz.

Order—dated 5th July 1887, No. 1788-W., Public Works.

Communicated; and a copy of the list forwarded to the Revenue Department, in reply to No. 1218, dated 25th February 1887.

(True Extract.)

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Revenue Department, with one enclosure.
„ the Consulting Architect to Government.

Order—dated 14th July 1887, Mis. No. 4101, Revenue.

As there is a considerable difference between the prices given in the reports of the Superintendent, School of Arts, the Superintendent, Government Central Museum, and the Consulting Architect to Government, the papers will be forwarded to the last-named officer for remarks on this point. He should, if necessary, consult Dr. Thurston and Mr. Havell.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Consulting Architect, through Public Works Department,
with two letters in original to be returned.

Copy to the Superintendent, Government Central Museum.
„ „ „ School of Arts.

READ—also the following G.O., dated 26th August 1887, No. 2311-W., Public Works:—

Read—the following letter from the Consulting Architect to Government, dated 18th August 1887, No. 706.

In reply to G.O., dated 14th July 1887, No. 4101, Revenue Department, received with your endorsement No. 2453-C, dated 22nd July 1887, I have the honor to state that the Superintendent, School of Arts, states that on further inquiries he finds that the country yellow ochre is sold in rough lumps ranging from 5 to 6½ annas per maund (8 viss), which is equal to nearly 9 pies per viss; this is the same as No. 2 in my list. The pigment, priced 12 annas per maund, is a preparation of this ochre with some other imported ingredients for ready use.

2. I presume that the Superintendent of the Museum also refers to the prepared ochre. I have not had the opportunity of seeing that officer as he is now touring on the West Coast and will probably not return for some time. To avoid further delay, I beg to return the papers received with the Government Order under reply.

Order—dated 26th August 1887, No. 2311-W., Public Works.

Communicated to the Revenue Department, with reference to G.O., dated 14th July 1887, No. 4101, the enclosures of which are herewith returned.

(True Extract.)

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Revenue Department, with two enclosures.
„ the Consulting Architect to Government.

ORDER—dated 5th September 1887, No. 870, Revenue.

Miscellaneous.

Ordered to be forwarded to the Government of India, with reference to their letter, dated 2nd February 1887, No. 5—54-1 G.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Public Works Department.
,, the Commissioner of Revenue Settlement, Land Records and Agriculture.
,, the Superintendent, Government Central Museum.
,, the ,, School of Arts (through Educational Department.)

No. 870-A.

Copy to the Government of India, Revenue and Agricultural Department.

(Signed) J. F. PRICE,
Ag. Secretary to Government.

Exd. W. H. French.

140 Copies.

Order thereon No. 2781 W d/ 19.10.87

Recorded
57 I.O.#

Gobt. of {1887} Madras.

REVENUE.

Issued

Recd. Encl.

G.O., 5th September 1887,
Nos. 870, 870A.

No. 2781 W d/ Octr. 19. 1887

SEPTEMBER.

Pigments.

Reports regarding the price, &c., of — suitable for house-painting obtainable in the Madras Presidency, ordered to be forwarded to the Government of India.

Cong Architect.

With order

GOVERNMENT ODRAS.

REVENUE DEITMENT.

Read—also the following G.O., dated 25th Fe 1887, Mis. No. 1218 :—

Read—the following letter from W. R. LAWCE, Esq., Under Secretary to the Government of India, Revenue and ltural Department—(General), to the Secretary to the Government ofras, dated Calcutta, 2nd February 1887, No. 5—54-1 G :—

An inquiry has recently been receivethe subject of the manufacture of pigments in India suitable for painting buis. Some mention is made of the subject in *Punjab Products* by Mr. Baden-Pd and pigments of a mineral nature are alluded to in Ball's Manual of Indian (econ) Geology.

2. But the information given is meagre incomplete, and the Government of India will be obliged if, with the permissio His Excellency the Governor in Council, inquiries are instituted through the cultural Department of the Madras Presidency or any other agency which may bsidered suitable, for the collection of information regarding the several kinds ofments suitable for house-painting procurable in native bazaars and their price.

3. The information is not wanted by any date, and should it in any case be found to exist in a complete form in any publ report, a reference to such report will be sufficient.

Order—dated 25th February 1887, Mis. No. 1, Revenue.

Referred to the Public Works Departmenhe Director of Revenue Settlement and Agriculture, the Superintendent, Governm Central Museum, and the Superintendent, School of Arts, for such remarks as thmay have to offer.

(True Extr)

Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Public Works Department,
,, the Director of Revenue Settlement and Agricue.
,, the Superintendent, Government Central Museur
,, the ,, School of Arts (through theducational Department).

Read—again the following G.O., dated 14th Jy 1887, Mis. No. 4101, Revenue :—

Read—the following letter from E. THURSTO, Esq., Superintendent, Government Central Museum, to the Secretary Government, Revenue Department, dated Madras, 29th April 1887, No. 50 :—

With reference to G.O., No. 1218, of h February 1887, I have the honor to make the following observations on pigmentsitable for house-painting.

2. Various kinds of pigments suitable for painting buildings are sold in the Madras bazaars, but only three of these are iligenous to the Presidency, viz., (yellow ochre) gobi, (red ochre) kavi, (red ochre, conreted variety) kooroovi kal.

3. A reddish-brown pigment is also obtaned by roasting the yellow ochre.

4. No information is availble complete form in any published report or work of any kind, but is found scatin Exhibition catalogues, District Manuals, &c. From these it would appear everal varieties of colored earths exist in various parts of the Presidency whight be utilised for painting buildings, but with the exception of the red and y ochres which are the most widely distributed, no use appears to be made of for this purpose.

5. In the Museum collection ar following samples of pigments from different localities :—

Chingleput	Pale yellow ochre. Purple " Roman " Warmstone colored ochre. Dark shade of grey " Indian red.
Salem	Flesh-colored ochre. Cream " " Raw sienna.
Nílgiri	Cologne brown. Dark umber.
Cuddapah	Raw " Bright yellow ochre.

6. In his account of the geologstructure of the Nílgiri hills, Mr. Blanford says (Memorandum, Geological Survpf India, Volume I, 1849, page 237), under the heading of ochreous clays : "Thetings on the cantonment road between the church and the club-house of Ootacarl, expose a mass of highly ferruginous clay, evidently arising from the decompositif gneiss *in situ*...... Some of this clay is sufficiently colored to serve as a pigm but it does not appear that it has ever been tried for this purpose."

7. In the Madras Exhibition of , the following were exhibited:—

Bellary	Red ochre (in abundance in Yadaki taluk). Yellow ochre. (Do.) Grey ochre. "Bob" or red earth (Kúdligi taluk).
Cuddapah	Pale ochre (Pulivendla taluk.) Red " (Ráyachóti and Mulla Mala Hills.)
Kurnool	Colored ochre Yellow ochre. (Do.)
Trichinopoly	Red earth. Yellow ochre.

8. In the Manual of the Geology India by V. Ball, 1881, page 417, it is stated that at "Trivandpuram in Trichinopola yellow ochre is obtained from the cretaceous rocks, after grinding and levigation itelds a good pigment."

Tanjore	Red ochre.

9. In the Manual of the TanjorDistrict by T. Venkasami Row, 1886, yellow ochre is stated to be quarried in consirable quantities west of Vallam.

Nellore	Yellow ochre (Dugarázpatnam.) Red " (Dugarázpatnam, Udiyagiri.) Lavender colored. (Do.)

10. In a letter to the Chief Secretry to Government, dated 1st November 1886, No. 347, Dr. Alexander Hunter incled in a list of minerals sent to him from Nellore, a red ochrey micaceous earth ad buff or cream-colored ochre.

Chingleput	Red ochre.
Malabar	Red "

11. In the Manual of the Madura ountry, 1868, Mr. J. H. Nelson says (page 28): "Ochres are more rare. Those fand are the yellow earthy, and hard, red concreted varieties. They occur in noduar masses in a quartz and iron gravel, with laterite and jasper, at Sivaganga."

---

12. From the animal kingdom the well-kll lime is obtained and used in Madras for white-washing houses; the vegetdom contributes indigo, and a black pigment is produced by the burning of hells of the cocoanut ; a yellow wash is obtained from yellow mixed with limeng to the shade desired ; a red wash from red ochre used as above ; a blue owash from indigo and lime for internal work, and lime and burnt cocoanut shxternal work ; a pink was from lime and red ochre mixed in due proportionite wash from lime alone. In some parts the natives also use a whitish kiarth, Vellai-mannu, for white-washing their houses.

13. With these colors any others can be o by their admixture in varying proportions according to the color desired.

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Yellow from Re. 1 to Rs. 1-4-0 per maund
Red from As. 4 to As. 8 per maund.
Red (hard variety) 9 pies per Madras meas

Read—the following letter from E. B. HAVEsq., Superintendent, School of Arts, Madras, to the Chief Secretaryovernment, dated Madras, 29th April 1887, No. 232 :—

In returning endorsement, dated 5th ulreferring Government of India Circular No. 5—54-1 G, dated 2nd February , I have the honor to state that nearly all pigments sold in the bazaars in adras Presidency are imported. Yellow ochre is a common indigenous pigment. en calcined it is red. It is sold in the bazaars at As. 12 per maund. For blue, o is mixed with chunam.

Transferred to the Revenepartment.

(By Order

ned) H. A. STUART,
Under Secretary.

Ootacamund,
7th May 1887.

Read—the following Proceedings of the Board evenue (Settlement, Land Records and Agriculture), dated 21st June , Mis. No. 1328 :—

The Hon. W. S. Whde, C.S.

Read—Proceedings of the Madras GovernmenRevenue Department, dated 25th February 1887, No218.

Abstract.—Referring, for remarks, letter from thovernment of India on the subject of the manufacture of pigments in India suitable for png buildings.

Read—also memorandum from the Under Secrety to Government, Revenue Department, dated 11th June 1, No. 68-R.

Abstract.—Requesting an early reply to Ordrdated 25th February 1887, No. 1218, requesting information regarding the manufacture gments used for painting buildings.

Resolution—dated 21st June 1887, Mis. No. 328.

The Board regret that they have not beeable to obtain any fuller information about pigments manufactured in India than wht is contained in the Roorkee Treatise

on Civil Engineering, volume I, section I, chapter VII, to which their attention has been drawn by the Acting Principal of the Civil Engineering College.

(True Extract.)

(Signed) P. RAJARATNA MUDALIAR,
Secretary.

To the Secretary to Government, Revenue Department.

Read—also the following G.O., dated 5th July 1887, No. 1788-W., Public Works :—

Read—the following letter from J. W. BRASSINGTON, Esq., Officiating Consulting Architect to Government, dated 24th June 1887, No. 456.

In reply to your endorsement, dated 3rd March 1887, No. 759-C, on the Proceedings of Government, Revenue Department, dated 25th February 1887, No. 1218, I have the honor to forward a statement regarding pigments suitable for house-painting in the Madras Presidency procurable at the bazaars.

2. Items 1 to 4 are natural earths, 5 to 7 are artificially made.

3. Pigments of a mineral nature such as manganese, chromium, barytes, mica and decomposed earthy iron ores are, it would appear, obtainable in the Madras Presidency, but these are not brought into use or sold in the bazaars. If any further information on the subject is obtained, a supplemental list will be forwarded.

ENCLOSURE.

LIST of Coloring pigments obtainable in the Madras Presidency suitable for house-painting and sold in the bazaars.

No.	English name.	Tamil name.	Telugu name.	PRICE.		Remarks.
				Per.	Amount. RS. A. P.	
1	Red ochre ..	Poong cavee ..	Erra cavee ..	* Viss.	0 4 0	Obtained from Tirupápuliyúr or Cuddalore New Town; used with water or oil.
2	Yellow ochre ..	Munpil cavee or gobee.	Pasupoo cavee.	Do.	0 0 9	Obtained from Vallam, Tanjore District. May be used with water or oil. This is the pigment commonly used in color-washing buildings. If burnt, it passes into red ochre and various shades of warm tints can be obtained by mixing these together. It is well adapted for distemper work and does not lose its color when mixed with lime.
3	Beder earth ..	Hindustanee Baitteur cudee.	..	Do.	0 6 0	Obtained in the Nizam's dominions at a hill near Beder. It is commonly used for whitening soldiers' belts and helmets.
4	White earth, pipe clay.	Soonka kul or Mauve soonkan.	Sudda	Do.	0 0 6	Obtained in the Tiruvallúr taluk. This is used as a primary coat. It is also purified and used for making the distinction marks on the foreheads of Hindus.
5	White	Vellai	Thelupu ..	Do.	..	Calcined chalk shells. This white is not now obtainable in the bazaar, but has to be prepared when required. It is said to have been commonly used by painters before, but as white lead is now imported at cheaper rates, it is seldom or never used. It is said to make a perfectly white paint.
6	Black	Karuppu ..	Nalupu	Do.	..	This consists of burnt cocoanut shells reduced to powder used in color-washing or plastering mixed with lime; it forms various shades of grey. A small portion mixed with yellow or red tones down those colors.
7	Indigo	Nilum	Nila	Do.	4 0 0 to 7 0 0	Used with oil or water for paints obtainable in the Cuddapah, Nellore, Bellary and Chingleput districts.

* Viss = 3 lb. 2 oz.

Order—dated 5th July 1887, No. 1788-W., Public Works.

Communicated; and a copy of the list forwarded to the Revenue Department, in reply to No. 1218, dated 25th February 1887.

(True Extract.)

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Revenue Department, with one enclosure.
,, the Consulting Architect to Government.

Order—dated 14th July 1887, Mis. No. 4101, Revenue.

As there is a considerable difference between the prices given in the reports of the Superintendent, School of Arts, the Superintendent, Government Central Museum, and the Consulting Architect to Government, the papers will be forwarded to the last-named officer for remarks on this point. He should, if necessary, consult Dr. Thurston and Mr. Havell.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Consulting Architect, through Public Works Department,
with two letters in original to be returned.
Copy to the Superintendent, Government Central Museum.
" " " School of Arts.

READ—also the following G.O., dated 26th August 1887, No. 2311-W., Public Works :—

Read—the following letter from the Consulting Architect to Government, dated 18th August 1887, No. 706.

In reply to G.O., dated 14th July 1887, No. 4101, Revenue Department, received with your endorsement No. 2453-C, dated 22nd July 1887, I have the honor to state that the Superintendent, School of Arts states that on further inquiries he finds that the country yellow ochre is sold in rough lumps ranging from 5 to 6½ annas per maund (8 viss), which is equal to nearly 9 pies per viss; this is the same as No. 2 in my list. The pigment, priced 12 annas per maund, is a preparation of this ochre with some other imported ingredients for ready use.

2. I presume that the Superintendent of the Museum also refers to the prepared ochre. I have not had the opportunity of seeing that officer as he is now touring on the West Coast and will probably not return for some time. To avoid further delay, I beg to return the papers received with the Government Order under reply.

Order—dated 26th August 1887, No. 2311-W., Public Works.

Communicated to the Revenue Department, with reference to G.O., dated 14th July 1887, No. 4101, the enclosures of which are herewith returned.

(True Extract.)

(Signed) W. L. C. BADDELEY, Captain, R.E.,
Under Secy. to Govt., P.W.D.

To the Revenue Department, with two enclosures.
,, the Consulting Architect to Government.

ORDER—dated 5th September 1887, No. 870, Revenue.

Miscellaneous

Ordered to be forwarded to the Government of India, with reference to their letter, dated 2nd February 1887, No. 5—54-1 G.

(True Extract.)

Frederick Price
Ag. Secretary to Government.

To the Public Works Department.
,, the Commissioner of Revenue Settlement, Land Records and Agriculture.
,, the Superintendent, Government Central Museum.
,, the ,, School of Arts (through Educational Department.)

No. 870-A.

COPY to the Government of India, Revenue and Agricultural Department.

(Signed) J. F. PRICE,
Ag. Secretary to Government.

Exd. W. H. French.

140 Copies.

25d

2311 w 26.8.87
2453 C 22.7.87

No. 2781 W d/ Octr 19. 1887

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Recorded:
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CA. to Govt. ✓ D 19/10
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PWC No 8062

Govt. of {1887} Madras.

REVENUE.

25.10

Issued

Recd. 14 10 87 *Encl.*

G.O., 5th September 1887,
Nos. 870, 870A.

No. 2781 W d/ Octr 19. 1887

SEPTEMBER.

Pigments.

Reports regarding the price, &c., of — suitable for house-painting obtainable in the Madras Presidency, ordered to be forwarded to the Government of India.

With order
~~W[illegible]~~
2 Copies to Secty