

(1) Number of pages 18  
(2) Date of repair 11-7-88  
(3) Initials of the Referencer J

# MADRAS RECORD OFFICE.

Government of Madras.

*Revenue* DEPARTMENT.

|          |         |                          |
|----------|---------|--------------------------|
| G.O. No. | /       | Press<br><del>Mis.</del> |
| Dated    | 3 - 1 - | 1880.                    |

Not to be folded or roughly handled

18  
GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

3rd January 1880, No. 1.

No. 1. READ THE FOLLOWING PAPER:—

Read again G.Os., 18th January 1878, No. 95, and 9th May 1879, No. 1,022.

Read also Despatch from the Right Honorable the Secretary of State for India.

Revenue,  
No. 24.

INDIA OFFICE, LONDON,  
25th September 1879.

MY LORD DUKE,—I have received Your Grace's letter, No. 14, of the 30th May last, advising the transmission to this country of samples of Chinchona bark dried in various ways, with a view to their being analysed and sold to test their commercial value.

2. The fourteen packages of bark were, on arrival, consigned to Messrs. Jenkin and Phillips with instructions to send samples from each to Dr. Paul for analysis, and to sell the remainder in the usual manner.

3. Copies of Dr. Paul's Report and of the account sale are transmitted herewith for the information of your Government.

I have, &c.,  
(Signed) CRANBROOK.

His Excellency the Most Noble  
The Governor in Council, Fort St. George.

## ENCLOSURE No. 1.

ACCOUNT SALE, 20 Packages East India Chinchona Bark per *Kashgar*, sold at Public Sale for Account of the Secretary of State for India.

| 1879, August. | 26 | Lot 272, 1 Bale | No. 1, 0 3 15 tr.     | 9/1          | £   | s.                           | d. |
|---------------|----|-----------------|-----------------------|--------------|-----|------------------------------|----|
|               |    | " 273, 1 do.    | No. 2, 0 2 23 tr. 9/1 | 0 0 10       |     |                              |    |
|               |    | " 274, 1 do.    | No. 8, 0 2 26 tr. 9/1 | 0 2 13 or 69 | 2½  | dust 3/2 cent.               |    |
|               |    | " 275, 1 do.    | No. 0 3 15            | 0 2 16 or 72 | 67  | 3½ trott 4 lbs. per 104 lbs. |    |
|               |    | " 276, 1 Bale   | No. 1, 0 3 27 tr.     | 9/1          |     |                              |    |
|               |    | " 277, 1 do.    | No. 2, 0 3 14         | 0 0 10       |     |                              |    |
|               |    | " 278, 1 do.    | No. 3, 0 3 23 tr. 9/1 | 0 3 4 or 88  | 2   |                              |    |
|               |    | " 279, 1 do.    | No. 4, 0 3 9 tr. 9/1  | 0 3 13 or 97 | 85½ | 3½                           |    |
|               |    | " 280, 1 Bag    | No. 1, 23             | 3 tare       |     |                              |    |
|               |    | " 281, 1 do.    | No. 2, 27             | 3            |     |                              |    |
|               |    | " 282, 1 do.    | No. 3, 23             | 3            |     |                              |    |
|               |    | " 283, 1 do.    | No. 4, 21             | 20           |     |                              |    |
|               |    | " 284, 1 do.    | No. 5, 27             | 18           |     |                              |    |
|               |    | " 285, 1 do.    | No. 6, 27             | 18           |     |                              |    |
|               |    | " 286, 1 do.    | No. 7, 27             | 18           |     |                              |    |
|               |    | " 287, 1 do.    | No. 8, 27             | 18           |     |                              |    |
|               |    | " 288, 1 do.    | No. 9, 27             | 18           |     |                              |    |
|               |    | " 289, 1 do.    | No. 10, 27            | 18           |     |                              |    |
|               |    | " 290, 1 do.    | No. 11, 27            | 18           |     |                              |    |
|               |    | " 291, 1 do.    | No. 12, 27            | 18           |     |                              |    |
|               |    | " 292, 1 do.    | No. 13, 27            | 18           |     |                              |    |
|               |    | " 293, 1 do.    | No. 14, 27            | 18           |     |                              |    |
|               |    | " 294, 1 do.    | No. 15, 27            | 18           |     |                              |    |
|               |    | " 295, 1 do.    | No. 16, 27            | 18           |     |                              |    |
|               |    | " 296, 1 do.    | No. 17, 27            | 18           |     |                              |    |
|               |    | " 297, 1 do.    | No. 18, 27            | 18           |     |                              |    |
|               |    | " 298, 1 do.    | No. 19, 27            | 18           |     |                              |    |
|               |    | " 299, 1 do.    | No. 20, 27            | 18           |     |                              |    |
|               |    | " 300, 1 do.    | No. 21, 27            | 18           |     |                              |    |
|               |    | " 301, 1 do.    | No. 22, 27            | 18           |     |                              |    |
|               |    | " 302, 1 do.    | No. 23, 27            | 18           |     |                              |    |
|               |    | " 303, 1 do.    | No. 24, 27            | 18           |     |                              |    |
|               |    | " 304, 1 do.    | No. 25, 27            | 18           |     |                              |    |
|               |    | " 305, 1 do.    | No. 26, 27            | 18           |     |                              |    |
|               |    | " 306, 1 do.    | No. 27, 27            | 18           |     |                              |    |
|               |    | " 307, 1 do.    | No. 28, 27            | 18           |     |                              |    |
|               |    | " 308, 1 do.    | No. 29, 27            | 18           |     |                              |    |
|               |    | " 309, 1 do.    | No. 30, 27            | 18           |     |                              |    |
|               |    | " 310, 1 do.    | No. 31, 27            | 18           |     |                              |    |
|               |    | " 311, 1 do.    | No. 32, 27            | 18           |     |                              |    |
|               |    | " 312, 1 do.    | No. 33, 27            | 18           |     |                              |    |
|               |    | " 313, 1 do.    | No. 34, 27            | 18           |     |                              |    |
|               |    | " 314, 1 do.    | No. 35, 27            | 18           |     |                              |    |
|               |    | " 315, 1 do.    | No. 36, 27            | 18           |     |                              |    |
|               |    | " 316, 1 do.    | No. 37, 27            | 18           |     |                              |    |
|               |    | " 317, 1 do.    | No. 38, 27            | 18           |     |                              |    |
|               |    | " 318, 1 do.    | No. 39, 27            | 18           |     |                              |    |
|               |    | " 319, 1 do.    | No. 40, 27            | 18           |     |                              |    |
|               |    | " 320, 1 do.    | No. 41, 27            | 18           |     |                              |    |
|               |    | " 321, 1 do.    | No. 42, 27            | 18           |     |                              |    |
|               |    | " 322, 1 do.    | No. 43, 27            | 18           |     |                              |    |
|               |    | " 323, 1 do.    | No. 44, 27            | 18           |     |                              |    |
|               |    | " 324, 1 do.    | No. 45, 27            | 18           |     |                              |    |
|               |    | " 325, 1 do.    | No. 46, 27            | 18           |     |                              |    |
|               |    | " 326, 1 do.    | No. 47, 27            | 18           |     |                              |    |
|               |    | " 327, 1 do.    | No. 48, 27            | 18           |     |                              |    |
|               |    | " 328, 1 do.    | No. 49, 27            | 18           |     |                              |    |
|               |    | " 329, 1 do.    | No. 50, 27            | 18           |     |                              |    |
|               |    | " 330, 1 do.    | No. 51, 27            | 18           |     |                              |    |
|               |    | " 331, 1 do.    | No. 52, 27            | 18           |     |                              |    |
|               |    | " 332, 1 do.    | No. 53, 27            | 18           |     |                              |    |
|               |    | " 333, 1 do.    | No. 54, 27            | 18           |     |                              |    |
|               |    | " 334, 1 do.    | No. 55, 27            | 18           |     |                              |    |
|               |    | " 335, 1 do.    | No. 56, 27            | 18           |     |                              |    |
|               |    | " 336, 1 do.    | No. 57, 27            | 18           |     |                              |    |
|               |    | " 337, 1 do.    | No. 58, 27            | 18           |     |                              |    |
|               |    | " 338, 1 do.    | No. 59, 27            | 18           |     |                              |    |
|               |    | " 339, 1 do.    | No. 60, 27            | 18           |     |                              |    |
|               |    | " 340, 1 do.    | No. 61, 27            | 18           |     |                              |    |
|               |    | " 341, 1 do.    | No. 62, 27            | 18           |     |                              |    |
|               |    | " 342, 1 do.    | No. 63, 27            | 18           |     |                              |    |
|               |    | " 343, 1 do.    | No. 64, 27            | 18           |     |                              |    |
|               |    | " 344, 1 do.    | No. 65, 27            | 18           |     |                              |    |
|               |    | " 345, 1 do.    | No. 66, 27            | 18           |     |                              |    |
|               |    | " 346, 1 do.    | No. 67, 27            | 18           |     |                              |    |
|               |    | " 347, 1 do.    | No. 68, 27            | 18           |     |                              |    |
|               |    | " 348, 1 do.    | No. 69, 27            | 18           |     |                              |    |
|               |    | " 349, 1 do.    | No. 70, 27            | 18           |     |                              |    |
|               |    | " 350, 1 do.    | No. 71, 27            | 18           |     |                              |    |
|               |    | " 351, 1 do.    | No. 72, 27            | 18           |     |                              |    |
|               |    | " 352, 1 do.    | No. 73, 27            | 18           |     |                              |    |
|               |    | " 353, 1 do.    | No. 74, 27            | 18           |     |                              |    |
|               |    | " 354, 1 do.    | No. 75, 27            | 18           |     |                              |    |
|               |    | " 355, 1 do.    | No. 76, 27            | 18           |     |                              |    |
|               |    | " 356, 1 do.    | No. 77, 27            | 18           |     |                              |    |
|               |    | " 357, 1 do.    | No. 78, 27            | 18           |     |                              |    |
|               |    | " 358, 1 do.    | No. 79, 27            | 18           |     |                              |    |
|               |    | " 359, 1 do.    | No. 80, 27            | 18           |     |                              |    |
|               |    | " 360, 1 do.    | No. 81, 27            | 18           |     |                              |    |
|               |    | " 361, 1 do.    | No. 82, 27            | 18           |     |                              |    |
|               |    | " 362, 1 do.    | No. 83, 27            | 18           |     |                              |    |
|               |    | " 363, 1 do.    | No. 84, 27            | 18           |     |                              |    |
|               |    | " 364, 1 do.    | No. 85, 27            | 18           |     |                              |    |
|               |    | " 365, 1 do.    | No. 86, 27            | 18           |     |                              |    |
|               |    | " 366, 1 do.    | No. 87, 27            | 18           |     |                              |    |
|               |    | " 367, 1 do.    | No. 88, 27            | 18           |     |                              |    |
|               |    | " 368, 1 do.    | No. 89, 27            | 18           |     |                              |    |
|               |    | " 369, 1 do.    | No. 90, 27            | 18           |     |                              |    |
|               |    | " 370, 1 do.    | No. 91, 27            | 18           |     |                              |    |
|               |    | " 371, 1 do.    | No. 92, 27            | 18           |     |                              |    |
|               |    | " 372, 1 do.    | No. 93, 27            | 18           |     |                              |    |
|               |    | " 373, 1 do.    | No. 94, 27            | 18           |     |                              |    |
|               |    | " 374, 1 do.    | No. 95, 27            | 18           |     |                              |    |
|               |    | " 375, 1 do.    | No. 96, 27            | 18           |     |                              |    |
|               |    | " 376, 1 do.    | No. 97, 27            | 18           |     |                              |    |
|               |    | " 377, 1 do.    | No. 98, 27            | 18           |     |                              |    |
|               |    | " 378, 1 do.    | No. 99, 27            | 18           |     |                              |    |
|               |    | " 379, 1 do.    | No. 100, 27           | 18           |     |                              |    |
|               |    | " 380, 1 do.    | No. 101, 27           | 18           |     |                              |    |
|               |    | " 381, 1 do.    | No. 102, 27           | 18           |     |                              |    |
|               |    | " 382, 1 do.    | No. 103, 27           | 18           |     |                              |    |
|               |    | " 383, 1 do.    | No. 104, 27           | 18           |     |                              |    |
|               |    | " 384, 1 do.    | No. 105, 27           | 18           |     |                              |    |
|               |    | " 385, 1 do.    | No. 106, 27           | 18           |     |                              |    |
|               |    | " 386, 1 do.    | No. 107, 27           | 18           |     |                              |    |
|               |    | " 387, 1 do.    | No. 108, 27           | 18           |     |                              |    |
|               |    | " 388, 1 do.    | No. 109, 27           | 18           |     |                              |    |
|               |    | " 389, 1 do.    | No. 110, 27           | 18           |     |                              |    |
|               |    | " 390, 1 do.    | No. 111, 27           | 18           |     |                              |    |
|               |    | " 391, 1 do.    | No. 112, 27           | 18           |     |                              |    |
|               |    | " 392, 1 do.    | No. 113, 27           | 18           |     |                              |    |
|               |    | " 393, 1 do.    | No. 114, 27           | 18           |     |                              |    |
|               |    | " 394, 1 do.    | No. 115, 27           | 18           |     |                              |    |
|               |    | " 395, 1 do.    | No. 116, 27           | 18           |     |                              |    |
|               |    | " 396, 1 do.    | No. 117, 27           | 18           |     |                              |    |
|               |    | " 397, 1 do.    | No. 118, 27           | 18           |     |                              |    |
|               |    | " 398, 1 do.    | No. 119, 27           | 18           |     |                              |    |
|               |    | " 399, 1 do.    | No. 120, 27           | 18           |     |                              |    |
|               |    | " 400, 1 do.    | No. 121, 27           | 18           |     |                              |    |
|               |    | " 401, 1 do.    | No. 122, 27           | 18           |     |                              |    |
|               |    | " 402, 1 do.    | No. 123, 27           | 18           |     |                              |    |
|               |    | " 403, 1 do.    | No. 124, 27           | 18           |     |                              |    |
|               |    | " 404, 1 do.    | No. 125, 27           | 18           |     |                              |    |
|               |    | " 405, 1 do.    | No. 126, 27           | 18           |     |                              |    |
|               |    | " 406, 1 do.    | No. 127, 27           | 18           |     |                              |    |
|               |    | " 407, 1 do.    | No. 128, 27           | 18           |     |                              |    |
|               |    | " 408, 1 do.    | No. 129, 27           | 18           |     |                              |    |
|               |    | " 409, 1 do.    | No. 130, 27           | 18           |     |                              |    |
|               |    | " 410, 1 do.    | No. 131, 27           | 18           |     |                              |    |
|               |    | " 411, 1 do.    | No. 132, 27           | 18           |     |                              |    |
|               |    | " 412, 1 do.    | No. 133, 27           | 18           |     |                              |    |
|               |    | " 413, 1 do.    | No. 134, 27           | 18           |     |                              |    |
|               |    | " 414, 1 do.    | No. 135, 27           | 18           |     |                              |    |
|               |    | " 415, 1 do.    | No. 136, 27           | 18           |     |                              |    |
|               |    | " 416, 1 do.    | No. 137, 27           | 18           |     |                              |    |
|               |    | " 417, 1 do.    | No. 138, 27           | 18           |     |                              |    |
|               |    | " 418, 1 do.    | No. 139, 27           | 18           |     |                              |    |
|               |    | " 419, 1 do.    | No. 140, 27           | 18           |     |                              |    |
|               |    | " 420, 1 do.    | No. 141, 27           | 18           |     |                              |    |
|               |    | " 421, 1 do.    | No. 142, 27           | 18           |     |                              |    |
|               |    | " 422, 1 do.    | No. 143, 27           | 18           |     |                              |    |
|               |    | " 423, 1 do.    | No. 144, 27           | 18           |     |                              |    |
|               |    | " 424, 1 do.    | No. 145, 27           | 18           |     |                              |    |
|               |    | " 425, 1 do.    | No. 146, 27           | 18           |     |                              |    |
|               |    | " 426, 1 do.    | No. 147, 27           | 18           |     |                              |    |
|               |    | " 427, 1 do.    | No. 148, 27           | 18           |     |                              |    |
|               |    | " 428, 1 do.    | No. 149, 27           | 18           |     |                              |    |
|               |    | " 429, 1 do.    | No. 150, 27           | 18           |     |                              |    |
|               |    | " 430, 1 do.    | No. 151, 27           | 18           |     |                              |    |
|               |    | " 431, 1 do.    | No. 152, 27           | 18           |     |                              |    |
|               |    | " 432, 1 do.    | No. 153, 27           | 18           |     |                              |    |
|               |    | " 433, 1 do.    | No. 154, 27           | 18           |     |                              |    |
|               |    | " 434, 1 do.    | No. 155, 27           | 18           |     |                              |    |
|               |    | " 435, 1 do.    | No. 156, 27           | 18           |     |                              |    |
|               |    | " 436, 1 do.    | No. 157, 27           | 18           |     |                              |    |
|               |    | " 437, 1 do.    | No. 158, 27           | 18           |     |                              |    |
|               |    | " 438, 1 do.    | No. 159, 27           | 18           |     |                              |    |
|               |    | " 439, 1 do.    | No. 160, 27           | 18           |     |                              |    |
|               |    | " 440, 1 do.    | No. 161, 27           | 18           |     |                              |    |
|               |    | " 441, 1 do.    | No. 162, 27           | 18           |     |                              |    |
|               |    | " 442, 1 do.    | No. 163, 27           | 18           |     |                              |    |
|               |    | " 443, 1 do.    | No. 164, 27           | 18           |     |                              |    |
|               |    | " 444, 1 do.    | No. 165, 27           | 18           |     |                              |    |
|               |    | " 445, 1 do.    | No. 166, 27           | 18           |     |                              |    |
|               |    | " 446, 1 do.    | No. 167, 27           | 18           |     |                              |    |
|               |    | " 447, 1 do.    | No. 168, 27           | 18           |     |                              |    |
|               |    | " 448, 1 do.    | No. 169, 27           | 18           |     |                              |    |
|               |    | " 449, 1 do.    | No. 170, 27           | 18           |     |                              |    |
|               |    | " 450, 1 do.    | No. 171, 27           | 18           |     |                              |    |
|               |    | " 451, 1 do.    | No. 172, 27           | 18           |     |                              |    |
|               |    | " 452, 1 do.    | No. 173, 27           | 18           |     |                              |    |
|               |    | " 453, 1 do.    | No. 174, 27           | 18           |     |                              |    |
|               |    | " 454, 1 do.    | No. 175, 27           | 18           |     |                              |    |
|               |    | " 455, 1 do.    | No. 176, 27           | 18           |     |                              |    |
|               |    | " 456, 1 do.    | No. 177, 27           | 18           |     |                              |    |
|               |    | " 457, 1 do.    | No. 178, 27           | 18           |     |                              |    |
|               |    | " 458, 1 do.    | No. 179, 27           | 18           |     |                              |    |
|               |    | " 459, 1 do.    | No. 180, 27           | 18           |     |                              |    |
|               |    | " 460, 1 do.    | No. 181, 27           | 18           |     |                              |    |
|               |    | " 461, 1 do.    | No. 182, 27           | 18           |     |                              |    |
|               |    | " 462, 1 do.    | No. 183, 27           | 18           |     |                              |    |
|               |    | " 463, 1 do.    | No. 184, 27           | 18           |     |                              |    |
|               |    | " 464, 1 do.    | No. 185, 27           | 18           |     |                              |    |
|               |    | " 465, 1 do.    | No. 186, 27           | 18           |     |                              |    |
|               |    | " 466, 1 do.    | No. 187, 27           | 18           |     |                              |    |
|               |    | " 467, 1 do.    | No. 188, 27           | 18           |     |                              |    |
|               |    | " 468, 1 do.    | No. 189, 27           | 18           |     |                              |    |
|               |    | " 469, 1 do.    | No. 190, 27           | 18           |     |                              |    |
|               |    | " 470, 1 do.    | No. 191, 27           | 18           |     |                              |    |
|               |    | " 471, 1 do.    | No. 192, 27           | 18           |     |                              |    |
|               |    | " 472, 1 do.    | No. 193, 27           | 18           |     |                              |    |
|               |    | " 473, 1 do.    | No. 194, 27           | 18           |     |                              |    |
|               |    | " 474, 1 do.</  |                       |              |     |                              |    |

|                              |                  | Quinine,<br>per cent. | Quinidine,<br>per cent. | Chinchoni-<br>dine,<br>per cent. | Chincho-<br>nine,<br>per cent. | Amorphous<br>Alkaloid,<br>per cent. | Crystallized<br>Quinine<br>Sulphate,<br>per cent. |
|------------------------------|------------------|-----------------------|-------------------------|----------------------------------|--------------------------------|-------------------------------------|---------------------------------------------------|
| D.C.B.                       | 1. Renewed Crown | 3.49                  | 0.14                    | 0.59                             | 0.30                           | 0.45                                | 4.70                                              |
|                              | 2. do.           | 3.92                  | 0.21                    | 0.85                             | 0.13                           | 0.41                                | 5.28                                              |
|                              | 3. Natural Crown | 2.27                  | trace                   | 1.01                             | 0.25                           | 0.27                                | 3.05                                              |
|                              | 4. do.           | 2.00                  | 0.08                    | 1.24                             | 0.35                           | 0.11                                | 2.69                                              |
|                              | 5. do.           | 1.97                  | 0.03                    | 0.81                             | 0.20                           | 0.34                                | 2.65                                              |
|                              | 6. Renewed Crown | 3.91                  | 0.23                    | 0.58                             | 0.15                           | 0.38                                | 5.27                                              |
| N.C.B.                       | 1. Renewed Red   | 2.87                  | 0.12                    | 2.12                             | 2.30                           | 0.86                                | 3.87                                              |
|                              | 2. do.           | 2.57                  | 0.08                    | 1.86                             | 2.90                           | 0.80                                | 3.46                                              |
|                              | 3. do.           | 2.69                  | 0.06                    | 1.76                             | 2.60                           | 0.79                                | 3.62                                              |
|                              | 4. Natural Red   | 1.07                  | ..                      | 3.27                             | 1.80                           | 1.34                                | 1.44                                              |
|                              | 5. do.           | 1.16                  | ..                      | 2.81                             | 2.12                           | 1.06                                | 1.56                                              |
|                              | 6. do.           | 0.98                  | ..                      | 3.00                             | 1.97                           | 0.97                                | 1.32                                              |
| <i>Dried on Plantations.</i> |                  |                       |                         |                                  |                                |                                     |                                                   |
| ↑                            | 1. Renewed Red   | 2.81                  | 0.10                    | 1.56                             | 3.12                           | 0.69                                | 3.78                                              |
|                              | 2. Natural Red   | 1.48                  | ..                      | 2.60                             | 1.50                           | 1.15                                | 2.00                                              |
|                              | 3. do.           | 1.51                  | ..                      | 2.66                             | 1.64                           | 0.99                                | 2.04                                              |
|                              | 4. Renewed Red   | 2.74                  | ..                      | 1.76                             | 3.10                           | 0.95                                | 3.70                                              |
| ↑ D.                         | 1. Renewed Crown | 4.12                  | trace                   | 0.86                             | 0.42                           | 0.60                                | 5.54                                              |
|                              | 2. Natural Crown | 2.38                  | 0.013                   | 0.85                             | 0.14                           | 0.50                                | 3.20                                              |
|                              | 3. Renewed Crown | 3.87                  | 0.09                    | 0.86                             | 0.28                           | 0.34                                | 5.22                                              |
|                              | 4. Natural Crown | 2.34                  | trace                   | 0.50                             | 0.29                           | 0.20                                | 3.16                                              |
| D.C.B.                       | 3. A.            | 2.81                  | trace                   | 0.94                             | 0.24                           | 0.26                                | 3.11                                              |
|                              | 4. A.            | 2.20                  | ..                      | 1.16                             | 0.28                           | 0.32                                | 2.96                                              |
|                              | 4. B.            | 2.02                  | 0.08                    | 1.34                             | 0.36                           | 0.10                                | 2.72                                              |
|                              | 4. C.            | 1.75                  | 0.04                    | 0.88                             | 0.24                           | 0.18                                | 2.36                                              |
| ↑ D...                       | 5. D.            | 2.20                  | trace                   | 0.96                             | 0.38                           | 0.12                                | 2.96                                              |
|                              | 5. B.            | 2.39                  | ..                      | 0.90                             | 0.21                           | 0.50                                | 3.22                                              |
|                              | 5. C.            | 1.28                  | 0.03                    | 0.60                             | 0.12                           | 0.12                                | 1.72                                              |
|                              | 2. A.            | 1.66                  | 0.11                    | 0.88                             | 0.30                           | 0.16                                | 2.24                                              |
| ↑                            | 2. B.            | 2.25                  | ..                      | 0.78                             | 0.14                           | 0.52                                | 3.04                                              |
|                              | ..               | 2.92                  | 0.07                    | 1.18                             | 0.15                           | 0.40                                | 3.94                                              |

For commercial purposes the above results are expressed as follows:—

|        |        | Crystal-<br>lized<br>Quinine<br>Sulphate,<br>per cent. | Crystal-<br>lized<br>Quinidine<br>Sulphate,<br>per cent. | Crystal-<br>lized<br>Chinchoni-<br>dine Sulp-<br>hate,<br>per cent. | Chincho-<br>nine Alka-<br>loid, per<br>cent. |
|--------|--------|--------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------|
| D.C.B. | 1. ... | 4.70                                                   | 0.17                                                     | 0.78                                                                | 0.30                                         |
|        | 2. ... | 5.28                                                   | 0.25                                                     | 1.13                                                                | 0.13                                         |
|        | 3. ... | 3.05                                                   | trace                                                    | 1.34                                                                | 0.25                                         |
|        | 4. ... | 2.69                                                   | 0.078                                                    | 1.65                                                                | 0.35                                         |
|        | 5. ... | 2.65                                                   | 0.036                                                    | 1.08                                                                | 0.20                                         |
|        | 6. ... | 5.27                                                   | 0.28                                                     | 0.77                                                                | 0.15                                         |
| N.C.B. | 1. ... | 3.87                                                   | 0.14                                                     | 2.82                                                                | 2.30                                         |
|        | 2. ... | 3.46                                                   | 0.10                                                     | 2.47                                                                | 2.90                                         |
|        | 3. ... | 3.62                                                   | 0.07                                                     | 2.34                                                                | 2.60                                         |
|        | 4. ... | 1.44                                                   | ..                                                       | 4.35                                                                | 1.80                                         |
|        | 5. ... | 1.56                                                   | ..                                                       | 3.74                                                                | 2.12                                         |
|        | 6. ... | 1.32                                                   | ..                                                       | 3.99                                                                | 1.97                                         |
| ↑      | 1. ... | 3.78                                                   | 0.12                                                     | 2.07                                                                | 3.12                                         |
|        | 2. ... | 2.00                                                   | ..                                                       | 3.46                                                                | 1.50                                         |
|        | 3. ... | 2.04                                                   | ..                                                       | 3.54                                                                | 1.64                                         |
|        | 4. ... | 3.70                                                   | ..                                                       | 2.34                                                                | 3.10                                         |
| ↑      | 1. ... | 5.54                                                   | trace                                                    | 1.14                                                                | 0.42                                         |
|        | 2. ... | 3.20                                                   | 0.016                                                    | 1.13                                                                | 0.14                                         |
|        | 3. ... | 5.22                                                   | 0.11                                                     | 1.14                                                                | 0.28                                         |
|        | 4. ... | 3.16                                                   | trace                                                    | 0.66                                                                | 0.29                                         |

Twenty Packages East India Chinchona Bark at per lb. Samples at the Brokers'. Lying at Bull Wharf, Upper Thames Street. Per *Kashgar*, E. J. Baker, from Madras. Grown in the Government Gardens at Ootacamund. Analysis by Dr. B. H. Paul, F.C.S.

|                                       | Per cent. | Mark. | Lot. | Nos. | Bale. | Lbs. | Price realized at Sale. |
|---------------------------------------|-----------|-------|------|------|-------|------|-------------------------|
| Crystallized Quinine Sulphate         | 3.78      |       |      |      |       | NET. | PER LB.                 |
| Crystallized Quinidine Sulphate       | 0.12      |       |      |      |       |      |                         |
| Crystallized Chinchonidine Sulphate   | 2.07      |       |      |      |       |      |                         |
| Renewed Red, Chinchonine (Alkaloid)   | 3.12      |       |      |      |       |      |                         |
| Natural Red                           | 2.00      |       |      |      |       |      |                         |
| Do.                                   | 0.00      |       |      |      |       |      |                         |
| Renewed Red                           | 3.46      |       |      |      |       |      |                         |
| Do.                                   | 1.50      |       |      |      |       |      |                         |
| Renewed Red                           | 2.04      |       |      |      |       |      |                         |
| Do.                                   | 0.00      |       |      |      |       |      |                         |
| Renewed Red                           | 3.54      |       |      |      |       |      |                         |
| Do.                                   | 1.64      |       |      |      |       |      |                         |
| Renewed Red                           | 3.70      |       |      |      |       |      |                         |
| Do.                                   | 0.00      |       |      |      |       |      |                         |
| Renewed Red                           | 2.34      |       |      |      |       |      |                         |
| Do.                                   | 3.10      |       |      |      |       |      |                         |
| Renewed Red                           | 5.54      |       |      |      |       |      |                         |
| Do.                                   | 0.00      |       |      |      |       |      |                         |
| Renewed Red                           | 1.14      |       |      |      |       |      |                         |
| Do.                                   | 0.42      |       |      |      |       |      |                         |
| Renewed Red                           | 3.20      |       |      |      |       |      |                         |
| Do.                                   | 0.00      |       |      |      |       |      |                         |
| Renewed Red                           | 1.13      |       |      |      |       |      |                         |
| Do.                                   | 0.14      |       |      |      |       |      |                         |
| Renewed Red                           | 5.22      |       |      |      |       |      |                         |
| Do.                                   | 0.11      |       |      |      |       |      |                         |
| Renewed Red                           | 1.14      |       |      |      |       |      |                         |
| Do.                                   | 0.28      |       |      |      |       |      |                         |
| Renewed Red                           | 3.16      |       |      |      |       |      |                         |
| Do.                                   | 0.00      |       |      |      |       |      |                         |
| Renewed Red                           | 0.66      |       |      |      |       |      |                         |
| Do.                                   | 0.29      |       |      |      |       |      |                         |
| Renewed Red                           | 4.70      |       |      |      |       |      |                         |
| Do.                                   | 0.17      |       |      |      |       |      |                         |
| Renewed Red                           | 0.78      |       |      |      |       |      |                         |
| Do.                                   | 0.30      |       |      |      |       |      |                         |
| Crystallized Quinine Sulphate         | 5.28      |       |      |      |       |      |                         |
| Crystallized Quinidine Sulphate       | 0.25      |       |      |      |       |      |                         |
| Crystallized Chinchonidine Sulphate   | 1.13      |       |      |      |       |      |                         |
| Renewed Crown, Chinchonine (Alkaloid) | 0.13      |       |      |      |       |      |                         |
| Natural Crown                         | 3.05      |       |      |      |       |      |                         |
| Do.                                   | 0.00      |       |      |      |       |      |                         |
| Natural Crown                         | 1.34      |       |      |      |       |      |                         |
| Do.                                   | 0.25      |       |      |      |       |      |                         |
| Natural Crown                         | 2.69      |       |      |      |       |      |                         |
| Do.                                   | 0.08      |       |      |      |       |      |                         |
| Natural Crown                         | 1.65      |       |      |      |       |      |                         |
| Do.                                   | 0.35      |       |      |      |       |      |                         |
| Natural Crown                         | 2.65      |       |      |      |       |      |                         |
| Do.                                   | 0.03      |       |      |      |       |      |                         |
| Natural Crown                         | 1.08      |       |      |      |       |      |                         |
| Do.                                   | 0.20      |       |      |      |       |      |                         |
| Natural Crown                         | 5.27      |       |      |      |       |      |                         |
| Do.                                   | 0.28      |       |      |      |       |      |                         |
| Natural Crown                         | 0.77      |       |      |      |       |      |                         |
| Do.                                   | 0.15      |       |      |      |       |      |                         |

Twenty Packages East India Chinchona Bark at per lb. Samples at the Brokers'. Lying at Bull Wharf, Upper Thames Street. Per *Kashgar*, E. J. Baker, from Madras. Grown in the Government Gardens at Ootacamund. Analysis by Dr. B. H. Paul, F.C.S.—  
(Continued).

|             | Per cent.                            | Mark.  | Lot. | Nos. | Bag. | Lbs.           | Price realized at Sale. |
|-------------|--------------------------------------|--------|------|------|------|----------------|-------------------------|
|             |                                      |        |      |      |      | NET.           | PER LB.                 |
| Renewed Red | 3.87<br>0.14<br>2.82<br>2.30<br>3.46 | N.C.B. | 286  | 1    | 1    | 21             | 6/2                     |
| Do.         | 0.10<br>2.47<br>2.90<br>3.62         | "      | 287  | 2    | 1    | 19             | 6/2                     |
| Do.         | 0.07<br>2.34<br>2.60<br>1.44         | "      | 288  | 3    | 1    | 26             | 6/2                     |
| Natural Red | 0.00<br>4.35<br>1.80<br>1.56         | "      | 289  | 4    | 1    | LBS. 15 1ccDam | 3/6                     |
| Do.         | 0.00<br>3.74<br>2.12<br>1.32         | "      | 290  | 5    | 1    | 17 do.         | 3/11                    |
| Do.         | 0.00<br>3.99<br>1.97                 | "      | 291  | 6    | 1    | 14 do.         | 3/3                     |

No. 2.

ORDER THEREON, 3rd January 1880, No. 1.

## Miscellaneous.

THE foregoing papers relate to the analysis and sale of the Chinchona bark which was the subject of the experiments ordered in G.O., 18th January 1878, No. 95, with a view to test the practicability and effects of different methods of drying.

2. The analyses seem to show that none of the methods is in any marked degree superior to the rest, and as there are many obvious advantages in drying the bark on the plantations by artificial heat as at present, the practice will be continued. It will therefore be necessary to provide new and suitable buildings on the Naduvattam plantations for storing and drying the bark grown on them, and the plans and estimates prepared for this purpose in 1877 will now be forwarded to the Public Works Department for examination and consideration.

3. It was proposed to erect a drying shed and a store at the cost of Rs. 16,000 and 19,730 respectively, but His Grace the Governor in Council is of opinion that the estimates are excessive and that it is advisable to lessen risk of loss by fire by having several separate stores in place of one large building.

4. Both the drying house and stores should continue to be heated with dry hot air as at present; the proposal to use hot-water pipes is therefore not approved.

5. The use of curved corrugated iron roofing may probably be found economical as saving height in walls and as enabling the use of timber to be almost entirely dispensed with, the warping of which under the varying heat and moisture is apparently a principal cause of the difficulty of keeping tile roofs watertight.

(True Extract.)

(Signed) J. H. GARSTIN,  
Acting Secretary to Government.

To the Public Works Department.  
" the Commissioner of Nilgiris.  
" the Board of Revenue.  
" the Superintendent, Government Central Museum.

Exd. W. H. French.

70 Copies.

52  
 L. A. Campbell Esq. C.S.  
 Sir. I beg to send  
 you the enclosed  
 statement, not  
 given to me by Mr  
 Miller, which, he  
 says, contains the  
 information you

*Original*

Govt. of (1880) Mysore.

REVENUE.

To

THE PUBLIC WORKS DEPARTMENT,

Secy. Secy. Secy.

Dated January 3rd.

Printed 20th.

Recd.

Ind.

G.O., 3rd January 1880, No. 1.

JANUARY.  
 Nos. 1-2.

*During the Chincona Park on the Netherland  
 Plantations, Nilgiris.—Forwarding to the Public  
 Works Department certain plans and estimates  
 prepared in 1877 for the purpose of —; express-  
 ing opinion that the estimates are excessive; and  
 deeming it advisable to lessen risk of loss by  
 five by having several separate stores in place  
 of one large building.*

21-100/1  
 28-7-11  
 15-6-14  
 23-11-18

*Vide no. 4641/80.*

Desired.

I remain  
Yours obdly  
J. Lauderstone

12/11/79

ON HER MAJESTY'S SERVICE.

N<sup>o</sup> 14

6/10/80

1940  
Madras  
Revenue.  
65

Sealed Packet contg. The Enclosures referred to  
in Revenue Letter to Madras, N<sup>o</sup> 24, dated  
25<sup>th</sup> Sept. 1879. Para. 3.

INDIA OFFICE.

Revenue Dept.  
Ld. Secy. of Govt. of Madras

Invoice of 8 Bales of Bark dried  
in accordance with G. O. No 95 of 18<sup>th</sup>  
January 1878. 70

| Mark No | Gross | Tare                             | Nett                            | Description                                                    | Quantity |
|---------|-------|----------------------------------|---------------------------------|----------------------------------------------------------------|----------|
| ↑       | 1     | 106 <sup>8</sup> / <sub>16</sub> | 7 <sup>11</sup> / <sub>16</sub> | 99 <sup>11</sup> / <sub>16</sub> Renewed Red bark @ 100° Temp. | 1        |
| "       | 2     | 86                               | 4 <sup>6</sup> / <sub>16</sub>  | 40 <sup>10</sup> / <sub>16</sub> Unmossed " " " "              | 1        |
| "       | 3     | 88 <sup>10</sup> / <sub>16</sub> | 7 <sup>15</sup> / <sub>16</sub> | 80 <sup>11</sup> / <sub>16</sub> " " " Outside in shade        | 1        |
| "       | 4     | 104 <sup>9</sup> / <sub>16</sub> | 7 <sup>11</sup> / <sub>16</sub> | 96 <sup>14</sup> / <sub>16</sub> " Renewed " " " "             | 1        |
| D ↑     | 1     | 118                              | 9                               | 109 Renewed Crown bark " " " "                                 | 1        |
| "       | 2     | 105                              | 9                               | 96 Natural " " " "                                             | 1        |
| "       | 3     | 118                              | 9                               | 109 Renewed " " " @ 100° Temp.                                 | 1        |
| "       | 4     | 101                              | 9                               | 92 Natural " " " "                                             | 1        |
| Total   |       |                                  |                                 |                                                                |          |

A. 12/11/79.

Account Sale 20 Packages E. I. Bhinchond  
Bark p. Kashgar  
Sold at Public Sale for account of The  
Secretary of State for India. 8B

[illegible]

9B

To the Under Secretary of State  
for India

I beg to hand you as  
stated herewith the results of the  
Analyses of twenty Samples of East  
Indian Cinchona Bark received from  
Messrs Jenkin & Phillips on the 18<sup>th</sup> ult

The Analyses have been carried out in accordance with the instructions contained in your letter of 3<sup>rd</sup> July and in the case of the four samples marked No 1, 3, 4 and 5 and 12. I have made separate analyses of different portions of each of those samples because there appear to be several different kinds of bark in them. The results attached will show how far that apparent <sup>difference</sup> was accompanied by a difference in the amount of quinine and other alkaloids.

(P<sup>d</sup>) B. N. Paul

P.S. The papers accompanying your letter are returned herewith, as requested. Messrs Jenkins & Phillips desired to have the report of the results of Analyses sent to them; but as your instructions were to forward the report to the India Office I have done so.

E.E.  
London 13<sup>th</sup> Sept 1877  
(signed) John R. Phillips

D.C.B.

N.C.B.

Dried on Plantations

↑

ND

|                 | Quinine<br>p. cent | Quinidine<br>p. cent | Cinchonidine<br>p. cent | Cinchonine<br>p. cent | Amorphous<br>Alkaloid<br>p. cent | Crystallized<br>Quinine<br>Sulphate<br>p. cent |
|-----------------|--------------------|----------------------|-------------------------|-----------------------|----------------------------------|------------------------------------------------|
| 1 Renewed Crown | 3.49               | 0.14                 | 0.59                    | 0.30                  | 0.115                            | 4.70                                           |
| 2 "             | 3.92               | 0.21                 | 0.85                    | 0.13                  | 0.41                             | 5.28                                           |
| 3 Natural Crown | 2.27               | trace                | 1.01                    | 0.25                  | 0.27                             | 3.05                                           |
| 4 "             | 2.00               | 0.06                 | 1.24                    | 0.35                  | 0.11                             | 2.69                                           |
| 5 "             | 1.97               | 0.03                 | 0.81                    | 0.20                  | 0.34                             | 2.65                                           |
| 6 Renewed Crown | 3.91               | 0.23                 | 0.58                    | 0.15                  | 0.38                             | 5.27                                           |
| 1 Renewed Red   | 2.87               | 0.12                 | 2.12                    | 2.30                  | 0.86                             | 3.87                                           |
| 2 "             | 2.57               | 0.08                 | 1.86                    | 2.90                  | 0.80                             | 3.46                                           |
| 3 "             | 2.69               | 0.06                 | 1.76                    | 2.60                  | 0.79                             | 3.62                                           |
| 4 Natural Red   | 1.07               | -                    | 3.27                    | 1.80                  | 1.34                             | 1.44                                           |
| 5 "             | 1.16               | -                    | 2.81                    | 2.12                  | 1.06                             | 1.56                                           |
| 6 "             | 0.98               | -                    | 3.00                    | 1.97                  | 0.97                             | 1.32                                           |
| 1 Renewed Red   | 2.81               | 0.10                 | 1.56                    | 3.12                  | 0.69                             | 3.78                                           |
| 2 Natural Red   | 1.48               | -                    | 2.60                    | 1.50                  | 1.15                             | 2.00                                           |
| 4 Renewed Red   | 2.74               | -                    | 1.76                    | 3.10                  | 0.95                             | 3.70                                           |
| 1 Renewed Crown | 4.12               | trace                | 0.86                    | 0.42                  | 0.60                             | 5.54                                           |
| 2 Natural Crown | 2.38               | 0.013                | 0.85                    | 0.14                  | 0.50                             | 3.20                                           |
| 3 Renewed Crown | 3.87               | 0.09                 | 0.86                    | 0.25                  | 0.34                             | 5.22                                           |
| 4 Natural Crown | 2.34               | trace                | 0.50                    | 0.29                  | 0.20                             | 3.16                                           |

D.C.B.

N.C.B.

↑

↑

For Commercial Purposes the above results are expressed as follows

|       | Quinine<br>p. cent | Quinidine<br>p. cent | Cinchonidine<br>p. cent | Cinchonine<br>p. cent | Amorphous<br>Alkaloid<br>p. cent | Crystallized<br>Quinine<br>Sulphate<br>p. cent |
|-------|--------------------|----------------------|-------------------------|-----------------------|----------------------------------|------------------------------------------------|
| 3 d   | 231                | trace                | 0.94                    | 0.24                  | 0.26                             | 311                                            |
| B     | 220                | "                    | 1.16                    | 0.28                  | 0.32                             | 296                                            |
| 4 d   | 202                | 0.08                 | 1.34                    | 0.36                  | 0.10                             | 272                                            |
| B     | 175                | 0.04                 | 0.88                    | 0.24                  | 0.18                             | 236                                            |
| B     | 220                | trace                | 0.96                    | 0.38                  | 0.12                             | 296                                            |
| 5 d   | 239                | -                    | 0.90                    | 0.21                  | 0.50                             | 322                                            |
| B     | 128                | 0.03                 | 0.60                    | 0.12                  | 0.12                             | 172                                            |
| C     | 166                | 0.11                 | 0.88                    | 0.30                  | 0.16                             | 224                                            |
| D 2 d | 225                | -                    | 0.78                    | 0.14                  | 0.52                             | 304                                            |
| B     | 292                | 0.07                 | 1.18                    | 0.15                  | 0.40                             | 394                                            |
| 1     | 4.70               | 0.17                 | 0.78                    | 0.30                  |                                  |                                                |
| 2     | 5.28               | 0.25                 | 1.13                    | 0.13                  |                                  |                                                |
| 3     | 3.05               | trace                | 1.34                    | 0.25                  |                                  |                                                |
| 4     | 2.69               | 0.078                | 1.65                    | 0.35                  |                                  |                                                |
| 5     | 2.65               | 0.036                | 1.08                    | 0.20                  |                                  |                                                |
| 6     | 5.27               | 0.28                 | 0.77                    | 0.15                  |                                  |                                                |
| 1     | 3.87               | 0.14                 | 2.82                    | 2.30                  |                                  |                                                |
| 2     | 3.46               | 0.10                 | 2.17                    | 2.90                  |                                  |                                                |
| 3     | 3.62               | 0.07                 | 2.34                    | 2.60                  |                                  |                                                |
| 4     | 1.44               | -                    | 4.35                    | 1.80                  |                                  |                                                |
| 5     | 1.56               | -                    | 3.74                    | 2.12                  |                                  |                                                |
| 6     | 1.32               | -                    | 3.99                    | 1.97                  |                                  |                                                |
| 1     | 3.78               | 0.12                 | 2.07                    | 3.12                  |                                  |                                                |
| 2     | 2.00               | -                    | 3.46                    | 1.50                  |                                  |                                                |
| 3     | 2.04               | -                    | 3.54                    | 1.64                  |                                  |                                                |
| 4     | 3.70               | -                    | 2.34                    | 3.10                  |                                  |                                                |
| 1     | 5.54               | trace                | 1.14                    | 0.42                  |                                  |                                                |
| 2     | 3.20               | 0.016                | 1.13                    | 0.14                  |                                  |                                                |
| 3     | 5.22               | 0.11                 | 1.14                    | 0.28                  |                                  |                                                |
| 4     | 3.16               | trace                | 0.66                    | 0.29                  |                                  |                                                |

22812/77

20 Packages E.I. Chinchona Bark at  
per lb. Samples at the Brokers'

Lying at Bull Wharf, Upper Thames Street

Per Messrs. E. J. Baker, & Madras

Grown in the Government Gardens at Ootacamund

Analysis by Dr. B. H. Paul, F.C.S.

|                           | Percent | Mark | Lot | Mos | Price            |
|---------------------------|---------|------|-----|-----|------------------|
| Crystallized Quinine      | 3.78    | N    | 272 | 1   | 1 Cask 1000 6/11 |
| Sulphate                  |         |      |     |     |                  |
| Crystallized Quinidine    | 0.12    |      |     |     |                  |
| Sulphate                  |         |      |     |     |                  |
| Crystallized Cinchonidine | 2.07    | N    | 273 | 2   | 1 70 3/8         |
| Sulphate                  |         |      |     |     |                  |
| Crystallized Cinchonine   | 3.12    |      |     |     |                  |
| Sulphate                  |         |      |     |     |                  |
| Renewed Red               | 2.00    | N    | 274 | 3   | 1 73 3/8         |
| Natural Red               | 0.00    |      |     |     |                  |
| do                        | 3.46    |      |     |     |                  |
| do                        | 1.50    |      |     |     |                  |
| do                        | 2.04    | N    | 275 | 4   | 1 90 6/11        |
| do                        | 0.00    |      |     |     |                  |
| do                        | 3.54    |      |     |     |                  |
| do                        | 1.64    |      |     |     |                  |
| Renewed Red               | 3.70    | N    | 276 | 1   | 1 102 7/11       |
| do                        | 0.00    |      |     |     |                  |
| do                        | 2.34    |      |     |     |                  |
| do                        | 3.10    |      |     |     |                  |
| Renewed Crown             | 5.54    | N    | 277 | 2   | 1 87 6/11        |
| do                        | 0.00    |      |     |     |                  |
| do                        | 1.14    |      |     |     |                  |
| do                        | 0.42    |      |     |     |                  |
| Natural Crown             | 3.20    | N    | 278 | 3   | 1 98 10/11       |
| do                        | 0.00    |      |     |     |                  |
| do                        | 1.13    |      |     |     |                  |
| do                        | 0.14    |      |     |     |                  |
| Renewed do                | 5.22    | N    | 279 | 4   | 1 84 5/11        |
| do                        | 0.11    |      |     |     |                  |
| do                        | 1.14    |      |     |     |                  |
| do                        | 0.28    |      |     |     |                  |
| Natural do                | 3.16    | N    | 280 | 1   | 1 20 4/11        |
| do                        | 0.00    |      |     |     |                  |
| do                        | 0.66    |      |     |     |                  |
| do                        | 0.29    |      |     |     |                  |
| Renewed do                | 4.70    | N    | 281 | 2   | 1 24 10/11       |
| do                        | 0.17    |      |     |     |                  |
| do                        | 0.78    |      |     |     |                  |
| do                        | 0.30    |      |     |     |                  |

Note (A) dried naturally in shade  
(B) ——— naturally in shade

carried over

Bark continued

|                           | Percent | Mark | Lot | Mos | Price      |
|---------------------------|---------|------|-----|-----|------------|
| Crystallized Quinine      | 5.58    | N    | 281 | 2   | 1 24 10/11 |
| Sulphate                  |         |      |     |     |            |
| Crystallized Quinidine    | 2.28    |      |     |     |            |
| Sulphate                  |         |      |     |     |            |
| Crystallized Cinchonidine | 1.13    | N    | 282 | 3   | 1 20 6/11  |
| Sulphate                  |         |      |     |     |            |
| Crystallized Cinchonine   | 0.13    |      |     |     |            |
| Sulphate                  |         |      |     |     |            |
| Renewed Crown             | 3.05    | N    | 283 | 4   | 1 18 5/11  |
| Natural Crown             | 0.00    |      |     |     |            |
| do                        | 1.34    |      |     |     |            |
| do                        | 0.25    |      |     |     |            |
| do                        | 2.67    | N    | 284 | 5   | 1 24 5/11  |
| do                        | 0.08    |      |     |     |            |
| do                        | 1.65    |      |     |     |            |
| do                        | 0.35    |      |     |     |            |
| do                        | 2.65    | N    | 285 | 6   | 1 27 9/11  |
| do                        | 0.03    |      |     |     |            |
| do                        | 1.08    |      |     |     |            |
| do                        | 0.20    |      |     |     |            |
| Renewed do                | 5.27    | N    | 286 | 1   | 1 21 6/11  |
| do                        | 0.28    |      |     |     |            |
| do                        | 0.77    |      |     |     |            |
| do                        | 0.15    |      |     |     |            |
| Renewed Red               | 3.87    | N    | 287 | 2   | 1 19 6/11  |
| do                        | 0.14    |      |     |     |            |
| do                        | 2.82    |      |     |     |            |
| do                        | 2.30    |      |     |     |            |
| do                        | 2.46    | N    | 288 | 3   | 1 26 6/11  |
| do                        | 0.10    |      |     |     |            |
| do                        | 2.47    |      |     |     |            |
| do                        | 2.90    |      |     |     |            |
| do                        | 2.62    | N    | 289 | 4   | 1 15 10/11 |
| do                        | 0.07    |      |     |     |            |
| do                        | 2.34    |      |     |     |            |
| do                        | 2.60    |      |     |     |            |
| Natural do                | 1.44    | N    | 290 | 5   | 1 17 10/11 |
| do                        | 0.00    |      |     |     |            |
| do                        | 4.35    |      |     |     |            |
| do                        | 1.80    |      |     |     |            |
| do                        | 15.6    | N    | 291 | 6   | 1 14 10/11 |
| do                        | 0.00    |      |     |     |            |
| do                        | 3.74    |      |     |     |            |
| do                        | 2.2     |      |     |     |            |
| do                        | 1.22    | N    | 292 | 7   | 1 14 10/11 |
| do                        | 0.00    |      |     |     |            |
| do                        | 3.99    |      |     |     |            |
| do                        | 1.97    |      |     |     |            |

In Back No. 1

PRINT

Revenue Department  
Proc. of Govt. of 3. June 180.  
No. 1

12/28/8/79

12 D

India Office.

London, 25<sup>th</sup> September, 1879.

Revenue

No. 24.

My Lord Duke.

1. I have received  
Your Grace's letter No. 14, of  
the 30<sup>th</sup> May last advising  
the transmission to this  
country of samples of  
Cinchona bark dried in  
various ways, with a  
view to their being  
analysed and sold to  
test their commercial  
value.

2. The fourteen  
packages of bark were,

This Excellency

The Most Noble

The Governor in Council  
Fort Saint George

on arrival, consigned  
to Messrs Jenkin and  
Phillips with instructions  
to send samples from  
each to St Paul  
for analysis, and  
to sell the remainder  
in the usual manner.

3. Copies of St Paul's  
Report and of the Account  
Sale are transmitted  
herewith for the information  
of your Government.

I have the honor to be  
My Lord Duke,  
Your Grace's most obedient  
humble servant

Crawbrook

No 20185-1079

No 13.

Revenue

25<sup>th</sup> Sept. 1879  
Dec. 22 Oct 1879

The  
Letter to Mr. G. G. G.

No 24. 61

Indy. 1000  
Containing  
papers

PRINT

S.O. 1. 3 January 1880

Transmitting  
Copies of Dr. Paul's Report  
and of the Account Sale of  
Samples of Cinchona bark  
Sent with letter No 14 of 30 May  
1879-

Back no. 1

R.C. 16/12/79. R. 29/12/79  
C. 27/10/79. R. 12/12/79.

14B

REVENUE DEPARTMENT.

No.

From Secy State No 24

Dated 25<sup>th</sup> Sept 1879.

FOR ORDERS.

Leaves is too quick  
the leaves to be in the  
Dept. but the results  
started point to drying  
naturally at Hoimanton  
if this can be proved  
the least risk of damage  
from damp & mould  
Dr. Simms very doubtful  
natural drying. The  
the plantations I think  
impracticable that the  
time of year when the  
bark must be harvested  
Artificial drying there  
seem to be the best

The Gov. have now  
before them the  
results of the sale  
analysis of the  
bark dried naturally  
artificially on the  
plantations & naturally  
at Hoimanton as  
detailed in F.O. 9<sup>th</sup> May  
79 No 1022.  
It will be seen from  
the end of work of the  
Secy State's despatch  
that similar bark  
was found to be of  
very similar value,  
whether commercial  
or chemical, however  
it was dried.  
These experiments  
were made as it  
was proposed to incur

a heavy outlay  
on a new drying  
shed & store at  
Keddawattam.

Practically now it  
seems that as  
far as the bark  
is concerned it does  
not matter how it  
is dried. If then it  
is naturally dried  
on the plantations  
this plan would seem  
the cheapest but  
in an ordinary  
monsoon this would  
be impracticable  
with large quantities  
of bark.

Staking it to Corimbore  
in a green state  
is risky.

Even the rapidity  
with which the  
small quantity  
experimented on  
was conveyed there  
did not save some  
of it from turning  
mouldy & similar  
expedition could not

is a risky method

The value of the cargo is  
so large that the cost  
change for 180 is 2 paise  
if not too large for the  
proposals. B. P. S. S. S.  
he was then. I don't  
find the details in the  
packet. But Major M.  
apparently framed them  
he is a very expensive  
worker. I might have known  
how the bark is done  
on private estates. It is  
certain that operations  
are at present on a  
much smaller scale.

LD

See para 2 of C.C.  
Compt. Report in f.o.  
9 May 79 No: 1022.

rant

Vide in f.o.  
10<sup>th</sup> January 70  
No: 95.

B. M. has gone to Corimbore  
to get the bark  
Estimate - 16/12/79.

be secured with  
an entire crop  
& in heavy weather.  
It would moreover  
cost much in  
carriage for the  
analogy of pressed  
cotton. It would seem  
better to dry the bark  
artificially on the  
spot.

The late Comptroller  
proposals for buildings  
were as follows

1. A bark <sup>drying house</sup> cost Rs 16000
2. — store Rs 19730

The plans will  
require consideration  
in the P. W. D.

The present method  
of heating with  
dry air would seem  
preferable to the  
hot-water pipes  
proposed by Mr.  
Wheeler & perhaps  
two smaller stores  
would be better  
in case of fire.  
If buildings are to

the erected provision  
must be made  
in next year  
Budget estimate  
which should  
show he submitted  
Total

Cinchona  
FOR ORDER  
Bark Dry

Pl. shd remain  
the same -  
remain with the  
cheaper ones  
and not be made  
+ with improved by  
suction 304 -  
and iron shds  
instead of iron  
large ones

12/12  
c. 27/11/77 R. 12/12/77

Cinchona  
bark

line

Revenue Dep<sup>ty</sup>  
16D

Proceedings of the Madras Government  
Under date the 2<sup>nd</sup> January 1880

Read again G.O. 18<sup>th</sup>  
Jan'y/78 N<sup>o</sup> 95 and 9<sup>th</sup> May/79 2<sup>nd</sup> 1022

Read also Despatch from  
the Sec<sup>y</sup> of State dated 25 September  
1879 N<sup>o</sup> 24 transmitting copies of  
Dr. Paul's Report and of the  
Account sale of samples of  
Chinchona bark sent with letter  
N<sup>o</sup> 14 of 30<sup>th</sup> day 1879.

The foregoing papers  
relate to the analysis and sale  
of the Chinchona bark which  
was the subject of the experi-  
ments ordered in G.O. 18 Jan'y/78  
N<sup>o</sup> 95 with a view to test the  
practicability and effects of  
different methods of drying.

1880  
1881

The

2. The analysis seem

to show that none of the  
methods <sup>in hand</sup> is ~~markedly~~ <sup>markedly</sup> ~~superior~~

superior to the rest, and as

there are many obvious ad-

vantages in drying the bark

on the plantations by arti-

ficial heat as at present

the practice will be continued

It will therefore be necessary

to provide ~~for~~ new and

suitable buildings on the

Naduvalloor  
Seddiwattur plantations

for storing and drying the

<sup>gum</sup> bark and the plans and

estimates prepared for this

purpose in 1877 will now

be

17 B

be forwarded to the Public

Works Department for

examination and considera-

tion.

3. It was proposed to

erect a drying shed and a

small store at the cost of

Rs. 16,000 and 19,730 respectively,

but His Grace the Governor

in Council is of opinion that

the estimates <sup>are</sup> ~~are~~ excessive and

that it is advisable to lessen

risk of loss by fire by having

several ~~small~~ separate stores

in place of one large building

4. Both the drying-

house and stores should

be

It is suggested that the  
proposed  
drying shed  
& the small store  
on the S. B. plantation  
that the Board should  
be the 3,000 Rs. for  
the same.

be heated with dry hot  
air, and not as suggested

by means of hot water  
pipes. Is not of much use.

5. The use of a  
circular saw  
may probably be  
used as a  
as sawing  
depth of  
cutting with  
use of circular  
sawing of wood

under the vapor  
generator is a  
a piece of  
the diffuser  
the air

Sept 21  
21  
21  
21

31/12

76

*Chas. L. ...*  
*B. ...*

PRINT

*7/16/80*

*RC 16/12/29. R 29/12/29.*