2. Date of [illegible] 10
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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

Cons. 12—11—57

G.O. No. 2085-8 Press -Mis.

1—2

Dated 4—11— 1957

Not to be folded or roughly handled

No. 1. Read the following Extract from the Minutes of Consultation in the Public Department, dated 9th October 1857, No. 1486.

Read the following letters.

From P. W. WALL, Esq., Coal and Mineral Viewer; to the Acting Chief Secretary, Fort Saint George, dated 25th September 1857.

SIR,

1. With reference to the Extracts from the Minutes of Consultation, No. 572, under date 6th of May 1857, and No. 762, 10th June 1857, I have the honor to report to you the following for the information of Government.

2. Under the instructions conveyed to me in the above Minutes, I have visited the localities alluded to, viz. Gazelpülly in the Nundicunnamah pass of the Nullimallah Hills and Coilcontla in the Dhone Talook of the Kurnool district.

3. The mine near Gazelpülly is situated about seven miles from this village, and at the foot of the range of Hills forming the Eastern Ghauts, which at this part are composed of sedementary and metamorphic rocks.

4. The ore occurs in a matrix of sulphate of baryta, from the samples I was able to inspect, in very small quantity; the indications are such as to lead to the inference that further working would reveal the ore more abundantly distributed.

5. The matrix however being a very friable material, the cheap native labor of the district, used for breaking and picking the ore, would greatly assist towards rendering the mining of very inferior samples profitable.

6. The character of the enclosing rocks, is rather favorable for the execution of mining operations in them.

7. The locality is a very dense jungle; timber adapted for mining purposes and which is required to be of strength and durability under exposure in wet and damp situations, could no doubt be obtained from it, the ore could also by means of the charcoal procured from this jungle be smelted in the neighbourhood. The clearing of the jungle possibly reducing the feverish nature of the district.

8. The Coilcontla mine is situated amidst Hills of Granite and other primitive rocks, the ore occurs in a very hard silliceous matrix, occasionally very much disseminated through it, much would therefore require to be crushed and washed, to separate the ore from the enclosing gangue, this would be done with somewhat more labor and difficulty than when dealing with the Gazelpülly ore, the cheap labor however of India, would admit of the poorest ores being operated upon even in this case.

9. In para. 4 of Captain Russell's letter No. 13, May 29th 1857, addressed to Government, he speaks of the ore as occurring in scattered nodules and considers them as transported blocks; on account of the heavy monsoon rains falling on the occasion of my visit, I could make no observations beyond the nature of the country in which either this mine (or that at Gazelpülly is situated,) Captain Russell had kindly instructed the Tahsildar at Dhone to endeavour to clear the pit of water, he however reported it as almost impossible at that season of the year. I am therefore not able to offer any remarks from actual observation upon this very important point, in any case however, a vein of ore must exist in the locality and must be struck upon for this to become a mine of importance; in the mean time however, the nodules could be excavated and vein trac-

ed out at very small cost, this being done with profit if the abundance with which they may be found prove considerable.

10. The per centage of silver that may be expected to be obtained from the bulk of the ore of the Coilcontla mine may I think be inferred from a series of experiments that have been conducted by the Acting Assay Master at the Mint, in conjunction with myself, both upon the (40) forty maunds sent by Captain Russell from this place and also upon the individual specimens I brought from the spot.

11. The average yield as thus ascertained is from twelve to fourteen ounces of the precious metal in the ton of reduced lead, and much above that which would characterise it as an ore valuable for the silver contained, three ounces of silver to the ton of lead being in European establishments worth the expense of operating upon for its separation, the extent to which such operation is there carried on being until no more than ten pennyweights remains in the ton of metallic lead.

12. The process employed consists chiefly of manual labor, for which the native would be, I apprehend, well adopted and readily instructed.

13. The previous assays however of Dr. Scott, shew that occasionally the ore occurs extremely rich in the precious metal, it is usual in the occurrence of argentiferous galena in England and elsewhere, for it to be thus unequally distributed through the ore.

14. The yeild of metallic lead was ascertained, in the experiments above alluded to, to be seventy per cent of the dressed ore.

15. The average yield of silver upon all English lead mines was, in 1854, 16⅓ (sixteen and one-third) ounces per ton of lead, the richest mine giving 84 (eight-four) ounces, the poorest 3½ (three and half) ounces per ton of metallic lead obtained in the year.

16. With respect to the ore from Gazelpülly, no further assays could be made, the mineral lately received at the Mint from this place proved, on inspection to consist almost entirely of sulphate of paryta, with traces only of galena in it.

17. It is not however for silver only that the mines must be looked upon as of importance; the lead also is a valuable metal, the crude ore, if obtained in moderate abundance, and without any extraordinary expense on account of "dead-work" being in itself of sufficient value for the lead only to bear considerable cost in transit to any part where it may be required to be conveyed for smelting.

* North Wales.

18. The prices of dressed lead ores realized at the Holywell* sales varies from £10-0-0 to £18-12-6 per ton, containing the avarage per centage of silver, above stated, for English mines.

19. As an important feature in the Coilcontla mine, I may mention that I am informed it is probable, the Northern Division of the Madras Railway will pass within twenty or thirty miles of its site, and as there does not appear to be much timber in this district, the Railway when completed will offer a facility for conveying the ore to any more convenient part of the country for the purpose of being smelted.

20. It is however upon the probable produce of the mines that the main question depends, and I think it would be desirable for Government to obtain, at some small cost, further evidence upon this point.

21. It would appear that in Kurnool and Cuddapah, there are many spots reported to produce lead ore, in addition to those under consideration in this report, as far back as 1820. I find Janqumrauzpilly† mentioned as a locality for silver lead, in Heyne's Tracts on India. Galena from Cuddapah is said to have been reported by the Assay Master at Bengal, as containing eleven per cent. of silver. This would be a silver not a lead mine.

† Cumbum, (Cuddapah.)

22. I am informed by Dr. Scott that he has heard that Captain Blagrave has lately discovered another site yielding this mineral.

23. I should therefore propose to examine all these reported metalliferous localities, by means of a small extent of excavation at each, for which purpose it would be requisite for Government to sanction a certain monthly expenditure during my operations, say Rupees (500) five hundred.

24. If Government shall think it desirable to sanction the expenditure I propose, I shall beg to request that the services of a European Corporal and two Privates (1st class Sawyers) of the Corps of Sappers and Miners may, if possible, be placed at my disposal.

25. I have also to request the sanction of Government to the attachment of two Lascars to my establishment for the purpose of collecting samples of ores, &c., from distant localities, the Peons of the Collector of Rajahmundry ordered‡ to accompany me in my survey on the Godavery were not adapted to making the excursions into the jungle which I often required.

† Extract Minutes Cons. No. 51, 28th January 1857, para. 3.

26. Should the indications at any one or more places be proved by this survey to be satisfactory, I shall have the honor of proposing for the consideration of Government that works at such spot be executed by Government (consisting of the sinking of shafts, erecting pumping machinery, &c.,) with a view to the mine being let to be worked by natives, the ore being purchased from them by Government at a stated value of the metal contained in it, and smelted for the use of the Government Establishments, as the Arsenal, Mint, &c., estimates of the cost of any such undertaking I shall beg to submit as the circumstances may occur requiring the suggestion.

27. As adapted for these operations, as well as for Public Works generally, I would beg to draw the attention of Government to the Agricultural Locomotive Steam Engines now in great use in England, and to suggest the desirableness of there being one or two in the Government Stores to be used on occasions such as those above named; the design upon which they should be constructed, would possibly require to be somewhat altered from that in ordinary use in England, to suit the particular circumstances of this country.

From A. J. SCOTT, Esq., Acting Assay Master; to E. MALTBY, Esq., Acting Chief Secretary to Government, Fort Saint George, dated 25th September 1857, No. 522.

SIR,

Para. 1st. With reference to Minutes of Consultation, dated 6th May 1857, No. 572, I have the honor to report for the information of Government that I received some time ago the bandy load of lead ore ordered to be sent to me from Kurnool, and that in conjunction with Mr. Wall the Government Mineral Viewer, I have submitted it to various operations with the view of determining the quantity of both lead and silver contained in it.

2. In order to obtain, as nearly as possible, an average sample of the ore, so far as present circumstances admit of, it was subjected to the following treatment.

The whole quantity was broken up and ground in a mill kindly placed at my disposal by the Mint Master. The crushed ore was washed to separate the gangue and then thoroughly mixed by the hand and a muster taken for assay.

3. The result was that the ore was found to contain upwards of 70 per cent. of lead, the quantity of silver amounting to about from 12 to 15 ounces in the ton of metal.

4. This does not accord with my former report of the specimen taken from the Madras Exhibition, which proved to be very rich in silver, but I may remark that, both from my own observation and the previous researches of others marginally noted* it appears that when sulphide of silver if found associated with sulphides of other metals, the previous metal is always very unequally distributed. Thus, as some portions of this ore are free of silver, and others contain a larger or smaller quantity of that metal, the present average being as above mentioned, it follows that the average yield of the precious metal may vary very considerably from time to time, and that the silver may either increase or diminish in quantity as the mine is worked.

* Malaguti and Duroche, vide Liebig and Kopp's Annual Report for 1849, Page 440.

5. I have also received the bandy load from Cuddapah, but regret to state that the mineral sent is not what it is represented to be, being sulphate of baryta (heavy spar) which is the matrix merely in which the Cuddapah ore is met with. From the whole cart load I only obtained a few crystals of galena not amounting to more than an ounce or two.

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1. Under the circumstances represented in the foregoing communication from the Coal and Mineral Viewer, the Right Honorable the Governor in Council sanctions a monthly expenditure of Rupees (500) five hundred, for the purpose of examining the metalliferous localities adverted to by that gentleman.

2. Para. 24 of Mr. Wall's letter will be communicated to the Adjutant General of the Army with a request that his Excellency the Commander-in-Chief will place at his disposal if they can be spared, the services of a Corporal and two Privates (1st class Sawyers) of the Corps of Sappers and Miners.

3. The Principal Commissary of Ordnance will also be instructed to attach two Lascars to Mr. Wall's establishment for the purpose of collecting samples of ores, &c., from distant localities.

4. Copy of para. 27 of the Coal and Mineral Viewer's letter will be furnished to the Public Works Department for consideration.

5. Ordered also that a copy of the letter from the Acting Assay Master above recorded be furnished to the Collectors of Kurnool and Cuddapah, and the attention of the latter Officer called to para. 5.

(A true Extract and Copies.)

(Signed) E. MALTBY,
Acting Chief Secretary.

No. 2. ORDER THEREON, No. 2058, dated 4th November 1857.

Ordered that the Inspector General of Ordnance and Magazines be requested to state whether there is a Steam Engine in the Arsenal of the description referred to in the 27th para. of Mr. P. W. Wall's letter.

(Signed) H. FORBES,
Acting Secretary to Government.

No. 1436.

Extract from the Minutes of Consultation, under date the 9th October 1857.

Read the following letters.

From P. W. WALL, Esq., Coal and Mineral Viewer; to the Acting Chief Secretary, Fort Saint George, dated 25th September 1857.

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3. The mine near Gazelpülly is situated about seven miles from this village, and at the foot of the range of Hills forming the Eastern Ghauts, which at this part are composed of sedementary and metamorphic rocks.

4. The ore occurs in a matrix of sulphate of baryta, from the samples I was able to inspect, in very small quantity;—the indications are such as to lead to the inference that further working would reveal the ore more abundantly distributed.

5. The matrix however being a very friable material, the cheap native labor of the district, used for breaking and picking the ore, would greatly assist towards rendering the mining of very inferior samples profitable.

6. The character of the enclosing rocks, is rather favorable for the execution of mining operations in them.

7. The locality is a very dense jungle; timber adapted for mining purposes and which is required to be of strength and durability under exposure in wet and damp situations, could no doubt be obtained from it, the ore could also by means of the charcoal procured from this jungle be smelted in the neighbourhood. The clearing of the jungle possibly reducing the feverish nature of the district.

8. The Coilcontla mine is situated amidst Hills of Granite and other primitive rocks, the ore occurs in a very hard silicious matrix, occasionally very much disseminated through it, much would therefore require to be crushed and washed, to separate the ore from the enclosing gangue, this would be done with somewhat more labor and difficulty than when dealing with the Gazelpülly ore, the cheap labor however of India, would admit of the poorest ores being operated upon even in this case.

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27. As adapted for these operations, as well as for Public Works generally, I would beg to draw the attention of Government to the Agricultural Locomotive Steam Engines now in great use in England, and to suggest the desirableness of there being one or two in the Government Stores to be used on occasions such as those above named; the design upon which they should be constructed; would possibly require to be somewhat altered from that in ordinary use in England, to suit the particular circumstances of this country.

(Signed) P. W. WALL,
Coal and Mineral Viewer.

From A. J. SCOTT, Esq., Acting Assay Master; to E. MALTBY, Esq., Acting Chief Secretary to Government, Fort Saint George, dated 25th September 1857, No. 522.

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(Signed) ANDREW J. SCOTT,
Acting Assay Master.

1. Under the circumstances represented in the foregoing communication from the Coal and Mineral Viewer, the Right Honorable the Governor in Council sanctions a monthly expenditure of Rupees (500) five hundred for the purpose of examining the metalliferous localities adverted to by that gentleman.

2. Para. 24 of Mr. Wall's letter will be communicated to the Adjutant General of the Army with a request that his Excellency the Commander-in-Chief will place at his disposal if they can be spared, the services of a Corporal and two Privates (1st class Sawyers) of the Corps of Sappers and Miners.

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5. Ordered also that a copy of the letter from the Acting AssayMaster above recorded be furnished to the Collectors of Kurnool and Cuddaphah, and the attention of the latter Officer called to para. 5.

(True Extract and Copies.)

Acting Chief Secretary.

To P. W. Wall, Esq., Coal and Mineral Viewer.
To the Accountant General.
" Civil Auditor.
" Sub-Treasurer.
" Adjutant General of the Army.
" Inspector General of Ordnance and Magazines.
" Public Works Department.
" Collector of Cuddapah.
" Agent at Kurnool.

2 Mine Officers

Exd. F. Cartledge.

Public Works 1857 Depts
Dts to Cons 13th Nov.

No 2069.

Extract Minis of Cons.
Public Departt.
Dy 9th October 1857.
Recd 29th Do —

No 1436.

Communicating a Letter from Mr Wall, Coal & Mineral Viewer, suggesting in one of his Paragraphs, the desirableness of having one or two Agricultural Locomotive Steam Engines in the Govt Stores.

From Inspector Genl Ords & Magazines.
Sy 16 No 2223 in 617
Letter and order
No 2058. 4th Nov.
L

No 2058.

Ordered that the Inspector General of Ordnance and Magazines be requested to state whether there is a Steam Engine in the Arsenal of the description referred to in the 27 Para of Mr P. W. Wall's letter.

WR

Fort St George
4th Novr 1857.

A Copies to the Inspector Genl Dirs of Ordnance & Magazines.

1842.