

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

2nd February 1881, No. 286 W.

Buildings and Roads.
Civil Works.

Read the following paper:—

No. 12. From Secretary, Public Works Department, India Office, to the Secretary to the Government of Madras, Public Works Department, dated London, 30th December 1880.

I AM directed to transmit herewith, for the information of the Government of Madras, a copy of Railway despatch to the Government of India, No. 141, dated this day, together with copy of a letter, dated 9th ultimo, No. 750, from the South Indian Railway Board, and of the reply thereto, dated 24th instant, on the subject of suggested explorations for coal in Southern India.

From H. W. NOTMAN, Esq., Managing Director, South Indian Railway Company, to the Under Secretary of State for India, dated London, 9th November 1880, No. 750.

I AM desired, by the Board of the South Indian Railway Company, to submit, for the favorable consideration of the Secretary of State for India, a suggestion which, if carried out, is calculated to be attended with important material advantages to the Government and to the Railway Companies of Southern India.

The possibility of obtaining cheap coal and the assimilation of the consequent economical working of the Southern India Railways with that of Bengal and the North-west will, it is believed, be admitted as questions of more than ordinary interest.

The Board venture respectfully to submit the means by which, at a comparatively moderate cost, this object may possibly be attained, viz.:—

That the Secretary of State will, if it has not been already done, allow a general survey or investigation of those portions of Southern India in which, from ascertained geological indications, reasonable grounds exist for expecting to find coal; and that experienced Geologists or Miners may examine and report upon these districts. Should coal in favorable localities be discovered, a Company might be formed to work the mines and provide all the capital required for the purpose.

The very moderate outlay required in the first instance, compared with the permanent beneficial results which are likely to attend the measure, may be estimated from the fact that the two Railways in Southern India, of 1,500 miles collectively, consume fuel equivalent to between 50,000 and 60,000 tons of coal annually, and that while the East Indian Line can obtain its fuel at a cost of about 7s. per ton, the cost in Southern India is about 35s., or five times the cost on a line near a coal-field. If the coal could be obtained at 10s. or 12s. per ton, a saving of over 60 per cent. on present cost would be effected.

The Board are aware of the coal-boring operations which were undertaken in the Godavari District in 1874—1876. They do not assert that coal will be found, but would remark that, so far as they are informed, the geological statistics already obtained show no conclusive reasons why coal should not be discovered, and only submit their request as regards the investigation on the assumption that a previous reference to the Government Geologists in India will confirm the Board's impressions and justify the proceeding.

From Sir LOUIS MALLET, Under Secretary of State for India, to the Managing Director,
South Indian Railway Company, dated 24th December 1880, No. 418.

I AM directed to acknowledge receipt of your letter of the 9th ultimo, No. 750, suggesting that investigations should be made in Southern India in districts in which, from ascertained geological indications, reasonable grounds exist for expecting to find coal.

2. In reply I am to state that, recognizing the importance of the subject, the Secretary of State in Council will forward a copy of your letter for the consideration of the Government of India, and that the result of this reference shall be communicated to the Board.

COPY Railway Despatch to the Government of India, No. 141, dated 30th December 1880.

I TRANSMIT herewith a copy of a letter from the South Indian Railway Board, No. 750, dated 9th November, suggesting that experienced Geologists and Miners might be allowed to examine and report upon districts in Southern India, if from ascertained geological indications there are reasonable grounds for expecting the existence of coal there.

2. The importance of procuring a cheaper supply of fuel for working the Railways in Southern India is undoubted, and unless there are sufficient grounds for regarding extended investigation as useless, the proposal of the Board is one which deserves favorable consideration. Should you decide upon making further explorations under an experienced officer of the Geological Department, it might probably be considered desirable that he should be associated with one of the Company's officers who may be qualified to assist him.

No. 13.

ORDER THEREON, 2nd February 1881, No. 286 W.

THE Government of India will be addressed as to the services of an expert being made available to report on the works at the Bhadrachalam field.

(True Extract.)

Major, R.E.,
Under Secy. to Govt., P.W.D.

To the Consulting Engineer for Railways.
„ Superintendent of Works, Godavari.
„ Public Department.
„ Revenue „

Exd. S. T. Austin.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1881) Madras.
PUBLIC WORKS.

To

THE CONSULTING ENGINEER
FOR RAILWAYS,
&c., &c., &c.

Dated February, 2nd.

Issued

Recd.

Encl.

G. O., 2nd February 1881, No. 286 W.

FEBRUARY.
Nos. 12-13.

Works at the Bhadrachalam field.—The Government of India to be addressed as to the services of an expert being made available to report on the —.

Y 1848. 2 rms.—11/80. I. 2609.

It is requested that any further communication on this subject may be addressed to
The Under Secretary of State for India,
India Office,
London,
S.W.

Railway

Sir,

I am directed to transmit herewith the information of the Government of Madras a copy of Railway Despatch to the Government of India, No. 14, dated this day, together with a copy of a letter dated 9th ultimo, No. 750, from the South Indian Railway Board and of the reply thereto, dated 24th Instant, on the subject of suggested explorations for coal in Southern India.

I am, Sir,

Your obedient servant

E. D. Thompson

Secretary

Public Works Department

The Secretary

to the Government of Madras

Public Works Department

P. H. C. No 392

No 750

Encls. 3

Recd: 21 Jan'y: 1881

N.B. No. 2695 W. 23-11-80.
" " 729 K. 17-8-76.
" " 638 N. 13-8-80.
" " 639 W. 13-3-80.
with other reports &c. &c.

C. 24-1. R. 1. 2.

South Indian Railway Company,
2 Leadenhall Street,
London, 9 November 1880.
E.C.

Sir,

I am desired by the Board of the South Indian Railway Company to submit for the favourable consideration of the Secretary of State for India a suggestion which, if carried out, is calculated to be attended with important material advantages to the Government; and to the Railway Companies of Southern India.

The possibility of obtaining cheap coal, and the assimilation of the consequent economical working of the Southern India Railways with that of Bengal, and the North West, will, it is believed, be admitted as questions of more than ordinary interest.

The Board venture respectfully to submit the means by which at a comparatively moderate cost, this object may possibly be attained viz:-

That the Secretary of State will, if it has not been already done, allow a general survey or investigation of those portions of Southern India, in which from ascertained geological indications reasonable grounds exist for expecting to find coal; and that experienced geologists

The Under Secretary of State for India
India Office.

87-3
or miners may examine and report upon these districts. Should coal in favourable localities be discovered a company might be formed to work the mines, and provide all the Capital required for the purpose.

The very moderate outlay required in the first instance compared with the permanent beneficial results which are likely to attend the measure may be estimated from the fact that the two Railways in Southern India of 1500 miles collectively consume fuel equivalent to between 50000 and 60000 tons of coal annually; and that while the East Indian Line can obtain its fuel at a cost of about 7/- per ton the cost in Southern India is about 35/- or five times the cost on a line near a coalfield. If the coal could be obtained at 10/- or 12/- per ton, a saving of over 60 per cent on present cost would be effected.

The Board are aware of the Coal-boring operations which were undertaken in the Godavery District in 1874/76 - They do not assert that coal will be found, but would remark that so far as they are informed the geological statistics already obtained

show

show no conclusive reasons why Coal
should not be discovered; and only
submit their request as regards the
investigation, on the assumption
that a previous reference to the
Government Geologists in India
will confirm the Board's impressions
and justify the proceeding.

Yours &c

(sd) Henry W. Notman
Managing Director.

1503/60

4/8
So,

24th December 1880.

Sir,

I am directed to acknowledge receipt of your letter of the 9th ultimo, No. 150, suggesting that investigations should be made in Southern India in Districts in which, from ascertained geological indications, reasonable grounds exist for expecting to find coal.

In reply I am to state that, recognizing the importance of the subject, the Secretary of State, in Council, will forward a copy of your letter for the consideration of the Government of India, and that the result of this reference shall be communicated to the Board.

I am, Sir,
Your obedient servant

(Signed) Louis Mallet

H. W. Notman Esq.

J.M.

(True copy)

(ed) 10/10/1880

Government of India, No. 141.
dated 30th December 1880.

1. I transmit herewith a copy of a letter from the South Indian Railway Board, No. 750 dated 9th Nov^r, suggesting that experienced geologists and miners might be allowed to examine and report upon Districts in Southern India; if from ascertained geological indications, there are reasonable grounds for expecting the existence of coal there.

2. The importance of procuring a cheaper supply of fuel for working the Railways in Southern India, is undoubted; and unless there are sufficient grounds for regarding extended investigation as useless, the proposal of the Board is one which deserves favourable consideration.

Should you decide upon making fact explorations under an experienced officer of the Geological Department, might probably be considered desirable that he should be associated with one of the Company's officers who may be qualified to assist him.

(True Copy)

I have to
(ed) O. Hartington

For orders

The accompanying letter from Secy. P.W. Dept. India Office of 30th Decr. 1880 calls attention of this Board to the possibility of obtaining a supply of cheap coal, and forwards a letter from the S. I. R. Board suggesting excavations in Southern India with this object.

These suggestions have
no doubt been put
forward in ignorance
of what has already
been done, and is being
done in this direction.

I have not time
at this moment to
draw also a disfigurement

See -
Holloman's letter
of 12/10/1891
to the President
of the Board
regarding point
174

Believe the prospect of a
considerable amount of
affluent should be
be especially not a
exploration already carried out
they should be continued until
a definite conclusion can be
arrived at at the present value
C24-1. 4/1/2 Coalfield 1/1/2

C26-1.4812 Coalfield

Enlightened Statist
for the information of
Government connected
with this important
District, but it may
nevertheless not be
amiss to state in
as few words as possible
how the water
stands for the infor-
-mation of H & the
Governor

Amateur geologists
only supposed coal
was to be found in
the South portion of
the peninsula en-
compassed by the large
folds of coal in the
Saurashtra valley of
Barbar & at Warran
and other places
in the Central Pro-
-vinces, but the non-
existence (excepting

was discovered)
of any true Secondary
formations or at least
of any repetition of
the Khampti, Vindhya
or Barakar Sandstones
to any great extent.
South of the Godavari
river has shown that
the range within which
possible finds can
be made is small.
The most Southern
~~known~~ outcrops
at present known
are at (1) Dingareni
(Long: about $80^{\circ} 30'$ and
Lat. $17^{\circ} 30'$) and (2)
Bedadole near
Dehwarapetta (Long:
 $81^{\circ} 15'$ and Lat. $17^{\circ} 18'$)
both in the Nizam's
dominions and coal
indications with
the proper associated
Sandstones have

been found all over
the tract between the
points and the bright
bank of the Godavari
along which they
have been traced
from a point about
12 miles above Rha-
drachellum to about
20 miles down stream

The accompanying
Sheet No 94 of the
Indian Atlas shows
these places roughly
marked in pencil

The Sandstones and
Shales do not cross
much to the north or left-
bank, and in fact
the only spot where
there are apparently
any workable seams
is Zippasanti or rather
a group of places about that place
within an area of about

-drachellum coal
field" has been seen

This we are now
working at the spot
shown in pencil

Some years ago the
Central Province Ad-
ministration had all
the investigated by
a Mr. Van Stavern
(an Engineer) under
the direction
of the Blanford of
the Geological Survey
but as this operation
on the Nergunda side
of the river was stopped
and the boring at
the place we are
now working were
not hopeful the
matter dropped
the taken up by
the place the
of Benar

Meanwhile also
 the Nagpur Dist.
 were intended to
 investigate the Sir-
 sareni field which
 held out better pros-
 pects than the others
 100 tons of this latter
 coal sent 70 miles
 by cross country road
 to Berwada on the
 Kistna river, and
 250 miles in canal
 boat has been tried
 in our workshops
 and on the Railway

The amount of ash
 found was large but
 on the whole there
 seemed to be a pro-
 bability that if
 including all charges
 this coal could be
 delivered at Berwada
 at 17 Rs per ton
 (the actual cost)

x Berwada to Feringhi	miles
Shibba by Cunningham	
Canal ———	60
Feringhi Shibba to	
Chandras by the	
Buckingham Canal	192
Total	<u>252</u>

were about 20 Rs per ton
 might have a chance
 of competing with
 English coal - Later
 advices seem however to
 point to the probability
 that a further reduction
 of 3 or 4 Rs per ton
 could have been made
 if this or other Indian
 coal is to compete here
 with patent fuel from
 England

For the past 6 months
 we have had a party
 of Sappers (14) under
 a Captain Linking
 a 6 ft. diameter shaft
 at the Bhadrachalam
 coal field - at a point
 where experimental
 borings under the
 Van Staren level
 show an aggrega-
 tion of thickness in the seam
 of about 16 ft. at a depth
 of 20 feet from the
 surface - By the way

Reports the party
had encountered
Such an amount of
water at about half
the depth that they
are now waiting for
Some fresh steam
machinery with which
it is hoped to over-
come the difficulty
but it may be as well
not to entertain too
 sanguine anticipations
of the results even
if the coal is fairly reached
and proves in all
respects workable

At best it seems to
be but poor shaly
coal. Mr. Van Statten
considers that the coal
may reach as much
as 30% in which
case though possibly
of some use for iron,
steel, &c.

ships, and possibly
in steamers at
Cocacoda it is un-
likely to command
a wider market
and must therefore
remain without much
practical result as
regards the General
wants of the Presidency

I had some hopes
that although iron
in quality something
might be done by
turning the coal as
raised from the pit
into coke, and the
more so as Dr. Stan-
born who had taken
out a patent (now
run out without
even I believe having
been worked commer-
cially) had before
coming to India
made over to

In such case as
the Government might
think fit the Spe-
cification of his
process (herewith
put up)

Although I wrote
for information to the
Secy Central Province
I have been unable to
ascertain whether
Mr. Ness (who has
I know for some years
been endeavouring
to manufacture coke
from the naturally
coal of the Woorra
field) had ever
tried & succeeded
with Dr. Stamboro's
process, but have
received no reply.

Meanwhile Mr.
Wilkin Asst. Asst.
of the Geological Dept.

annexed extract from
his Asst. reply - which
should be read) ex-
pressed a not very
hopeful opinion even
as regards the process
alluded to or as
regards the general
prospects of our finding
coal in this Presidency
which will prove of
any thing but small
local value.

It has been hinted
to the Vizier's Court
that perhaps the con-
struction of a tramway
from the Singareni hills
to Berhampore will
open the Shadras lands
for them, but I must
confess in the face of
later evidence this does
not seem very hopeful
and it would be hardly
right to press for the
construction of a line

of training in these
fields alone

But it is generally
understood that the
Nizam's Government have
in view the extension of
the Warrora railway
Southwards to Lingarevi
and this may eventually
lead to a further
extension to Berhampore

These lines with a
link to Hyderabad
are not impossible
even in the near
future as forming
part of the network
of "Protective" lines
of Railway advocated
by the Finance Commission
in their Report. There
is thus no extraneous
improbability in the
idea that in these
proposals a Railway
which would take the
produce of the district
thence to Hyderabad

may be a fact within
the next 20 years —
And then it may
be found that the
Lingarevi Coal can be
delivered at as cheap
rates in Madras

Setting aside however
these considerations
which do not affect
as much at present
I can only express an
opinion that now
the Government has
entered in a serious
attempt to ascertain
the economic value
of the Berhampore
Coal the experiment
should be carried
on till definite re-
sults have been attained
and all restriction as
to quality or price
unnatural has been
set at rest — not

withstanding the
S. S. somewhat ~~dis~~
discouraging
aspect of the results
just now, and the
probability of the
experiment costing
a good deal more
than was at first
contemplated.

W.H.

24/1/81

S. S. Attention is
drawn to the account
of the hanging linked
file showing the
results of some
experiments recently
made by the Madras
Railway Company to
determine the com-
parative value of
Indian coals.

+ C. No 257-S. S. to the
S. S. 1-2-81.

No 286 W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Under date the 2^d Feb'y 1871

Read the following:—

From the Secy: P. W. Dept. } (H.E. No — 730 Decr 80.)
Indian Office

Recorded, pending
such further orders as
the Govt of India may
issue in connection
with the Despatch
of the Secy: of State
No. 141 dated 30th Decr 80.

2. Meanwhile the
experimental hearings
at Braclachellum
will be prosecuted
till some definite con-
clusions can be arrived
at as to the possible

value of the coal fields.

S
y

Cong. Cngt for Rys. ✓
Supt. of Works Kodavani ✓
Public Department ✓
Desks
12-2-87

cras.

No 286 W.

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Under date the 2nd Decy/81.

Read the following:—

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P.W. India Office } dated 31st Decr/80.

The Govt of India
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chellum field.

Att

5/3/81

C.E. for Rys. ✓
Supt. of Works ✓
Public Department ✓
Desks
12-3-81

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

2nd February 1881, No. 286 W.

Buildings and Roads.
Civil Works.

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No. 13.

ORDER THEREON, 2nd February 1881, No. 286 W.

THE Government of India will be addressed as to the services of an expert being made available to report on the works at the Bhadrachalam field.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Consulting Engineer for Railways.
" Superintendent of Works, Godavari.
" Public Department.
" Revenue "

Order in the Public Dept 25 February 1881 No 286 W.
Communicated to the Collector of
Godavari.

(True Extract)
C.D. M. S.

Under Secretary

Exd. S. T. Austin.
Spare Copies

To the Board of Revenue

mis No 2844

Recorded

for L.S.

Note: To be substituted for order of same number and date, the latter being torn up.

Entered

March 81

1047.
BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1881) Madras.
PUBLIC WORKS.

To

THE CONSULTING ENGINEER
FOR RAILWAYS,
&c., &c., &c.

25/2/81
Dated February, 2nd.

Issued

Recd.

26 Maul. 87-
25/2/81 Encl.

G. O., 2nd February 1881, No. 286 W.

Godaneni.

FEBRUARY.

Nos. 12-13.

28/4

Works at the Bhadrachalam field.—The Government of India to be addressed as to the services of an expert being made available to report on the —.

392.

Govt. of (1881) Madras.
PUBLIC WORKS.

To

Dated

Issued

Recd.

Encl.

G. O., 2nd Feb 1881, No. 286 W

Nos. 12 to 13

Works at the Bhadrachalam field.—The Govt of India to be addressed as to the services of an expert being made available to report on the —.

99/7